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FACULTY OF NATURAL RESOURCES AND AGRICULTURAL SCIENCES

# Water Governance in Small Towns in Sub-Saharan Africa

Exploring the Role of Local Actors and Institutional  
Dynamics in Domestic Water Governance

HAPPINESS JACOB MLULA





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# Water Governance in Small Towns in Sub-Saharan Africa – Exploring the Role of Local Actors and Institutional Dynamics in Domestic Water Governance

## Abstract

Domestic Water sector reforms in the Global South aim to improve access and governance, yet research has largely overlooked small towns, especially in Sub-Saharan Africa, focusing instead on urban and rural contexts.

This study examines the role of local actors and the institutional dynamics that shape domestic water governance in small towns, using Kabuku as a case study in Tanzania's Tanga region. Four key aspects are examined: identifying contextual drivers that constrain or enable domestic water governance; analysing the roles of existing local actors in facilitating governance practices; assessing prevailing institutional dynamics; and proposing planning policy interventions to strengthen the role of local actors. Data collection methods include literature review, in-depth interviews, focus group discussions, and observation. The study finds that domestic water governance in Kabuku is influenced by factors such as hydrological conditions, varied water sources, and uneven service access between central and peripheral areas. Domestic water Governance operates through a mix of formal and informal actors, but faces institutional challenges including weak regulation, poor coordination, fragile partnerships, limited capacity-building, resource constraints, and gender inequality.. The study recommends coalition-building among local actors to foster co-production in domestic water provisioning and governance. Local actors should be empowered to contribute resources and engage actively, supported by stronger enforcement of community-based regulatory frameworks.

*Keywords:* small towns, domestic water, water governance, local actors, institutional entrepreneurship, institution translation.

# Usimamizi wa Maji Katika Miji Midogo

## Ikisiri

Marekebisha ya sekta ya maji ya nyumbani katika Kusini mwa Dunia yanalenga kuboresha upatikanaji wa huduma na usimamizi wa maji, lakini tafiti nyingi zimepuuza miji midogo hasa katika Afrika Kusini mwa Jangwa la Sahara na kujikita zaidi katika maeneo ya mijini na vijijini. Utafiti huu unachunguza mchango wa wadau wa ndani na mienendo ya kitaasisi inayounda usimamizi wa maji ya nyumbani katika miji midogo, kwa kutumia Kabuku kama kielelezo katika mkoa wa Tanga, Tanzania. Vipengele vinne muhimu vinachunguzwa: kutambua sababu za muktadha zinazozuia au kuwezesha usimamizi wa maji ya nyumbani; kuchambua majukumu ya wadau wa ndani waliopo katika kuwezesha mifumo ya usimamizi; kutathmini mienendo ya kitaasisi iliyopo; na kupendekeza sera za mipango zitakazoboresha nafasi ya wadau wa ndani. Mbinu za ukusanyaji wa data katika utafiti huu zinajumuisha mapitio ya maandiko, mahojiano ya kina, majadiliano ya vikundi lengwa, na uchunguzi wa moja kwa moja. Utafiti umebaini kuwa usimamizi wa maji ya nyumbani katika Kabuku unaathiriwa na mambo kama hali ya kijiografia ya maji, vyanzo mbalimbali vya maji, na utofauti wa upatikanaji wa huduma kati ya maeneo ya katikati na pembezoni. Usimamizi wa maji ya nyumbani unatekelezwa kupitia mchanganyiko wa wadau wa rasmi na wasio rasmi, lakini unakabiliwa na changamoto za kitaasisi ikiwemo udhibiti dhaifu, uratibu hafifu, ushirikiano usio imara, ukosefu wa mafunzo ya kujenga uwezo, uhaba wa rasilimali, na ukosefu wa usawa wa kijinsia. Utafiti unapendekeza kujenga ushirikiano miongoni mwa wadau wa ndani ili kuimarisha ushirikiano wa pamoja katika utoaji na usimamizi wa huduma za maji ya nyumbani. Wadau wa ndani wanapaswa kuwezesha kuchangia rasilimali na kushiriki kikamilifu, kwa kuungwa mkono na utekelezaji madhubuti wa mifumo ya udhibiti inayotegemea jamii.

*Maneno ya Msingi:* Miji midogo, Maji ya nyumbani, Usimamizi maji, Watendaji wa ngazi ya chini, Ujasiriamali wa kitaasisi.

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## Abbreviations

ARU	Ardhi University
COs	Community Organisations
CBOs	Community-based Organisations
CBWSOs	Community-based Water Supply Organisations
CDOs	Community Development Officers
COWSOs	Community-Owned Water Supply Organisations
CWC	Community Water Committee
CWMT	Community Water Management Team
DAWASA	Dar es Salaam Water Supply and Sewerage Authority
DED	District Executive Director
DCDO	District Community Development Officer
DMs	District Managers
DTPCs	District Technical Planning Committees
DWST	District Water and Sanitation Team
DWD	District Water Department
DWE	District Water Engineer
EMA	National Environment Management Act
EWURA	Energy and Water Utilities Regulatory Authority
ESMF	Environmental and Social Management Framework
FGDs	Focus Group Discussions
JPM	Joint Monitoring Programme for Water Supply, Sanitation and Hygiene
HTMWSA	Handeni Trunk Main Water Supply Authority
IWSME	Integrated Water Sector Monitoring and Evaluation
KWUA	Kabuku Water User Association
LGAs	Local Government Authorities

NEMC	National Environment Management Council
MoW	Ministry of Water
MDGs	Millennium Development Goals
NWPO	National Water Policy
NGOs	Non-Governmental Organisations
NSGPR	National Strategy for Growth and Poverty Reduction
NWSDS	National Water Sector Development Strategy
O&M	Operation and Maintenance
PMC	Project Management Committee
PPP	Public-Private Partnerships
RMs	Regional Manager
RUWASA	Rural Water and Sanitation Authority
SDG	Sustainable Development Goal
SIDA	Swedish International Development Cooperation Agency
SLU	Swedish University of Agriculture Sciences
SPSS	Statistical Package for Social Scientists
SSA	Sub-Saharan Africa
TBS	Tanzania Bureau of Standards
TDV	Tanzania Development Vision
TPC	Technical Planning Committees
TZS	Tanzanian Shillings
UNDP	United Nations Development Programme
UWSSAs	Urban Water Supply and Sanitation Authorities
UN-HABITANT	United Nations Human Settlements Programme
UNICEF	United Nations International Children's Emergency Fund
URT	United Republic of Tanzania
WASH	Water Sanitation and Hygiene
WCs	Water Committees
WCAs	Water Committees Associations
WRMA	Water Resources Management Act
WSDP	Water Sector Development Programme
WEO	Ward Executive Officers
WHO	World Health Organisation

# 1 Institutional Reforms and Domestic Water Governance in Urban Centres in Sub-Saharan Africa

## 1.1 Introduction

The chapter presents a general overview and lays out the foundations of the research. It begins by presenting information on institutional reforms as drivers of domestic water governance in developing countries. This is followed by a brief discussion on the context of Tanzania's institutional water reform, and against this background, the research problem and questions are presented. This chapter also discusses the significance of the study and lastly, ends with the organisational structure of the study.

## 1.2 Institutional Reforms in Domestic Water Governance in Urban Centres

Domestic water<sup>1</sup> is essential to livelihoods and is a prerequisite for development since it is the most crucial resource, serving many purposes: drinking, growing and preparing food, keeping animals, hygiene and for a variety of other social and cultural uses (Bendz & Boholm, 2019; Garrick et al., 2017). The livelihood and socio-economic development of a society depend on the accessibility, reliability, and affordability of domestic water

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<sup>1</sup>The term 'domestic water' as used in this study refers to water required by households for domestic purposes such as drinking, bathing, and growing and preparing food. Its key feature is the amount of domestic water supplied and used by households which also has an impact on hygiene and sanitation.

for hygiene and daily household use (Hunter et al., 2010; Levallois & Villanueva, 2019).

Based on its vital environmental, economic, and social values to society, the right to domestic water was adopted by the United Nations Human Rights Council under General Comment Number 15, and water is accepted as an important human need and right (Brown et al., 2016; Mfinanga, F. A. et al., 2024; Neto & Camkin, 2020). As explained by the United Nations Human Rights Council (2010), the human right to access safe domestic water results from the right to an adequate and acceptable standard of living (WHO/UNICEF, 2017). Hence, water for domestic use is essential in realising an improved quality of life and supporting development in urban and rural settlements.

The universal urbanisation rate is expected to increase significantly from 55% to 68% by 2050, with an additional 2.5 billion people living in urban settlements, particularly in Asia and Africa (WHO/UNICEF, 2017), with small towns accounting for 140.7 million of the world's urban population (Tacoli, 2017; Tacoli & Agergaard, 2017). Whereas, about 30% of the urban population in East and West Africa currently lives in small towns, it is expected that in the forthcoming years, approaching the year 2050, the population inhabiting small towns in Sub-Saharan Africa will increase to 80% (Dos Santos et al., 2017). All these population increases will require water for domestic purposes and other uses, but surprisingly little is known globally about where small towns of developing countries obtain their domestic water and the implication of this water provision problem for domestic water governance (ibid).

The worldwide water demand is predicted to increase by 55%, while currently about 25% of large cities are suffering from water stress (Lund Schlamovitz and Becker, 2021). The World Health Organisation (WHO), the United Nations International Children's Emergency Fund (UNICEF) and the United Nations Human Settlements Programme (UN-Habitat) have revealed that worldwide, over 2.2 billion people in urban and rural areas do not have convenient access to safe domestic water services (UNICEF and WHO, 2019). From these estimates, it is deduced that 43% of this population resides in Sub-Saharan Africa (WHO/UNICEF, 2015), and 23 million people live in Tanzania (Water Aid, 2017). The most extreme predictions suggest that close to 30% of the population residing in developing countries will experience severe domestic water shortages by 2025 (MFEP, 2017). Given the

prevailing circumstances, most Sub-Saharan Africa countries appear incapable of realising safe domestic water for all by 2050 in accordance with the global target (Nya et al., 2021).

Such a fast growth of domestic water stress has been caused by poor governance of available water resources and infrastructure (Miller et al., 2020; Porcher & Saussier, 2019), caused by weak institutions, imperfect legal frameworks, inadequate human and financial resources, and a lack of involvement of local actors in decision-making (Mushi, 2013; Miller et al., 2020; Porcher & Saussier, 2019). These domestic water governance challenges are greater in the fast-growing small towns of Sub-Saharan Africa where a substantial portion of the population has inadequate access to clean and safe water (Tacoli, 2017; Marks et al., 2020; Dos Santos et al., 2017). In addressing domestic water access challenges, different countries regulate water services provision in various ways (OECD, 2015). This large diversity of situations requires context-related responses adapted to local specifications in domestic water governance (Woodhouse & Muller, 2017). Good water governance provides structures and practices to accommodate the domestic water demand from increasing populations (WHO/UNICEF, 2018; WEF, 2016). Therefore, with the increased demand for domestic water, particularly in the context of the Global South, context-specific practices for accessing domestic water are becoming critical (Lekumok Kironyi, Jeremia Makindara & Torben Birch-Thomsen (2023).

The global interest in the provision<sup>2</sup> of safe and reliable domestic water services has long been a foremost concern of international development agencies. Thus, 1981-1990 was declared as the period of the International Drinking Water Supply and Sanitation Decade (IDWSSD), targeted at hastening the delivery of clean and safe domestic water services worldwide. Extending that effort, the Millennium Development Goals (MDGs) incorporated a target associated with water (WHO/UNICEF, 2015). Currently, the Sustainable Development Goals (SDGs) advocate the significance of intensifying universal access to domestic water services, in conjunction with increasing domestic water quality upgrading and sustaining water service levels in human settlements (WHO/UNICEF, 2017). It is intended that all households in urban and rural areas should have access to

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<sup>2</sup> Ostrom et al. (1993) suggest that the term 'provision' in relation to goods and services should embrace the organisation of methods or collective decisions for securing their financing, availability, maintenance and performance monitoring. This study also supports this definition of provisioning.

safe and affordable domestic water in their community (Jambadu et al., 2023).

An important element of SDG 6 targets 6.1, 6.4, 6.5 and other water-related SDG targets is the shift from a top-down to a bottom-up approach, and increased coverage of water provision WASH (water, sanitation, and hygiene) is predicted to reach around 10 billion people by 2050 (WHO/UNICEF, 2015). Thus, the SDGs emphasise local actors' participation, and the strengthening of local governance as a technique to achieve universal and equitable access to safe and affordable domestic water (Jambadu et al., 2023). This comprehensive domestic water target requires that the water requirements of small towns are taken into account in the extension of sustainable and equitable domestic water services. The aforementioned international water reform initiatives have been fundamental in driving institutional reforms of water sectors worldwide.

In disseminating international water reform efforts, many developing and developed countries have decentralised domestic water governance to a low level of local government in order to minimise water challenges (Carlitz, 2017; Cherunya et al., 2015). The institutional reforms have aimed to engender greater responsiveness to local needs by bringing the government closer to the governed population as their default means of achieving inclusive domestic water governance (Grafton et al., 2019). Thus, most institutional water reforms have shifted the power and resources involved in planning and governing domestic water assets away from central government to the district and municipal levels in an attempt to ensure that national policies are tailored to respond to local requirements (Faguet et al., 2014; Remmert, 2016); with the expectation that this initiative will influence local level participation and strengthen domestic water governance at a local level (Gyamfi Afrifa, 2020; Hegga et al., 2020).

Tanzania is among the countries implementing international water reforms through its extensive experience in institutional water reform (Norman & Massoi, 2010; Mandara, 2014). The institutional reforms in the water sectors realised by the Tanzanian government and international organisations have been pursued to counteract years of low domestic water coverage and improve domestic water governance through the integration of actors at different levels of governance (Kyessi et al., 2019). The combined efforts of the actors steered the development and execution instrument of the Water Sector Development Programme (WSDP).

The WSDP was envisioned to improve collaboration and coordination among actors as well as across sub-sectors (which include rural water supply, urban water supply and sewerage, and water resources management) under one inclusive investment and regulatory regime (Carlitz, 2017; Kyessi et al., 2019). Along with increasing access to clean water, the WSDP also calls for participatory domestic water governance with an integrated framework that enhances the engagement of actors and beneficiary communities in day-to-day responsibilities (Katomero et al., 2017). However, water institutional reforms have shifted power, resources and decision-making processes away from the central government to a broader range of actors at the local level in response to the poor domestic water governance performance and to achieve sustainable domestic water provision (Ménard et al., 2018).

However, notwithstanding some success of institutional reforms in water sectors, research has indicated that a lack of collaboration and coordination across this range of actors has often resulted in a divergence in actual local practices. Well-intended institutional reforms and strategies have been altered to effect the anticipated results of water policies, as a result of inconsistencies in how actors translate and implement institutional reforms (Kachenje, 2017; Pritchard, 2017; Adams et al., 2018). Scholars have highlighted that the needs of an enormous segment of the world's population, the majority of whom reside in small towns, have not been addressed and they continue to be dependent on an unsafe, unreliable, and unsustainable water supply which is attributed to poor domestic water governance (Stren, 2014; Carlitz, 2017). The application of the water governance concept has infiltrated water policy in developing countries and is nowadays recognised as a significant element of sustainable water resource management (Cleaver et al., 2005). A variety of social institutions such as formal and informal institutions mediate domestic water governance.

Domestic water governance in small towns is an emerging area of interest – these settlements face persisting challenges as they have both rural and urban characteristics. This creates blurred jurisdictional territories for the government, which calls for domestic water governance that stretches across rural and urban boundaries. Some scholars regard these hybrid settlements as transitional sites of urbanisation (Rahayu, 2017), and other scholars approach them from a more rural perspective as evolving rurality (Mugabi & Njiru, 2006). However, their multi-functionality and hybrid rural-urban features allow them to develop into their own with specific institutional

characteristics and dynamics for which neither exclusively urban nor exclusively rural policies are suitable (Tutusa & Schwartz, 2018). Therefore, it is vital to include small towns in urban planning and policymaking to make Africa's urbanisation more dynamic, inclusive and sustainable (OECD/SWAC, 2020).

Nonetheless, the enormous amount of scholarship on institutions and domestic water governance demonstrates the prevailing inadequacy in terms of dealing with small towns (Saleth & Dinar, 2004), especially taking into consideration formal policies and a wide variety of local operations which shape domestic water governance in the rural-urban dichotomy (Han, 2010). There is generally a scarcity of studies on the convergence and divergence between formal and local operations practice which strengthen domestic water governance in small towns. The current institutional water reforms undoubtedly tend to avoid and overlook the influence of local operations and practices on domestic water governance. Instead, what is known about domestic water governance in small towns is acquired through either cities or standard approaches to rural water services (Tutusa & Schwartz, 2018). However, these two distinct categories do not reflect the actual features and intricacies of the communities living in these towns (Adank, 2013; Adank et al., 2018).

The rural-urban dichotomy, which repeatedly colours categorisations of domestic water governance, assumes that designs of urban and rural features elucidate the situations of those who lack access to sufficient domestic water provisions. Similarly, the overriding commencement of domestic water governance remains articulated in line with the rural-urban dichotomy. This boundary creates a misunderstanding that fits within domestic water disciplinary and professional boundaries, but fails to capture the variety of local practices and institutional arrangements through which the small town dwellers govern domestic water.

In the institutional and governance scholarship, diverse institutional backgrounds and structures are thought to account for the disparity between policies as centrally planned and those essentially interpreted and executed locally (Matland, 1995). Scholars have indicated the importance of tying together the disparate sets of institutions and describing the characteristics of local actors and the strategies employed (Garud et al., 2002; DiMaggio, 1988). Notwithstanding the above, in Tanzania, the role of local actor practice in small towns has been overlooked, and there is little research on



the significance of localisation and contextualisation on how local actors and institutions influence domestic water governance in small towns. Institutions are not regarded as simply framing the rules of the game, but rather as embedded in the operations and practice where they originate, and are converted and subverted through collaborations and negotiations among actors in a community.

The analysis of institutions is crucial for a better understanding of how local actors define, identify and deal with their challenges, and translate and enforce national policy, and the practices they adopt (North, 1990; Campbell & Lindberg, 1990). This analysis will help to facilitate prospective strategies which are more viable and that explain the kind of domestic water governance which is locally crafted. This is a major area of concern in domestic water governance scholarship, which is also the focus of this study.

### 1.3 Statement of the Research Issue

Regardless of the institutional reforms which have been instigated globally, regionally, and nationally in order to address domestic water governance challenges, little scholarship exists on the effects of bottom-up approaches of local practice and institutional dynamics towards strengthening domestic water governance in small towns. Small towns lie somewhere on the continuum between rural and urban. Their multi-functionality and hybrid rural-urban features allow them to develop into their own with specific institutional characteristics and dynamics for which neither exclusively urban nor exclusively rural policies are suitable. Therefore, it was regarded as important to undertake this study in order to address the aforementioned gap through the analysis of local actors' practices and institutional dynamics in domestic water governance that stretches across rural and urban boundaries in a selected small town in Tanzania.

### 1.4 Research Objectives

This study aims to explore the role of local actors in domestic water governance in small towns and the prevailing institutional dynamics that influence the practice of domestic water governance in small towns.

#### 1.4.1 Specific Objectives

The study is guided by the following objectives:

1. To analyse contextual drivers that constrain or enable domestic water governance in Kabuku town.
2. To analyse and identify existing local actors and their roles in facilitating the practice of domestic water governance in Kabuku town.
3. To assess the prevailing institutional dynamics influencing domestic water governance in Kabuku town.
4. To propose planning policy options for strengthening the role of local actors in facilitating domestic water governance in small towns.

#### 1.4.2 Research Questions

The following questions guided the study:

1. What are the contextual drivers that constrain or enable domestic water governance in Kabuku small town?
2. Who are the existing local actors in domestic water governance within Kabuku small town and what are their roles?
3. What are the prevailing institutional dynamics and how do they influence domestic water supply in Kabuku small town?
4. How can the role of local actors in domestic water governance be strengthened?

### 1.5 Significance of this Research

This study contributes to institutional and domestic water governance scholarship. The outcomes of this research support the impression that dissimilarities in domestic water governance are often triggered and influenced by context-related features such as physical characteristics, the commitment, and support of local actors, the availability of information and information sharing among local actors, knowledge and skills relating to the institutional reforms, the capacity of local actors, resources and the role of formal and informal institutions. Moreover, the study also contributes to debates on everyday practices and domestic water governance by revealing that multiple governance modalities that involve self-initiatives, coalitions, networks, and the coordination of local actors shape how domestic water is produced and distributed in settlements that have rural and urban characteristics in Sub-Saharan Africa.

Furthermore, the social attitudes of local actors and the clarification and identification of their local challenges and the varieties of available institutions, offer a link to the categories of domestic water governance that are locally created. In addition, the degree to which an institution may solve the challenges also depends on the extent of the translation and enforcement of regulatory instruments and the availability of local actors who are institutional entrepreneurs who take the initiative to provide and govern domestic water in a specific town. Consequently, the study informs communities in the specific context of Kabuku small town, assisting them to advocate for local requirements-based strategies. Much of the outcome, however, remains relevant for other urbanising small towns in a similar context all over Sub-Saharan Africa.

#### 1.5.1 Organisation of the Thesis

To tie the above strands of discussion together and situate this thesis within its context, a monograph format has been adopted comprising ten chapters. The content of the thesis chapters is as follows:

Chapter one places the study within the broader context, problematises domestic water institutional reforms from a comprehensive developing country viewpoint to a regional, and then narrows down and contextualises the main anxieties surrounding institutional water reforms in Tanzania, accentuating the scope of the challenges in small towns. The chapter also presents the objective and research questions to be answered. The chapter concludes by contextualising the significance of this study as a call to strengthen domestic water governance in small towns.

Chapter two is organised into two parts. The first part provides an overview of the existing literature on domestic water governance in urban centres of developing countries to give insights into the recent debate and highlight areas of empirical weakness. The second part examines the dynamics of domestic water governance in small towns in developing countries based on past scholarship.

Chapter three discusses the theories and concepts that form the foundation of the discussion of the case study examined here. First, the chapter provides a background of the main schools of thought of new institutionalism and collective action theories. This is followed by an interpretation of institutions and sets of institutions, and a presentation of theory. Mechanisms that can help explain how institutions and actors can enhance domestic water

governance are also discussed. Specifically, the study looks at institutional translation and institutional entrepreneurship concepts. Lastly, the chapter provides the conceptual framework for this study, which informs and guides this study.

Chapter four provides a methodological standpoint for this study, followed by an elucidation of the research methods applied and the reasons behind their inclusion. The chapter also discusses methodological challenges associated with the research methods used and efforts made to alleviate them. It further explains the limitations of the study outcomes and the ethical consequences of this study.

Chapter five explores the broader institutional framework of domestic water governance in the context of Tanzanian urban centres; while discussing this, an attempt is made to understand the roles played by actors and the institutional arrangements and how these interactions among institutions may have the ability to positively or negatively impact on domestic water governance.

Chapter six presents contextual drivers that constrain or enable domestic water governance in Kabuku small town.

Chapter seven is the second empirical chapter of this study. It focuses on identifying existing local actors and their roles, and institutional arrangements and motivation in facilitating the actual practice of domestic water governance in Kabuku small town.

Chapter eight discusses prevailing institutional dynamics influencing domestic water governance in Kabuku small town.

Chapter nine discusses policy direction to strengthen the role of local actors in facilitating domestic water governance in small town.

The last chapter is chapter ten. This chapter presents the conclusions of this study followed by a discussion on its theoretical and practical contribution as well as its implications for amendment of the legal frameworks, institutional mandates, and planning policy issues and recommendations. It further suggests avenues for future potential research to strengthen domestic water governance in small towns which have rural-urban features.

## 2 Domestic Water Governance in Urban Centres in Developing Countries

### 2.1 Introduction

This chapter opens with a discussion of a review of domestic water governance paradigms and institutional configurations in developing countries. The chapter aims to trace major domestic water governance paradigms over the last four decades – it also synthesises existing knowledge, and highlights the main features, drawbacks, and scenarios for scaling up in small towns. Thereafter, the chapter discusses the dynamics of small-town domestic water governance.

### 2.2 Paradigms for Domestic Water Governance

A common consensus among policymakers is that advancing water, sanitation, and hygiene (WASH) services mostly relies on strengthening governance. For example, the OECD (2015) asserts that crises in domestic water management are mainly crises in domestic water governance. The governance concept is, nonetheless, applied in many disciplines such as institutional economy, international relations, and organisational and corporate governance. The other areas where it is used include development studies, political science and policy analysis, new public management, good governance, and self-organising networks (Borrás & Radaelli, 2011). Such a wide range of use seems to have made it difficult for governance to have a consistent definition and application. It is, however, likely to find some mutual themes amid the dissimilar explanations of governance.

Water governance is the subject of extensive scholarly attention, and scholars working in the water field recognise the lack of good governance as

the prime cause of water deficiency in many cities of the Global South (Bakker, 2007; Rugemalila & Gibbs, 2015). Governance as a concept advocates that the community employs several structures and processes to detect challenges, develop solutions, and effectively implement responses to overwhelmed communal social challenges (Borrás & Radaelli, 2011). More accurately, it can be denoted as the structures and processes by which residents in the community make decisions and share power (Young, 2013).

Given that governance practice deals with multifaceted social arrangements, it is essential to scrutinise the depth and complexity of the multitude of structures and processes. Inquiries of water governance practice examine the complete range of features involved in order to interpret, describe and advance knowledge of the factual creation and interactions of governance (Blanco, 2019). This study utilises the key conceptions of governance as provided by Osborne (2010). He argues that there are three main paradigms of governance namely centralisation, privatisation, decentralisation, community initiatives partnerships, water as human rights, as well as water as an economic good. The focus of this section centres on some of the predominant shifts and elements associated with domestic water governance in the Global South. The section offers a wide range of reviews and analysis of diverse water governance paradigms which include centralisation, privatisation, decentralisation, community initiatives, partnerships, water as human rights, as well as water as an economic good, which can be positioned and contextualised in domestic water governance settings. These governance paradigms are hereby discussed.

### 2.2.1 Public Governance Paradigm

A critical concern in domestic water governance that is a focus of discussion is which arrangement and practice of governance is effective and efficient (Blanco, 2019). In many developing countries, domestic water services are governed by government authorities using public infrastructure funds (Saner et al., 2015). The aim is not to stimulate profit, but rather to deliver a communal good to the community, based on the concept of equal and universal access to domestic water services. In myriad countries, this obligation falls under the authority of municipalities and districts which typically govern domestic water services through a particular department. Unfortunately, district and municipal providers in developing countries frequently have financial, legal, and institutional restrictions which pose

challenges for delivering efficient and effective services to the service user (Adams et al., 2018; Saner et al., 2015).

For the centralists, harmonisation of legal policies, resources, institutions and actors responsible for governing domestic water can be achieved via the centralised form of governance. Under such practice and institutional arrangement, the regulatory authorities, institutional frameworks, structures, processes and practice are clearly stipulated and documented, with some clamouring for the harmonisation of domestic water governance. Harmonisation entails that local authorities or agencies which are responsible for governing domestic water services at the local and central government levels perform and realise their directives stipulated by the central or national government's existing policies, regulations, laws, institutional processes and procedures.

Hill et al. (2008) stress the roles and responsibilities of the central government as a main coordinator and supporter of harmonisation among actors in terms of information dissemination, the establishment of cross-sectoral and cross-jurisdictional working teams, and the financing of water projects. Similarly, districts and municipalities can foster collaboration among departments on diverse domestic water-related events and can thus facilitate the collective efforts of experts from various networks to work on domestic water governance. In contrast to the widespread benefits, public governance practices experience non-market failures that happen when governments mediate in the governance of domestic water and thus influence the allocation of resources more ineffectively and inefficiently than the private sector which is operating under profit maximisation. Such situations regularly highlight the inadequate performance of public sector providers, for which the government sector is usually disapproved of in the water sector. Again, the public governance paradigm fails to deliver and govern water for the human settlements which are informally developed, scattered and largely in remote rural areas and small towns in developing countries. Owing to their location barriers, fragmentation and inaccessibility, this creates technical and financial challenges for public sector providers. As a result, these settlements remain unserved with safe and clean water services.

Nevertheless, based on the public paradigm, the provision of domestic water to the population that is scattered and primarily located in rural areas and small towns in developing countries has remained inadequate. This was caused by the economic calamity of the late 1970s and early 1980s whereby

nearly all communal services declined, some of which are beyond rescue (Kyessi & Lupala, 2016; Masanyiwa et al., 2013). Public trust in public sector performance in governing services consistent with citizen preferences has been considered weak in developing countries. Domestic water services have proven in many cases to be expensive, inefficient, and incapable of extending services to reach the majority of the communities (Liddle et al., 2016; Kooy, 2014; Smiley, 2013).

### 2.2.2 Wave of Privatisation

Privatisation is the transfer of government responsibility and accountability for producing goods and the delivery and governance of services to other non-governmental organisations and agents such as the private sector (Castro et al., 2018). During much of the 1990s, water utilities worldwide experienced a wave of private sector participation in the governance of water resources (Araral, 2009; Castro et al., 2018; Leigland, 2018). Privatisation became even more necessary due to the inadequate capacity and lack of resources of the central government to coordinate and supervise water utility service providers, leading to government failure and rendering it incapable of achieving and realising its roles, responsibilities and directives to provide domestic water to its population.

Thus, the consequences were transference of responsibility to private operators to execute the water governance mandate on its behalf, given their competency sets of capacities, skills, and resources (Hughes & Peterson, 2018; Budds & McGranahan, 2003). Thus, the wave of unregulated privatisation promoted water as an economic good rather than as a human right. Subsequently, the delivery and governance of domestic water arose with prices and profits as well as customer satisfaction through efficient and effective financial mobilisation, involving water experts rather than public government counterparts (Bakker, 2010).

In some scenarios, the private operators might be more able to borrow and leverage assets compared to public operators facing financial constraints. Similarly, private operators have the potential to be more flexible and productive. Despite that reality, it does not mean that the need for better domestic water governance may be successfully addressed only within privatised contexts; the relationship between the introduction of privatised policies and improvement in the water sector cannot be taken for granted (Sarig, 2015; Hughes & Peterson, 2018). The institutional reforms mostly



related to a key shift of legal, regulatory, and institutional frameworks, and in various scenarios necessitated some arrangement of public-private partnerships. Not surprisingly, based on the private operator paradigm, the domestic water services requirements of the majority of the population were not adequately met. The majority of people living in rural and peri-urban areas, and in informal settlements and small towns have not been supplied with domestic water services. Moreover, they remain dependent on unsafe, unreliable, and overpriced alternative water sources as a consequence of the policy limitations (Adams & Zulu, 2015; Saner et al., 2015). Scholars have that the operation of the private sector has been frequently evolving in urban settlements rather than in rural and small towns owing to numerous dynamics: primarily the large size of investment that is vital for the expansion (Adams et al., 2018; Avolio, 2016). Private operators will be involved only if the water projects' operation can generate maximum profit. Normally, cities and large towns with advanced services development create more opportunities for competent professionals than smaller towns, where water services and infrastructure are often lacking or inadequate. Again, cities tend to have lower delivery charges, more demand for services, and a potential environment for profitability than rural and small-town communities.

Scholars also found that small towns have less potential to attract private sector operations (Tacoli & Agergaard, 2017; Wisner et al., 2015). This is because the settlements have low population densities (Pojani & Stead, 2015; Tacoli, 2017). At the same time, the settlements are embedded in a weak economy and diversity in terms of economic base and social structure (Cottyn, 2018; Raman et al., 2015). Similarly, towns have fewer resources and are neglected when it comes to funding (Tacoli & Agergaard, 2017; Wisner et al., 2015). While the predominant attention of private sector transformations is on cities and large towns, there is a persistent lack of recognition of the various actors participating in domestic water governance in small towns.

### 2.2.3 Policy of Decentralisation

Toward the end of the twentieth century, several countries including Tanzania embarked on ambitious institutional reforms that influenced the decentralisation of water resources in the expectation that this would increase the participation of local actors and strengthen water governance in the local

context (Poteete & Ribot, 2011; Jerome, 2011; Udeh & Onwuka, 2018; Lufunyo, 2013). However, factors triggering the introduction of decentralisation differ from one nation to another. For instance, in developing countries, governments have experimented with different forms of decentralisation as an acute strategy for water service provision to be closer to people to increase accountability, transparency, and participation (Pahl-Wostl & Knieper, 2014) as well as ensuring better governance (Wangari, 2014; Remmert, 2016; Faguet et al., 2014; Kombe & Namangaya, 2016). The principal driver of decentralising responsibility is the conviction that lower levels of government (community groups) are better positioned to respond to local circumstances and consumer preferences, and that consumers are more willing to pay for and sustain services that respond to their local needs and demands (Hegga et al., 2020).

Decentralised governance of water resources encourages local participation in water service provision (Pahl-Wostl & Knieper, 2014) and the belief that this will yield more equitable consequences in the water sector (Canare, 2021). Decentralisation of the water sector, on the one hand, stimulates the local and central authorities to operate within the context of subsidiarity, which allows them to be more cognisant and capable of advantageous orientation in terms of policies and practices. On the other hand, it weakens rigid government intervention through best practices of domestic water governance. Besides, the recent trends in good water governance view decentralisation as the new model of governance, but it is not without limitations and constraints when it comes to elements of good governance such as transparency, accountability, and capacity building. In practice, however, decentralisation has occasionally enhanced or influenced local-level participation in water governance (Mapedza et al., 2016; Ziervogel et al., 2019). This supports the argument that decentralisation is not a single or decisive answer for the challenge of domestic water governance.

In the same vein, Rouse (2013), points out the limitations of decentralisation such as the disregarding of financial aspects, the lack of capacity building among staff, and the lack of transparency. Therefore, this study highlights how the capacity of local actors in a small town needs to be better facilitated and supported to empower them to participate in domestic water governance. This is to be done through the understanding of the local context including local actors, diverse institutions and available resources

which contribute to how the participation of local actors is enabled in local domestic water governance. In addition, the study argues that when one is deprived of a better understanding and recognition of the capacities of the local level actors to play their roles and responsibilities in decentralised domestic water governance, the consequences of decentralisation can be exaggerated.

#### 2.2.4 Community-Based and Self-Help Initiatives

Progress in governance scholarship demonstrates the dynamic and multifaceted nature of governing. This has been an important contemporary concern for policymakers, scholars, and the public. There is an increasing recognition among governance scholars that community governance actors wield influence over governance systems and contribute to innovative techniques in the governance process.

The promotion of local self-governance through the shift of water management directives to the user through community-based organisations and self-help initiatives tends to enhance participation and the generation of other social benefits such as employment, and influences society cohesion and resilience (Naiga, 2018; Adams et al., 2018; Adams & Zulu, 2015). The roles of community actors such as community-based and self-help initiatives are predominantly related to water governance as these local organisations are very active within water governance procedures (Liddle et al., 2016).

Though community-based and self-help initiatives are comparatively new in formal settlements in Sub-Saharan Africa and developing countries more generally, they have a protracted history in common in rural areas and gradually emerge in informal settlements and small-town communities (Adams & Zulu, 2015). This implies a certain level of flexibility in communities and their capacity to reflect on their condition, to evaluate prevailing challenges, and to believe in their competence to address the challenges of domestic water governance in everyday life.

International agreements also support the community-based organisations and self-help initiatives as an alternative domestic water governance strategy to the largely failed centralised policies, and neoliberal and market-driven governance is also known for its fundamental visions, including community capacity building. This is done through self-organising into legal local institutions, e.g., unionisation, associations, committees, and

cooperatives, and framing locally approved operations within laws and norms on resource use.

In addition, institutional arrangements and procedures for domestic water governance are communally approved by the main local actors, and there is also the transfer of responsibility to the local institutions. This includes decision-making powers and the formulation of local committees mandated to sustain domestic water governance. In general, these community actors are modifying public governance arrangements and processes to influence policy and norms in their local context, which highlights a need to further assess how this is impacting positively or negatively on domestic water governance at the local level.

Nonetheless, community-based and self-help initiatives are not without of their constraints. A foremost weakness remains the lack of capacity of community organisations to successfully organise a sustainable domestic water governance system. This is because the competence of community organisation initiatives mostly relies on the degree of community participation, constant interest and cooperation with other stakeholders, and adequate financial assistance from within or outside the community, which raises questions about their sustainability and the possibility to upgrade. At the same time, community-based and self-help initiatives frequently struggle to sustain the original interest that led to their establishment and uphold infrastructure governance over time. Another main weakness is the lack of technical support from the district and municipal levels, which are responsible for providing the policy information and capacity-building training to resolve operational challenges and making strategic arrangements of transparency that prepare the actors to be accountable to the community of users.

### 2.2.5 The Rise of Public-Private Partnerships (PPPs)

In current scholarship, scholars have recognised a combination of public-private partnerships as a significant aspect in strengthening domestic water governance in developing countries (Bakker, 2010; Jensen, 2017). The term public-private partnerships (PPPs) can mean numerous diverse things, notwithstanding, the widespread application of this term, there is no common agreeable definition (Leigland, 2018). The term can vary from contracting with non-profit provision of some social and technical services to establishing economic development partnerships through numerous

authorities to contracting with profit-oriented organisations for a particular service. To reflect on the wider array of choices, the discussion permits deliberation of partnerships with other local governments as well as partnerships with both for-profit and non-profit private operators. In different parts of the world including the transition and developing countries, international agencies looked at PPPs as the solution for domestic water governance challenges, owing to the poor performance of public utilities (Osei-Kyei & Chan, 2017; Wang et al., 2018b).

The common form of PPPs includes public and private partnerships, community and public partnerships (Adams & Zulu, 2015), and public and public partnerships (Sambu & Tarhule, 2013) – these forms of partnerships have been a key focal point of debate among scholars, practitioners, and policymakers in recent years. The main reason institutional partnership arrangements are public and private partnerships is that they bring together disparate sources of expertise and approaches such as access to funding; skills and knowledge of technologies; the administrative, business and commercial spirit of the private operators with social accountability and contextual awareness; local skills and knowledge, and job establishment concerns of the public operators (Wang et al., 2018a; Sarig, 2015; Leigland, 2018).

Likewise, other PPPs contract approved domestic water utility firms as they have the self-sufficiency to function with market values, permitting them to raise ample capital to improve domestic water quality while raising tariffs and hostile cost recovery arrangements, though still being under central government ownership. It is thus significant, that local government authorities participate in public-private agreements as a system of network governance in supporting functioning domestic governance.

Though other undertakings of PPPs have been recognised, they have had mixed consequences and have usually been unsuccessful in encompassing domestic water attention in the municipalities and districts, depending on the trends elsewhere in the Global South (Oteng-Ababio et al., 2017). Numerous explanations account for the inadequacy of PPPs. Private firms opted for better-off small towns over deprived towns (Sarig, 2015; Adams & Zulu, 2015). Households in deprived small towns live with not merely unsatisfactory capacities but also the poor quality of domestic water, yet they use substantially higher proportions of their incomes on domestic water than richer households with in-house water taps (Adank et al., 2018; Ramkrishna,

2018). Political intervention in contract cooperation and operation also challenged the efficiency and success of PPPs in African countries (Sarig, 2015). More prominently, public domestic water operations in Africa were in such a perilous condition that PPP arrangements could hardly resolve the magnitude of infrastructural disrepair and the level of development required to strengthen domestic water governance.

### 2.2.6 Domestic Water as a Human Right Vs Economic Good

Another significant issue relating to domestic water governance is the argument whether water should be regarded as a human right or an economic good. The opposing opinions on water underlying these discussions are not certainly helpful at the local level (Bakker, 2013)). Ardent followers of water as a human right had long advocated the importance of the promotion of domestic water from a necessity to a human right. Water as a human right entitles every person to have access to sufficient, safe, acceptable, and affordable water for domestic purposes (Fantini, 2019). The idea was ultimately integrated into significant discussions and blueprints such as the Stockholm Declaration in 1972. In addition, the Dublin Statement on Water and Sustainable Development and Agenda 21, both in 1992, supported the foundation that domestic water is vital for life and fundamental to the attainment of several other recognised human rights (Brown et al., 2016). It was likewise understood that such a classification would arouse revitalisation in the coming international struggles for worldwide water provision and eventually offer potential actors in the domestic water sector with the essential platform from which to resolve one of the primary disappointments of 21st-century domestic water governance.

The planned adjustment was ultimately implemented in 2010, and domestic water services became a human right as accepted by international law. This principally means that access to domestic water services is today acknowledged as “a legal entitlement, rather than a commodity or service provided on a charitable basis” (WHO/UNICEF, 2017). It has, thus, come to be the responsibility of each central government to safeguard and endorse the right to domestic water services for households. Nevertheless, though this advancement apparently seemed to be monumental progress in the search for worldwide access to safe domestic water. many complications continue to prevent the human right to domestic water service from being implemented in reality or interpreting it into a meaningful and supportable transformation

everywhere in the world (Neville, 2017; Walnycki, 2015). While the human right to domestic water does not aim to endorse the impression of free domestic water, at the opposite end of the scale, the commodification of domestic water remains a worldwide problem (Fantini, 2019). Anti-privatisation activists assert that the human right to domestic water will under no circumstances be fulfilled if private operators develop around profit maximisation, with stakeholders providing feedback, and continue to play a major role in international water governance measures. However, the supporters of water as an economic good propose that water is a fundamental commodity that encompasses hawking and buying for the generation of revenue, which in turn will be to the advantage of countless mainstream households.

Nevertheless, domestic water governance employs secularised economic principles to push cost recovery arrangements. Therefore, it cannot be overlooked that there will continuously be a loophole in the market for private firms to function so long as local government authorities are unsuccessful in safeguarding the resource, making available adequate handling, or in giving support to guarantee it is reasonably priced for all (Bakker, 2013). This market gap, of course, encompasses the involvement of multiple actors and institutions in domestic water service governance, which this study strives to shine more light on.

As discussed by domestic water scholars such as Bakker (2013), Neville (2017) and Walnycki (2015), domestic water is a human right as acknowledged by international decrees, and it is the responsibility of local government authorities to provide domestic water services. Thus, for instance, if domestic water is not provided to the entire community in a municipality or district where water utilities agents have a monopolistic mandate over domestic water governance, it raises the question as to whether those omitted from formal access should be permitted to take lawful action.

Meanwhile, although informal domestic water service providers are largely unknown entities and indeed have limitations, they are thought to fill these widespread service voids to some extent and help satisfy unfulfilled domestic water service demand. Yet, these actors are often immediately disregarded by authorities rather than explored as potential service providers. Again, this model of water as a human right regards water as a valued asset requiring protection, upkeeping and safeguarding for sustainable growth to flourish and succeed. Allowing water to be a free commodity for all without

placing a monetary value on it can cause water depletions, reduced quality, and terrible water shortages.

Likewise, the institutional arrangements relating to consumer involvement, organisation decentralisation, and non-governmental sector participation have robust connections in relation to the capability to tap consumer support, additional skills and knowledge, and non-governmental capital, though at the same time contributing to decentralisation and centralisation systems of domestic water governance. Therefore, this study focuses on domestic water governance since there is still not enough scholarship and a deficiency of research that explicitly tackles the local context of institutional dynamics and the capacity of local actors in relation to domestic water governance in the field of institutions and water governance. In general, local actors and institutions are considered as the level of governance adjoining and direct to the community which plays a vital role in the implementation of local domestic water governance. Therefore, domestic water governance is not simply governed by public or private operators, but by a multifaceted combination of public operators, private operators, corporations, and community members.

In this study, principally, domestic water governance was taken as being concerned with how local governance structures operate and how institutions influence decisions made by local actors to practically provide and manage domestic water services in the small town. Domestic water governance actors in this study are the Handeni Trunk Main Water Supply Authority (HTMWSA), the Rural Water and Sanitation Agency (RUWASA), wards and sub-wards (Mtaa and Villages), water user associations, and stationary water vendors and mobile water vendors. They are the ones concerned with the formulation or implementation of domestic water policies and by-laws at the local level. To that effect, domestic water governance was taken, in this work, as one that involves local actors' institutional structures and how they influence domestic water governance focusing on both formal and informal institutional arrangements.

### 2.2.7 Critical Reflection

Since the late 1970s to date, the focus of attention on the provision, protection as well as management of domestic water has become higher on the global development agenda. But the main objective of globally assuring domestic water provision has still not been attained which is reflected in the



historical efforts, given structures and participating actors together with their capacities and interests. The Dublin Principles with a focus on domestic water as an economic good can be critically debated. However, one of the main messages of the Dublin Principles is that the community has a central role in the provision, management and safeguarding of water. The previous critical approach, namely the international neoliberal mainstream, assisted by the Washington Census, led to institutional structural reforms, which are still influencing the institutional arrangements in developing countries. The trickle-down objective of the neoliberal mainstream failed, but privatisation as an aspect of the development policy remains as an ongoing objective of global governance, as the advantages of privatisation outweigh the disadvantages.

Deductive strong interest in economic growth under the pretext of providing domestic water for all by ignoring the aspects of the Human Right to Water resulted in a spatial difference of private investment and access to domestic water to the community. Again, numerous scholars of domestic water governance suggest that the central government should hold the accountability of control organs and be a counterweight to increasing privatisation. However, in practice, it is a question of political will, capacity and attraction. If those factors are not addressed in favour of domestic water provision, even the participation of the central government is not a guarantee for securing the efficient and effective provision of domestic water. This leads to the assumption that the starting point is good water governance with a clear role definition of the actors. In the sector of domestic water, this implies that if good domestic water governance is addressed, the potential to ensure sustainable provision and management of domestic water to the community will be realised.

## 2.3 Dynamics of Domestic Water Governance in Small Towns in Developing Countries

In recent years, scholars have recognised that small towns play a significant part in the current urbanisation process for various towns in the Global South (Agergaard et al., 2019; Alam & Choudhury, 2016). Diverse countries of the Global South have undergone a process of rural urbanisation, including countries in Africa. According to the Africapolis database (OECD/SWAC, 2020), in Africa the number of small-town agglomerations with populations

ranging from 10,000 to 30,000 often comprising urban centres in rural regions increased from 1990 to 2015, and even more in East Africa (Tacoli & Agergaard, 2017). Therefore, this increased urbanisation, often reflecting the dynamics of economic growth in rural regions (Lazaro et al., 2019; Tacoli & Agergaard, 2017), has stimulated the demand for safe and adequate domestic water, and has become a serious challenge (Lazaro et al., 2020). Given the urbanisation dynamics, and the shifting transformations affecting small towns, it is important to move beyond a focus on the rural and urban. Instead, the analyses and policies of water need to consider the small towns that connect rural and urban, considering the local social and institutional dynamics of these towns. In so doing, this section sets out the dynamics and multifaceted nature of small towns in domestic water services provision and governance. The main purpose is to shed additional light on a way of rethinking domestic water governance systems in small towns which are on the rural-urban continuum, where various transformations in rural-urban movements are materialising, and increasing challenges and possibilities for small-town populations.

Although small towns undoubtedly play a significant part in current urbanisation in developing countries, there is no consensus among countries and scholars on the definition and classification of small towns (Brian, 2014, 2016; Roberts, 2014; Steel & van Lindert, 2017; van der Merwe, 2016). Instead, several authors tend to classify small towns as settlements with a population comprised of certain threshold values within a network system of cities (Brian, 2016; Satterthwaite, 2016; Mainet, 2015; Marais et al., 2016). The number of inhabitants that characterise small towns differs significantly among nations, and even among regions, all over developing countries (Dos Santos et al., 2017; Satterthwaite, 2016; Marks et al., 2020), and they can have populations anywhere between 2,000 and 100,000 people (Ramkrishna, 2018; Tutusaus & Schwartz, 2018). For instance, in Ghana, small towns are defined as settlements that are not villages but minor urban settlements with populations ranging from 2,000 to 30,000 that have been directed by the relevant local government to govern their water and sanitation projects. According to this description it is thus the utility agents who are responsible for governing the domestic water supply for settlements smaller than 30,000, only if it is mandated by local government authorities to do so (Alam & Choudhury, 2016). In Nigeria, small towns are categorised as human settlements having a number of people between 75,000 and 30,000 and

which primarily serve as local government authorities and divisional headquarters (Afolayan, 2008). This categorisation is not detached from the high inhabitant density of the region. However, geographers have constantly emphasised the size and settings of towns as fundamental for distinguishing numerous categories of towns. Towns and cities are frequently categorised as those located on hills, mountains, corridors, passes, ports, plateaus, rivers and lakes. Other categorisations focus on social, economic and morphological features.

In the case of India, the census document categorises human settlements into six categories by size (I–VI). The first three classes offer an understandable evaluation of towns in size category configuration. The smallest three classes include class IV towns with inhabitants ranging between 10,000-19,999, class V towns with inhabitants ranging between 5,000-9,999, and class VI towns with inhabitants fewer than 5,000. These are gathered and called small towns (Alam & Choudhury, 2016). Based on the population thresholds, it is often more difficult to access good data on such towns, and inhabitants vary among nations (Potts, 2012; Helen, 2010). Accordingly, the diversity of population thresholds can be attributed to the distinctiveness of the respective country's urban classifications, as well as their fluctuating levels of expansion and diverse economic configurations.

In a similar vein, small towns frequently denote developed urban centres with adjacent settlements characterised by rural activities within their jurisdiction boundaries (Tutusaus & Schwartz, 2018). Likewise, Alam and Choudhury (2016) presented one of the descriptions of a small town as an urban human settlement where urbanity has not yet extended its complete potency. This system of categorisation was adopted by numerous administrative and development organisations to classify the urban and rural settlements as indisputably distinct units. In reality, the image is not so well demarcated; the issue lies in delineating the verge of where the urban finishes and the rural commences (Ramkrishna, 2018). In this context, for analytical purposes, other scholars suggest that small towns are context dependent concepts. They should be understood based on the diversity of factors such as governmental administrative boundaries, the type of technology used for the establishment and implementation of amenities, and the structure of their population density and that of their adjacent region (MirafTAB et al., 2015; Ramkrishna, 2018). These functions are in most cases determined by the

broader national and regional urban forms rather than by inhabitants (Scott & Storper, 2015; Agergaard et al., 2019).

Thus, in the context of Tanzania, the small town is not defined by its location. There is a category of minor towns with inhabitants ranging between 10,000 and 30,000, and towns which are estimated to have a number of people ranging between 30,000 and 100,000 (Figure 1) inhabitants, on condition that they have a minimum prerequisite arrangement of urban services and the opportunity to urbanise (URT, 2000, 2007, 1982). However, in most scholarly and policy debates the two size categories are thought to be in a classification of small towns (Namangaya & Mushi, 2019). On the other hand, the human settlement development policy of the year 2000 does not consider the density or economic base for minor towns and towns.

Lack of consideration of density and the economic base creates ambiguity in classifying and delineating small towns as presented by the World Bank account on Urban Transition in Tanzania (Muzzini & Lindeboom, 2008). As a result, this creates ambiguity in domestic water service provision and governance due to difficulties of concentration and spatial scattering of population. The consequences of these demographic aspects of domestic water governance extend beyond increased numbers and therefore make it difficult to assess the spatial aspects of the small-town water provision, especially the concentration and distribution of public water networks with the topography of user demand and the quality of supply.

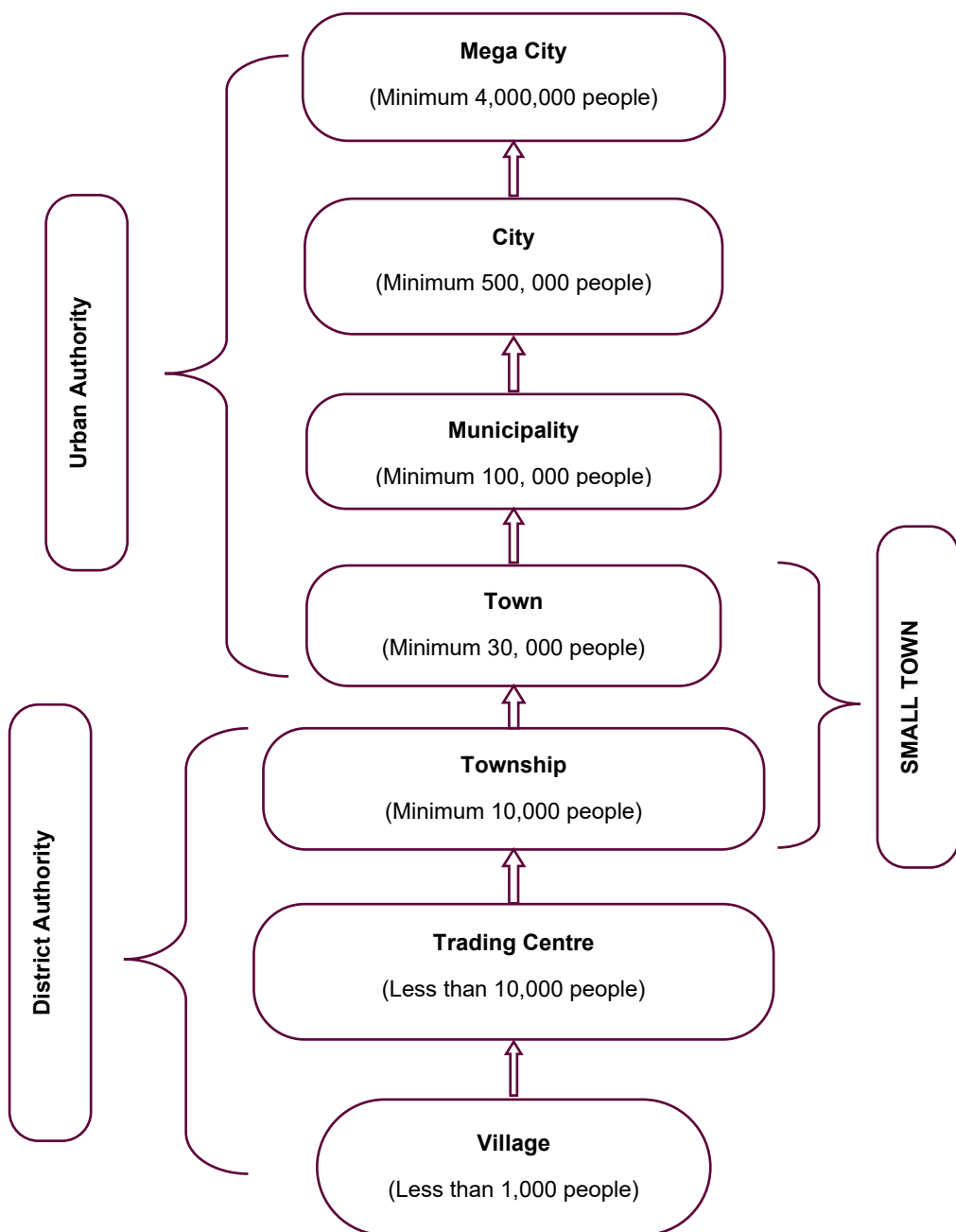


Figure 1. Human Settlement Classification in Tanzania.  
Source: Developed by Author based on URT 2000 and URT 2007)

Following on from the reviewed scholarship above, the term small town has often been the focus of different explanations and connotations. Nonetheless, it has evolved to represent a place, a concept, or a process. Initially, the impression of the small town as a place is mainly supposed to denote fringe towns neighbouring cities with their own diversity of local actors and multiple institutional dynamics for which neither completely urban nor completely rural guidelines and procedures are appropriate (Tutusa & Schwartz, 2018).

The small town as a concept can be understood as a continuum of rural and urban activities and institutions (Agergaard et al., 2019; Steinführer et al., 2016) while a small town as a process can be assumed as an intermediate stage through which largely rural settlements attain urban characteristics, as well as a give and take of movements of goods or services between rural and urban settlements (Adank et al., 2018; Marks et al., 2020). Scholarship on small towns frequently describes these towns as the existence of neither urban nor rural settlements, while consuming features of both urban and rural areas. These small towns normally seem to devour rural socio-economic characteristics but necessitating urban kinds of technology for essential services and infrastructures (Tutusa & Schwartz, 2018).

The diverse features also reveal that within small towns substantial multiplicity might occur as to the more rural or urbanised characteristics of explicit parts within a town. An extremely densely inhabited urban kind might be surrounded by less densely inhabited rural kind of human settlements. The deficiency of an accepted and shared explanation of small towns impacts the problem of encapsulating such multiplicity in one delineation.

However, domestic water provision and governance have long been characterised by a robust urban-rural contradiction (Tutusa & Schwartz, 2018). The underpinning for the urban and rural discrepancy in most of Sub-Saharan Africa lies in the belief that the urban and the rural settlements necessitate different service requirements in terms of the technology applied for supplying services, the institutional arrangements, financial mechanisms, and the governance systems (Ramkrishna, 2018; Marks et al., 2020).

The basis of this difference is that the urban and rural domestic water economies are assumed to be considerably dissimilar. The urban market is usually considered as having a high inhabitant density and households with comparatively high levels of income who claim a comparatively advanced level of domestic water service. The rural market is marked by human

settlements with lower population density and weak levels of economic growth. Whereas urban water services would be disseminated through an organised and arranged network with in-house distributions, rural services would be distributed through either a simple network or communal water sources.

The diverse kinds of service infrastructures also require different institutional arrangements and systems of governance. For instance, for urban services, an independent service provider operates the system, while in rural settings, community organisation is encouraged as the focal governing system. This means that small towns are mismatched with the dual urban or rural features that have often been operated for domestic water institutional arrangements (Tutusa & Schwartz, 2018; Abaitey et al., 2018). Investment and domestic water services and amenities networks are therefore too stressed to preserve the exceptional, cumulative demand, and service provision growth has completely stopped in some small towns (Jimenez-Redal et al., 2014).

Invariably, a foremost constraint to local government authorities governing public piped water networks in some small towns in developing countries is the unplanned and scattered nature of human settlements (Brian, 2014; Ndaw, 2016). Water users can be densely crowded at the centre of the town deprived of local government intervention or planning (Cottyn, 2018; Beyers, 2016). At the same time, there is the lack of a strong economic base (Ibrahim et al., 2018). In addition, there is evidence that water users are either powerless or reluctant to pay for the services (Jimenez-Redal et al., 2014). The fact that small towns are also characterised by consumers with insecure tenure and diverse socio-economic groups, implies that the mandate for domestic water governance can be complicated. Furthermore, there is probably a deficiency of essential data for recognised utility agents to be capable of delivering the required output (ibid). Likewise, another structural challenge is the combination of rural and urban features, which creates more problems for the absolute application of rural or urban strategies for domestic water governance. The understanding of small towns that are in between the continuum of rural and urban helps to develop significant and applicable strategies and initiatives for domestic water governance (Omuut, 2018; Ramkrishna, 2018).

Again, attitudes have been formed and reinforced expanding regular urban forms but are replicated and practised in the small-town context (Omuut, 2018). However, small towns encounter the challenges of lying

somewhere between the binary central approaches of the domestic water sector. They are too small to create opportunities for the large private operators that are progressively taking over water provision mandate of services in large towns and cities. Nevertheless, they are too large and lack the organisation for community governance systems (practised in rural settings) to be effective and efficient. Certainly, some scholarship questions the appropriateness of community governance systems in small towns (Tutusaus & Schwartz, 2018; Marks et al., 2020; Adank et al., 2018).

The increase in community scope (linked with rural settings) is regularly pointed to as a hindrance to community involvement, and the enlistment process that has functioned for rural settings is unsuccessful as schemes become larger and more multifaceted (Dos Santos et al., 2017). Scholarship in developing countries proposes that above 10,000 population, the community government system requires advancing toward a more institutionalised system with a lawful foundation and ability to transform into formal agreements (ibid). It is thus essential to generate a greater pool of knowledge regarding domestic water governance in small towns that will take into account both rural and urban characteristics.

## 2.4 Chapter Summary

Domestic services provision to the growing populations in developing countries continues to present a problem as a result of the inadequate operation, administration and performance of domestic water operators, which impacts the employment of institutional reforms in the water sector. Several of these institutional problems picture the wide-ranging flaws in domestic water provision in developing countries.

Regarding small towns, it has been observed that there are increasing numbers of small towns especially in the Global South. Among the drivers for the increasing number of small towns is the increase in population. The growth in population causes additional stress for service provision, including the provision of domestic water. However, the planning for social services provision often lags behind demand in local government authorities. Thus, given the rapid increase of small towns in the Global South, it has become vital to understand how access to domestic water provision in the local context is affected so as to plan domestic water service provision and governance better.



## 3 Theoretical and Conceptual Framework

### 3.1 Introduction

A theory is a prognostic mirror of what is foreseen in an agreed empirical investigation. It suggests analytical concepts and variables that will support to comprehend the marvels concerned on a more profound level. There are miscellaneous tactics for embedding theory in scientific investigation (Yin, 2017). In this study, the embedding of theory is found under theory application whereby various theoretical concepts and variables are reflected through empirically based data. Thus, for the hypothetical framing of domestic water governance in a small town, the study deployed two theoretical lenses. It first employed the new institutionalism theory – this theory explains mechanisms of institutions as the outcome of local actors' strategies and practices under existing structural influences.

The institutional translation and institutional entrepreneurship concepts were applied to explain the necessary conditions for meaningful or radical institutional change and suggest a platform for analysing local actors' practices and strategic choices. Second, the application of collective action theory explains local actors' organisation and relationships at the local level. The focus here relates mainly to joint work, particularly interest in institutional coordination such as the sharing of information, resources, institutions, and coalitions and the networks of existing relationships in their local context. The applicability of both theoretical viewpoints with the main concepts and variables examined in this chapter provides a framework for unpacking the actual practices of domestic water governance in a small town.

### 3.2 New Institutionalism Theory and Domestic Water Governance

Domestic water governance takes place within the boundaries of diverse institutions and interactions constituting an arrangement of governing (Pierre & Peters, 2020). The new institutionalism theory has existed for almost half a century; thus, it is new and only comparative to the old institutionalism in political science scholarship which concentrated mainly on the formal institutions of public government, and their preparations, organisation, rules, plans, policies and operation in proportional perspectives (Sorensen, 2017). The old institutionalism was criticised as being primarily descriptive due to a deficiency of convincing theoretical bordering (March & Olsen, 1983; Hall & Taylor, 1996).

New institutionalism scholars frequently question the idea that institutions can be fashioned to be well-organised, a cynicism that is partially supported by an indicator of the ineffective functioning of a decentralised water governance system (De Koning, 2011; Chowns, 2014; Mizrahi & Tevet, 2014). New institutionalism has prompted a wide range of scholarship away from the research of the commons. The theory identifies certain circumstances in communities governing common pool resources, such as institutional frameworks, clear motivations, property privileges, management, a wisdom of proprietorship, and transparent measures for the sharing of social welfare (Ostrom, 1990).

It also integrates perceptions from research on ‘crossbreed’ economic and safety measures in informal African economies and on the nature of the nation, nationality, and the daily practice of accessing basic community needs (Hagmann & Péclard, 2010; Jones, 2015). These intersecting kinds of literature provide welcome insights into the creation and development of institutional rules through real life daily activities (Arts et al., 2012), and through the commanding distribution of resources in twilight institutional zones (Mizrahi & Tevet, 2014).

Definitions of ‘institutions’ differ but all have some essential features in common: First, institutions are systems of formal and informal guidelines, strategies, plans, judgement measures, and procedures that manage the actions and performances of social and political actors within a specific jurisdiction (Sorensen, 2017; Ostrom, 2009).

Rosen and Olsson (2013) point out that institutions permit well-organised beliefs, prospects, and actions by impressing systems and consistency on

social actions thereby situating the rules for engagement. North (1991) defines institutions as “the rules of the game in a society or, more formally, the humanly devised constraints that shape human interaction.” Other institutions are intentionally formulated, such as constitutions, and more or less developed as the norms and “standard operating practices” of specific localities. Organisations are recognised as actors (performers of the game) (Leftwich & Sen, 2011). Also, institutions are recognised as guidelines, strategies, plans, judgement measures, and procedures which can be available or embodied in the system of administrations (Cleaver, 2017). North differentiates the three central categories of institutions: formal, informal, and enforcement arrangements, and argues persuasively that such institutions are the central mechanisms of economic operation and performance (Sorensen, 2017).

Institutions generally exist to oversee the way organisations perform in a particular commercial and social environment. Furthermore, organisations initiate institutional modification. Thus, both are significant for expansion as one drives the other and maintains organisational flexibility within the complicated world. That is the foremost motive to include institutions and organisations at the centre of governance besides guidelines (Kemerink et al., 2012). In addition, institutional frameworks are largely influenced by geographical and local social contexts, and the strategy that works in one setting might not work in other settings (McNicholl et al., 2017).

The highly geographical and local social contextual nature of institutional development implies that prescriptive approaches endeavouring to generate an idealised kind of institution are unlikely to thrive (McNicholl et al., 2017; Merrey & Cook, 2012). These idealised strategies often originated from the Global North, and are occasionally implemented by external institutions, but scholarship has revealed that these institutions may cursorily espouse certain alterations to conciliate donors without attaining the envisioned functions elsewhere (McNicholl et al., 2017; Andrews et al., 2013).

Therefore, institutions cannot be imagined in the way that services and amenities can elsewhere (McNicholl et al., 2017). Thus, it is essential to comprehend circumstances that support institutional formulation and development from the viewpoint of a conducive environment that enables positive transformation (ibid). This consideration is required to interpret the multiplicity of duties and mandates among organisations and added factors that affect domestic water governance (Ostrom, 2014). In particular, an

investigation of conditions supporting the complex environments of local actors' relationships and realising how institutions arise within wider power contexts and institutional frameworks is unexplored in domestic water governance (Whaley & Cleaver, 2017).

Nevertheless, regarding small towns in Sub-Saharan Africa, scholars acknowledge that water governance in small towns of the Global South is transforming from a dependence on a community governance system towards an institutional framework that comprises a broader range of local actors to attain efficient and effective services provision at the same time as good governance (Lockwood & Smits, 2011; Lieberherr & Ingold, 2019).

The applicability of the theory of new institutionalism to this study of domestic water governance in small towns provides a conceptual framework for analyses of institutions and power alternation among actors within the domestic water governance system. Looking at the analysis of changing responsibility for domestic water from the local government authorities to the private operators or through decentralisation, one can observe extensive changes from government to governance (Dhruv, 2012).

The main reason for choosing a new institutionalism theory in this study is the fact that institutions play such an integral role in domestic water governance. Also, it is a beneficial instrument to analyse the interactions among actors and social rules, norms and procedures.

Within the structure of domestic water governance, the investigation of institutions, along with the local actors within and outside the community can act as a bridge across essential governance strategies and influence a well organised domestic water governance in a particular locality. In a similar vein, Cleaver (2017) highlights that domestic water service possession (either public or private) is less significant than institutions (rules, norms, by-laws, procedures and guidelines) and governance (actors' collaboration). Besides, the obligation of public or community governance systems is not an adequate prerequisite for the functioning of a decentralised domestic water governance system.

Again, at the district level and community level, both the governmental and non-governmental structures such as laws, procedures and guidelines cooperate to engender a context-related domestic water governance system (Bourque, 2010; Dhruv, 2012). In this context, the study links the real world enquiries to current deliberations on theories of institutions and domestic water governance by using the Kabuku small town case study. The analysis

adopts the idea of Cleaver (2017) for employing comprehensive local-level investigations of institutional arrangements within a wider range of frameworks which bridges the duties of diverse local actors, and the collaboration among institutional dynamics (rules, norms, procedures and guidelines).

### 3.3 Collective Action in Domestic Water Governance

A multiplicity of actors across diverse institutional stages play a significant role in the domestic water governance system (Lieberherr & Ingold, 2019). However, the philosophy among scholars diverges on how to implement institutional reforms across different institutional levels. This study views institutional reform as forces or processes that promote actors reorganising and the alteration of institutions' arrangements of domestic water governance. Numerous scholars regard institutional reforms as a centralised combined achievement progression through collective political forms which include central government, local government, private operators, community and individuals where guidelines and procedures are formulated and developed. Individuals' negotiations or involvement in cooperative activities to improve guidelines and directives for their benefit or the collective good and services of the community is important (Helmsing, 2013).

Recent scholarship reveals that the governance complications obstructing water service provision and management are not merely about engaging with households or community groups so that they can create their governance system to provide an improved level of services (Tembo, 2015; Booth, 2012; Mabuza et al., 2015). Primarily, the problem is central government-community cooperation.

It is about conveying together all actors (households, community, central government, local government and private operators) participating or interested in improving collective goods and services of the community so that they can determine products to work cooperatively and improve communal service (Tembo, 2015). The attention on community involvement in the governance of domestic water is to ensure that good quality, accessible public goods and services determine the importance of collective action (Arthur, 2017; Casini et al., 2017).

The anticipated consequences have to influence the active involvement of numerous actors beyond the local community context (Tembo, 2015;

Arthur, 2017). Ostrom (1960) describes collective action as an action that is taken by community members or community representatives on behalf of the community to address a particular community's challenges. In her analysis of governing the commons, she argues that for policymakers and community members to overcome the community's challenges, it is necessary to organise the creation of additional institutions and monitor specific member obedience with the arrangement of guidelines and directives.

Ostrom also maintains that teams that can arrange and oversee their behaviour effectively are identifiable by the subsequent strategy such as well-defined margins and guidelines that are connected to local requirements and circumstances. Implementing actors' involvement in guideline creation and development, monitoring strategies in place, and advanced forms of sanctions with lower cost battle perseverance mechanisms are thus necessary steps.

Notwithstanding, Ostrom (2005) explains guidelines that influence actors' behaviours and the consequences. The first is operational option guidelines, which direct everyday measures and can alter comparatively quickly. The second is communal option guidelines, which alter at a slow speed and arrange the direction of manoeuvres and the practices of participants. The third and last evidence is the constitutional option rules, which generate shared option processes and regulate who may be involved and are the least acquiescent to transformation. She also argues that sound and self-interested conduct does not indicate that members in a team are capable of operating in their self-interest, except if they are sensibly small or there are several extra strategies to guarantee that members work in their shared interest. She additionally clarifies that the central individual-level incentives for building trust and sharing a communal interest in a group result in free-rider challenges. This regularly happens when individual members of a group desist from contributing to finding solutions to common problems and yet enjoy the benefits derived from group association.

Ostrom (2010) explains common pool resources as resources where consumers attain considerable benefit from them. However, they have a great probability of being depleted since it is problematic to arrange rules and regulations to govern the resource being consumed, and likewise to chastise the offenders. She also specifies that the smaller scope of a group is not a fundamental prerequisite to encourage collective action in the governance of a common pool of resources. She further argues that to ensure the effective

and efficient governing of common pool resources, self-organised institutions are vital to govern the use of resources by the recipients themselves. Scholars elucidate that these institutions are either formal or informal (Marquette & Peiffer, 2015). The informal institutions are normally the system of unwritten guidelines such as the norms, by-laws, values, and beliefs that are formulated by a particular community, whilst the formal institutions are generally the set of official documented guidelines that are formulated and developed by the central government authorities of a particular country (Marquette & Peiffer, 2015; Arthur, 2017).

Again, scholars point out that collective action is a force that assists the governance of common resources for the betterment of the members in a group since it is formulated on the basis that people form groups and establish open cooperation for themselves to unite the abilities of the members such as support, resources, information, knowledge and skills to address a particular challenge in the community. However, collective action regularly does not arise, due to the lack of motivation of the individuals to perform in the group (Tembo, 2015; Marquette & Peiffer, 2015).

Correspondingly, Booth and Cammack (2013) explain the challenges of collective action, noting that numerous projects in developing countries are generally triggered by collective action challenges. A collective action challenge exists when individuals in a group fail to accomplish the intended duties collectively to attain an outcome that is likely to provide benefit to the community.

To resolve the dilemma connected to collective action, Ostrom (1990) documented numerous circumstances that enable collective action to function in a group. According to her, these include group borders and the common pool resource, which must be clearly described. The right to common pool resources should be clearly defined, and lastly the development of the framework governing common resources has to be well-linked to local requirements and circumstances (Tembo, 2015; Bano, 2012).

Again, the question of how much a resource is considered precious by the community depends on the usage to which the resource is allocated. Besides, the step of renewal of the resource is a function of the geographical and local social circumstances. Thus, any formulated rules, and strategies, plans and procedures that do not take into consideration the existing geographical and local social context of a particular locality can lead to poor resource governance (Bano, 2012; Arthur, 2017).

Likewise, consumer involvement in governing the common resource is also regarded as a serious feature affecting collective action in particular settings. The main impression is that the transformation of circumstances with time, as an outcome, will be achieved if the consumer of a common pool resource has a voice to support the transformation of rules, strategies, plans and procedures to fit the prevailing conditions of the local settings, and the consumer will also be interested to support the supervision of the resource for the betterment of the community. Besides, once others outside the community institutions, primarily the central government authority, local government and its agencies, also permit the local community to develop their rules, strategies, plans and procedures to oversee the common resources, community members will be driven to develop appropriate strategies to oversee the resource. This, in turn, will help to minimise the freeride challenges and thus, assist in conditions where other communities endeavour to challenge local rules, strategies, plans and procedures controlling the common resources (ibid). The reason is that the developed guidelines will contain a lot of local content and are determined by dominant local circumstances. Further, collective action is likely where there is a community organisation responsible for supervising consumers of the common resources.

Hence, according to collective action scholars, collective action can occur on numerous levels and in various arrangements. Scholars observed that human activity across the world builds on synchronised activities, as the basis of advancement of development projects. The scholarship of collective action examines the aspects that inspire individuals or actors to synchronise their skills, knowledge and resources to advance the communal well-being of the community. Such motives will be analysed in the coming sections regarding the possibility of the households of a small town coming together in a joint demand for domestic water governance.

The idea is that collective action can occur in diverse arrangements and has disparate effects contingent on its level and stages. In this study, the focus was on the local community level, where existing institutional arrangements which affect community and local actors' actions in domestic water governance were analysed. Also, the study views domestic water services as the embodiment of local government authority (decentralised) collective action. With 'local collective action', the study referred to local actors' self-organising relationships such as water vendors, individual water vendors,



and communal domestic water vendors operating at the local level and forming part of local domestic water governance. The focus here is mainly on joint work with a particular interest in institutional coordination such as decision-making, information sharing, skills, knowledge, resources and networks among local actors.

### 3.4 Main Concepts

Concepts are constructs of a phenomenon from which connotations or a way of viewing the world can be captured. Investigators commence the process of investigation by establishing concepts as a shorthand for explaining the pragmatic world (Yin 2014). Concepts convey a shared language to enable interaction with other researchers. They give a viewpoint or provide a mechanism for seeing a phenomenon and permit a researcher to categorise their practices and make generalisations from them. Again, concepts are elements of theories in the logic that they describe a theory's content and characteristics.

This study pays specific attention to the obligations of local actor, institutions and their tactics to impact domestic water governance within their local settings. For this reason, it applied institutional translation and institutional entrepreneurship concepts and their impact on domestic water governance. The concept of institutional entrepreneurship was applied in examining the duties of actors in institutional alteration in small town settings. In institutional scholarship, institutional entrepreneurs refer to the organised actors, with adequate resources, who determine options for making and altering institutions in the community (DiMaggio, 1988; Battilana, 2006).

Institutional entrepreneurship is a way of demarcating certain actors, activities, and strategies to initiate institutional transformation (Hardy & Maguire, 2008). Following from the institutional entrepreneurship scholarship, this study seeks to recognise the empowering circumstances and eloquent duties performed by local actors as an institutional entrepreneur in strengthening domestic water governance.

Translation can be regarded as a process that transforms and is flexible to resolve locally-defined and fluctuating situations – for example, to balance the need for detail on the actor's dimension of flexibility with an understanding of contextual conditions. Lund (2006) has argued that at the intersection among actors, twilight institutions arise regularly covering and

translating political features of the central governance to other public spheres. Expanding the discussion, Cleaver (2006) debated that institutions are entrenched in a wide set of social and cultural spheres. According to her, entrenchedness means rules, strategies, and procedures are shifted from one social setting to another, e.g., communities formulate novel institutions based on their knowledge of available ones.

Therefore, scholars such as Lund (2006), Cleaver (2002, 2017), Cleaver and De Koning (2015) and Hall et al., (2014) have dominant assumptions in common which direct the analysis of this study and include the argument that domestic water governance is not an independent system. It is implanted in various normative guidelines and locally positioned systems of sociability. Those normative systems may be organised by local government authorities to regulate the ways communities govern their domestic water. Likewise, prevailing communal institutions may provide processes envisioned to regulate difference or are interrelated to domestic water governance which is locally crafted.

### 3.4.1 Institutional Translation in Domestic Water Governance

The concept of institutional translation has enjoyed increasing attention from scholars attracted to the dissemination of ideas across an institutional and governance field (Czarniawska & Joerges, 2011; Koskinen, 2014). This subsection is dedicated to explaining in detail the translation concepts, their elements and requirements, and essential interconnections. Also, it explains the condition in which the concept is applicable, followed by the scrutiny that contextualises the positioning of translation concepts in this study.

While consideration of the deployment of translation concepts has been increasing across disciplines and settings (Stone, 2012), their importance in domestic water governance has not attracted due attention. However, the translation concept does not take into account the hypothesis of the rationality of actors, concentrating on actors as the focal drivers of institutional reform implementation. As revealed in policy implementation scholarship, the local social and institutional arrangements affect actors' ability to interpret and implement central government guidelines.

Institutional translation implies that actors evolve innovation through the recombination of institutional elements appropriate to their exceptional requirements in a particular time and setting to solve a problem (Whittle et al., 2010). The thrust of this argument is that the implementation of

institutional reforms as the function of the local social and institutional arrangements is inevitable.

Context, according to Campbell (2004), impacts the actors' interpretation and implementation of central government guidelines and practices. Whittle et al. (2010) highlight that translation conveys extra investigative power, as it highlights or reveals dissimilarities between policy ideas and practice. Mukhtarov (2014) recommends four major features of policy translation. These features include all actors participating in policy formulation and operation, with the more complicated the policy designs, the less the possibility of it being transformed into policy and operationalised to the local settings. Both exogenous and endogenous features compel the transformation and operationalisation of the central government policy.

Notwithstanding, the analytical strength of translation in illumination processes of institution alteration, the sense of action which enlightens actors' explanations and identifications is not outside the impact of their instant environment. Numerous studies recognise aspects which may affect or limit the translation process and thus the results. Dolowitz and Marsh (1996) describe the following potentially limiting features; inadequate information about the guidelines, actors' capacity such as technical and financial resources and actors' economic, social and political philosophies.

Again, Campbell (2004) defines features of the translation process as restricted by the local social and institutional settings and the support provided by central government authorities. Other features are organisational aspects and the degree to which leaders within organisations are dedicated to the operation of novel designs and ideologies. There are also existing resources such as financial, administrative skills and other supporting capacities.

Likewise, Rose (1993) proposes several hypotheses concerning limitations on translation. These limitations include projects with a distinct goal which are expected to prosper more than those with numerous goals. The other limitations are projects that provide challenges to resolutions which are more likely to thrive than those in which the connection is more blurry. The guidelines that impede the power and legality of other operating actors are less likely to be effectively interpreted. In addition, the more information the operating actors have, the greater the probability that guidelines will be operationalised effectively and efficiently. Lastly, when technological innovations are compatible with the local situation, there are

less complications in guidelines and even programme interpretation at the local level. However, it is significant to emphasise that the translation procedure impacts the actors' institutional logic of operation. The logic of operation involves the incentives that direct actors' selections and practices. For example, economic or political selfishness may impact actors' selections. In some conditions, actors' perceptions and discourses on how programmes ought to be structured can impact their selections and operation (Campbell, 2004).

Notwithstanding much novel information and knowledge around translation, this study interprets translation as the perpendicular transfer of central government guidelines, rules, strategies and plans to local communities and the way local actors operationalised these guidelines to address their local problems. Aspects that affect and enlighten local actors' operations and the logic influencing their activities were considered as part of the procedure of translation. The translation concept was applied to shed light on the operation by which guidelines are endorsed and realised in the day-to-day activities of domestic water governance. Actors' operations are documented as being impacted by the social institutional settings and the logic behind actors' options and operations. March and Olsen (2006) confirmed such a logic of operations in examining actors' behaviour.

Translation scholarship, in addition, permits the researcher to comprehend how actors operationalise guidelines either for the betterment of themselves or the community (March & Olsen, 1996, 2006). Besides, the concept of translation directs focus to all local actors engaged in domestic water governance. This assisted the researcher in reflecting on what empowered or compelled local actors and their inspiration behind the choices and activities they implement in domestic water governance.

#### 3.4.2 Institutional Entrepreneurs (IEs) and Domestic Water Governance

The concept of institutional entrepreneurship has acquired increasing recognition from intellectuals interested in accounting for both institutional and policy implementation (Galanti, 2018; Jensen & Fersch, 2019; Battilana et al., 2009). Scholars acknowledge that institutional modification is a multifaceted process involving diverse kinds of power and agents.

It is the duty of a scholar to clarify not only how institutions impact actors' performance, but also in what way these actors might, consecutively,

impact, and perhaps modify institutions. Actors who initiate alterations that result in changing existing or formulating new institutions have been labelled as institutional entrepreneurs by DiMaggio, who presented the concept in 1988. Likewise, Eisenstadt (1980) and DiMaggio (1988) introduced the concept of the institutional entrepreneur in institutional debate to enlighten in what way actors can contribute to modifying institutions regardless of the tension towards rigidity (DiMaggio, 1988; Battilana et al., 2009).

The concept of institutional entrepreneurship therefore developed as a novel avenue of investigation regarding explanations of institutional alteration. The scholarship on institutional entrepreneurship consequently raised attention among political science scholars and public policy researchers in understanding the role and duties of social agency in policy modification. Predictably, there are variations in descriptions that narrate institutional entrepreneurship (Jones et al., 2016; Bakir & Jarvis, 2017).

Frohlich and Oppenheimer (1978) for instance, provide one of the shared meanings of an institutional entrepreneur as an individual who capitalises his particular time or extra resources (e.g. ideas, skills, knowledge, funds and leadership) to organise and syndicate features of production to provide communal goods in the community. Similarly, Kingdon (1995), Battilana (2006), and Bakir (2009) explain institutional entrepreneurs as individuals or a collective (or networks) who are eager to capitalise on their resources to influence a situation in response to predicted improvement within a shared context.

Again, Bakir (2009) provides a comprehensive examination of institutional entrepreneurship and describes an institutional entrepreneur as an individual actor who assembles thoughts, addresses battles, and steers their operation and realisation of policy and institutional modifications by compromise, alliances and operationalisation of power. It is essential to clarify that institutional entrepreneurs are regularly acknowledged as the actors who make things materialise (Westley et al., 2013). Battilana (2006) provides two conditions for institutional entrepreneurs to exist: they are required to initiate different institutional modifications, and they must be actively involved in realising these institutional modifications. He also discusses whether institutional entrepreneurs' actions are determined by their readiness and aptitude to act, which might be connected to the actor's position in a community. These types of actors have a significant role to play in formulating novel systems of administration that might have a better

ability to address the complexity of recent domestic water governance challenges. She also explains the strength of the institutional entrepreneurs' action as a function of their aptitude to enlarge and govern the emerging capacity of the organisation, and ways in which they combine their efforts with the actions and interests of other actors in the arena, thereby embedding their action in the wider institutional structure (Rosen & Olsson, 2013).

To add nuance to the understanding, entrepreneurship scholarship views institutional modification as endogenously shaped when actors recognised as institutional entrepreneurs apply their resources to realise their welfare or to address problems (Galanti, 2018; Ackrill & Kay, 2011). They apply resources, such as social and political networks, skills, knowledge, capacity, information, funds, and authority, to enable the implementation of institutional reforms.

Mintrom and Norman (2009), for instance, summarised four characteristics of institutional entrepreneurship as: presenting community insight, that is, understanding others and involving them in policy debate; and identifying challenges and finding solutions to address the challenges. Moreover, other characteristics are forging coalitions and depending on outside and interior resources to develop guidelines to address the problems, providing that the novel guidelines will be applicable or have been applied in other settings. Furthermore, scholarship has revealed that entrepreneurs are most able to convey outcomes when the novel tactics are consistent with the context (institutions, roles, and resources) that regulate social interaction in the community (Zahariadis & Exadaktylos, 2016).

Notwithstanding the disparity, these insights of institutional entrepreneurship all together involve the application of resources to address challenges, in expectation of forthcoming improvement in the community (Galanti, 2018). Indeed, mainstream researchers perceive institutional entrepreneurs as intermediary actors that support the formation of institutions that are suitable to and associated with their welfare and perform deliberately to convey transformation (Jensen & Fersch, 2019; Weik, 2011). They achieve this by rearrangement of an organisation's institutional framework which includes duties, rules, tasks, plans, procedures, structures, outputs, technology, or other important resources.

The discussed scholarship links institutions and actors to determine responses to problems by actors participating in problem-solving. The actor mobilises essential resources to affect the solutions they need (Jensen &

Fersch, 2019). They can operationalise their duties through the attainment of power (Klein et al., 2010) and also by attracting other actors to join them through the sharing of skills, knowledge, funds, abilities and other resources. Resource in this study is described as the structured properties of social systems drawn upon and reproduced by knowledgeable agents in the course of interaction (Giddens, 1984). In support of Giddens's idea, this study identifies two kinds of resources, namely authoritative and allocative. Authoritative resources hold sway over community and judgement procedures. They also include guidelines such as rules, plans, strategies, policies and institutional frameworks. They also comprise actor access to information, knowledge, skills, power, and effects over a community network and institutional features (Cleaver, 2017). However, Campbell (2004), argues further that institutional entrepreneurs' aptitude to attain their purposes is a function of interconnected aspects which include the mobilisation of factions through building novel interactor associations to attain collective efforts. It also includes mobilising desirable resources such as funds, skills, information, and knowledge. Moreover, it considers the community and institutional status of forthcoming entrepreneurs and the obligation of the entrepreneurs. These features are significant in ascertaining why one arrangement of institutional entrepreneurship arises compared to another. They are the bases of power that motivate actors' ingenuity and improvement in the course of finding a solution to the problems.

Consequently, Zahariadis and Exadaktylos (2016) debate that the aptitude of actors to resolve community problems is determined by available institutions, resources, and the power they exert in the arena of action concerned. Following the ideas of Zahariadis and Exadaktylos (2016), this study discusses power in the context of the capability to operate through the implementation of agency, which arises through local actors shared activities and cooperate with others. Specifically, the study assesses power in three forms: the first is the use of local actors' social and administrative status to affect their preferences, selection, and decision-making. The second is the use of resources such as skills, knowledge, information and funds to impact domestic water governance. Lastly, the use of coordination and networks to formulate strategies and obtaining skills and knowledge to strengthen domestic water governance in a small town.

In addition, Fligstein (1997) contends that actors' skills and knowledge are significant in resolving community problems, denoting skills as social

skills. According to him, social skills are the ability to mobilise cooperation among different actors/networks by employing their collective interests, preferences, identities, and resources to justify actions, which is an important tool for analysing the actions of other actors. This study acknowledges that actors' entrepreneurship is enabled by command over allocative and authoritative resources. These are understood to include physical characteristics as well as the distribution of water resources and the size of the water infrastructure. Other resources are existing institutions (both formal and informal), technical capacity, knowledge, access to information, social position, social skills, and access to social and personal networks. These resources together are a source of power, which allows institutional entrepreneurs to engage in domestic water governance and improve water services provision in the community.

Furthermore, institutional entrepreneurs have several individual-level resources that enable them to operate in different ideational realms, which contribute to their power and leadership in purposeful entrepreneurship activity for achieving their interests such as improved domestic water governance. This mainly includes their multiple identities (Bakir, 2009). These actors are decision-makers as politicians which empowers them to make domestic water governance decisions in the community; they are mediators with multiple memberships, experience, and a central position in domestic water governance networks that enable them to mediate ideas effectively within and among these networks to resolve conflicts and engineer a compromised solution in local institution arrangements: They are instructors with strong theoretical backgrounds that give them knowledge authority. They are also framers with strong coordinative and discursive skills to build and maintain broad coalitions within and outside the domestic water institution arrangements in the community. Institutional entrepreneurship activity is most likely to happen when entrepreneurs have most of these identities that enable them to operate in different ideational realms. Scholars argue that this view recognises entrepreneurs not only within a set of social relationships and institutions (Aldrich, 1999; Campbell, 2004) but also incorporates their individual qualities. It is these identities that influence the achievement of institutional entrepreneurship at the local level. These multiple identities as agency-level enabling conditions influence entrepreneurship activities in distinctive, but interrelated and complementary ways in a dynamic institutionalisation process of domestic water governance and



other public services. Overall, institutional scholarships indicate that local community problems are a necessary precondition for institutional entrepreneurs to emerge within the community. However, a growing body of scholarship on institutional entrepreneurship emphasises the motivations and logic behind institutional entrepreneurs' actions as the key condition to enable actor engagement in entrepreneurship.

In this regard, findings from organisational scholarship have proven useful for understanding the factors that motivate institutional entrepreneurship. Barba-Sánchez and Atienza-Sahuquillo (2017) maintain that political and economic factors are among the main triggers that stimulate entrepreneurs to be active. Some scholars suggest that uncertainties, crises, and conflicting objectives of policy; multiple and heterogeneous components of complex systems; and ambiguous relationships between actors and institutions provide the opportunity, resources, and assets for actor creativity and innovation (Sheingate, 2003; Mintrom & Vergari, 1998).

Yet, even though most of the institutional entrepreneurship scholarship focuses on the role of uncertainty and motivational factors in generating the emergence of entrepreneurship, the motivations behind actors' behaviour remain unclear and unaccounted for in most studies. Mintrom (2019) maintains that actors' motivations must be explained both from the perspective of actors' interests and actors' moral and social values.

A logic of appropriateness entails norms, identities, and cultural values that inform and motivate actions and decisions. These community-led institutions are taken for granted by actors, but they nonetheless influence how actors interpret, understand, and give meaning to events. From an economic perspective, expected economic benefits motivate actors to modify institutional arrangements or engage in entrepreneurship. These include but are not limited to goals of reducing operational costs, finding a solution to a technological challenge, dealing with account-related issues, and resolving challenges related to institutional and technical capacity. Therefore, contemporary domestic water governance is embedded in social relations and organised through networks. Resulting from alliances, collaborations, coalitions, and networks (Rugemalila & Gibbs, 2015) within and beyond cities, institutional entrepreneurship is therefore a collective process (Hardy & Maguire, 2008).

In this regard, implementing water policies in Tanzania is challenging local governments to overcome the hierarchical separation of competencies

between departments, and is prompting them to create new horizontal and vertical networks to support knowledge development and policy advocacy in emergent domestic water governance fields. As a result, both formal and informal institutions operate in parallel in domestic water governance (Smiley, 2013, 2020). In this way, the use of collective action to surface the network tendencies of an institutional entrepreneur is fitting as it provides perspectives on the actor coalition's flow of information, resources, and power dynamics among actors in domestic water governance.

### 3.5 Conceptualising Domestic Water Governance in Small Towns

The previous sections elaborated more on the two interrelated concepts (institutional translation and institutional entrepreneurship) to capture some of the complexities in the interactions found among local actors in domestic water governance. In understanding the dynamics of domestic water governance in a small town, other supporting concepts such as actors, institutions, resources, and motivation are deemed necessary. This subsection aims to summarise the synergies among the concepts explored in this study, resulting in a conceptual framework for understanding the mechanisms by which domestic water is governed in a small town. Figure 2 provides the conceptual framework for this study.

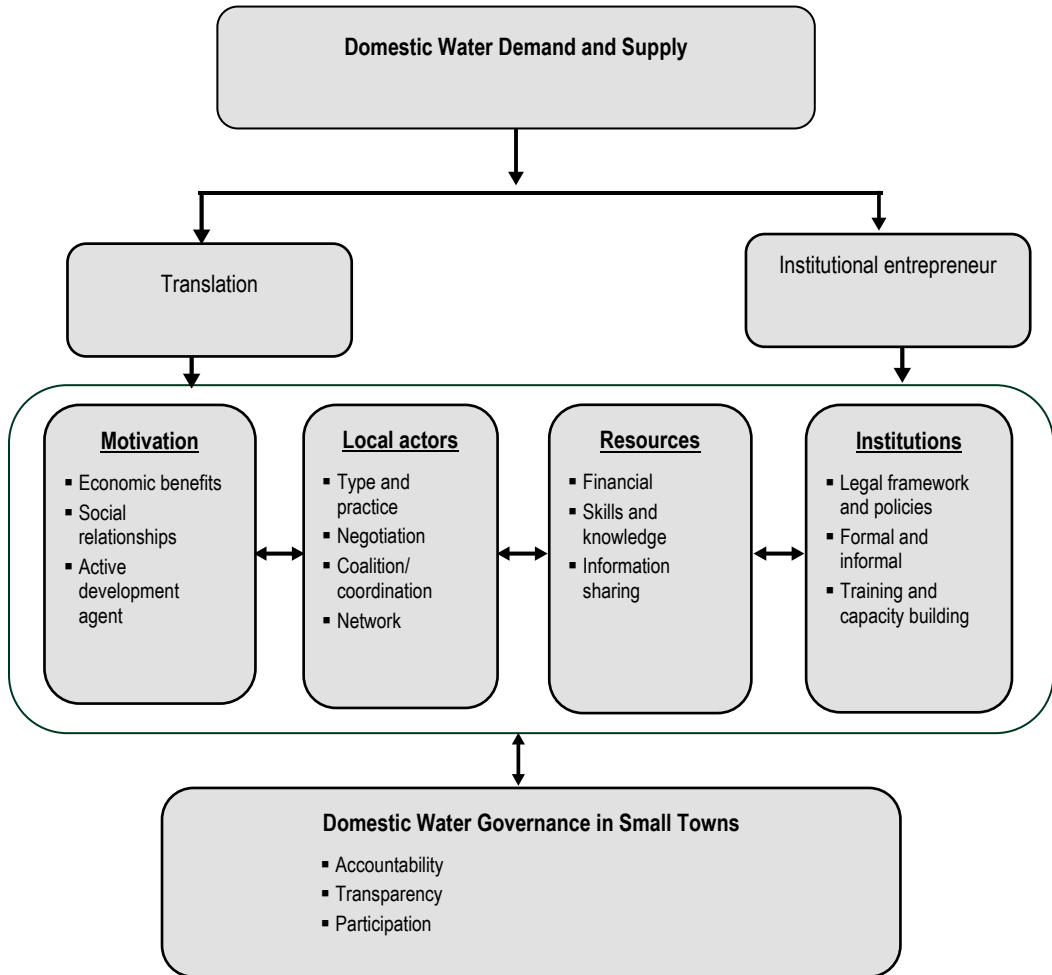


Figure 2. Conceptualising Domestic Water Governance in Small Towns.  
Source: Author's Elaboration, July 2018

### 3.5.1 Local Actors

Domestic water governance involves different actors and various groups from different levels who exercise their interests and legal rights and perform their responsibilities to address their differences (Pahl-Wostl & Knieper, 2014). In domestic water governance, local social and institutional contexts influence how actors define their interests and problems, and how they perceive opportunities for institutional modification, alongside the strategies they adopt

and the practices they engage in to navigate the challenges they face in domestic water governance. In this context, the analysis will focus on two broad categories of local actors relevant to domestic water governance in a small town; this category includes the actors at the district level and the community level; on the one hand, the actors at the community level included members of the water user committee, individual water vendors, communal water vendors, mobile water vendors, ward and sub-ward officers and water users in a particular small town. On the other hand, actors at the district level included the Handeni Trunk Main Water Supply Authority (HTMWSA) and the Rural Water and Sanitation Agency (RUWASA) District Manager. The analysis of these two levels of actors focused on the social and institutional positions within domestic water institutional arrangements such as practices they employ, relationships, networking, and institutional coordination among local actors in order to improve the local domestic water governance in a town.

### 3.5.2 Institutions

Domestic water governance is concerned with how institutions operate and how regulations affect actions and societal concerns through both formal and informal institutions (Pierre & Peters, 2020). Different institutions also provide a means of allowing actors identifying as institutional entrepreneurs to modify institutional structures for domestic water governance to reflect the local conditions. In this regard, both formal and informal institutions were considered in the conceptual framework of this study. Formal institutions are those designed by the central government to realise the objectives of institutional reforms. For example, this includes the establishment of water user groups, collective action, and self-governing networks of actors to ensure the efficient operation and governance of the water system. Informal institutions are local norms, cultural practices, and value-based social networks and social skills through which actors relate to one another. The formal and informal institutions were interlinked in their operations to build the capacity of the local institutional structure to improve domestic water governance in a small town.

### 3.5.3 Motivation

The motivation of local actors to engage in domestic water governance is one of the critical factors in institutional entrepreneurship. As discussed in the literature, actors' engagement in domestic water governance is not automatic

but due to several motivational factors. In addition, organisational scholarship has proven useful for understanding factors that motivate local actors to engage in certain practices (Campbell, 2004; Mintrom, 2019). In this regard, one could ask what the motivations and logic behind actors' choices and practices are to invoke their agential capacity or intentions. In this context, three motivational factors are often discussed concerning domestic water governance: these factors are the normative and cognitive considerations (social relationships and active development agency) and the economic benefits of local actors engaging in institutional entrepreneurship to strengthen domestic water governance in a small town.

#### 3.5.4 Resources

The study perceived resources as an important issue to consider in domestic water governance. Water governance needs all kinds of resources to become effective. The transfer of such resources could be rather complicated and also raises the question of how efficient domestic water governance could be. One could think of financial resources needed for the production and delivery of domestic water services. In this context, two financing principles are often discussed concerning domestic water governance: cost recovery and affordability. Finally, one could think of knowledge, skills and information resources that are necessary for monitoring water systems, and enforcement of regulatory instruments in a town.

#### 3.5.5 Good Governance

Trends in domestic water governance scholarship suggest that good governance may be achieved through collaborative arrangements where decision-making authority exists; participation, transparency, and accountability for domestic water are shared. In this study, three components of good governance are deployed and analysed concerning the processes of domestic water governance in the study of small towns. The governance attributes examined are; accountability, transparency and participation.

##### 3.5.5.1 *Accountability*

Accountability, which is embedded in the demand side of good governance, aims to empower the community to voice their expectations and demand responsiveness from government and service providers. Accountability refers to the answerability of individual sub-ordinate actors/organisations for

their decisions, actions, and results to their respective superiors (Overduin & Lee Moore, 2017). Accountability is derived from responsibility in the sense that it is the duties assigned to the actor and the obligations that make one answerable to the superior (Wood, 2015).

However, being assigned duties is one thing, and complying is another thing. Thus, where there is a high degree of compliance, there is also a high level of accountability (*ibid.*); this is an indicator that is integral to domestic water governance. In this way, both the new institutionalism theory and collective action theory contribute to explaining accountability. This is because accountability constitutes actors/institutions, roles/responsibilities, organisational structure and chain of command. In the collective action theory, accountability is explained in terms of roles among actors, while in the new institutionalism theory, accountability is defined in terms of organisational structures and instruments that define and enforce institutional roles and relationships within that structure.

Answerability refers to the duty of the government, its agencies and public officials to provide information about their decisions and actions and to explain them to the public and those institutions of accountability tasked with providing oversight. Enforcement suggests that the public or the institution responsible for accountability has a mandate to correct the violation. As such, different institutions of accountability might be responsible for either or both these stages (McCarthy, 2015). Accountability ensures actions and decisions taken by public officials are subject to supervision so as to guarantee that government initiatives meet their stated objectives and respond to the needs of the targeted community, thereby contributing to better domestic water governance. There are various forms of accountability. For this study of domestic water governance in small towns, horizontal, vertical, and social accountability was analysed. Horizontal accountability is the capacity of the formal institutions to check manipulation by other public agencies and branches of government, or the requirement for agencies to report sideways. Alternatively, vertical accountability is the means through which informal actors seek to enforce rules, by-laws and regulations of good performance relating to government officials.

Accountability is a key concept, especially in the domestic water sector in Tanzania since there are various laws, regulations and directives that confer powers and mandates to public officials involved in domestic water governance. The governance of domestic water also involves various actors

in decision-making processes, leading to questions about their potential roles in both upholding accountability and in being held accountable. The concern for accountability here is therefore crucial. The point is local actors with responsibility and powers to make advisory decisions must be ready to make decisions on behalf of a council and be answerable for their decisions, particularly where public interests have been compromised. It is for this reason that accountability is considered to be a central concept, especially within emerging, collaborative domestic water governance arrangements.

Therefore, in this study accountability is conceptualised around two specific themes. The first is the context which involves local actors and responsibilities in a given situation, and the second is the evaluation of local actors' performance against a set of standards and expectations. Ideally, it involves diverse actors in a social context working together towards a particular goal. These actors are the households technically known as local actors and principals who are charged with responsibilities for the focus of domestic water governance and have some particular resources and the required capacity to provide domestic water service in a given small town. It should also be noted that evaluating accountability is not understood as an end in and of itself. It should be an essential part of a wider toolkit for evaluating the quality of governance and should be considered alongside other vital governance elements (for example strategic vision and policy design) that also have a significant impact on good governance pillars such as responsiveness, equity and allocative efficiency, which are the elements that eventually have a direct result on the social impact of domestic water service provision.

#### *3.5.5.2 Transparency*

Transparency is another indicator of good governance which is closely linked to accountability. Transparency helps in enforcing accountability. Transparency has to do with openness and willingness to lay open matters that can facilitate the process of decision-making and enforcement by various entities, actors, and institutions (UNDP, 2015). It means that decisions taken and their enforcement are done in a manner that follows rules and regulations. Transparency entails a situation whereby relevant information is freely available and directly accessible to the collaborating partners and stakeholders to facilitate their awareness, common understanding and the required action (Jiménez, 2020). The information provided should be sufficient and in an understandable form and media.

Key questions in this study are: Are the procedures for governing domestic water services available and clear to the community members? Do the key actors in domestic water governance deliver the periodical reports to the community in the required manner? Are the deliberations on tariff setting transparent enough for the community members? On the other hand, transparency is vital to the underlying trust in local actors' relationships, where access to information can be strategically withheld or manipulated to strengthen the negotiating positions of one or more actors.

Access to information is crucial not only for enhanced accountability of the government to its community but also because information is a source of power to those who keep it. Often communities were not able to access information on their rights because of a lack of information or because they were not aware of their rights. In such a case, they are weakened and constrained in their ability to participate or to influence decision-making processes and above all, hold those involved in decision-making accountable.

Again, domestic water governance entails a situation whereby the actors work towards clearly defined and mutually agreed joint outcomes. The failure to clarify or share objectives may lead actors to work towards different and incompatible goals and subsequently fail to achieve the desired outcomes. Transparency is a vital component of institutional reform, and it is increasingly associated with better socio-economic development, as well as with higher levels of competitiveness and lower corruption, which ultimately can improve policy outcomes (Bellver & Kaufmann, 2005). Some scholars differentiate between transparency of governance and transparency for governance. The first entails empowering the community in monitoring the actions either of providers to whom they have assigned power or other powerful actors in the community (Mitchell, 2011), while the second relates to the dissemination of information by the government as a means of influencing the behaviour of service providers. This study focuses on the first concept in the context of domestic water governance in small towns and considers only access to information by the community and local actors.

#### *3.5.5.3 Participation*

The other attribute of good governance is participation. Participation is a process whereby stakeholders exercise influence over public decisions, and share control over resources and institutions that affect their lives, thereby providing a check on the power of the government. In the context of good



governance, participation focuses on and aims to enhance actors' influence on and share of control over development initiatives, decision-making and allocation of resources which affect them (Emanuel & Wilkins, 2020). Participation happens at diverse scales and stages in the community, through household and community group participation; and at the district and municipal levels, through the decentralised system of administration, and also in the private sectors (ibid). The attitude of participation is rooted in a recognition that households are at the heart of development. They are not only the ultimate beneficiaries of development, but also managers of community development.

Various vital principles trigger fruitful community participation in domestic water governance. Concerning these principles, the United Nations Development Programme (UNDP) (2015), emphasises that the level of actor engagement in service provision rests on the institutional arrangements which can differ significantly. However, scholars note the significant aspects of actor engagement in development projects which include information sharing, collaboration and coordination in planning procedures, power sharing, resource allocation, decision-making and the networking of actors. In short, the participation of actors assists in the identification of challenges and planning to resolve the community challenges towards the achievement of collective goals. The skills, knowledge and power of local actors offer valuable benefits that may be determined through cost-effectiveness and increased sustainability of the service provision. These aspects, if not observed, might undermine the planning and governance process and the potential benefits of working with local actors will be lost. These principles of community participation are as follows: consensus, inclusiveness, transparency, accountability, and decisiveness. In this study, the focus is on local actors' participation and their potential to improve domestic water provision and foster more inclusive domestic water governance for the communities involved. In other words, the extent to which the three governance attributes: accountability, transparency and participation occur helps to strengthen domestic water governance in a particular town and thus improve the quality of the services. It follows that, in domestic water governance where accountability, transparency and responsiveness are experienced, it means the system is good enough in terms of enhancing local actors' participation, enforcing regulatory instruments, improving local actors' networking and strengthening collaboration among local actors. This

is also applied to improving institutional arrangements, strengthening the motivation factors for actors' participation, and ensuring efficient and effective resource mobilisation and use.

### 3.6 Inter-Connection between the Key Variables

The discussed factors in the previous subsections which include local actors, institutions, motivation, resources and good governance principles were discussed as essential for strengthening domestic water governance, implying that a system in which such factors occur positively in aggregate should strengthen domestic water governance in the small town. As illustrated in Figure 4.1, the linkages and dynamics within domestic water governance can be understood through the interconnection between the key variables as they support and complement each other.

The framework highlights the key issues and elements which are significant in water governance. These are actors, resources, institutions and motivations. The overall performance of domestic water governance depends not only on the competence of their separate facets, but also on the functional interactive role of factors such as resources, local actors, motivations, and institutions which are subject to contextual influences. Similarly, the interplay of the factors within which such interaction occurs allowed the researcher to explore the relationship among factors through empirical evidence gathered from the study area. This will help to understand domestic water governance not only from broader institutional and collective action perspectives, but also in terms of the internal dynamics within the local context which is yet to be examined in the available literature on domestic water governance in small towns.

### 3.7 Chapter Summary

This chapter revised theories and concepts connected to domestic water governance. Combined with chapter two, they facilitated the identification of the relevant concepts and variables for this study. The theories and concepts were employed to monitor the analysis in the research pursuant to the objectives of this thesis. Since this study is about domestic water governance in small towns, one would think that one theory, particularly the governance theory alone could suffice for the development of variables for

this study. However, the literature review has shown that coming up with the relevant concepts and variables for domestic water governance in small towns requires more than one theory. Both the reviewed literature and the theories have indicated the need for their combined analysis towards realising the concepts and variables of domestic water governance in small towns.

The two concepts and four variables developed and applied in this study on domestic water governance in small towns are closely linked and form an integral part of the conceptual framework. For instance, actors' roles and responsibilities rely on the organisational structure, while the organisational structure and roles are both determined by specific rules. In order for the actors to carry out their roles and responsibilities, there must be some motivation and capacity on the part of the actors, and the whole process of domestic water governance requires resource mobilisation and use. As such, this chapter has provided a scientific analytical framework for ensuring objectivity, validity and reliability in measuring domestic water governance in small towns. Given the variables derived in the theoretical and conceptual framework chapter, the next chapter embarks on the research design, methods and data collection protocols used in this study.



## 4 Research Methodology

### 4.1 Introduction

This chapter set out methodological approaches used in this study and elucidates the methodological weaknesses related to the research approaches employed in the collection of data and the motive behind their inclusion. Likewise, it discusses the possible challenges of the research procedures, and the efforts made to alleviate them. The ethical inferences are also discussed. It considers the crucial deliberations surrounding diverse research techniques and refers to studies that have implemented these techniques in numerous contexts. This study uses the experiences of other investigators and the deliberations of methodologies in the literature regarding the researcher's exposure to fieldwork and explores in detail the varying methodological problems that are essentially connected to this type of research.

A strategy is also established to explain why and in what way significant methodological choices were considered necessary for incorporation into the research design process and methods, and in what way they have contributed to increasing the validity and reliability of the findings. Further, it concludes with a conversation on the drawbacks of the research accompanied by the resourceful choices made to minimise their influence on the quality of findings, and what emerged as novel experiences from the research strategy that might inform relevant forthcoming research.

## 4.2 Research Strategy

The selection of the research strategy is determined by the nature of the research questions formulated, the degree of control a researcher has over actual behavioural events, and the degree of focus on contemporary issues against historical phenomena (Yin, 2017). The purpose of this study was to explore the everyday practices of domestic water governance in a small town in order to improve domestic water provision in such a town.

Specifically, the study examines the role of local actors and institutional dynamics and actors' access to resources that have impacted domestic water governance in a small town. To achieve this goal, the study employed the institution translation, and institutional entrepreneurship concepts to account for the mechanisms underlying the domestic water governance. The application of the two concepts helps to explain the empowering and compelling facets of actors and institutions in the governance of domestic water services. The study accounts for the practice through which specific strategies are implemented in a particular locality. These factors touch upon the domestic water service in question; the resources that are relevant for the local actors involved to fulfil their respective roles; and institutions that give meaning to reality and oversee the conduct and interaction of local actors and influence the practice of domestic water governance in a small town.

Regarding the kind of research questions presented in section 1.6, their logical stance is motivated towards case study research because it seeks to answer how and why questions, thus capturing what the research is attempting to answer (Yin, 2017). Therefore, the study applies the case study methodology to comprehend the precise settings and underlying practices related to the governance of domestic water services in a small town.

The typologies of domestic water providers in Kabuku small town were included to understand the context. Specific cases were used to obtain comprehensive information on how local aspects, the interface among local actors, and the scale influence the framework of domestic water governance in a small town.

This study acknowledges examples in section 6.3 to provide additional information related to ways in which households access domestic water. The study also acknowledges the inferences from the case study and the way they are explicit and not conducive to generalisation. However, their explicit inferences provide understandings that can function as preliminary opinions for theoretical, conceptual and strategy creation and improvement. The last

acknowledgement is expressly significant for the refinement of the extensive and comprehensive strategies that have been realised in the decentralisation of domestic water governance.

Indeed, studying domestic water governance in small towns necessitated a research strategy that takes into consideration diverse actors, scales, practices, and underlying forces. As per the discussion in section 2.2.2, decentralisation and domestic water governance attributes are central to increasing local actors' participation, which entails a change from a centralised system of judgment-making to more collaborative approaches in domestic water governance. The current administrative system for the decentralised governance of domestic water services in Tanzania has been in place for more than a decade, so it was assumed that it was time to settle and overcome these challenges.

Again, as discussed in chapter three, domestic water governance in Tanzania is guided by the national water policy which recognises and encourages the integration of actors at different levels and scales of service provision. Thus, the implications and feasibility of domestic water services provision by multiple actors and their complex interactions needs to be analysed. This entails a reflection on the research paradigm that supports the approach, which resulted in employing a mixed-methodology of quantitative and qualitative approaches and various units of analysis (Yin, 2017).

It is therefore clear why the case study approach was thought to be the suitable methodology for this study, as it permitted the refinements and distinctions of domestic water governance in the small town to be scrutinised, so as to ascertain what is invisible. Investigating the theme of domestic water governance in a small town from a mixed-method level of detail gives greater understanding and insights into the domestic water services, and in order to triangulate these understandings to attain a robust picture of the existing condition from the viewpoint of critical practicality, a combination of research methods must be used. While the case study approach has been criticised for being influenced by the context, and its implied neglect of broader theoretical frameworks (Flyvbjerg, 2001), Loftus and McDonald (2001) argue that in order to understand domestic water governance, an explicit context is necessary to understand the complexities of the water structure being studied in a certain area.

### 4.3 Research Design and Process

To pursue research questions, the study applied an abductive investigation procedure. By abduction, the study refers to the type of investigation where the investigator moves back and forward between pragmatic reflection and theory. Starting with the puzzle about the domestic water governance articulated in the prologue, the researcher was abductively enthused between theories and pragmatic inquiries into national water policy and real-life activities. In particular, this indicates that the investigation was a cyclical process. However, the investigation as documented in this study, complied with more rectilinear storytelling, which is an appropriate way of reporting the outcomes.

To develop investigation procedures and processes, the investigator used an explorative and iterative process, where pragmatic work helps to determine appropriate theoretical viewpoints and position the research within theoretical discussions, and where theoretical concepts exposed in the process determine forthcoming pragmatic work and facilitate improved dialogue questions and scrutiny. According to Yin (2017), case studies that reflect theoretical hypotheses regularly have such an iterative feature, where the investigation focus is effectively polished and established. In the concluding phase of reflection and explanation, the study was refined. With the researcher's social science background, she applied cross-cutting disciplinary strategies, having no set discipline from which researcher set out the investigation. This strategy permitted inductive investigation, as the investigator recognised applicable scholarship based on pragmatic findings and related research, where small town and domestic water governance, expressly, were the central scholarship focus, but where the investigator also drew on other forms of scholarship. Figure 3 summarises the research design process of this study.



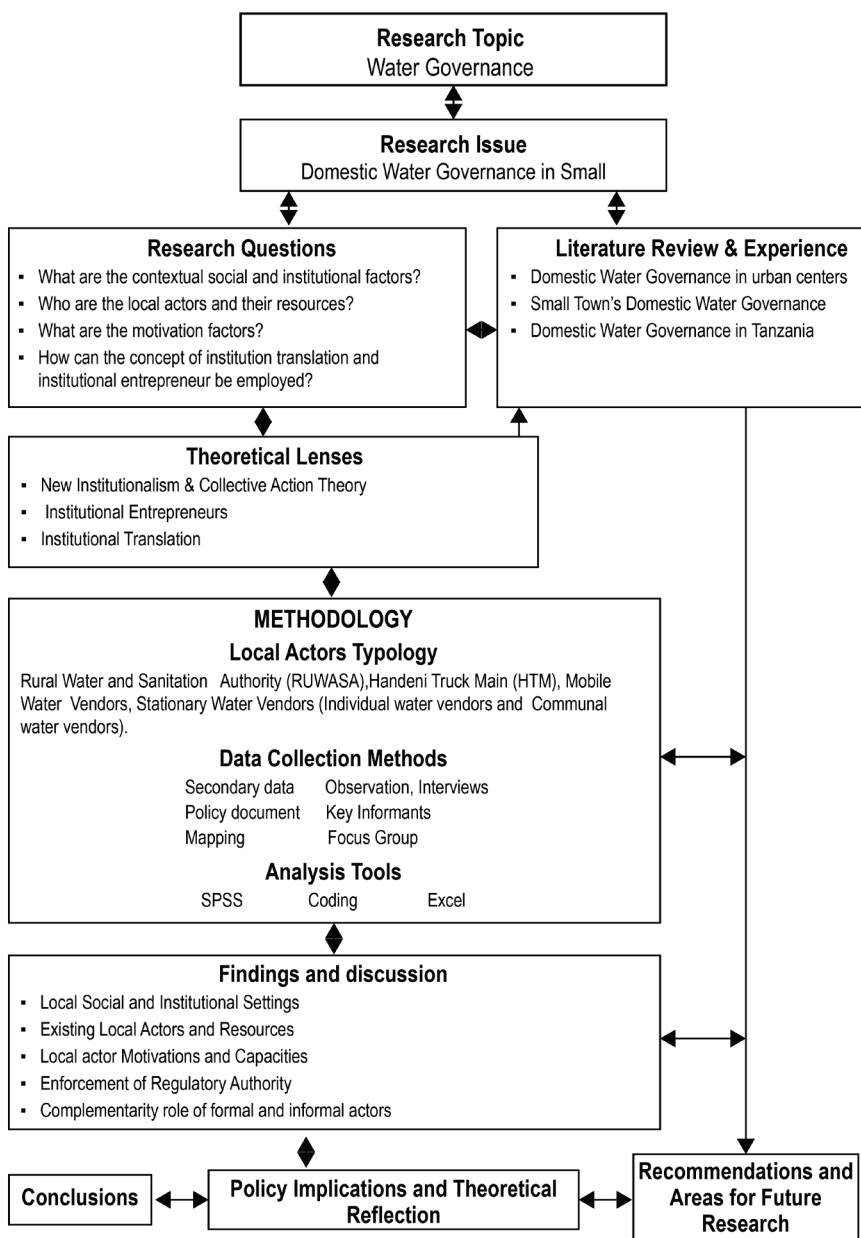


Figure 3. Research Design and Process. Source: Author's Elaboration, July 2018

## 4.4 Why Single Case Study?

The study adopted a single case study that explores context-burdened pragmatic information on the ways local social and institutional contexts as drivers for domestic water provision might serve as a revelatory case for strengthening domestic water governance in a small town. Yin (2017), documented a revelatory case as a case by which an investigator has access to examine a condition that has not been previously examined empirically. Yin added that descriptive information collected from such a case was revelatory. As deliberated in chapters six and seven, such a case shows how a similar investigation can be completed and indirectly motivate additional investigation and accordingly the improvement of required policy implementation.

As deliberated in section 1.2, there is a knowledge gap in how normative cognitive elements embedded within social structures might be deployed to strengthen domestic water governance in small towns. A single case study is grounded on in-depth investigation of complex phenomena in their natural, or actual, settings. A single case study typically facilitates a dynamic understanding of complex challenges and provides evidence concerning causal mechanisms, and the required and sufficient conditions (contexts) for intervention implementation and outcomes (Gaya et al., 2016). These are necessary facts to consider for researchers concerned about internal and external validity, but also for research users in policy and practice who need to understand what the likely outcomes of complex programmes or interventions will be in their context. Regarding good and implementable domestic water governance practices, each town must formulate its own local specific strategy related to its specific conditions, requirements, expectations and capabilities.

The local structures and functions of the institutions responsible for domestic water consumers are diverse. Thus, they cannot have the same type of governance indicators. The study of the context ladder will assist in developing a usable and reliable context related to domestic water governance. Thus, given the contemporary nature of the topic (domestic water governance), this study adopted the selection of the single case inquiry in order to explore context-laden empirical information within real-life domestic water governance in a specific small town. The aim was to explore more closely domestic water institutional structure and analyse the various

ways and approaches in which local actors practise local domestic water governance in a small town.

## 4.5 Case Study Selection

In research, the selection of a case is distinguished between qualitative and quantitative research, due to the distinguishing logic of selection criteria between the two. While quantitative techniques target choosing a random and representative sample that will permit generalisation from the sample to the entire population (Patton, 2015), qualitative techniques target an extreme quantity of information on a certain phenomenon so as to enlighten it satisfactorily. What matters more in qualitative research is the understanding of a given phenomenon, relative to incidences of data and generalised proclamations (Mason, 2010).

This study basically adopted a mixed method of qualitative and quantitative. This means its concern was to collect as much information as possible on the domestic water governance in a selected small town so as to respond to the investigation inquiries without the need for statistical generalisation. The selection of the case study was directed by three justifications: the investigation enquiry (Patton, 2015), repetition logic (Yin, 2014), and access to information. The choices were made deliberately with the hypothesis that the case would offer cherished insights applicable to the investigation enquiries (Patton, 2015).

Therefore, the case was not chosen for its statistical generalisation (Flyvbjerg, 2005), but rather to advance concrete and context-contingent information that provides a chance for an in-depth understanding of the phenomena and for such understanding to be applied. Thus, selection criteria are included for the case study including; first level sampling involving the selection of the region among the regions in the coastal areas; second level sampling involving the selection of information-rich districts; and third level sampling was employed to select the study small town for in-depth analysis. This selection process aimed at ensuring that the case was obtained in a scientific way that minimises bias and unreliability and thus obtaining information-rich cases<sup>3</sup> for answering the research questions. The selection

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<sup>3</sup> Patton (2015) describes information rich cases as those from which the researcher can study a great deal about matters of vital significance for the aim of the investigation.

process passes through four main steps, and the following provides a detailed explanation of the steps in the selection process.

#### 4.5.1 First Step Sampling

The purpose of the first step of sampling was to select a region within the coastal region of Tanzania in order to position the study. The first step of sampling included the choice of the region amongst the regions in the coastal areas. At this level, non-probability selection (i.e. non-random) sample choice strategies were applied. The significance of applying non-probability selection strategies at this level was to attain an information rich region (Bernard, 2017) which includes; spatial development, attracting more people, being under pressure regarding domestic water service provision, and having a proportion of small towns that are increasing in number. In this regard, the Tanga region was thus selected purposefully, given its population increase 2.2 % average annual rate (Appendix 2), which signifies the increase in demand for domestic water services. Furthermore, the proportion of small towns that are increasingly and developed informally is another factor that signifies the challenging situation of domestic water governance. Figure 4 shows the region in the coastal area.

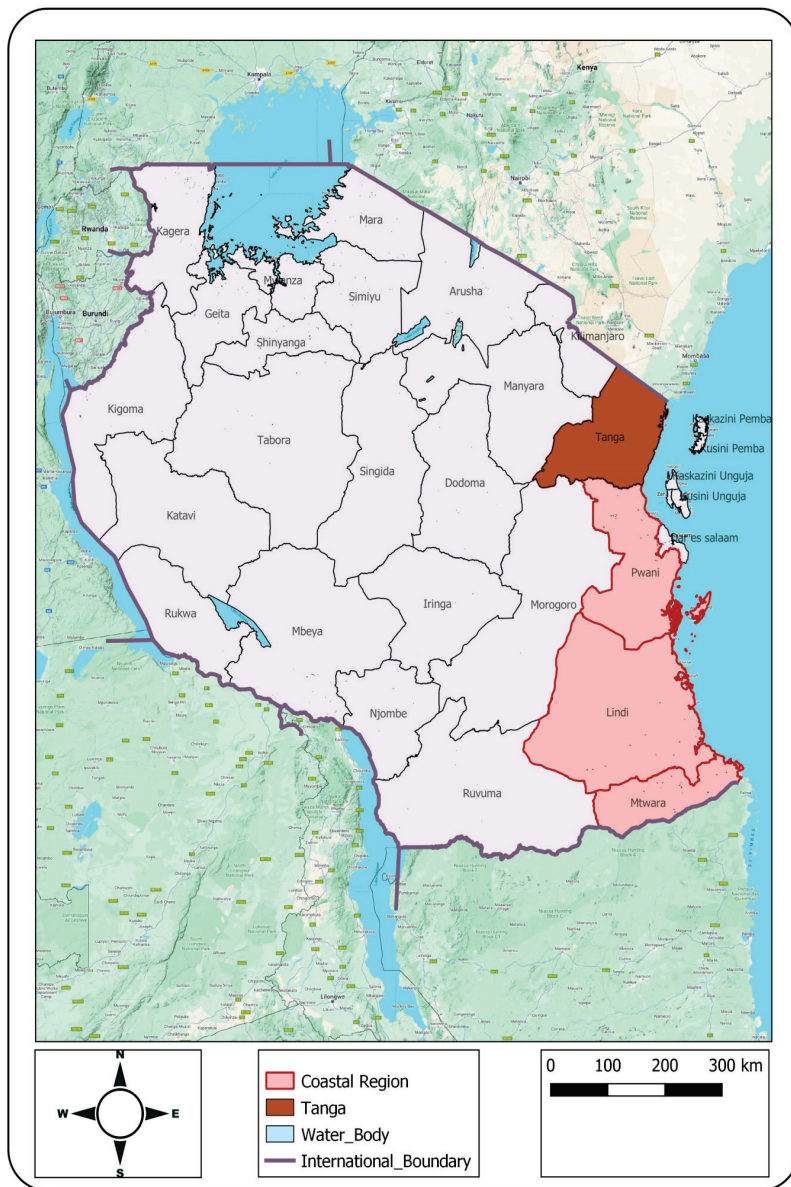


Figure 4. Location of Tanga Region in the Coastal Area. Source: URT, 2012 and Satellite image 2018

#### 4.5.2 Second Step Sampling

The second step of sampling aimed to select one district within the Tanga region. The second step of sampling comprised the choice of a district that is rich in information. To implement this goal, non-random sampling strategies were applied. The choice condition was also adopted for the selected information-rich district. Five sets of criteria were devised to guide the selection of one district. The criteria included: a high population growth rate (appendix 3), under pressure for domestic water service provision, having domestic water services projects finalised or ongoing, an increasing number of small towns and a diversity of local actors. Yet, amongst the seven districts in the Tanga region, Handeni District emerged as a more information-rich case making it the focus of the study. Table 1 provides the selection criteria evaluated in the Likert level of five ranks (i.e. 5=strongly agree, 4=Agree, 3=Acceptable, 2=Satisfactory, 1= Questionable

Table 1. Matrix of District Level Selection Criteria

Criteria	Description	Score scale
A	With a diversity of local actors	5=Strongly agree
B	Increasing number of small towns	4=Agree
C	Having domestic water services project finalised or ongoing	3=Acceptable
D	Under pressure for domestic water service provision	2=Satisfactory
E	High population rate	1=Questionable

Source: Author's Elaboration, July 2018

#### 4.5.3 Third Step Sampling

The purpose of the third step sampling criteria was to choose one small town within the selected district (Handeni) from which data on this study could be collected. At this level, similar to the preceding step, non-random selection criteria were applied. The strategies were selected for gaining miscellaneous, rich information on small towns and obtaining a wide-ranging understanding of the local social and institutional context in domestic water governance. The selection criterion was also adopted in a selected information-rich small town. All the small towns and villages within Handeni district were listed, indicating: the population within each small town and village; local institutions/organisations devoted to domestic water services provision; diversity of multiple local water supply actors and institutions; diversity of domestic water

sources; co-existence of rural and urban characteristics; and a low level of public piped domestic water network. The major criteria that guided the selection of the small town in this step were the population size of the small town and the co-existence of rural and urban characteristics. Yet, amongst sixteen towns, Kabuku small town emerged as a richer information case consuming the higher rank (Table 2), compared to the other small towns making it the focus of the study. Table 3 presents selection criteria, evaluated in the Likert level of five ranks (i.e., 5=strongly agree, 4=Agree, 3=Acceptable, 2=Satisfactory, 1= Questionable

Table 2. Criteria for Small Towns Inclusion for In-depth Study

Criteria	Description	Score scale
A	Having active local institutions/organisations devoted to domestic water services provision	5=Strongly agree
B	Diversity of Multiple local Water Supply Actors and Institutions	4= Agree
C	Diversity of domestic water sources	3= Acceptable
D	Co-existence of Rural and Urban Characteristics	2=Satisfactory
E	Low level of public piped network domestic water services	1= Questionable

Source: Author's Elaboration, July 2018

Table 3. Matrix Showing Scores for Selected Small Town

Small town	Criteria					Total
	A	B	C	D	E	
Segera	3	3	3	2	1	12
Ndolwa	0	2	2	1	1	6
Mazingara	1	2	2	1	1	7
Kwamsisi	0	2	2	1	1	6
Kwaluguru	1	2	2	1	1	7
Sindeni	0	2	2	1	1	6
Misima	0	2	2	1	1	6
Kabuku	5	4	3	2	1	15
Kwamatuku	1	2	2	1	1	7
Mgambo	1	3	3	1	1	9
Komkonga	1	2	3	1	1	8
Mkata	2	3	3	2	1	11

Source: Author's Elaboration, July 2018

#### 4.5.4 Fourth Step Sampling

The fourth and the last step of sample selection involved finding out the typologies of local actors in Kabuku small town. Consequently, the typologies of domestic water services actors were purposively nominated for the inclusive study to encompass a hybrid mix of domestic water services provision (i.e. the multiplicity of formal and informal providers). Moreover, the use of these typologies permits the understanding of structured amalgamation aspects likely to establish opportunities towards strengthening inclusive domestic water governance in Kabuku small town. Besides, comparing factors across and within these typologies helped to explain and comprehend the multiplicity of institutions and local actors' practices and uncover underlying forces in domestic water governance in small towns.

Among the criteria used for the selection of typologies of domestic water services actors were: main water sources, socio-economic aspects of households, geographical location and settlement characteristics that inform the selection of the service providers in a town. Thus, the centre of Kabuku small town was represented by community-based management and public water management. At the periphery of Kabuku small town it was represented by communal and informal water service operators in the arrangement of the Handeni Trunk Main Water Supply Authority (HTMWSA) and the Rural Water and Sanitation Agency (RUWASA), stationary water vendors (communal water seller and individual water seller) and mobile water vendors. In this regard, this study discussed these typologies of local actors to highlight the domestic water services provision practice that will strengthen domestic water governance in a small town which has rural and urban characteristics.

#### 4.5.5 The Choice of Kabuku Small Town in Handeni District

Kabuku small town is located in Handeni District, in Tanga Region which is part of the coastal zone of the United Republic of Tanzania. The town is located along the Dar es Salaam to Tanga road approximately 80 km south within the fringe area of the Handeni District (Figure 5). Kabuku small town in Handeni District was selected as a revelatory case owing to the following reasons. First, the provision of public domestic water services in the town has not kept up with the fast-increasing population, and also, based on a review of the Handeni District profile of 2017, the district does not have large surface water resources to be developed as a public domestic water supply



for its increasing population. In addition, the district relies on groundwater and rain harvest, which is also not the way forward because the underground water is very limited and there is increasing the salinity of the boreholes (URT, 2017). Moreover, inner areas of the town have increased in population density, giving rise to acute domestic water shortages. Furthermore, the majority of the households have access to water through a multifaceted set of approaches, comprising a mixture of formal and informal strategies that rely exclusively on combined domestic water from diverse sources, at fluctuating costs, thus prompting the emergence of various local actors in domestic water governance. Accordingly, the population of the town is increasing rapidly, causing additional stress on domestic water infrastructure provision and governance. In this regard, it presents a challenging case for exploring institutional and local actors in domestic water governance.

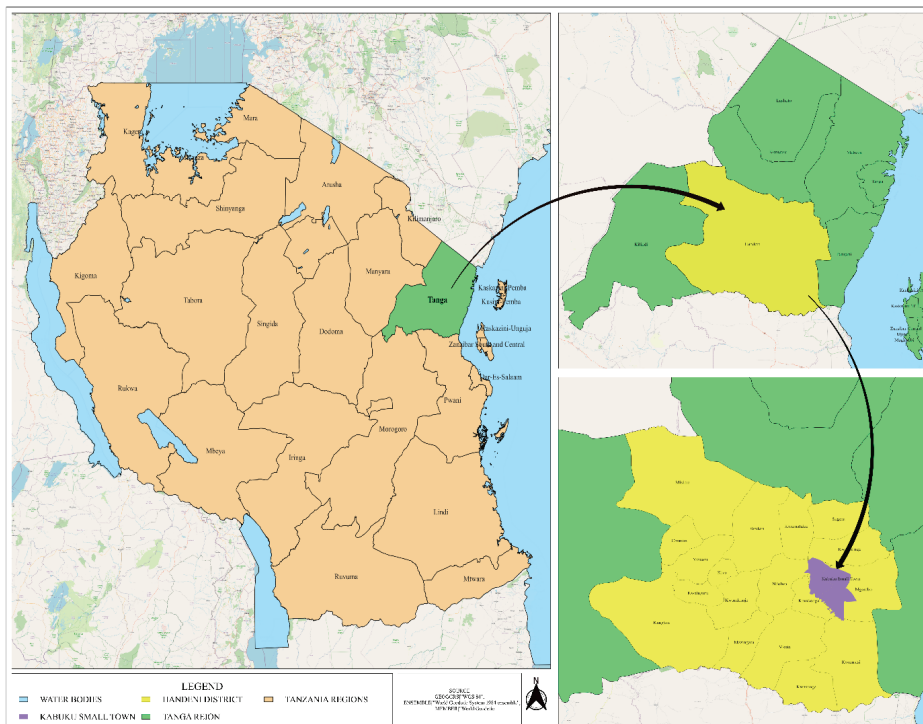


Figure 5. Kabuku Small Town in Handeni District, Tanzania. Source: URT, 2012 & Fieldwork, July 2018

## 4.6 Units of Analysis

Unpacking domestic water governance in a small town which has rural and urban characteristics requires multiple units of analysis in order to capture the actual practice on the ground. As discussed by Doss and Meinzen-Dick (2015), the household is a family based on a co-inhabited unit that governs the resources and the major desires of its members. Also, households are the arenas of interface in which deep-rooted aspects of resource management are shaped through community practices. This description of households is also adopted in domestic water governance, and in this study the household is viewed as the central consumer of the water service and its members play main roles in the provision and governance of domestic water. Therefore, this study considered the household as the core unit of analysis.

Again, community forms another unit of analysis, owing to the point that in Tanzania, the subsidiarity principle of decentralised water governance requires the community at the lowest level to oversee their resources (URT, 2008b, 2002). In practice, at the local level (in this case a small town) through its structures such as the wards and sub-wards, councils are responsible for overseeing the overall management of social and economic development activities for their community through coordinating community undertaking at the lower local government management level. This includes oversight of the rules governing domestic water such as protection of water resources, identifying water consumers, providing water rights and bills, gathering water abstractions taxes and arbitrating water challenges within the town. Generally, local-level government authorities have their formal and informal institution relevant to domestic water governance such as the community assembly, the wards, and the wards council. Besides, the local actors such as individual water vendors, communal water vendors, and mobile water vendors are the main local actor providers of domestic water services in the town. Therefore, it was thought valuable to include the community as the second unit of analysis.

Furthermore, the RUWASA and the HTMWSA in Handeni District are the authorities for domestic water governance in the district. Therefore, in this study the Water Supply and Sanitation Authority, in this case the HTMWSA and the RUWASA is regarded as a higher rank of unit of analysis that cuts across different ranks of authorities. The RUWASA links with the MoW and the Prime Minister's Office, Regional, Administration, and other institutions employed to enable domestic water governance in a small town.

The RUWASA and the HTMWSA as agents of the central government are accountable for the general planning, implementation and administration of domestic water programmes in their respective areas as stipulated under the water supply and sanitation Act of 2019. Also, at the local level, the RUWASA is accountable for the provision of domestic water services and technical assistance to all small towns and villages within its authority.

By carrying out these roles, the RUWASA is an indispensable actor supporting the governance of domestic water irrespective of whether services are offered by the central government or other actors. Therefore, the households, community, and the HTMWSA and the RUWASA are focal points in analysing the interfaces of local actors, institutions, and their linkages, particularly the social networks and collective responsibility in strengthening domestic water governance in the small town.

## 4.7 The Fieldwork Processes

The fieldwork was conducted in Handeni District from October 2017 to early September 2018, in three overlapping phases. The arrangement and investigative stage commenced with managerial logistics to obtain investigation permissions from Handeni district authorities. The researcher collected and revised secondary data on domestic water provision and governance obtained from the district profile of 2017, the water sector document, and other reports related to water from other departments such as planning and community development. The documents revised were from the year 2000 onwards contingent on their obtainability. Semi-structured and unstructured consultations with the RUWASA district manager, HTMWSA, and town planning officers at the district permitted the researcher to attain and examine information. The collected information includes; the current situation of the domestic water governance in the small town, the actors involved, the coordination among actors, water management approaches and arrangements, and different institutional set-ups of water provision and governance.

Likewise, other points discussed were problems pertaining to domestic water authorities in serving the small towns. Again, investigation of the data provided by the RUWASA, HTMWSA and town planning offices allowed the researcher to get an overall understanding of the district and small towns concerning the research context. The researcher applied the data obtained

from the RUWASA and HTMWSA officers, the town planning office and the reconnaissance survey to the selected small town to justify the choice of the case study.

Subsequently, at the small town level, two research assistants were employed throughout this stage. Through the investigation process, the research assistants were the connected people at the ward and sub-ward level and linked the researcher to the household level. The researcher also had deliberations with them on everyday research activities, such as the arrangement of trips to the studied small town. By means of site visiting, the connection could be established with the wards and sub-wards (Mtaa and Villages) leaders in the small town, members of the water user association, individual water vendors, communal water vendors, water mobile vendors, and Handeni HTMWSA officers and the RUWASA district manager. The researcher conducted semi-structured and unstructured interviews that familiarised the researcher with the overall image of the domestic water service, and the social, economic, and demographic aspects of the selected small town. Likewise, the researcher deliberated real-world aspects like arrangements for household interviews and market or auction days. The researcher continuously made phone calls to the research assistants, ward and sub-ward leaders, and district administrators before visiting their workplaces to guarantee their availability and that of the information required.

Similarly, in the second stage, the household interview was engaged in Kabuku Ndani and Kabuku Nje wards with more than four sub-wards (Mtaa and Villages). The questionnaire applied in the survey comprised open and closed questions (Appendix 13). Four assistant researchers were employed. Three of them had bachelor's degree qualifications, and had earlier participated in community development investigations and monitoring activities in the community. The other research assistant had an ordinary diploma but had experience in technical training and mobilisation of resources in domestic water projects. Before the survey, the research assistants were trained to have a shared understanding of the questionnaire, field realities, and ethical considerations, particularly the significance of having the respondents' permission. The questionnaire was offered in Kabuku small town to assess how its design, phrases, and content would be applicable in real life activities. Then, the questionnaire was modified to improve the precision and logic of the queries. Throughout the survey, the

wards office recommended the sub-ward (Mtaa and Villages) chairperson or member of the water committee when the chairperson was unobtainable, to escort the research assistant.

Similarly, to arrange for the detailed qualitative data collection, the researcher did an initial investigation of the survey data and reviewed field records taken in the preceding stage. The detailed qualitative investigation in the three purposively chosen sub-wards in Kabuku was done to elicit detailed information about the everyday practice of domestic water services provision and governance. Kabuku Ndani wards were involved due to the experience with the communal water governance strategies by the communal water user association, individual water vendors, and mobile vendors. Kabuku Nje was included because of the availability of public water supply networks in the area. Qualitative information was gathered through detailed interviews with key informers, focus group discussions, observation, mapping and photographing of domestic water activities and infrastructures. This third stage added comprehensive information and a detailed explanation of small-town domestic water services. These descriptions were about everyday practices and overall domestic water governance challenges.

## 4.8 Data Collection Methods

This study employed several methods for information gathering. The perceptions documented here result from several sources of data (Yin, 2017). Thus, information gathering methods applied comprised: detailed interviews, key informers, Focus Group Discussions (FGDs), observation, mapping and photographing of domestic water activities and infrastructures. These methods were employed in each of the four domestic water services typologies selected. The sub-section below offers a comprehensive clarification of the methods applied to collect data.

### 4.8.1 Literature Review

This subsection elaborates on how the literature review was deployed in this study. Scholars contend that a literature review is among the core sources of obtaining secondary data from other empirical investigations. From literature evaluations, possible concepts and variables were identified. Also, data about the phenomenon of the investigation were gathered. In addition, theoretical viewpoints connected to this study were attained. This was comprehended

through the literature evaluation by arranging a tailored literature appraisal as a discrete information gathering method for updating the scientific investigation in this study (Chapter Two). Data from secondary sources were collected through webpages, journals and reports, and internet databases. Data collected from these sources were data that was relevant to the achievement of the objectives of this study.

In this regard, the researcher downloaded the keywords of the study into a sub-title search. Also, applying the sub-title, the researcher then devised a literature appraisal guide containing explicit sub-titles. The researcher applied an established key search theme per each sub-title. The researcher also used phrases like “small towns in”, “small towns in Sub-Saharan Africa”, “water governance in,” “water governance in developing countries,” and “rural-urban dichotomy in” and “secondary cities”. Data was searched for using internet databases including Google Scholar and Jstor and other grey literature such as the websites of organisations. Similarly, theoretical selection (Bryman, 2016), was employed as a guide in attaining a saturation point throughout the information gathering process through the literature appraisal. However, literature appraisal cannot claim to be comprehensive as there are extra terms or concepts identical to domestic water governance and small towns, such as domestic water supply, domestic water provision, small cities, intermediate towns, and secondary cities (section 2.3), which have not been captured in the appraisal.

Nonetheless, the appraisal of the literature review investigation on domestic water governance in small towns played a discrete role in this study. This was done through problematising the research subject and helping to facilitate the identification of the lacuna and documentation of relevant theories, concepts, and variables that are later realised within the local settings. Likewise, it offered a key idea in the creation of narratives as it provided extracts that were applied as indications in narrations and earmarking potential areas for knowledge contribution.

#### 4.8.2 Document Analysis

Document analysis is a systematic procedure for revising or assessing documents. It involves searching, selecting, assessing, and synthesising information, in such a way that empirical knowledge is produced and understood (Bowen, 2009). Documents of all kinds can assist the investigator in revealing connotations, advancing understanding, and discovering

insights related to the problem investigated (Salminen et al., 1997). Likewise, this study built on the analysis of key documents. The extent of documents reviewed consists of documents that were regularly referred to and which enjoyed wider support and played a crucial role in domestic water services provision and governance. Broadly, documents such as national water policy, Acts, and the socio-economic profile of Handeni District were consulted. For example, the review of policy documents and formal legislation provides data on how domestic water services provision is supposed to be done, institutional arrangements, the participation of actors, and the role and responsibility of actors in domestic water governance. The researcher also collected various documents at the ward level, which support and complement the information gathered through other methods of data collection.

In particular, the researcher was able to access the written materials of the ward office: written materials which transcribe what happened during meetings and the general assembly discussing domestic water service provision and governance issues. These documents were important to inform the ongoing research of domestic water governance in Kabuku small town.

#### 4.8.3 Domestic Water Service Mapping

This subsection describes the water service mapping exercise as deployed in this study. The researcher used a water service mapping strategy to visualise the underlying situation of the scope of domestic water service provision in the small town and compared the outcome against the national and international guidelines. In order to understand in what way governance interconnects with the provision of domestic water, it was necessary to develop strategies that could elicit the consumers' standpoint on the spatial features, an aspect which is not simply obtained from other approaches to information gathering. Also, the technique allowed the researcher to capture the consequences of seasonality on domestic water access and provision. The mapping of domestic water sources and facilities was done by involving different households at the ward and sub-ward scale.

The worksheet that directed the mapping activity is presented in Appendix 5. By intertwining together these three methods, the data from the service consumers' viewpoints could be validated. For instance, the rough map that originated from the deliberations among the members in the focus group discussion and key informant interviews could be authenticated by the

transect walk. The mapping of the domestic water service allowed the researcher to get precise, applicable, and valid information. This was key to assessing the data on domestic water sources obtained and presented by other methods that, contrary to what is generally assumed. This method has additional value for informing the condition of domestic water services and evaluating their capability at the small town scale, in the light of population increase and human settlement expansion.

#### 4.8.4 Observation

Direct observation aimed to observe domestic water infrastructure, water sources, and movement of people to and from the domestic water sources. Direct observation offers rich information through an interpretive method on the social practicality and subjective perceptions of individuals by eliciting and witnessing what is significant and imperative to them (Bernard, 2011). At the start of fieldwork, the Ward Executive Officer (WEO) was invited to a meeting to introduce the researcher to the other members of the ward committees and water user associations. They were fairly welcoming and could directly organise a time and area to meet majority of them. The majority of them were elderly persons (above age 35). They were, hence, fairly well-informed and keen to express the matters relating to domestic water services provision and governance in the small town.

In July 2017, the researcher started regular visits to the ward officer multiple times per week. The researcher was allowed to access all internal water documents and was openly told about all the news (and gossip) regarding domestic water governance. The researcher spent time in the ward office and discussed issues with the domestic water committee. This allowed the researcher to understand the everyday activity of the domestic water committee in assessing incidents. Likewise, the researcher explored the small town through walking and speaking with the domestic water consumers and providers. This allowed the researcher to get a wider understanding of the domestic water provision opportunity and challenges, as well as how the domestic water services approaches had evolved and were recently transforming in the small town. Such an understanding of the evolution of the domestic water services provision approaches is vital to understanding the coalition among the domestic water services providers and their potential challenges in strengthening domestic water governance.



During the transect walk, one of the water user committee members was also introduced to various individual and communal water vendors, asking them whether they would like to be interviewed. Believing the fact that the researcher was with the water user committee member, who was well recognised and usually accepted in the small town, this situation helped to bring the household close to the research. The researcher also observed the attire of the interviewee, facial expression, environment and the period of the interview. Observations were accompanied by photograph taking, and the researcher similarly wrote observation records, as cameras could not detect all the features of the community continuing processes (Babbie & Mouton, 2001).

#### 4.8.5 In-depth Interviews

As a case study investigation, which comprises diverse sets of information, various types of data were sampled for information gathering. The sampling and subsequent information gathering was to guarantee that sufficient and suitable information was gathered to guarantee that the domestic water governance in small towns is adequately investigated i.e. understanding the everyday practice of domestic water governance, and the contextual social and institutional dynamics that constrain or enable good domestic water governance. The information gathered includes the local actors' participation, resources employed, the motivation behind local actors, and the capacity to emerge as institutional entrepreneurs. In order to obtain the above mentioned information, the informers for the fieldwork of this study were grouped into two: The researcher held in-depth interviews with the HTMWSA officer and RUWASA water supply officials who are the main public service providers in Kabuku small town.

To understand the role of actors at lower levels, the researcher interviewed the local actors at ward and sub-ward levels which include; water committees, stationary water vendors (individual water vendors and communal water vendors) and mobile water vendors which are available in Kabuku small town. Table 4 illustrates the actors interviewed at different levels.

Table 4. Interviewee Breakdown

S/N	Organisation / Group	Number
1	Handeni District	
	Handeni Trunk Main Water Supply Authority (HTMWSA )	2
	Rural Water and Sanitation Agency (RUWASA) District Manager	1
	Water Engineer	2
	District Community Development Officer (DCDO)	1
	Water Technician	1
	Town planning office	2
2	Kabuku Small Town	
	Ward Executive officer	1
	Sub-Wards (Mtaa and Villages) executive officers	2
	Community Water Management Team	4
	CBWSO Chairperson	1
	Community Water Committee	4
	Stationary Communal water seller	5
	Stationary Individual water seller	23
	Mobile Water Venders	28
	Domestic Water users	90

Source; Author's Elaboration, July 2018

From Table 4, a detailed explanation of the data gathered by each actor can be discussed as follows:

#### 4.8.5.1 *Rural Water and Sanitation Agency (RUWASA) Regional and District Manager*

The reason for earmarking the RUWASA District Manager was that they represented the Tanzanian government's responsible organisation for water services policy issues, the water development master plan, funding for water development projects and controlling water prices issues. Discussion with the RUWASA District Manager was essential to understand in what way the district affects domestic water governance. Open-ended detailed interviews were conducted (Appendix 6) to allow for detailed discussions on the context

in which the district operated, allowing the researcher to acquire initial information on a condition on which the researcher originally had partial knowledge. The interviews were conducted with administrators employed at all stages of the water supply and sanitation authority.

This was essential to acquire a comprehensive opinion of the diverse way in which the district Water Supply and Sanitation officials influence domestic water governance at the district level. Besides, diverse Water Supply and Sanitation officials may have distinct rules, strategies, plans and procedures concerning domestic water governance. The RUWASA District manager was interviewed on the topics essential to the research enquiry. These topics included: the everyday practice of domestic water governance, roles and responsibilities, capacity, and motivation behind the RUWASA. In the district, the relationship among the domestic water operators and institutional coordination became a main element of the researcher's investigation. This component permits researchers to understand the ways in which domestic water service providers often interact during the practice of domestic water services provision. Also, the contrast between actors signifies one of the key challenges among RUWASA and other operators on how domestic water governance would be prearranged. The researcher, thus, studied the discourses given by the RUWASA District Manager both on their services and the services of the other providers such as mobile and stationary water vendors, as well as their material consequences.

Second, the researcher collected data on how the central government allocates financial resources (financial budget) for the domestic water project in the district. The examination of this theme is significant as the distribution of resources concretely underlines the central government preferences. The community's right to obtain district support is an essential point of controversy in the district, as a great number of water supply and sanitation officials professed that the other providers such as mobile water vendors, and stationary individual and communal vendors are not valid legitimate beneficiaries of central government budget allocation.

Then, this theme permitted the researchers to identify the presence of diverse discourses regarding domestic water service providers at the small-town level. Such discourses could be applied by the local actors' network to affect the domestic water governance in the small town. The third topic emphasises more abstractly the ways the RUWASA conceives, perceives, and visualises domestic water governance practice at the local level. The

District Manager was asked about their insight into the corresponding duties of the district and alternative providers regarding domestic water governance. The given insights have substantial consequences on the institutional coordination among actors on how to influence inclusive domestic water governance.

The interview with the District Manager also helped the researcher to understand in detail the selected small town. At the same time, themes emerging from the case study helped to improve research questions for the representatives of actors in a small town. Since the researcher's purpose was to understand the role, local practice and institutional dynamics of local actors in domestic water governance, discussions with the RUWASA District Managers were thus continued throughout the investigation to generate a context which enabled the researcher to direct the investigation to understand their opinions and perceptions in order to understand explicit challenges on which they were expert.

Sometimes, the researcher was provided with recommendations concerning whom should be interviewed (snowball selection). Interview time ranged between 40 minutes and 1 hour. This was determined by the theme and the time the interviewees had. Detailed interviews with the RUWASA empowered the researcher to pursue analytical queries connected to the interviewees' areas of know-how.

The discussions helped the researcher gain an overview of the everyday practice of domestic water governance challenges. The researcher utilised these debates to define questions for households' interviews, to acquire a better understanding of a particular event and local domestic water governance practices. The researcher also used these discussions to formulate questions for local actors in Kabuku small town, to get their response to local context practice.

#### *4.8.5.2 In-depth Interview with Handeni Trunk Main Water Supply Authority (HTMWSA) Officials*

HTMWSA officials are a central actor at the district level accountable for the governance of domestic water services in Kabuku small town and is vital to highlight that this is through both its actions and its inactions. Thus, an analysis of the role, guidelines, and vision of the HTMWSA officials is essential to comprehend how the local government impacts the practice of domestic water governance. The face-to-face interviews with two senior officers including the assistant director for HTMWSA and resources

planning officers were conducted. The open-ended interview questions were systematically and purposely structured to fulfil the research objectives. Therefore, questions were developed in considering what information was needed and would be collected from HTMWSA offices. The study had to have a clear picture of the whole process of domestic water services provision. Finally, all collected information was gathered and analysed. Given HTMWSA officials' wide experience, they were the right source of raw data. Therefore, information on domestic water service provision, institutions and the participation of other actors were the key information gained from HTMWSA officials.

#### *4.8.5.3 In-depth Interviews with Mobile Water Vendors and Stationary Water Vendors*

After revising the information from the district authority officials, the next main fieldwork phase was conducted to focus on mobile water vendors and individual water seller perspectives. This component of research responded to the recognition that individual access to a clean and satisfactory supply of domestic water is not just a result of market issues, but also of local operators' constraints and that consulting the other domestic water operators could shed additional light on issues of leverage, barriers, perceptions, and power. A semi-structured interview instrument comprising closed and open questions was used (Appendix 7 and 8) to evaluate not only the commercial judgements and features of the various water vendors and individual water vendors, but also their viewpoints on the interaction and reaction of outside forces to the domestic water conditions and practice in the area. Though interviewees in the individual survey were selected through random sampling, snowball selection was convenient for ascertaining opinions from the mobile water vendors and individual water vendors, given the informal situation of their operations. Though the aim was to interview nearly 30 individual water vendors and 30 mobile water vendors, only 23 individual water vendor and 28 mobile water vendor interviews were accomplished. This occurred because water mobile vendors operating in the local settings were uncertain of the investigation. Few of them were willing to participate in the research.

Another in-depth interview was conducted with stationary communal water vendors. Stationary communal water vendors as used in this study refer to water vendors reselling water from the public domestic water points, standing pipes or water kiosks. To collect data from communal water

vendors, a structured survey was used (Appendix 9). The survey sought opinions from communal service operations on matters connected to institutions, access to resources, and other governance strategies employed by operators in realising domestic water projects and management plans, rules, and strategies for domestic water governance in Kabuku small town. This means that communal water operators were taken into consideration when governing domestic water services and their involvement (arrangement, operation, and controlling) were examined. Restrictions facing communal water vendors (practical, monetary, and associations), the management strategies, and the motivation of communal water vendors to ensure the sustainability of the water services were also considered important to be investigated.

#### *4.8.5.4 In-depth Interview with Domestic Water Users*

Information from the water user was essential to this study not only for information verification, but also to understand the diverse types of local actors including public services, private water services, and current water services. To collect information from water customers, a structured survey (Appendix 13) was conducted in July 2018 whereby a total of ninety (90) household interviews were administered. The structured survey forms were designed to provide in-depth information on domestic water services including (water quality and quantity, water charges, and sharing of water services information) from water users.

Dwellings with multiple households were not encountered. Structured surveys with both open and closed questions were developed to allow the interviewee to explain their opinions and understanding about their access to domestic water services. Interviewees were randomly nominated within every domestic water source. Households with public water connections taps in the compound, and those depending on other water sources such as mobile vendors and stationary water vendors (communal water vendors, and individual water vendors) were also questioned. Household heads or members who participated in water gathering were the main targets.

The gender aspect was reflected when choosing interviewees in every domestic water source. Fifty per cent (50%) of respondents interviewed were female and fifty per cent (50%) were male. A significant variable inspected was the connection among gender, water collection, operation and governance. The greater number of female interviewees is credited to the values, beliefs and customs of Kabuku small town that the duty of collecting

domestic water in the community is gendered. The survey required interviewees' opinions on ways they were involved in domestic water governance (institutional arrangements, operations and monitoring). Their opinions concerning convenience to domestic water sources, organisation approaches, involvement in domestic water governance, capability to pay water charges and competency of managing water committees to run the communal water projects were investigated in the survey.

Other vital matters regarding the transparency of the management of water committees on ways the scheme is operated (how funds are managed and accounted for) were also explored. The water consumer opinions regarding underlying causes of deficiencies and inefficiencies in domestic water institutional structure in Kabuku small town were considered important to investigate.

Inquiries about household characteristics, time spent to reach various water sources and the choice of technology and approaches, water quantity, price, and perceptions of availability were also made. This discussion allowed the researcher to investigate the relationship between water consumers and local actors in Kabuku small town. Some respondents had inadequate information about the local actors or were in a rush, so those interviews were fairly short (about 20 minutes). Though, other interviews, particularly those with elder consumers, took longer (ranging between 30 minutes to 1 hour). This might be influenced by the available free time of the respondent, but it also appeared to be a symbol of their more powerful connection with and information on the matter.

The study also led to uncovering tensions among the local actors. The researcher determined how these pressures were linked with the inclusion and elimination of parts of Kabuku small town from the public domestic water providers. The examination of this inclusion and elimination permitted the researcher not only to understand the strong relationship of the local actors at the centre of the Kabuku small town,<sup>4</sup> but also led to elimination effects for the periphery of Kabuku small town<sup>5</sup>. That is to say, the

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<sup>4</sup> As used in this study, centre of the town is characterised by a high inhabitant density with a comparatively high income level of water users who require a comparatively advanced level of basic service. Basically, the water services would be distributed through an organised public water system with in-house water connections.

<sup>5</sup> As used in this study, the periphery of the town is characterised with low inhabitant density with households with low levels of income – in terms of water services, these would be delivered either by a simple system of public distribution or shared water sources and other alternatives sources.

HTMWSA did not provide enough domestic water infrastructure to those water users living on the periphery of the small town. An assertion provided by the HTMWSA is that this elimination is a symbol of the district's challenges and incompetence, therefore causing consequences concerning its association with water consumers. To investigate these matters, the researcher questioned those participating more intensely on the consequences of the elimination of part of Kabuku small town from the HTMWSA connection system.

#### 4.8.6 Focus Group Discussions (FGDs)

Secor (2010) views interviews as dialogues. She also regards focus groups as the supplementary arrangement of dialogue as a way of information gathering. Besides, focus groups can highlight the lacuna between interviewees' opinions and actions (Conradson, 2005), between what they say and what materialises in practice. She further recommends the formulation of groups based on homogeneity (taking into consideration age, gender, and income levels). In this study, groups were formulated around the role of households in domestic water governance, either as water sellers, water committee members, or water users.

Once the researcher approached an individual water user, for instance, she requested them if they would agree to be involved in this research. Regularly, they were escorted by others throughout this conversation and most of the households present then decided to be involved, and the set interview would start.

Across all the diverse groups examined, focus groups were normally between 5 and 9 members in scope, consistent with the reference of between 4 and 12 members as advised by Secor (2010). In total, 10 focus group discussions (FGDs) were conducted in the nominated households for the research. The discussions were conversational, but the researcher definitely established inquiries resulting from the case study procedure (Appendix 10,11 and 12). The facilitator also encourages the contributor to express their insights, opinions and standpoints. These focus group discussions (FGDs) have permitted the investigator to analyse the study subject in detail through the brainstorming produced by group collaborations, and from a wider viewpoint, counting codes of demeanour that arose in these community members.



#### 4.8.7 Key Informants

Through the process of individual consent, potential key informants were considered in this research. A total of ten (10) key informants in Kabuku small town were interviewed. These informants were nominated based on their knowledge of domestic water governance in the area. A ‘snowball’ method was applied in selecting informers where every informer was used to recognise and find additional informers through networks. The researcher, thus, got other informers from every informer and the sampling scope was raised with each consequent dialogue. Ultimately, the sampling scope became saturated and no substantial new data was collected. Respondents were selected for their significance to the conceptual inquiries compared to their representativeness. By mere chance, the informers comprised of ward executive officers, individual water vendors, water mobile vendors, and communal water vendors. A sample was intended to not only pursue follow-up on expanding information gathered throughout the household interview, but also to increase it by posing questions concerning local institutions, interactions among local actors, duties, challenges, motivation, and the technical and financial capacity of local actors to affect domestic water governance.

All the dialogues with the crucial informers were conducted using semi-structured and unstructured interview instruments comprising closed and open questions (Appendix 10,11 and 12). The interviews conducted offered a wider understanding of the complexities of the local social context and the intricacies of the institutional structure of domestic water provision.

### 4.9 Data Processing and Techniques of Analysis

Findings from the diverse techniques engaged in this research originated from numerous procedures, from qualitative discourse to the Likert level of rankings, and quantitative techniques. Relationships were both graded and evaluated qualitatively in most circumstances. Corbetta (2003) elaborates on ways quantitative data offers itself to the clarification of disparity in the variables, with connections shown and causation contended through causal models and logic. This can be compared with the qualitative analysis, in which the individual can be analysed; groups and typologies can be formulated and categorised (ibid).

Data analysis can automatically commence when one departs from the field. The qualitative case study allows data analysis to be parallel with data collection. During the fieldwork, the researcher pays attention, thinking about documents systematically and applies what is learned (Patton, 2002). Novel themes and hypotheses arose, thus leading the researcher to redesign the analytical categories. Besides, the handwritten reports and notes organised permit the researcher to commence organising empirical information. However, a more organised information analysis commenced once the fieldwork was finalised. However, apart from the on-site analysis, in this study several methods were used for both the analysis of quantitative and qualitative information.

Regarding qualitative information, Patton (2002) explains qualitative data analysis as conveying order to the information and consolidating them into themes, types, and basic expressive components. As far as this study is concerned, qualitative information from in-depth interviews, focus group discussions, key informers and official documents were recorded, categorised, and coded systematically. Qualitative information obtained from open-ended survey questions and semi-structured dialogues were characterised and coded using the main theme developed deductively from the theory. Also, there was an increasing element of the inductive from the interview information or preceding phrases of the fieldwork process. Quantitative information, whether developed through secondary or primary sources, was analysed to recognise the worth and amount of data and was comparatively straightforward to analyse employing descriptive statistics.

Correspondingly, statistical analysis and graphical representations were produced using a Statistical Package for the Social Sciences (SPSS) and Excel. Organised, computable, or pre-characterised information from interviews were also assembled through these techniques. The statistical data analysis method engaged was on the quantitative structured household survey. The Statistical Package for Social Scientists (SPSS) was applied to analyse domestic water services in the context of water sources, the existing practices of domestic water governance, the dynamics of institutions, and local actors. Data were gutted and entered into the Statistical Package for Social Scientists (SPSS) software through the coding of diverse variables. For any discrepancies, variables were cross-tabulated with discrepancies against inquiry numbers. Descriptive statistical tables were established on

main domestic water practices and activities) which included; water sources, water coverage, reliability, and water charges.

## 4.10 Validity and Reliability

Validity is the effort to evaluate the correctness of findings (Creswell, 2013). In this study, it was guaranteed through data triangulation and generalisability (Patton, 2015). Information triangulation in qualitative investigation comprises collecting and analysing multiple perspectives, employing diverse sources of information, theories, researchers, and techniques to provide corroborating evidence (Patton, 2015; Creswell, 2013).

The purpose of data validity is to check for consistencies or discrepancies using diverse perspectives, which can provide deeper insights (Patton, 2015). Inconsistent outcomes are not really a flaw but demonstrate the consequence of diverse kinds of investigation on the phenomenon in particular research (ibid). Regarding researcher triangulation, this study has passed through various stages of evaluation and examination. This involved discussions with colleagues from different backgrounds throughout the investigation process. They reviewed and provided critical comments on the research topic and findings. These include the use of relevant theories and concepts; the methodological approach, suggestions on the nature of the research questions, and the relevant literature on domestic water governance and small towns.

Regarding information triangulation, the analyses focused on diverse, but similar information; for instance, records from diverse respondents or diverse scholarship. Methodological triangulation was useful to cross-check information collected by means of diverse information-gathering techniques which include observations, mapping, detailed interviews, and focus group discussion. Moreover, information validity was strengthened by the fact that this research contributed to larger research projects titled Quest for Alternative Urban Planning Model in Small Towns. This provided numerous checkpoints for reflection, debate, and the validation of research outcomes. Advantages of these checkpoints include internal workshops and presentation of the research findings at numerous international conferences. These various interactions and dissemination of research findings with peers and practitioners guaranteed that personal interpretations were evaded, improvements were made to the application of theories, and methodology and unfairness was controlled.

Again, in quantitative investigations, reliability represents the stability of repeated gathering of information (Healy & Perry, 2000), which in the instance of qualitative investigation is claimed to be immaterial (Golafshani, 2003) or even deceptive (Stenbacka, 2001). Since the purpose of qualitative research is to understand a phenomenon, rather than explain it (Stenbacka, 2001). In addition, it can be measured in terms of its “dependability”, which highlights the requirement for the investigator to account for the context of the study, and how any variations in this respect affected the research (Lincoln & Guba, 1985). Regarding this study, dependability, and therefore reliability, was guaranteed through taking great precautions to conceptualise the research, gathering information, interpreting research findings, and reporting the results of the research regularly. Besides, the method was presented and kept in the form of field reports, digital archives, and internal reports and recordings of the research procedure (ibid). The widespread relationships with other scholars were an additional motivation to retain thorough documentation to be able to coordinate and guide the research process. Therefore, it is the opinion of the researcher that the source of data and methods used are appropriate to justify the validity and reliability of the collected information in this study.

#### 4.11 Ethical Considerations

The investigation was exposed to official ethical reflections. As a consequence, the investigator guaranteed that all the ethical matters were addressed before the information gathering process was commenced. Initially and foremost, the investigator acquired a cover letter signed by the Doctoral Supervisor from the Department of Urban and Regional Planning, School of Spatial Planning and Social Studies, Ardhi University. Duplicates of this cover letter were sent to Handeni District Authority and RUWASA. Then, the HTMWSA prepared a permission letter and sent it to interviewees in the study community, government departments, and agencies (Appendix 14). At the small-town level, assistance was sought from the community leadership through the Ward Executive Officer (WEO) to inform the community members about the study and explain to the community what it meant to be involved in interviews or participate in focus group discussions.

WEOs were informed in advance before the interviews to make the community aware. The role of WEO mainly included acting as a local guide

to the researcher, identifying households to be interviewed in the focus group discussion, and arranging logistics for the infrastructure to be observed and a venue for all the activities of the research. Regarding the interview, the core ethical deliberations entailed clarifying the aim of the dialogue and the possible advantages for the respondents (Patton, 2015). While numerous respondents were relaxed about the data they shared, it was however significant to get informed consent, ensure privacy and consider the likely impacts for respondents (Brinkmann & Kvale, 2015).

Most respondents were asked to explain if there was whatever that should not be disclosed. Privacy was also confirmed by keeping the dialogue documentation safe. In some circumstances, when declarations were sensitive or uncertain, respondents were requested to confirm their responses and their permission for publication (Brinkmann & Kvale, 2015; Patton, 2015). However, it must be reported that this process can also encounter problems. The investigator had occasionally omitted a discussion over phrasing, as the final clarification lies in the hands of the investigator. The participants and respondents were informed about the expectations prior to the interview and were also assured that the study was academic research and has contributed to the improvement of water services provision in a small town. They were also assured of anonymity and confidentiality apart from being requested to go through the issues raised for confirmation and clarification. The main aim of going through these logistics and guaranteeing ethical deliberation was to confirm that the interviewees' permission was sought before they were employed in the research, and ultimately measures were also taken to safeguard the safety of the researcher's privacy.

## 4.12 Limitations of the Study Outcomes

The study reflection is threefold. The first is the selection focus for the theoretical analysis – the procedure of finding the theoretical footing that theorises the confluence between domestic water governance on the one hand and small-town community on the other hand. This was to find a path toward navigating through institutions and local actors in strengthening domestic water governance, which was largely daunting and painstaking. The choice of new institutionalism and collective action theory took about half the PhD project. Up until that point, the researcher had conducted appraisals of the scholarship more broadly, to map concepts of institutions

and actors in diverse planning theories. After reviewing the literature, the researcher gained some insights which led the researcher to suggest the theory on new institutionalism and collective action theory as an applicable theoretical articulation of the phenomenon the researcher was exploring – this is because the new institutionalism theory departs from an actor-oriented technique in revising service consumers as actors and places them in institutional settings. This generates the possibility to examine the national water guidelines and local practices of the water services through their separate and combined interactions in governing local actors' practices.

Adding collective action theory to the new institutionalism theory enriched the analysis and information on the local actors' interplay in the provision and governance of domestic water services. Applying the concept of translation as a variant of the local actors' perspective was valuable in capturing the local actors' practice on the prevailing domestic water service provision and their ideas about national policy and guideline implementation. Notwithstanding, the application of the institutional entrepreneur concept facilitated opening the local actor issue and made the feedback mechanisms between national and local levels visible and allowed for bridging the gap between the directed and actual roles of all local actors. A combination of new institutionalism theory, collective action theory, the translation concept, and the institutional entrepreneur concept was vital for positioning the duality and interconnectedness among actors in the local contexts.

Secondly, the outcome of this study can to some degree be contended to be qualitatively generalisable (Yin, 2017), subject to a twofold qualification which includes the nature of the case study, which was chosen by non-probability technique. They could not for any reason lead to quantitative generalisations. The study object itself, which is water governance in small towns exploring institutional and local actors in domestic water provision subscribes to the reality that domestic water governance is context-dependent and thus problematic to generalise. Likewise, the study does not shelter the whole extent of options for how domestic water services might be provided as entry points in understanding domestic water governance in small towns. The study rather sheds light on probable local social and institutional settings entry points as drivers for domestic water governance. Despite the increasing resemblances in the demographic, social, economic, and infrastructure aspects of most small towns in Sub-Saharan Africa, there are numerous ways

in which the selected small town might not be a representative case for other small towns. For example, Kabuku small town is a typical unplanned small town characterised by sparse distributions of human settlement. At the same time, the town frequently already exhibits features from both urban and rural settings and thus has a set of features that make it problematic to apply either urban or rural techniques for public domestic water services governance. Yet, it is an unquestionable reality that not all small towns in the region have the aforementioned distinguishing features. This suggests that diverse small towns can have diverse local social and institutional contexts as entry points for understanding domestic water governance. This is the reason why case studies are imperative in domestic water governance research since they are appropriate for unpacking context-laden knowledge. Though, as deliberated in chapter five, the findings of this study can also be seen as a revelatory case in analysing how the local social and institutional settings in domestic water services provision might be deployed in understanding domestic water governance in small towns. Thirdly, this study examined domestic water governance at the local level (micro and meso level) with slight attention on the influence of the macro level (ministerial level). Captivating a more holistic technique, counting meso and micro actors in this study deepens the understanding of how local actors at a certain locality operate and exercise resources in domestic water governance given certain institutional arrangements.

However, domestic water governance must be understood from a multi-level perspective; macro-level (framework in which policies are formulated) and meso level (responsible for implementation and supervision of services), and micro-level (practice). The idea of including the meso and micro perspectives was only to shed light on how the bottom-up practice of domestic water services provision is impacting positively or otherwise on domestic water governance. The focus of the meso and micro level of domestic water governance was useful in providing explanations of why local actors' practices differed despite similar local social and institutional contexts. Thus, if the processes are analysed holistically, the internal and external validity of this study findings can be confirmed. Therefore, given the above study's limitations, care should be taken in generalising the findings to other social and institutional domains and academic disciplines.

## 4.13 Methodological Reflections

Through the literature appraisal as part of this research, the researcher experienced methodological and conceptual problems that are prerequisites to be resolved. Thus, reflection on these methodological drawbacks will advance better research outcomes towards strengthening domestic water governance in small towns. There was an information contradiction in terms of diverging records on the same indicator at the district level by the key agencies of domestic water providers. For example, the number of inhabitants with access to domestic water services in documents issued by the RUWASA and HTMWSA was dissimilar from the ones offered at ward and sub-ward level. At the district scale, there were minor variations in the records: for instance, there were variations between record-keeping for HTMWSA and the figures reported at the small-town level. To make the data clearer, there has to be feedback among the sub-wards, wards, and the district level.

Another aspect concerns the sampling technique and various units of analysis in investigation activities. The investigator noticed that it was normal for the RUWASA to have inadequate information on the general status of a small town, but none or a lack of data on the domestic water services situation, public water network, and domestic water sources. In attempting to precisely comprehend the present state within the Kabuku small town, it was thus significant to use the available information carefully and conduct thoughtful discussions with those who could be considered either local and key informers at the small-town level. Similarly, multiple units of analysis and triangulation of numerous sources of information can expedite the validation of the data. The mixed-methods techniques in this research encompass numbers, text, context, and maps, with which the investigator could elicit and systematically unpeel quantitative, qualitative, and graphic data within and among units of analysis and join the dots within and among data sources. The researcher collaborated with other scholars such as Riazi (2016) and Ary et al (2018) who argue that quantitative and qualitative techniques are mutually dependent and that meaning cannot be overlooked when dealing with statistics, and meanings cannot be overlooked when dealing with meanings. Furthermore, performing research in Kabuku small town presented some challenges. It took the researcher much additional time to gain the trust of ward and sub-ward leaders including the water user committee and it was difficult to access official documents. However, the



researcher was able to overcome these complications mainly through efforts to reciprocate the water user committee's support. The difficulties in Kabuku small town were the outcome of an overall consequence of tension, clashes, and claims together with the everyday allegations of corruption that had marred the chairperson and communal water user treasurer for mismanagement of funds.

The researcher realised that despite her truthful and well-organised exertions to present herself as a researcher and the purpose of being there, there were rumours that the researcher had been sent by the central government to investigate development projects in the small town that were not progressing. These rumours had been sparked and spread accordingly. Perhaps due to this situation, document availability was overall lower. When the researcher met ward officers and the communal water user treasurer, she was instructed that any person requiring access to ward official documents had to submit a written request and it was not permissible to reproduce them. Again, the researcher realised that for instance, instead of using the word research or investigation, the researcher should introduce herself as a student, to avoid the danger of being thought of as an investigator or someone sent by the government to investigate something. All the local leaders and households were familiar with the word student, and it also became understandable that students were recognised as having fairly a low rank and were not recognised as a threat. For instance, one member said:

[...] You are only doing this research to meet your academic requirement as a student, how could you assist us to address our problems? (Source: Focus Group Discussion, July 2018)

The statement seems to suggest that more has to be done for the research, not only to achieve academic goals, but also to improve society's challenges.

At the end of the investigation, though, the researcher was able to acquire adequate official documentation to support and complete information gathered through observations and interviews. In the subsequent chapters, the researcher focuses on the analysis of the information gathered from the fieldwork, which is explained to reflect the objectives and research questions of this thesis. The researcher decided to present the analyses of the contextual factors and household demand data affecting domestic water governance in the small town. This is followed by the analysis of the local actors,

institutional dynamics and capacity of the local actors. The local actors are presented in the same chapter to enable an understanding of each local actor, and to check if there are any differences or trends within domestic water governance in small towns.

#### 4.14 Chapter Summary

This chapter has portrayed the research methodology applied in domestic water governance in small towns. A case study strategy was adopted to answer the research questions of this study. The selection of the case study alongside research design was found useful for the synergy of the qualitative and quantitative approaches. A case study area was selected to situate the study using four steps of selection criteria. The data collection techniques and sampling used have been justified, and the data collected validated using a triangulation method. The next chapter discusses the findings of this study.

## 5 Institutional Framework for Domestic Water Governance in Tanzania Urban Centres

### 5.1 Introduction

This chapter discusses the contextual backdrop of domestic water governance paradigms in Tanzania, describing the numerous water policies and explicitly highlighting the essential legal and institutional frameworks. The chapter examines the institutional context within which domestic water governance has been executed. It covers the question of domestic water institutional reform from a wider and narrower perspective before and after independence. Domestic water policies are examined as a guide in domestic water governance and the legal foundation of the policies is explored. The actors' participation, and the responsibilities and institutions involved in domestic water governance are discussed. In general, this chapter sets a framework for inquiry from the viewpoint of the institutional aspects and highlights its development character whereby socially and economically creative agendas and strategies become rooted within Tanzanian institutional arrangements for domestic water governance.

### 5.2 Domestic Water Provision Situation in Tanzania

The current Tanzanian population is estimated to be about 62 million, of which 80% reside in rural settings. The forecasted population for the year 2025 is predicted to double, with 60% inhabiting rural settings (WHO/UNICEF, 2020). In urban settings, the population is increasing at a rate of more than 6% per annum, which is exerting vast tension on the

provision of services including domestic water services. Domestic water provision in Tanzania has for a decade been characterised by declining access to improved water sources, and generally low quality of supply service (Beard & Mitlin 2021; Kanganja 2020; Lyimo & Gindo, 2022). Out of 52 African countries, Tanzania is graded number seven with low provision of clean and safe water for domestic use, in which about 73% of the urban population has access to reliable water supply services.

Tanzania's sustained growth from a low-income to lower-middle-income country reflects its positive advancement towards access to safe domestic water for all. Access to primary water sources in Tanzania has improved from 28% in 2000 to 61% in 2020 (REAL-Water, 2022). 38% of the population depends on piped water, while 34% utilise non-piped better sources. Regarding drinking water service levels, 13% of the inhabitants depend on surface water, 15% on unprotected sources, 11% on limited sources, and 61% on primary sources (WHO/UNICEF, 2020; REAL-Water, 2022). This situation indicates that the population increase in both urban and rural areas will have a negative impact on domestic water provision, sanitation and sewerage services if proper actions are not undertaken.

Subsequently, current national level data show that domestic water services coverage for municipal and industrial water provision for urban areas is 88% and for rural areas water provision is 77% (URT, 2023; URT, 2021). This coverage is undesirably low. This indicates that in a large part of the country, domestic water is so scarce that even water for personal hygiene cannot easily be accessed (URT, 2023). These findings led to the review of the legal basis and policy directives for domestic water governance in the rural, urban, town and small towns to articulate more clearly the domestic water institutional framework as well as the strategies which will be undertaken to strengthen domestic water governance in a small town.

### 5.3 The Legal Instrument for Domestic Water Governance

Domestic water governance in Tanzania has undergone several phases of restructuring over the past decade with an ultimate objective of improving the quality, access and equitable provision of domestic water services to the community. The reforms began in the 1940s before independence, when the first public water supply system in Tanzania was established, with 75% financial support from the central government and 25% from the local

government. Operation and repair charges were borne by the local government using water tariffs and levies (Carlitz, 2017). Currently, there are various laws, policies, and legislation which support water governance in Tanzania.

### 5.3.1 Existing Domestic Water Governance Statutory Basis

Regulatory authorities can have a positive and catalytic impact on delivering water services to the community. The review of the existing policies for domestic water governance aims to identify the needs, opportunities and tools for regulators' contribution to achieving inclusive domestic water governance as part of the path towards achieving universal access to water. The main water statutes that oversee the water operations in Tanzania include; The United Republic of Tanzania Constitution, 1977; Water Supply and Sanitation Act, (2019); Water Utilization (Control and Regulation) Act No. 42, (1974) (Subsequent Amendments Act No. 10 of (1981); National Environment Management Act (EMA) of (2004); Water Resources Management Act, (2009); Local Government Act, (2019); National Guidelines on Drinking Water Quality Monitoring and Reporting (2018); Energy and Water Utilities Regulatory Authority (Ewura) Act statute No.414 of 2004. The Water Resources Management and the Water Supply and Sanitation statutes form the essential lawful structure for domestic water governance in Tanzania. This statutory basis are hereby discussed.

#### 5.3.1.1 *The United Republic of Tanzania Constitution, 1977*

The Constitution of the Republic of Tanzania insists on preserving and protecting human rights and defines water as a basic human right. The water right is viewed as an important step in the realisation of other human rights such as the right to life, the right to food, the right to education, and the right to health. States are responsible for respecting, protecting, and fulfilling all human rights, including water rights. Articles 145 and 146 established Local Government Authorities (LGAs). In 1982, the official Act for LGAs was signed, formalising the structures, roles, policies and regulations of the regional, district, wards and village administrations to provide for the functions of those authorities and other matters connected with those authorities.

#### *5.3.1.2 The Water Supply and Sanitation Act, 2019*

Accordingly, the Water Supply and Sanitation statute of 2009 as revised in 2019 has the intention to encourage and safeguard the right of every individual to have access to well organised, effective, and supportable domestic water supply and sanitation services for all domestic uses. The Act provides the legal framework and policies for urban, peri-urban, and rural water, sanitation, and hygiene service delivery and regulation. It defines the institutions responsible for the management of water and sanitation services in Tanzania, both in urban and rural areas. Community-owned Water Supply Organisations (COWSOs) were replaced by Community based Water Supply Organisations (CBWSOs) to sustain rural water and supply and sanitation services on the community's behalf. It also defines the key roles of Urban Water Supply and Sanitation Authorities (UWSSAAs) and CBWSOs. It repealed the Water Supply and Sanitation Act of 2009, and the Dar es Salaam Water and Sewerage Authority Act of 2001. It clearly states the responsibility of urban water supply and sanitation authorities within their jurisdiction and formulated a new authority that is the RUWASA, responsible for providing water supply and sanitation services in rural areas. Section 32 of the Act also provides for the establishment of CBWSOs formerly known as COWSOs to operate and maintain rural water schemes.

The Act provides that CBWSO can be either a Water Consumer Association, a Water Trust, a Cooperative Society, a non-governmental organisation (NGO), a company, or any other body as approved by the Minister of Water. The Act provides that the CBWSO will manage rural water schemes on the delegated authority from RUWASA. Thus, the CBWSO must submit a constitution or Memorandum of Agreement to the RUWASA and their LGA. The Act defines the financial mechanism for water and sanitation services and establishes a national water fund. The Act additionally outlines the penal code related to the use of water and a range of penalties, some more severe than others, for polluting, or unlawful use of water resources.

#### *5.3.1.3 Water Utilisation (Control and Regulation) Act No. 42, 1974 (Subsequent Amendments Act No. 10 of 1981)*

The Act declares all the water in the country to be the property of the Republic of Tanzania, and gives everyone the right to use, but not to own, water. The Act prohibits private ownership of water and considers water a public resource that needs to be available to everyone. The Act stipulates that

water users obtain rights to use water by acquiring a water permit, which gives them a legal licence to use the permitted water. Section 18A (1), restricts the discharge of wastewater into an underground water body within 230 metres of any well or water body or within ninety metres of a water source.

#### *5.3.1.4 The National Environment Management Act (EMA), 2004)*

This is another Act which governs water operators in Tanzania. The Act provides the legal and institutional framework for implementing the National Environment Policy (EMA). The Act gives responsibilities for sustainable management of the environment to the national water board, basin water boards, and catchment/ sub-catchment committees. Water Supply and Sanitation Authorities (WSSAs) are required to coordinate and communicate with The National Environment Management Council (NEMC) regarding the environmental impact of their undertakings. The Act states that the protection and management of water sources, including rivers and lakes as well as water reservoirs, is the responsibility of LGAs. The act stipulates that the LGA shall issue the guidelines and prescribe measures for the environmental protection of water sources.

#### *5.3.1.5 The Water Resources Management Act, 2009*

The act provides the institutional and legal framework for the sustainable management and development of water resources. Specifically, it outlines the principles for water resource management and prevention and control of water pollution. Section 4(1)(b) recognises that safe drinking water is a basic human right. The Act prohibits the discharge of waste into any water body, including groundwater, without a written permit. It also defines guidelines and standards for the construction and maintenance of water resource structures, the issuance and operation of water permits, and the registration of boreholes.

#### *5.3.1.6 Local Government Act, 2019*

This Act makes better provisions for the establishment of a regional secretariat and local government authorities for the purpose of local government. It creates a conducive environment for community and private sector participation in the development, operation, and management of water supply and sanitation services.

#### *5.3.1.7 National Guidelines on Drinking Water Quality Monitoring and Reporting (2018)*

In 2018 the government of Tanzania set out national guidelines on drinking water quality monitoring. These guidelines are intended for use by agencies responsible for monitoring drinking water quality such as Water Supply and Sanitation Authorities (WSSAs). The guidelines recommend monitoring water quality throughout the drinking water supply system (i.e., at the source, the intake, in the treatment process, at the storage facility, in the distribution network, and at their points of use). In addition, the guidelines specify what parameters should be monitored and the minimum frequency and number of samples based on the population served.

#### *5.3.1.8 Energy and Water Utilities Regulatory Authority (EWURA) Act No.414 of 2004*

The other act passed by the government of Tanzania to oversee the water operation in the country is the Energy and Water Utilities Regulatory Authority (EWURA) Act No.414 of 2004. The Act establishes a regulatory agency EWURA whose general function is to control, monitor, and regulate the provision of energy, water supply, and sanitation services by a water authority or other persons. This includes the establishment of standards related to equipment and approval of tariffs chargeable for the provision of water supply and sanitation services. EWURA also sets standards for water quality monitoring based on the Tanzania Bureau of Standards (TBS) guidelines. The TBS guideline is responsible for developing and reviewing standards, including those related to water quality (TBS-TZS 789). TBS water quality standards (TZS 789) are mandatory for all Water Supply and Sanitation Authorities (WSSAs) to implement and comply with.

### **5.3.2 Existing Tanzania Policies for Domestic Water Governance**

Policies<sup>6</sup> are essential tools for integrating issues of domestic water governance. It is at the national policy level that agenda from the international discourse can be translated into actual practice. National policy sets out the philosophy and goals of water governance. Policies direct sustainable long-term strategies to provide clean, safe and affordable domestic water to all

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<sup>6</sup> Policies are set of measures aimed at achieving the goals formulated by the public authority. Thus, Tanzania policies for water governance are described as a set of measures related to domestic water provision and management goals as part of a larger structure of development policies of a country operating within a specific framework.



citizens. In theory, policies set a clear direction, which is then codified into law and implemented in practice.

Reforming national water policies allows for discussion and debate on the merits of diverse directions and engages various interest groups and stakeholders in crafting documents that set the direction for a country's water governance. The main domestic water guidelines that oversee the domestic water operations in Tanzania include; the National Water Policy (NAWAPO) (2023); National Water Sector Development Strategy Phase III (NWSDS), 2022/2023 to 2025/2026; The National Strategy for Growth & Reduction of Poverty (NSGR), 2010; National Water Quality Management and Pollution Control Strategy, (2010); and Environmental and Social Management Framework (ESMF), 2019. These policies are hereby discussed.

#### *5.3.2.1 The National Water Policy (NAWAPO), 2002 Version 2023*

Domestic water provision in the 1990s was still insufficient despite major investments in the sector in the 1970s and 1980s (Katomero et al., 2017), among others, due to poor community and private sector participation in the provision and management of water services (Kabote & John, 2017; Mandara et al., 2013; Rugemalila & Gibbs, 2015). The government launched the first National Water Policy in 1991, to resolve the water sector challenges; however, the focus was to place the central government as the sole executor and provider of domestic water provision and management. The main deficit in this National Water Policy (NAWAPO) of 1991 was the execution plans, which emphasised that the central government is the only stakeholder, executor, and administrator of water programmes in both rural and urban settings, while part of the operations and repairs charges accountability was transferred to the water consumers, which resulted in unsustainable management and development of domestic water services. The NAWAPO was amended in the year 2002, and the policy encompasses essential elements of decentralisation, commercialisation, and corporatisation, such as public and private corporations and strategies to encourage cost recovery (Jiménez & Pérez-Foguet, 2010; Carlitz, 2017; De Palencia & Pérez-Foguet, 2011). Despite these notable achievements, there are policy gaps that have necessitated the review of the NAWAPO 2002. The policy did not take into consideration the issue of constructing sewerage infrastructure and provision of sewerage services in rural areas. It also did not consider the development of water resources, including the construction

of large strategic dams and rainwater harvesting infrastructure for water security, but it has placed emphasis on plans and guidelines for the development of water resources. Furthermore, the NAWAPO 2002 stated that for the sustainability of rural water schemes, communities will own and manage their water schemes. However, presently the government is constructing large water projects using reliable sources that are not necessarily close to the service delivery areas and the cost of construction, technology used and operations are high and need special attention and expertise in their management, so the community cannot own and operate them (Kjellén, 2006). The policy also did not consider water and wastewater quality management in the provision of rural water supply services. Moreover, the policy draws attention to privatising water supply and sanitation services in small towns, and this policy has never been realised and privatisation is not the current direction of the government (Brown, 2010; Kabote & John, 2017; Rugemalila & Gibbs, 2015).

To address policy gaps, the government has further made amendments to come up with the National Water Policy of 2002, Version 2023, to provide the water sector with policy guidance and direction in order to cope with the current socio-economic development in the country. To operationalise the amended water policy, an alliance of local actors and donors are required. The central government has the responsibility of a regulator and an organiser in the water sector. This strategic arrangement for service provision is recognised as a demand-responsive strategy (REAL-Water, 2022). Consequently, under demand responsiveness approaches, households should claim, possess, and repair their water services and be involved in the initial stage of planning and implementation; for instance, being fully responsible for operation and repair charges, and they have to contribute part of the investment costs by means of money and in kind. The NAWAPO of 2023 facilitates the decentralisation of domestic water governance from central government authority to local authorities and community and promotes demand-responsive services in which water consumers organise, possess, operate and govern the services. It similarly aims to support the involvement of men and women, organisation and administration at the local level; features that are recommended in the Water Supply and Sanitation statute.

The NAWAPO points out four key principles relevant to domestic water governance which comprise community possession, organisation and administration of water services, private operators' involvement, incorporation of

water supply and sanitation, and decentralisation of service provision from central government to local government authorities. In addition, there is pressure that water progress and provision is a liberalised effort, which means that all essential stakeholders for instance households, private operators, Non-Governmental Organisations (NGOs), community-based Organizations (CBOs), communities and international actors can complement central and local government efforts in domestic water governance.

Likewise, the policy claims that the central government should make an effort to encourage the active involvement of private operators in water governance to expand competence, and achievement and promote the sustainable expansion of the water sector (Lekumok et al., 2023). Water privatisation in Tanzania was a prerequisite for debt respite, and thus of expansion and restoration loans from the World Bank (Mgoba & Kabute, 2020). Water provision was privatised on the basis that it would advance the operation and administration arrangements under the free market economy. However, the privatisation system of domestic water governance did not fully address the water governance complications. It has been revealed that in most of the low-income settlements, the mainstream communities still suffer from direct access to the public water network, in most cases depending on purchasing domestic water from informal water vendors or neighbouring households, occasionally at significantly exaggerated charges (Lekumok et al., 2023). It is, thus, the low-income households who suffer the burden of the water charges of privatisation. However, it has been also observed that the contemporary domestic water shortages in urban and rural settlements have been mostly accredited to deprived governance and deficient local actors' participation in domestic water development projects (URT, 2023).

The recent National Water Policy of Tanzania is well experienced and comprehensively addresses a variety of sectoral and inter sectoral challenges. One of the central opinions specified in the National Water Policy of Tanzania targets is to facilitate communities to access adequate water of satisfactory quality and support them to satisfy their primary needs (URT, 2023). The policy also emphasised demands for rural and small towns centred on participatory domestic water services provision with decentralised administration strategies that involve an integrated structure arrangement. In addition, the policy supports domestic water service delivery that upholds guaranteeing social fairness and economic efficiency, scheme

and organisation reliability, and supportable norms and bylaws, improving and encouraging the involvement of local actors in water projects (Gudaga et al., 2022). Decentralised domestic water services provision mandates clear roles, abilities, plans, approaches, and operational and organisational measures from the central government level down to the community level, where the water service is consumed and governed.

The approach of decentralised domestic water services provision promotes an interface between the domestic water service provision strategies and the shifting of accountabilities to the lowest levels of local government authorities and water consumers. The reflection is that local actors and diverse institutions at both levels are required to have the crucial competencies to accomplish their respective mandates towards the sustainability of domestic water projects (Kabote, 2024). Regarding policy essentials specified in the national water policy document, specifics have been established for participating actors that are required to comprehend the detailed policy ideas. The national water policy particulars are interconnected in the sense that they are paired to each other and no part of the national water policy can be disconnected from the other.

Again, regarding the funding mechanisms and water user fees, specifics of the decentralised national water policy support the development of household funding schemes created at the community level and permit the facilitation of grants to households who cannot have enough funding to pay for basic amenities on investment costs only. It ensures that all water supply activities are sufficiently resolving charges related to operation and repairs and are based on a cost recovery strategy (Mandara et al., 2013; Rugemalila & Gibbs, 2015 Mgoba & Kabote, 2020). In addition, decentralised national water policy demands transparency and justice to improve willingness to pay and involvement by the water consumers in the funding administration of domestic water supply schemes. This will help to safeguard accountability and funding administration in domestic water governance. Furthermore, a decentralised national water policy also recognises specific water charge arrangements in place and facilitates their implementation. Consequently, the water charges settings for the underserved human settlements need to be monitored whether they are consistent to recover the operation and repair costs for water amenities. It also motivates the need to have communal water charges and safeguard water charge arrangements of the domestic water supply systems based on equitable and real-life guidelines and conditions

(URT, 2023). The Trend for Tanzania's National water policy ideology is summarised in Table 5.

Table 5. The Trend of Tanzania National Water Policy Ideology

Colonial Era (1890s-1960)	High Modernist Era (1961-1970s)	Transition Era (1971-1990s)	Liberalisation Era (end of 1990s to date)
Reliance on traditional water sources	Domestic Water was considered as a human right and public good (water for free)	Central government and the donor implement water projects	Stage of polycentric governance
Buying water from private operators (in a few Towns)	Paying consumers (household connection fees)	Cost sharing (Paying Fees)	Private operators, civil society and community participation in water projects
	High central government capital investment in the domestic water sector	Paying consumers (Buying water from public owned supply)	Central government as a facilitator, coordinator and regulator of water projects
	Access to basic water sources increased from 12% to 46%	Access to improved water sources stood at 46	Full accountability in planning, design, and implementation of water projects
	High levels of donor funding		Access to basic water sources increased from 28% in 2000 to 61% in 2020
	Lack of community participation in the design and management of water		

Source: Summarised from (Kabote & John, 2017: Kjelle'n, 2006)

#### 5.3.2.2 *National Water Sector Development Strategy Phase III (NWSDS), 2022/2023 to 2025/2026*

National Water Sector Development Strategy (NWSDS) is a programme for prioritised timely and relevant interventions to address the Water Sector challenges in the process of realising all the targets depicted in the National Strategy for Growth and Reduction of Poverty by 2025; Sustainable Development Goal targets (SDGs) related to water by 2050; and contributing towards achieving the Tanzania Development Vision (TDV) targets by 2025. Consistent with the National and International Planning Frameworks, all interventions related to the Water Sector in Tanzania are implemented within the Water Sector Development Programme (WSDP).

Currently, the WSDP of 2006-2025 has been established to be implemented in three phases: phase one (2006-2014); phase two (2014-2019); and phase three (3). (2019-2025). The WSDP programme defines priority interventions and investment needs in the areas of water resources management; urban water supply and sewerage services; and rural water

services with a focus on strengthening institutional arrangements and capacity building. The Water Sector Development Programme (WSDP III) operationalised the National Water Fund and RUWASA reforms responsible for all water activities within the region and district. Currently, the Water Sector Development Programme's third phase (WSDP III) is the last phase of the programme being implemented (2022/23–2025/26) with the ultimate goal of strengthening water sector institutions for integrated water resources management and enhancing better access to water provision and sanitation services. The programme comprises five interconnected components with intervention areas. The main programme components and their intervention are detailed as follows:

The first component is related to sustainable water resources and development. This component aims to ensure the nation's water resources are sustainably managed and developed. This component is further categorised into two subcomponents of water resources management and water resources development. The main intervention areas for the water resources management subcomponent are supervision and assessment; water resources planning; water distribution; protection and conservation; water use and demand management; dam safety management; flood, drought, stormwater and caused disaster management; transboundary water resources; and climate change concerning water resources, and water provision and sanitation. The water resources improvement also consists of inter and intra-basin water transfers and water source improvement.

The second component is water quality management. This is a new component introduced to address water quality challenges, and the main purpose is to make advancements in water and wastewater quality management. This subprogramme is categorised into two subcomponents of water – water quality supervision and evaluation, and water quality technical assistance and development. The interventions for the water quality supervision and evaluation subcomponent are ambient water quality evaluation and monitoring; drinking water quality appraisal and supervision; and wastewater quality assessment and monitoring. The water quality technical assistance and improvement subcomponent includes management assistance and water quality investigation and development interventions.

The third part is water provision. The purpose of this component is to advance universal access to adequate, clean and safe water services to the community residing in both rural and urban settings. This component is

divided into two types which are rural water provision and urban water provision. The extent of intervention for the two subcomponents comprises water supply infrastructure, service provision, demand management and guidelines for water services provision.

The fourth component is sanitation and hygiene. The component consists of the implementation of sanitation and hygiene in the country, and the main purpose of this component is to improve universal access to adequate sanitation and hygiene services in both rural and urban settings. It also consists of four subcomponents of sewerage sanitation; non-sewered sanitation; water sanitation and hygiene (WASH) in institutions and community settings; and public behaviour change awareness campaigns and hygiene publicity. The intervention part for the sewerage sanitation and non-sewered sanitation subcomponents are built on infrastructure, service provision and the guidelines of sanitation services. The water sanitation and hygiene (WASH) in institutions and community areas subcomponent consists of WASH in health care amenities, education services, public areas, and in transport focal points. The community behaviour changes communication movement and hygiene advancements comprises community behaviour change and communication movement, child WASH, and menstrual health and hygiene management.

The last component is programme coordination and provision assistance. The objective of this component is to enhance planning, coordination, supervision and evaluation and strengthen water institutional arrangements and improve the working environment. Under this subcomponent, the programme is established to provide assistance to other subcomponents to facilitate the effective and efficient delivery of expected outputs and outcomes. The areas of intervention for the programme coordination and provision assistance components are policy and legal frameworks; planning and budgeting; fiduciary management; coordination, monitoring and evaluation; institutional strengthening and capacity building; environmental and social safeguards; and gender mainstreaming and crosscutting issues.

#### *5.3.2.3 The National Strategy for Growth & Reduction of Poverty (NSGPR), 2010)*

This strategy describes that the main purpose of the policy ideas is to establish a conducive and empowered environment that guarantees the development of entrepreneurship. Moreover, section (4) of the same statute demands the participation of private operators by encouraging conglomerates between the public operators and private operators in water

development projects. The statute also highlights the administration, implementation and enforcement mechanisms of a regulatory structure for all dealers of water services. Section 7(d) calls for the Local Government Authorities (LGAs) to establish an empowering atmosphere for local actors and private operators' involvement in water development projects, which is also clarified in section 13 (1), which highlights that to ensure sustainable water service governance, the domestic water utility agents should undertake all essential requirements to distribute water services to the settlements under their administrative units.

This is similar to what is encapsulated in section 19 (4) which explains that the water utility agents are entitled to enter into legal contracts with multiple service providers in their demarcated areas of jurisdiction. Lastly, section 19 (3, a) highlights that the utility agents may develop a conducive environment for collaboration among the water utility agents and local service providers operating within the local context.

#### *5.3.2.4 National Water Quality Management and Pollution Control Strategy, 2010*

This strategy outlines principles, threats, priorities, and sectoral recommendations for surface and groundwater quality protection and monitoring. The strategy has three aims: the first aim is to improve quality of life and social well-being by promoting development that safeguards the welfare of current and future generations. It also aims to protect biological diversity and maintain essential ecological processes, as these benefit everyone, but especially benefit the poorest members of society. It also focuses on community participation in water quality management, providing water quality monitoring to ascertain the safety and cleanliness of water for human consumption. Furthermore, it seeks to expand drinking water quality monitoring services country-wide.

#### *5.3.2.5 Environmental and Social Management Framework (ESMF), 2019*

Along similar lines, the government of Tanzania developed the Environmental and Social Management Framework (ESMF) of 2019. The intention is to ensure appropriate environmental and social management during the WSDP implementation, and to comply with national environmental laws and the World Bank's safeguard policies. The ESMF was initially developed by the MoW as part of project preparation in 2006. The overall objective of the ESMF is to direct the MoW and the Imple-



menting Agencies (IAs) in the management of environmental and social issues during the implementation of the water programme.

Among other tasks, the ESMF also detailed environmental and social concepts, parameters, methodologies, tools, and procedures to be applied during the project cycle to adhere to national and international policies. It further, presents the legal basis and institutional arrangement related to the environmental and social context for domestic water supply, sanitation, and water resources management. Likewise, it describes the main potential environmental and social impacts of domestic water supply, sanitation, and water resources projects, including aspects related to climate change.

## 5.4 Main Actors and Institutional Dynamics

The recent institutional structure for domestic water provision in Tanzania is based on the dissimilarity between urban water supply and sewerage services and rural water supply services. The ultimate accountability for the provision of these services rests mainly with the MoW. Though, several diverse central and local government departments or organisations have a mandate or lawful obligation to participate in a variety of aspects of the provision of these services. Particularly, local authority, be it at the city, municipal, town, district, or township authority level, has varying levels of accountability for providing water supply and sanitation services to the inhabitants in the community (URT, 2019).

The MoW is also accountable for securing investment funding for rural water supply schemes where it is accountable, or where it has permitted the establishment of water user associations. The local government authorities are ultimately responsible to the President's Office, Regional Administration and Local Government (PORALG). The local government Act provides the particular authorities, and township authorities, powers to develop, sustain, operate and manage public water supply drainage and sewerage projects. The institutional framework for domestic water governance in Tanzania is summarised in Figure 6.

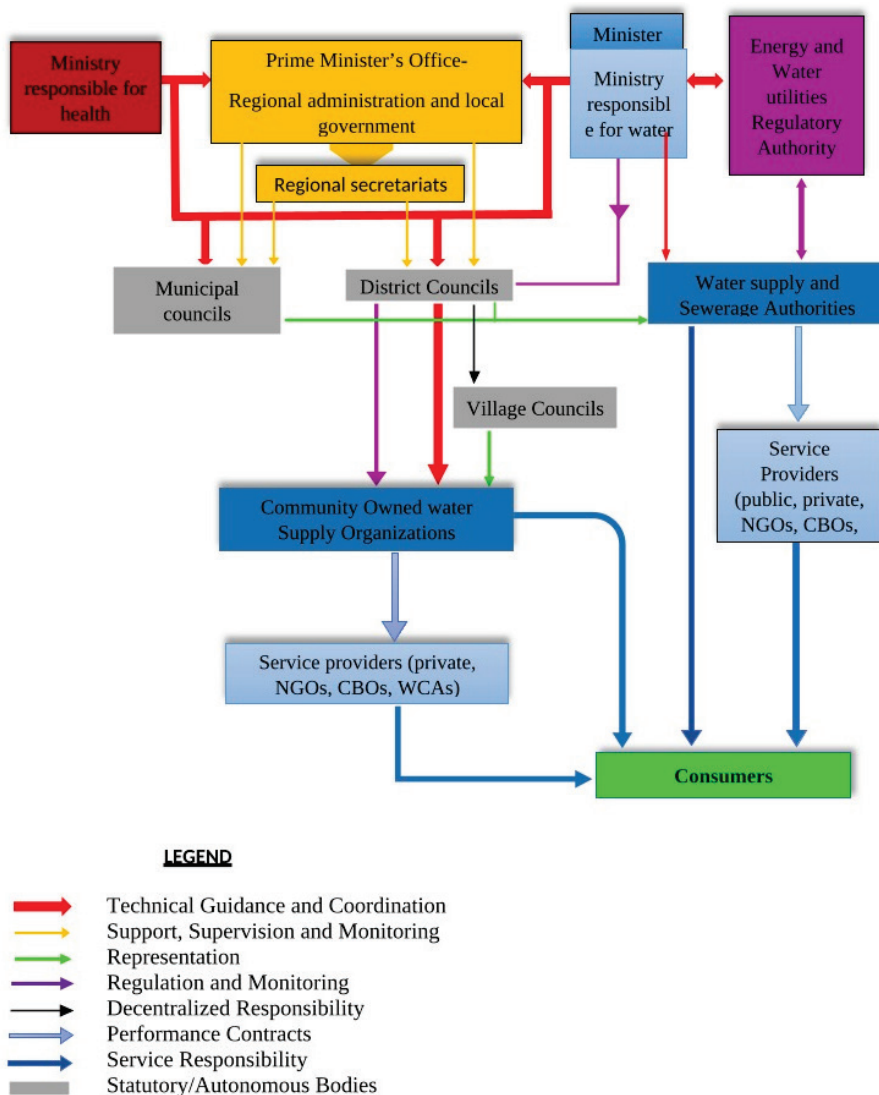


Figure 6. Institutional Framework for Domestic Water Governance in Tanzania.  
Source: URT, 2022

Figure 6 indicates how Tanzania's domestic water governance has a complex and complicated structure. Numerous institutional arrangements form the governance structure pertaining to domestic water. The diverse institutional arrangements have continued with some discrepancy and also mismatches with the policy expansion structure, which causes problematic consequences

in explicit institutional development aspects which in effect support or clash with substantial policy establishment, progressions, and judgements. The responsibility of stakeholders at numerous stages of governance has been transforming along with the shifting in political ideas and service governance strategies (Kabote & John, 2017). Due to the magnitude and numerous challenges caused by the lack of adequate service provision, the government has realised that to meet the domestic water service demand, there is a need for a concerted effort from all the service providers. This involvement has been found to cut across from the users to the providers. The latest National Water Sector Development Strategy III of 2019 identifies and describes the matching tasks, directives, purposes, obligations, and duties of the main organisations and institutions of water governance as summarised in Figure 3.1 and Table 3.1. This guiding principle supports the organisation and administration of domestic water governance at the community level, and establishing well-organised institutional arrangements promotes potential opportunities for the active involvement of recipients and also facilitates functioning decision-making at the local government and community levels. A question to be asked is whether the current institutional arrangements are applicable in small towns? How are they served and coordinated in domestic water supply and governance?

## 5.5 Tanzania's Evolving Structure for Domestic Water Governance in Urban centres

The domestic water sector in Tanzania has been subjected to diverse restructuring in the past two decades. Following the Water Supply and Sanitation Act of 2019, the institutional framework for domestic water provision and sanitation services, similar to other public services in Tanzania, are established on different administrative and geographical scales, including the national, basin, district (formal) and community (informal) levels. Nationally there is a national water board accountable for policy making and the coordination of associated issues concerning water governance. At the basin level, basin boards are answerable for monitoring water use, categorising water users, issuing water rights and bills, collecting water extraction taxes, and arbitrating conflict over water in villages (Lekumok et al., 2023). There are also catchment and sub-catchment water committees. The regional, district and municipal authorities, are led by a District Executive Director (DED), are

accountable for the provision of water, sanitation and hygiene (WASH) infrastructure execution together with monitoring operations and maintenance of installed facilities. The District Water Engineer (DWE) is reporting directly to the DED. COWSOs are registered and monitored by the DED's office through the District Community Development Officer (DCDO); though, this institutional arrangement is not frequently executed throughout the water sector. At the level of the township and of small towns that are yet to develop to township authorities (falling under district authorities), there is a combination of rural and urban domestic water supply approaches, regularly influenced by the existing water sources, actors and increases in the demand for domestic water.

The implementation of the current 2019 Act aims to enhance the effectiveness and sustainability of domestic water provision and sanitation services in rural settings. This includes the development of a RUWASA to be directly accountable for the advancement of water infrastructure in rural settings and overseeing their implementation and maintenance. Furthermore, the Water Supply and Sanitation Act of 2019 provides for domestic water utility aggregation and congregating to advance urban water services provision (REAL-Water, 2022).

Again, it is important to highlight that the RUWASA is incorporated into the pre-existing institutional structure, and it is invested with various responsibilities which were formerly attributed to other actors. All responsibilities previously assigned to LGA pertain to community organisations. It is the duty of the RUWASA to submit plans and operational informative reports to full councils and regional and district administration forums (URT, 2019). Besides, the new agency will be accountable for the monitoring and regulating of community organisations (Cos), while this duty was previously the responsibility of the MoW; interestingly, among the duties shifted to the RUWASA, on the one hand, it is no longer responsible for providing guidelines and approving water charges for the provisions of domestic water services, which disappears from the new water supply and sanitation Act of 2019. On the other hand, the Water Supply and Sanitation Act of 2019 addresses the essential issue of monitoring and regulation of community organisations (COs), initiating that the RUWASA shall establish guidelines for such purposes. Finally, the reporting arrangement is also improved as the executive organs of the COs will have to submit reports to the agency concerning the performance of the domestic water projects, functional and

non-functional water points, crucial breakdowns and monetary affairs of the COs (URT, 2019).

Additional important improvements established by the new Water Supply and Sanitation Act refers to the COWSOs. The institutional structure has been redesigned as the executive organ of the community organisation and will be replaced by two different boards, the Community Water Committee (CWC) and the Community Water Management Team (CWMT). The first is the controlling body, accountable for managing its operations, mobilising and sensitising community involvement in water management and, in general, determining actions focusing on facilitating the proper exercise of every function (URT, 2019). On the other hand, the CWMT is responsible for the operative role of technical guidance of the water service supply.

Under the current institutional framework as per Act No. 5 of 2019, the prior District Water engineer (DWE), currently called District Manager (DM), reports to the RUWASA Regional Manager (RM) who in turn reports to the National RUWASA Director-General. In contrast, previously they were accountable to the President's Office – Regional Administration and Local Government (PO-RALG) through the DEDs (URT, 2019). RMs and DMs are responsible for the design, planning, organising, coordination, management, and supervising of all executed domestic water projects. In urban settings, Tanzania's water institutional reform has seen the clustering of district and township utilities to regional water and sanitation utilities. The Act of 2019 has affiliated some authorities focusing on advancing efficiencies such as the Dar es Salaam Water Supply and Sewerage Authority (DAWASA) and Dar es Salaam Water Supply and Sewerage Cooperation. In recognition of the significance of monitoring and evaluation practices in providing a constant flow of information and performance feedback to water sector stakeholders, the MoW has established an Integrated Water Sector Monitoring and Evaluation (IWSME) structure. The structure resolves present deficiencies which include poor common understanding within Sector Institutions on what constitutes Monitoring and Evaluation (M&E) Systems; unintegrated M&E subsystems and processes; and non-institutionalisation of M&E concepts and practices in domestic water sector institutions (REAL-Water, 2022). Table 6 provides a summary of the key actors and responsibilities in Tanzanian domestic water governance.

Table 6. Summary of Key Actors and Respective Responsibilities in Domestic Water Governance

Actors and Institution	Roles and Functions
Ministry Responsible for Water	<p>Formulates and Implement national sector policies and plans</p> <p>Guarantees policies and plans are realised.</p> <p>Coordinates arrangements for the development of the nation.</p> <p>Safeguard funding for the development of the nation.</p> <p>Supervises performance and controls local governments and community activities.</p> <p>Conveys technical backing to local government authorities.</p>
Water Supply and Sanitation Authorities	<p>Possess, monitor and safeguard water supply and sanitation resources.</p> <p>Formulate corporate plans and policies as well as investment, and develop strategies for the provision and governance of water supply and sanitation.</p> <p>Secure funding and grants for water investment development</p> <p>Formulate legal agreements and supervise water service providers and projects.</p> <p>Prepare laws and regulations guiding water service provision.</p>
Rural Water Supply and Sanitation Agency (RUWASA)	<p>Plan, design, implement and manage rural water supply schemes;</p> <p>Undertake groundwater survey as well as prospecting and investigating and carry out drilling operations including water well flushing and pumping experiments, and restoration of water wells;</p> <p>Design and construct dams of various categories and conduct geotechnical and soil analysis for dam construction and other civil engineering structures;</p> <p>Supervise and assess the performance of community organisations' operations pertaining to rural water supply and sanitation services;</p> <p>Promote and sensitise rural households on sanitation, hygiene education and practice as well as safeguarding and protection of rural water sources;</p> <p>Provide monetary and technical assistance to community organisations for carrying on rural water projects;</p> <p>Provide assistance to community organisations pertaining to the operation, maintenance and management of rural water supply schemes;</p> <p>Facilitate involvement of communities in the recognition, planning, implementation, maintenance and management of rural water and sanitation schemes;</p> <p>Enhance private sector participation in the provision of the rural water supply and sanitation projects.</p> <p>Promote training and capacity building to community organisations pertaining to monetary, technical and management of rural water supply projects.</p> <p>Register and control the performance of community organisation operations as stated by National Water Sector Development Strategy III and Regulations made by the Minister of Water.</p> <p>Advise the Minister of Water on issues pertaining to rural water projects</p>

Actors and Institution	Roles and Functions
Service Providers	Facilitate the distribution of water supply and sanitation services in line with agreed prerequisites. Collect water tariffs from water users for services offered.
Community Owned Water Supply Organisations (COWSOs)	Possess and monitor water resources. Execute and repair water supply services and facilities. Regulate consumer water charges. Gathers water charges for the provision of water services. Contract and govern local service providers.
Energy and Water Utilities Regulatory Authority	Approve corporate plans, policies, and water charges and provide working licences. Circulates technical rules, strategies, procedures and standards. Oversee water quality and performance. Gathers and circulates proportional performance data (benchmarking)
President's Office Regional Administration and Local Government	Organises and Directs planning of water investment projects. Organises and directs local administration authority finances. Organises and directs technical guidance programmes for local administration authorities.
Regional Secretariat	Facilitate and coordinate technical guidance to local administration authorities.
Municipal and District Councils	Prepare plans, organising, and coordinating all administrative activities of the township authorities and village councils which are within the jurisdiction of the district authority Harmonise budget within local government authority. Disburse block grant funds. Coordinate physical planning Decentralise performance governing, rules, guidelines and directives.
Village Councils	Encourage the formation and functioning of community-based organisations. Representation on administration council. Synchronise finances within council budgets. Address battles in and among communities in the villages.
Ministry responsible for Health	Prepare policy, guidelines and strategies for sanitation. Provide technical support to councils for sanitation. Formulate Acts, Regulations and Standards for sanitation. Oversee, control and provide assistance and advice to councils and additional actors on sanitation matters.
Households	Advance sanitation amenities at the community level; and Undertake good quality sanitation and hygiene practices at the community level.

Actors and Institution	Roles and Functions
Non-Government Organisations (NGOs), Community Based Organisations (CBOs) and Faith Based Organisations (FBOs)	<p>Training and capacity building to community pertaining to safeguarding of water sources and management of water supply and sanitation projects.</p> <p>Promote and sensitise households in water, sanitation, catchment management and protection;</p> <p>Undertake water related research for policy and planning improvement in the water sector; and</p> <p>Assist investments and management in water projects</p>
Other Service Providers	<p>Publicise information and public education awareness on water related policies, registrations, guidelines and strategies.</p> <p>Provide lawful services in litigation as well as supervising the enforcement of water rights and contracts; and</p> <p>Supply services connected to the water sector.</p>

Source: URT, 2022

The illustrations in Figure 6 and Table 6 reveal that the central government has a central responsibility to foster effective and efficient institutional arrangements for governing domestic water at the regional, district, municipality, town, small town and community levels; and for defining the collaboration and coordination associations among the actors. To ensure the clear and well-organised implementation of the domestic water-related rules, plans and strategies by actors, it initiates coherent and appropriate policies, registration guidelines and strategies. for restructuring the intervention (URT, 2002). Referring to URT (2008b), the latest institutional structures for domestic water governance comprise two categories based on the difference between commercial water supply and communal water supply. The final supply of water services remains with the MoW through coordination; policy preparation; formulation of Acts, regulations and standards; and the funding of main water capital development (URT, 2008b).

In addition, as stipulated in the recent institutional framework, the water supply and sewerage authority are accountable for the practical coordination and management of rural and small towns' domestic water governance in their respective areas of jurisdiction. This means the water supply and sewerage authority holds the main implementation responsibilities (De Palencia & Pérez-Foguet, 2011; Mandara et al., 2013). The water supply and sewerage authority is then required to distribute the budget of water development projects in precise communities in their areas of jurisdiction, jointly following community requirements (as reflected by existing levels of



domestic water access) and demand (as verified through local planning practice (Carlitz, 2017). The water supply and sewerage authority is also required to fulfil the agreed set of minimum conditions on financial preparation, procedures, organisation and costing, procurement, and other purposeful procedures and development to obtain their complete grant expenses (URT, 2014).

Similarly, the degree of community involvement, for instance, has changed from water consumers being inactive service beneficiaries to becoming active service managers. In the 1970s and the beginning of the 1990s, they were termed recipients of water services, while in the 2000s up to the present time, they have been referred to as water consumers, proprietors, and directors of domestic water projects (URT, 2002, 2008a). As a part of the decentralisation of governance, the recent NAWAPO necessitates that households are required to provide financial support or labour to domestic water investment, to manage domestic water projects, and be accountable for operation and maintenance (URT, 2008c, 2002). However, scholarship on domestic water service provision in Sub-Saharan Africa has suggested that attaining the required stage of domestic water sustainability demands a clear description of the duties and responsibilities of essential actors, along with the competencies to accomplish the assigned tasks (Mulyana & Suganda, 2017; Ménard et al., 2018). Moreover, water users became accountable for the supervision of well-organised and accessible water schemes. Policy operation, though, is affected by inter-governmental institutional framework and the separation of power and duties among levels of administration. This also increases the challenges of governance in the water sector (Dakyaga et al., 2018; Oteng-Ababio et al., 2017).

Likewise, this review reveals that there are many institutions already in place concerning domestic water governance. However, the problem lies in the operation and enforcement of such rules, regulations, strategies, and guidelines which attribute the policy execution in the local context to the lack of consistency of numerous policies, weak coordination among water institutions, a lack of capacity building and lack of enforcement mechanisms. It would appear that replying to the attributes of policy-implementation stages of domestic water governance depends on the appropriate monitoring and assessment of the development and status of the operation of numerous government agencies strategies, activities, and projects. The non-adherence

to such directives to achieve and implement their particular purposes deserves closer consideration from both the central and local governments.

Again, the institutional framework for water governance also reveals some flaws such as; the roles and responsibilities at the lower level (the community) who are the main stakeholders, are not clearly defined. At the same time, the definite duty from the local government level to the community level is sidetracked by the unclear explanations of responsibilities. For instance, it is not specified who will arrange and train the community service providers (URT, 2023). Third, there is an urban prejudice in duties allocated to the district authorities, and very limited responsibilities are applicable to rural and small-town settings (Appendix 1). These weaknesses contradict the sustainability of domestic water governance in rural and small town settings which mostly depend on a distinct description of the duties of the numerous actors at different levels.

Nonetheless, the NAWAPO is not clear about when precisely municipalities or central government can or should donate funding to support the costs of revitalisation or replacement of water services, which is a main feature in sustainable domestic water provision. In the wake of this vagueness, domestic water consumers have adapted strategies which are compatible with their local context. Strategies such as community-based and self-help initiatives in underserved settlements such as small towns and the recovery of water charges from consumers have been implemented but in the context of inadequate deliberation of the restrictions to these strategies and how support could be delivered by the central government. This is a concern for domestic water governance since numerous communal domestic water facilities and services in rural and small towns are facing tenacious non-functionality due to poor management, which eventually impedes their efficient and effective domestic water service provision (Katomero & Georgiadou, 2018; Nganyanyuka, 2017; Tonya, 2015). Besides, scholars argue that the institutional framework for domestic water governance in Tanzania will have to be elucidated and restructured to address the problem of cost effectiveness and the duties of various actors should be distinct and clarified to promote local actor involvement in domestic water development projects (ibid).

Furthermore, Kabote and John (2017), Kyessi et al. (2019), and REAL-Water, (2022) draw attention to the loophole between policy creating and policy execution of water governance institutions in Tanzania due to a lack of consistency and coordination, disenabled and supported local authorities, and weak regulation enforcement.

## 5.6 Chapter Summary

For more than two decades institutional reforms in the water sector have been a continuing process in Tanzania. The restructurings in the domestic water sector in Tanzania are centred around transformation in the institutional framework, duties, rules, and regulations of these institutional transformations, which has been a promising step in the domestic water governance in Tanzania.

In addition, the review reveals that this shift had been realised in many local government authorities, but with diverse impacts, which have been attributed to the provision of domestic water services under the continuing transformation. The desire for such an institutional arrangement came as a result of a combination of several factors. These included: market determination; public dissatisfaction with domestic water delivery; a growing demand for community participation in decision-making; and disillusion with the standard of domestic water governance.

Moreover, concerns like price effectiveness, competency, accountability, focus outcome, contestability of advice and services, improving performance operation and management and decentralisation of service provision contributed considerably to generating a force for transformation and restructuring. It is apparent from the reviewed literature that there have been significant efforts to strengthen the institutional arrangements in both rural and urban settings, although the effectiveness of the institutional restructuring still leaves much to be done at the local level. While rural, urban, township and small town areas are prime candidates for institutional restructuring, the central government has converted its responsibility from an implementer and manager to a facilitator and regulator, and has encouraged local actors and private operators' participation in domestic water provision.

The evidence from the review of the institutional framework for domestic water governance in Tanzania's urban centres raises various issues for further exploration at the local level. For example, using a participation lens is crucial in assessing how local roles and needs are reflected in the decision-making processes regarding water service provision, and how different local actors participate in decision making and whether institutional restructuring has increased local actor opportunities for participation in domestic water governance. This interrogation needs further consideration of contextual factors such as the role played by local actors and institutional dynamics which will help to strengthen the sustainability and adaptability of local

domestic water governance in small towns. This calls for the need for a conceptual and practical understanding of domestic water governance in small towns and explaining the contextual drivers and actors for domestic water governance. In the coming chapters, the results and findings of this research are presented and discussed.

## 6 Contextual Drivers of Domestic Water Governance in Kabuku Small Town

### 6.1 Introduction

This chapter presents empirical findings on the contextual drivers of domestic water governance in Kabuku small town. Based on the interviews with key study informants, contextual drivers as presented in detail below include hydrological conditions, diversity in domestic water sources, centre-periphery domestic water service differentiation, and diversity of socio-economic groups. It also includes disparity in coverage and reliability, community choice of domestic water supply source, multiplicities of water supply actors and domestic water charge dissimilarities. These contextual drivers are hereby discussed.

### 6.2 Hydrological Conditions and Domestic Water Provision in Kabuku

Kabuku small town experiences a coastal climate with lesser seasonal and daily variations. The mean temperature is close to 26°C with a high level of humidity. The rainfall configuration is related to the monsoon, moving south or south-east from April to October, and north or north-east from November to March. The June to October season is moderately cool and denoted as the dry period. November to May is warmer and frequently denoted as the rainy period. While rainfall happens throughout the year, the short rains are predictable during November or December, and long rains from March to May. Most of the rains come in short monsoons.

In the coastal region, mean annual rainfall varies from 800 to 1,500 mm, with a 90 per cent likelihood of surpassing 700 mm; in Kabuku small town it has been measured at 1,124 mm. Possible evaporation, though, exceeds 2,000 mm – nearly double the annual rainfall. Only during March, April and May is there a water surplus when rainfall surpasses evaporation and evapotranspiration. In the remaining months of the year, there is neither runoff nor groundwater revitalisation. Concerning vegetation cover, though, the scattered rainfall throughout the year is efficiently taken up by plants, making biomass corresponding with the mean annual rainfall. Kabuku small town can therefore be regarded as comparatively well assisted by green water, but with lesser amounts from rivers, lakes, and aquifers. Hence, domestic water supplies in the small town rely greatly on water flows from rivers as shown in Figure 7.

As Kabuku small town continues to develop, the domestic water demand of the households frequently increases. The first water supplies of Kabuku small town derived from local shallow wells, but afterwards advanced to deeper aquifers originally under artesian contexts being drawn upon. Usually, water sources within Kabuku small town become inadequate or oversupplied and excessively saline. Since 1974, the main water source for Kabuku's domestic water supplies has been from a basin which is more distantly located from the Pangani River. The river presently relies on surface water from six (6) intakes. These intakes are three surface water sources from the Pangani River (Mandera and Segera intakes, a dam at Handeni town and, three (3) underground water sources (boreholes of Ndelema, Mnazini and Soko la Zamani) found at Handeni town. It covers an effective water supply area of 2,400 km<sup>2</sup> within an area of 5,000 km<sup>2</sup>. It also consists of 323.87km of trunk mains, 264.19 km of distribution mains, 10 pumping stations and 74 storage tanks

At present, the treatment works are not operational and water flows past the components. The intake at Segera has a pumping main (DN 150). However, the pumping system is not reliable with frequent pump and starter breakdowns. From the reservoir, the water is fed directly to the network without any treatment. Presently, only about 5,560 m<sup>3</sup>/day is being abstracted and the current water demand is about 19,625 m<sup>3</sup>/day based on the current population in the service area. The service area is estimated to have a population of 406,444 as it also serves six other small towns namely Handeni Township, Mkata, Komkonga, Kabuku, Segera Michungwani and

Kwamkono; 74 registered villages (70 villages within Handeni District and 4 villages in Korogwe District); and 3 JKT military camps: Chogo college for fire extinguishing and rescue and Kwaraguru sisal estate. The existing installed production capacity is  $9,590\text{m}^3/\text{day}$  which is insufficient to cater for the projected water demand of  $12,000\text{m}^3/\text{day}$ . The total length of the water pipe network is 466km and water is distributed at an average of 8 hrs/day. However, no water treatment process is currently undertaken due to the absence of an electricity supply at the Tabora conventional treatment plant. The existing distribution system has 66 storage tanks with a total capacity of  $6000\text{m}^3$  of which 46 tanks are operating. The combined capacity of the Mandera and Segeru intakes is about  $12,000\text{m}^3/\text{day}$ .

The current source of water for Kabuku small town is relatively adequate to provide for the connected production capacity. However, during dry period flows straight to compel water production. In the dry period, complete abstraction cannot be deprived of disrespectful environmental guidelines. Accordingly, water source expansion is currently frequently directed towards the flattening of flows between diverse periods. The way to realise this is by upgrades or system expansions and investments in the current water supply network. This was foreseen during the period of the contracting of the Korogwe waterworks. Generally speaking, as most of the water extracted from current sources never reaches the consumers, the water quantities are to be increased from within the system by lessening leakage. With the current level of water loss, rehabilitation and extension of the water supply system can only moderately address the challenges of inadequate domestic water provision and governance. Furthermore, causing more than half of the water leaks, much of the expensively abstracted treated and transported water is lost for the community. Figure 7 shows the hydrological situation in Kabuku small town.

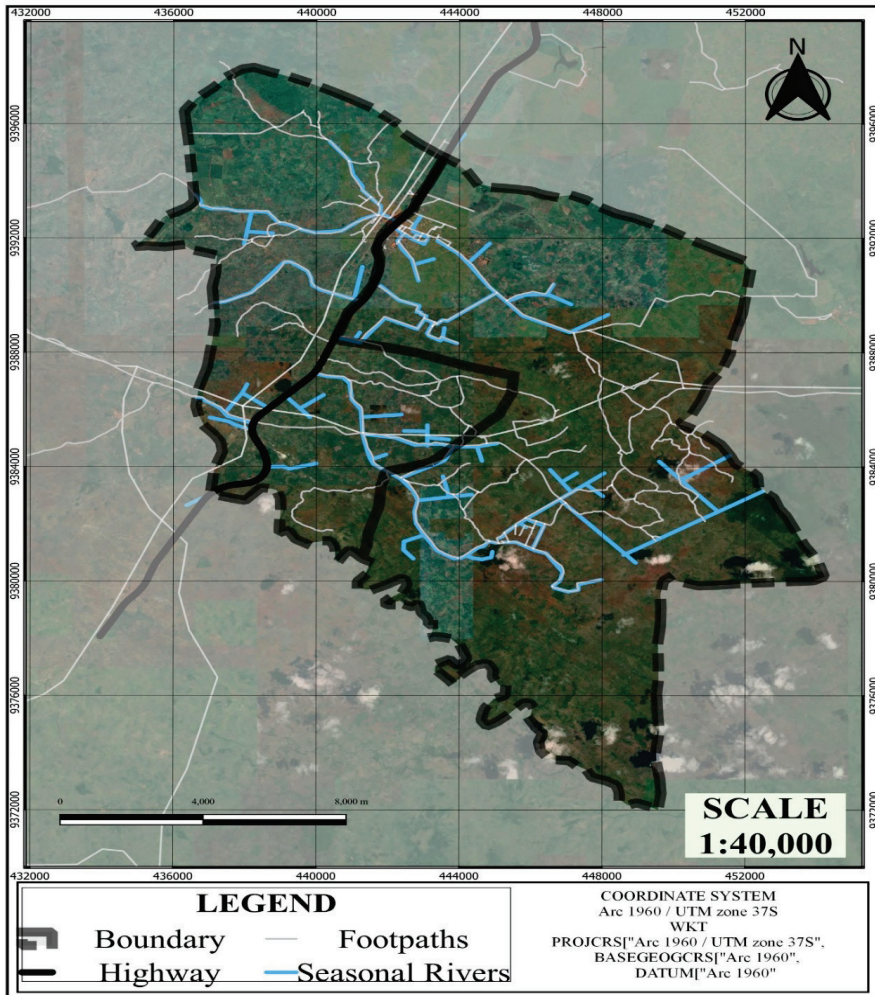


Figure 7. Hydrological Situation in Kabuku Small Town.  
Source; URT, 2012 and Fieldwork, July 2018

### 6.3 Diversity in Domestic Water Sources

Domestic water sources are considered fundamental determinants by water researchers for strengthening domestic water governance in any town or city. Thus, understanding water actors' operation requires an understanding of water source availability in a particular area. Any analysis of the local actors' operations and their institutional dynamics must be done in the context of



how the availability of water sources have affected domestic water governance in small towns. The provision of domestic water in fast growing towns with huge backlogs, such as Kabuku small town, is a challenging process. In Kabuku small town, the provision and governance of domestic water reflect the tension between the pro-growth and household levels of income, as domestic water is recognised as an economic good (i.e. the consumer has to pay for domestic water services). Domestic water is thus provisionally assembled, as technologies and practices shift in particular hydrological phases.

This subsection delineates the availability of water sources in Kabuku small town which are central to understanding domestic water governance. As can be observed from the context overview explained in section 6.1, the greatest amount of water extracted from the key sources never reaches the water users. Water users in Kabuku small town depend primarily on groundwater, public piped water, and rain harvest sources of water for domestic purposes. Separately from these sources, water consumers also rely on shallow wells, streams, and ponds. The findings of this study reveal that the number of respondents who have access to public piped water systems and rainwater harvest was moderate (18%). Subsequently, a substantial number of respondents (30%), both at the centre and periphery of Kabuku small town, access domestic water services by purchasing water in a 20-litre bucket from mobile water vendors.

On the periphery of Kabuku small town, there are many pushcarts, and bicycle vendors, and households rely greatly on the communal water tap and shallow well (12%) as means of domestic water access. The core water customers for the mobile water vendors were those with high water consumption which include food vendors, mini restaurants and bars, and guest houses. Besides, respondents in the focus group discussion were emphatic when it came to the quality of water supplied by mobile water vendors. There were numerous complaints about odour and particles in the domestic water services supplied by mobile water vendors. Table 7 illustrates the main source of domestic water in Kabuku small town.

Table 7. Main Source of Domestic Water (n= 90 respondents)

<b>Domestic Water Source</b>	<b>At the centre of Kabuku Small Town</b>	<b>Periphery of Kabuku Small Town</b>
Tap water + Rainwater	15%	3%
Communal water points + Rainwater	12%	15%
Groundwater + Rainwater	4%	5%
Shallow wells + Communal water points + Rainwater	5%	9%
Rainwater + Shallow well	9%	6%
Communal water points + shallow well	5%	12%

Source; Fieldwork, July 2018

As mentioned earlier, the public piped water pipes have been unevenly distributed throughout Kabuku small town, thus only 60% of distributed water flows through individual and communal standpipes. In this regard, households without domestic water connections (50%) of their own depend on others with individual connections, compared to the shared community standpipes. Henceforth, the great volumes of water described as being used through individual connections are, to a significant degree, vended to other households in Kabuku small town. Besides, not all households in Kabuku small town rely exclusively on public piped water provision.

Consequently, rainwater harvesting is practised to some extent by the majority of households investigated and provides a reliable water source for the majority of households (83%) during the rainy season for both the centre and periphery Kabuku small town respondents. This rain harvest prevalence was established due to insufficient initiatives to bring modern technologies to rainwater harvesting. Rainwater harvesting from rooftops is practised by a few households (40%) using a modern technique, and by many households (60%) using a traditional technique. Poor storage, collection facilities and technologies are normal for low and middle-income households, and there is a great divergence between high-income households<sup>7</sup> and low-income households<sup>8</sup> in the type of domestic water collection facilities, storage

<sup>7</sup> The houses have roof tiles, brick walls and regularly have more than two rooms. The households have a public piped water supply connection and have permanent roof top gutters secured for rain harvesting and storage cisterns.

<sup>8</sup> The houses are roofed with thatch, have earth walls and regularly have one to two rooms. They have no direct access to the public piped water network. They often depend on alternative sources of water and store it in jerry cans or 20-litre buckets.

facilities, the technology used and the quantity of domestic water harvested. The rainwater harvest in Kabuku small town depends on two factors, access and type of storage facilities, and the type of roof from which rainwater can be harvested.

Generally, it has been observed, that rainwater is collected in 20-litre buckets and yellow gallon containers by low-income households, and gutters are secured to only some sections of roofs, implying that not all rainwater falling on roofs is harvested, but middle-income households<sup>9</sup> and high-income households have houses with permanent roof-top collection and storage cisterns. Likewise, in the study of the small town, rainwater harvesting is regarded as the best alternative water source to the HTMWSA piped water system since it can be used for multiple purposes such as cooking and drinking without boiling, as the water user trusts that it is somehow safe and clean compared to other water sources.

Notwithstanding, the fact that households depend on various water sources and that the composition of these water sources varies over the seasons, viewing the households thought to depend on diverse approaches to domestic water supply, one may have doubts. It is unlikely that a few insufficient public standpipes would be able to cater for several households in Kabuku small town without any type of public piped connection. It is more likely that a substantial number of households (40%) without public water connections obtain domestic water services from other households who do. Thus, neighbours sell to one another; however, this initiative has been ascertained to be a community strategy to address the challenges in the community. Therefore, these features of households' access to domestic water services help to identify a range of institutional arrangements which stimulate significant opportunities in terms of local domestic water governance in small towns.

## 6.4 Diversity of Socio-Economic Groups

It was observed that in terms of access to domestic water across different demographic groups in Kabuku small town, the disparities of domestic water often correlated with socio-economic characteristics. Socio-economic factors such as population distribution, household occupation and education

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<sup>9</sup>The households have iron sheet roofs with brick walls. They are regularly connected to the piped water supply and regularly store water in tanks with 100-150 litre capacity.

status (Appendix 4a and 4b) influence domestic water provision and governance at the household and community level. The existence of formally differentiated standards of public water services in Kabuku small town is driven by the diverse abilities or willingness of different socio-economic groups to pay for domestic water. Although public domestic water is provided and managed by the HTMWSA in Kabuku small town, it has been observed that fully reticulated public domestic water is developed for (60%) of the households in Kabuku small town, with the majority of the inhabitants being served at a lower standard with shared community domestic water points or individual initiatives. These differentiated standards are observed in the vocabulary of the small-town centre and periphery areas, which is a less significant differentiation concerning health and convenience, or it may denote whether the part is to be provided by shared or individual domestic water services. Similarly, the public domestic water infrastructure availability in different parts of Kabuku small town is the major exclusionary mechanism concerning public domestic water services provision. Likewise, the cost of connection to the public piped system is insurmountable and seems to exclude low-income households at the individual level. The two factors hence converge in excluding a low-income household in public domestic water provision in Kabuku small town.

Notwithstanding, low-income households usually end up paying even higher amounts of money on the informal water provision market. Therefore, the differentiated standards of domestic water services in Kabuku small town are based on economic considerations i.e. household income determines the household's position in the public domestic water system. Although Kabuku small town is highly heterogeneous, the heterogeneous community makes planning and domestic water service provision very complex in a small town, not only for providing domestic water services infrastructure, but also for training the local community in the upkeep of water infrastructure and its proper use and practices. Training and awareness-raising efforts need to be continuously organised among the community in order to reach community members. This implies that addressing inclusive domestic governance necessitates understanding the shifting nature and contemporary complexities of socio-economic groups and the precise arrangements of service deprivation impacting the household in the small town which has a rural-urban interface. Figure 8 shows built up areas and population distribution in Kabuku small town.

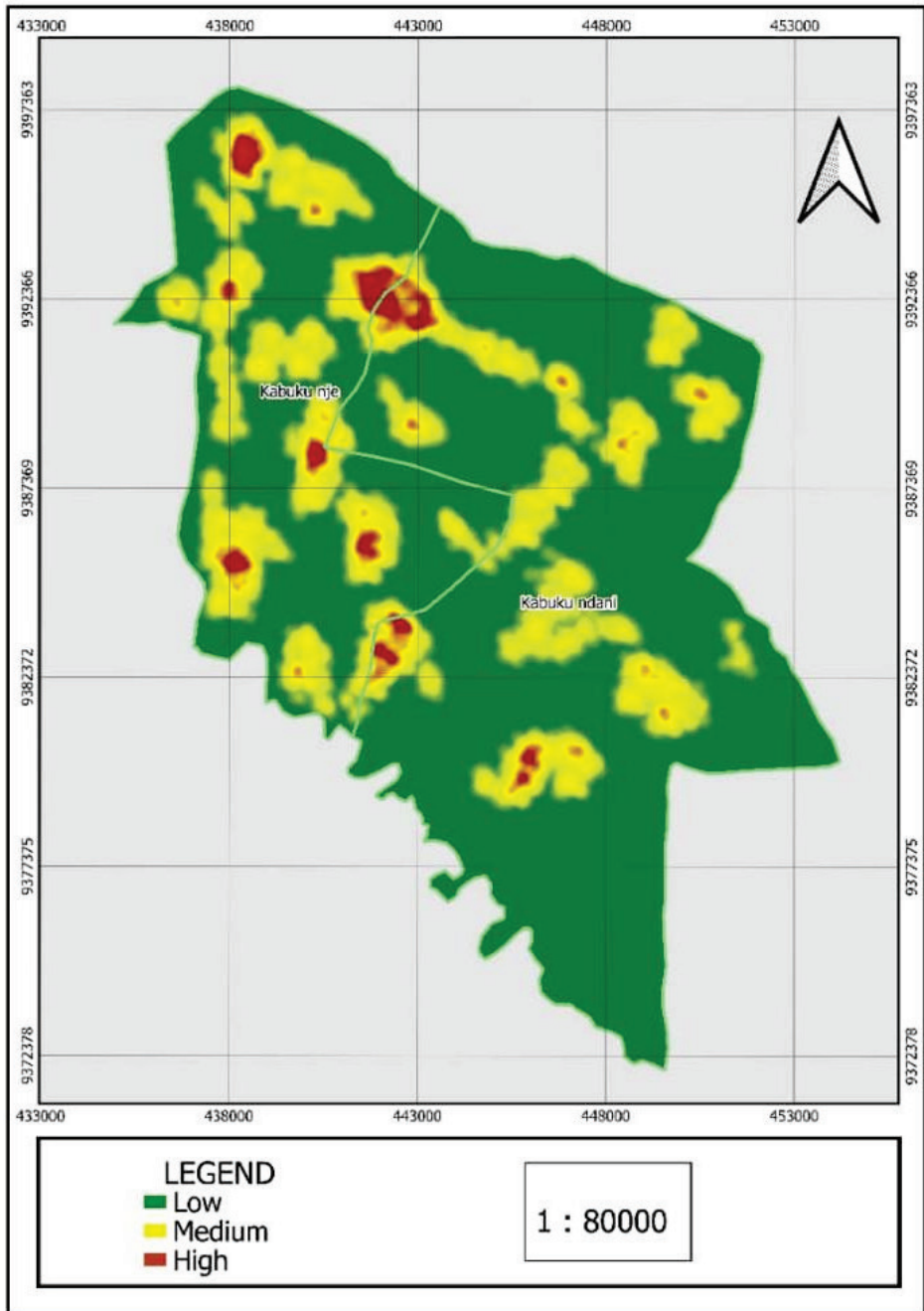


Figure 8. Built-up Areas and Population Distribution.  
Source: URT,2012 & Fieldwork, July 2018

## 6.5 Centre–Periphery Domestic Water Service Differentiation

In Kabuku small town, it has been observed that spatial and geographical factors of human settlements influence the kind of water system and technology to be used and ultimately impact domestic water governance at the household and community levels. The findings also reveal that the segmentation of informal human settlement developments in Kabuku small town affects public domestic water services provision in terms of quantity and quality provided. It further observed that a substantial number of inhabitants (40%) in Kabuku small town exist outside the reach of the public water network – as a result, the spatial distribution of public domestic water service in the small town is not homogeneous.

This physical pattern of public provision disintegration in Kabuku small town results in a small-town centre-periphery divide, primarily because of the outdated public water services infrastructure, and deficient water in the system to serve the majority of the communities. It is the high lying communities and those furthest away from the small-town centre that suffer most from public water shortages. The difference between the small-town centre and periphery is diffuse; however, the diverse forms of domestic water service are spatially as well as socio-economically mixed, but not without discernible patterns. There are equally clear tendencies concerning household socio-economic activities and modes of water service provision which tend to display their particular human settlements characteristics. It has been observed that the peripheral parts of the town receive less public piped water and similarly have much less improved public pipe infrastructure. Indeed, much of the domestic water services infrastructure is notoriously rudimentary.

Further, in the peripheral part of the small town, there are households with low-income earnings and some areas are served by domestic water from other water sources including shallow wells and rainwater which are obtained free of charge. The central part of Kabuku small town has relatively informally developed human settlements. As public domestic water services infrastructure deteriorated, water pressure has become insufficient. This has been revealed through water being rationed and rotated between numerous areas in the small town. Commonly, the segmentation of the built environment and the variety of human settlements impact domestic water services provision in terms of quantity and quality of water services provided

in the small town. The survey also indicates that a considerable population in the small town exist outside the reach of the public water network (40%).

As was indicated in the key informer discussion, the households in the small town can be categorised into three groups. These groups are the households that fall within the public water service network and have access to it; the households residing outside the network (7km), with no access to public water services; and between these two there is a third group which represents households who reside within or near to the public water network, but do not have access to it. The segmented spatial distribution would require the governance responses to be adapted to the social local context. Figure 9 shows informal settlement development and Figure 10 indicates the public water network in Kabuku small town.

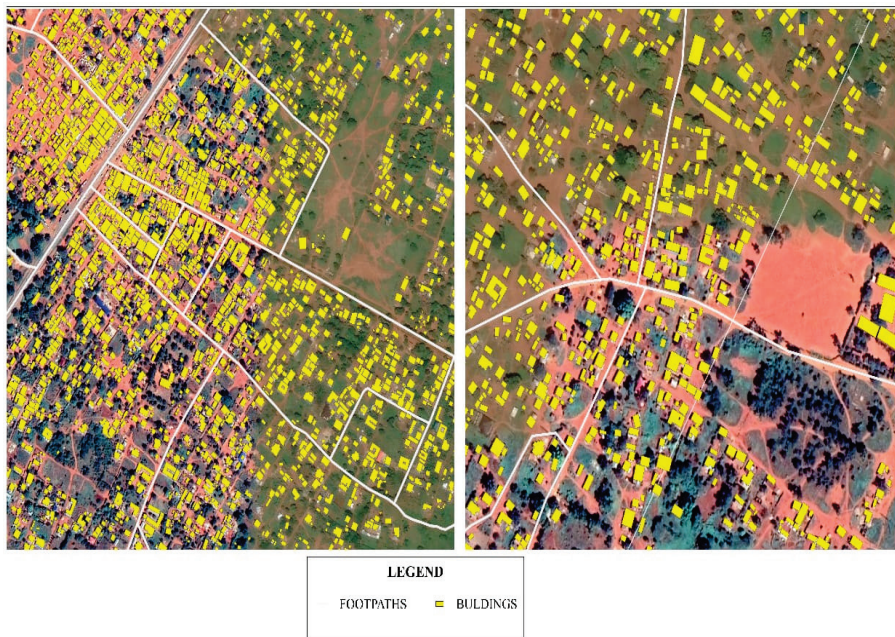


Figure 9. Settlement Development Pattern in Kabuku Small Town.

Source: Satellite Image and Fieldwork, July 2018

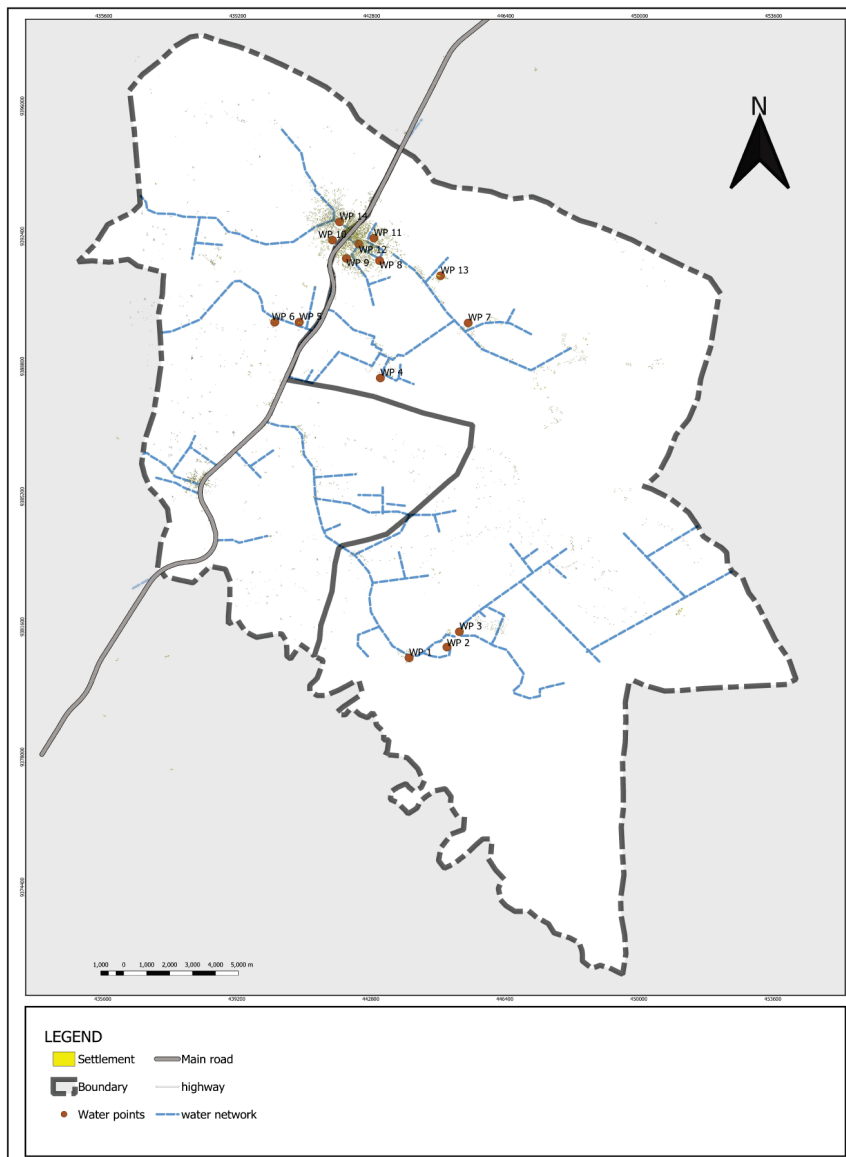


Figure 10. Existing Public Water Supply Network in Kabuku Small Town.  
Source: Satellite Image and Fieldwork, July 2018



## 6.6 Disparities in Coverage and Reliability of Domestic Water Supply

One of the major indicators of efficient domestic water governance in Kabuku small town is the number of households with access to domestic water services. Based on the research findings, it is quite evident that there are still households in the small town that do not yet have access to clean, safe and adequate domestic water in their locality. Given the unreliable conditions of most domestic water sources existing for households in Kabuku small town, multiple sources have to be depended on. The study found that 80% of the households accessed water for domestic purposes from public water taps with stands, 15% used taps as single users whereas 35% accessed tap water shared with other households in private households, and 30% depended on public communal taps (Figure 11). It was also found that only 20% of the households questioned used unprotected wells for domestic purposes. It was observed that human settlements that are close to the centre of the Kabuku small town are either served by in-house or communal domestic water taps. Yet, with the increase in population and expansion of human settlements on the periphery, domestic water service provision through public water services networks becomes a challenge due to scattered settlement distribution. As a result, the community develops initiatives such as boreholes, rainwater harvesting, and digging shallow wells to get access to domestic water.

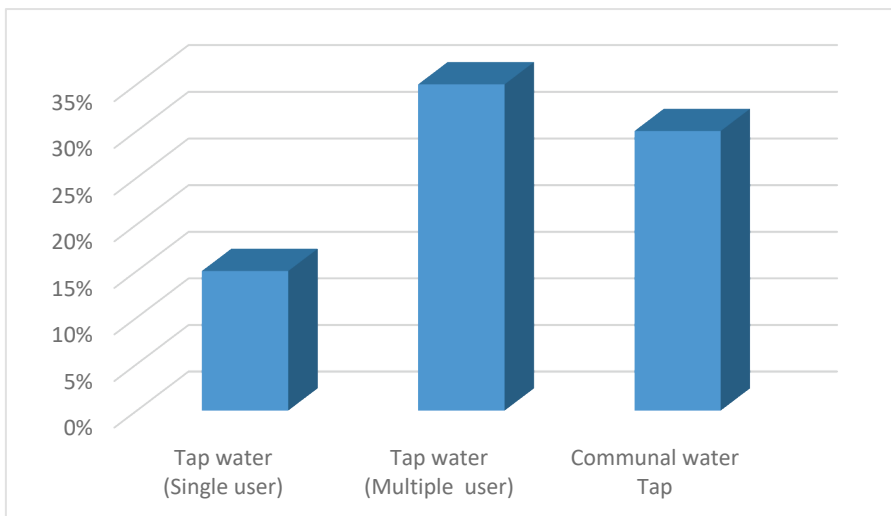


Figure 11. Public Domestic Water Coverage. Source: Fieldwork, July 2018

Regarding the convenience of the communal water point location, 70% of the interviewees revealed that the communal water points are located at a convenient place (Figure 12), and households do not suffer from collecting domestic water and having to travel long distances. This account was further corroborated by the investigator's field observation, as the majority of the communal water points are situated at a workable distance (100-200m), but on the periphery of the small town (Majani Mapana and Chogo sub-wards). These suffer from the challenge of the distance to the domestic water source. Though what is most surprising is that most of the communal domestic water points are situated in the urban part of the small town within a workable distance, but what matters is the question of average waiting time/queuing. As revealed in this study, collecting domestic water from shared water sources is a burden, especially for women and children because they spend a lot of time (4 to 6 hours) queuing while that time could have been used in engaging in other productive activities.

Contrary to this, the study found that 30% of the respondents specified that the shared community water taps are not appropriately located for the beneficiary community, especially the households on the periphery of the small town. They complained that the distance from their homes to water sources were 600m or more. They often relied on other unprotected sources of domestic water services that were far away (9 km) from their settlements. To validate the outcome, the matter was explored further, through the focus group discussion. One of the members remarked:

I spend more than one hour every day to fetch water for domestic purposes, while others in the same community spend even more than one hour before they get to the water source. The problem is water service providers did not take into consideration, the dispersed nature of the settlement pattern before they provide water services. (Focus Group Discussion, July 2018)

Given the above quotation, it can be interpreted that there are disparities in allocative efficiency of the domestic water services to the households in the same communities, owing to the level of disparities between communities in terms of socio-economic characteristics and heterogeneous aspects of the small town. This indicates that addressing inclusive domestic water governance in a particular locality necessitates understanding the complexities

of socio-economic groups and the nature of the settlement pattern in a particular context.

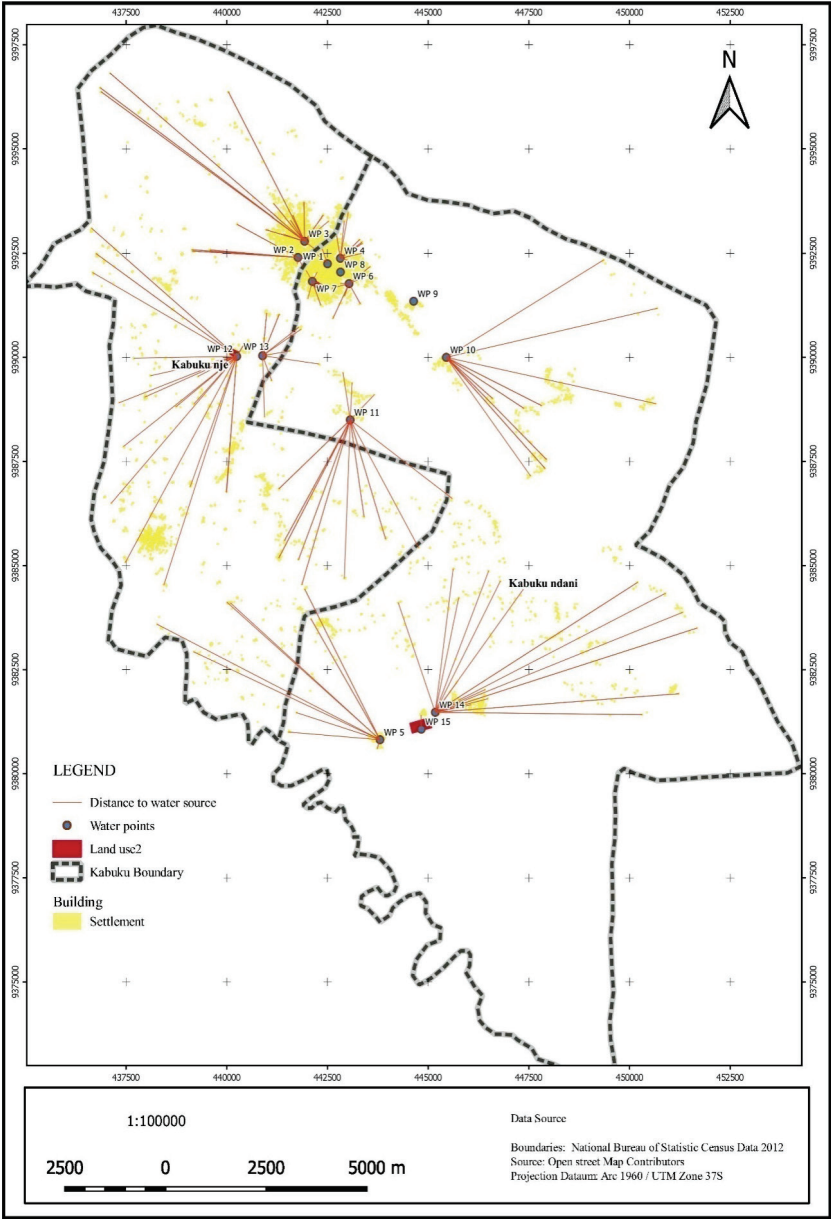


Figure 12. Distribution of Communal Domestic Water Points.  
Source: URT, 2012 and Fieldwork, July 2018

Invariably, the households in small towns also suffer due to unreliable public water supply and due to outdated public water infrastructure, which necessitates the low pressure of public water. This is generally linked to the rationing of domestic water services. The findings reveal that public domestic water provision 'by turn' is practised in many parts of the small town. The study found that out of the 80% of households with public water connection, (15%) of the households identified that domestic water is not enough and they do not receive a regular supply. The households generally receive domestic water services once or twice a week for some 3 to 4 hours per day. Whereas the Kabuku Ndani line has its turn on Wednesdays and Sundays, the Kabuku Nje line is required to obtain public water on Mondays and Saturdays. The turn, though, is not dependable and domestic water may come either for a few hours (2 to 3 hours), or not at all. The reasons for this are normally unidentified to most of the households in the community.

Besides, the rationing practice seems not to be well organised and managed. Confusion in the realisation of rationing timetables is likely to increase the magnitude of the problems with domestic water unreliability, wastage, and water user dissatisfaction. Rationing also demands important investments in individual water storage. Water users are required to harbour as much water as possible to survive until the next round of water rationing. Where the rationing is by hourly schedules (i.e. water is 'on' in the evening and/or the morning), the storage needed is smaller than when the rationing is carried out on daily/weekly schedules.

The rationing of domestic water impacts the charges of domestic water from water mobile vendors. In any case, the unreliability of supplies and rationing schedules is perhaps what extends the main requirement for domestic water storage. A notable aspect of the centre of Kabuku small town is the level of investment in domestic water storage facilities (i.e. cemented and block walls, as in plates 1, 2 and 3). Domestic water users have below-ground storage reservoirs, where public piped water and rainwater are stored in the same storage reservoir.



Plate 1. High-Income Water Storage Facility. Source: Fieldwork, July 2018



Plate 2. Medium-Income Water Storage Facility. Source: Fieldwork, July 2018



Plate 3. Low-Income Water Storage Facility. Source: Fieldwork, July 2018

Predictably, during observation, the researcher came across households who were dissatisfied with the public water source connection. One household mentioned that the HTMWSA is so scarce and so valued that the time he obtained it was like a holiday. Similarly, these findings were revealed by one of the water user committee members who remarked:

The domestic water supplies from HTMWSA are unreliable, we normally receive water every week and at particular hours of the day which causes many of the community members to depend on other alternative water sources which are unsafe and unprotected for domestic purposes. (Interview with water user committee, July 2018)

One woman even stated that she receives inadequate water in the middle of the night; every month she claimed that the water scarcities are worse now compared to the past years due to poor and old domestic water infrastructures. To triangulate these findings, the HTMWSA district manager was interviewed. He remarked similar findings that Kabuku small town can be explained as a case of one of those small towns that are still struggling for

access to safe, clean and adequate domestic water services. Another respondent from the focus group discussion reported:

Domestic Water situation does seem to have improved over the last couple of years in this small town, but the same does not hold for other settlements, where dissatisfaction is on the increase. (Focus Group Discussion, July 2018)

Furthermore, HTMWSA officers reported ongoing increasing population pressure, and unreliable public domestic water provision in the small town as little attention has been made to advance domestic water infrastructures. The unreliability of public domestic water supply was identified as one of the features stressing households to opt for shallow wells and other unsecured alternative domestic water sources causing complex challenges to households' health and well-being.

## 6.7 Community Choice of Domestic Water Source

It is also significant to explain the community complexity concerning domestic water source choices to understand consumers' preferences and/or acceptability. The findings reveal that 30% of the respondents of the current in-house water connected household users had shifted from other water sources which are communal water taps, boreholes, and shallow wells. The motives for their change from other sources to their own water source resulted from the detail that they found several advantages which include improved water quality, short distance, and hygiene purposes.

Also, 56% of the current water users had decided to have an in-house connection rather than rely on communal domestic water points (17%) or neighbours (39%). In particular, it can be observed that over half of the present water consumers have shifted from other water sources. Their interest in having in-house water sources combined a variety of viewpoints. For instance, the main reason for a change from the borehole to having their own in-house water source is the distance (8%) followed by water quantity (23%), cost (25%), queuing (14%), and source of income (30%). This was supported by the finding concerning the distance to the previous water source where less than 5% of the previous borehole consumers could access a borehole facility within 500m of their compound.

Meanwhile, the reasons for a shift from a neighbour's source to their own water source might enhance additional insight into their preferences for having their own water source. However, the study found that 75% of the previous neighbouring source users could access their neighbours' water taps within 500m. They mention distance as one of the incentives for having their own water tap. This may be linked to other reasons, such as water quantity in that the shorter the distance to the water source, the greater the amount of water used. Additionally, a substantial variation between earlier water sources and present water sources was that in-house connection could extend their water usage not only for consumption and/or hygiene purposes but also for productive use. As it was revealed from the focus group discussion, they optimised the use of their water source to earn some income. These findings were revealed by one of the households who remarked:

I used to go to a neighbour's well to draw water. I paid 200 TZS (US\$0.08) per 20-litre bucket every day. It was hard work for us to carry enough water from the neighbour's well to my home and it was difficult to pay every time. It was better to have my well or in-house connection rather than paying 200 TZS per bucket every day to someone else's water source. (Household Interview, July 2018)

Instead, the study found that 30% of the current borehole water consumers, but 90% of them depend on unprotected surface water compared to other groundwater sources. It could be assumed that surface water was not the only available water source near borehole facilities, but rather they put a value on having their own communal water source based on their preference for water source choices. This was revealed by one community member from a focus group discussion who remarked:

[...] We were told that next year someone will come to construct a well furnished with a hand pump in our town, I know it is easy to draw water using a hand pump, but I will never leave my well. My well is very near to my house and I can use water at any time of the day. I know that community wells have constraints like locking, queuing, and expensive costs when a breakdown happens. (Focus Group Discussion, July 2018)



The above statements clarify that households consider several alternative choices of domestic water supply, but not at all times. The major concern of most households is usually how affordable and reliable the water source is. The study found out that in several cases, the choice of the water source to access domestic water is often informed by how much money they can pay for the water supply services, followed by locking and queuing.

## 6.8 Multiplicities of Water Supply Actors and Institutions

Though domestic water service expansions are planned by the HTMWSA, their scope will not entirely alleviate the small town's domestic water problems. It is thus important to look at other alternatives for increasing water provision through the provision of reliable, clean, and affordable water directly to households. The findings reveal that at the district scale, the HTMWSA has the responsibility to provide public domestic water services within the small town, while at a small scale, multiple providers are operating alongside one another. The findings of this study reveal that some households with public water supply connections become informal water vendors. This is a common strategy to access public water supply in the small town, as households who have no direct access to public piped water connections purchase water from their neighbours that have direct access. However, a few households who are not able to pay the individual actor charges (25%) access domestic water through the shared community water scheme, whose services are comparatively lower cost compared to the individual actor. Where public water services are scarce, distribution by mobile water vendors tends to be more common. However, some mobile water vendors (15%) obtain water from shallow wells and boreholes near their compounds. Plate 4 shows mobile water vendors in Kabuku small town.



Plate 4. Bicycle and Motorcycle Mobile Vendors. Source: Fieldwork, July 2018

Similarly, for households who can manage to pay for somebody else to carry water, such water distribution is done on foot, with the water carted in yellow gallon containers positioned on bicycles or motorcycles. These local actors are found to work competitively, and water charges are influenced mostly by the operation costs which include: inputs, labour, and the price at which local actors access domestic water services. Therefore, this institutional fragmentation and hybrid institutional structure of domestic water service provision in Kabuku small town calls for domestic water governance approaches that stretch across local actors and institutions, with a flexible and adaptive character, and emphasise the need for working with rural and urban policies.

## 6.9 Domestic Water Charges Dissimilarity

As discussed in section 6.3, domestic water services are obtained from different sources of water in Kabuku small town. These domestic water sources differ in their prices and payment structure. Domestic water which is obtained through an informal market is always difficult to estimate. The

charges of public piped water can be denoted as the tariff, but the charges per unit paid are problematic to estimate given the deficiency of water meters.

The public water consumers in Kabuku small town have their supplies metered and pay for volumes used. Most water users pay monthly rates (i.e. depending on volumes received per month). The monthly bill is based on evaluated consumption, which emanates from the estimated water pressure and volumes used in diverse areas of the small town. Table number 8 shows the water charges of diverse sources of water in small towns as verified throughout a discussion with water vendors and water users.

Once households sell to their neighbours, they charge TZS100/ = (0.05 USD) per 20-litre bucket. Hence, the means of water access applied by the majority of households in a small town is nearly four times as expensive as the service enjoyed by individual connected households. Moreover, domestic water is not provided to the homestead, but has to be carried by the consumer herself/himself. Similarly, the boreholes on the periphery of the small town, frequently helped by a mosque, tend to charge less, typically T.Sh.50/= (0.025USD) per 20-litres bucket. The bucket charges seem to be unusually stable over space and time. The obtainability, though, is not completely reliable, as the informal water vendors and communal water vendors constituted by water-selling households may at times be closed for inadequate water. Additionally, the price of domestic water delivered by mobile water vendors is determined by factors such as distance and road conditions.

Furthermore, households on the periphery of the small town are characterised by low-income households which are unlikely to have satisfactorily large storage cisterns to obtain a truck-load of domestic water. Therefore, bicycles and motorcycles are the core water transporters on the periphery of the small town, but they also struggle with poor road situations. Notwithstanding, the prices of informal service providers are more expensive rather than the piped water supply charges.

Table 8. Domestic Water Prices

Local Actors	Requirements	Water Quality	Payment
<b>Handeni Trunk Main (HTM)</b>	Connection to house	Clean water	Monthly lump sum, flat rate
<b>Individual water vendors</b>	Buyer carries water from the individual water connection	Clean water	100 Tshs (0.05 USD) per 20-litre bucket
<b>Mobile water vendors</b>	Delivery to households	Unclean and unsafe water	100-500 TZS (0.05 - 0.25 USD) per 20-litres price varies per distance from the sources
<b>Communal water vendors</b>	Buyer carries from the communal collection points	Clean water	100 Tshs (0.05 USD) per 20-litre bucket
<b>Rainwater harvest</b>	Requires a large storage reservoir	Clean water	100-200 Tshs (0.05- 0.1 USD) per 20-litre bucket

Source: Fieldwork, July 2018

The water charges are hard to compare, as the charges of public water are governmentally established by the water agent, while the informal provision prices are derived from market conditions. The different provision practices also have very diverse water charge structures. Mobile water vendor operations require little capital but have high operating costs. Public water operators have very high initial costs but comparatively low operating costs. At the time of the discussion with the mobile water vendor, the charge for a litre of water differed significantly depending on the vendor but was usually above fifteen times that of a household public pipe water connection.

Also, water gathered from households and communal water providers was three to four times more expensive than piped water existing in the home (connection charges not considered). Possibly, a volumetric price in the range of the prices charged on informal domestic water operators could sufficiently finance the operation and even the advancement of public piped water arrangements. However, the official water charges, which are lower than informal provider charges, are enjoyed by those connected to the public piped water network who are usually middle and high-income households.

## 6.10 Chapter Summary

This chapter has presented contextual drivers of domestic water governance in Kabuku small town which impact the availability of domestic water in a variety of ways. These driving forces include disparities in the allocative efficiency of the domestic water sources to the households in the same communities due to the level of socio-economic characteristics of households and heterogeneous characteristics of the town. It also points out that, the diversity of domestic water sources, geographic factors and socio-economic status have intertwined at the local level to produce uneven access to domestic water sources. Furthermore, the town has a combination of both public piped water systems and rural water supply systems. These drivers have predictable potential and constraints to inclusive domestic water governance in the town.



## 7 Existing Local Actors and their Roles in Facilitating Practices in Domestic Water Governance

### 7.1 Introduction

This chapter explores multiple actors' practices and arrangements that make up the domestic water governance beyond the rural-urban dichotomy in Kabuku small town. The material components of domestic water governance namely actors' responsibility, institutional capacities and the financial resources available that frame domestic water governance in the town are examined. The understanding of local actors' responsibilities, practices and their financial capacity provides a window for creating a more inclusive domestic water governance that stretches beyond the rural-urban dichotomy in the town. The existing local actors are hereby discussed.

### 7.2 Rural Water and Sanitation Agency (RUWASA)

At the district level, the most striking innovation in the new institutional setting is the establishment of a new entity which is called the RUWASA. Currently, the RUWASA replaced the departments of water that were earlier supervised by district councils. RUWASA is accountable for the provision of sustainable domestic water in rural settings through resource mobilisation, project implementation, capacity building and the operation and maintenance of water projects with the active collaboration of other actors. The authority is also responsible for the development and sustainable management of rural water supply and sanitation projects and performs various duties such as carrying out the design and implementation of rural water supply schemes,

monitoring and evaluating the performance of other actors, providing financial and technical support to local actors, advising the Minister on issues related to rural water supply and sanitation projects, and facilitating training and capacity building of domestic water-related issues to other local actors in the district. The RUWASA District Manager stated:

The formation of the RUWASA and the rearrangement of competencies aims to create a sort of decentralised centralisation, in which monitoring, overseeing, coordination, and strategic planning lie with the centre, although day-to-day operation and domestic water service provision are carried out by local actors within the local context. (Interview with RUWASA District Manager, July 2018)

This model aims to allow overall better coordination of domestic water services which is managed locally and supervised and supported at the national level. It also seeks to overcome the fragmentation determined by the previous conferral of many powers to local government authorities.

#### 7.2.1 RUWASA Institutional Arrangements

The administrative structure of the RUWASA in Handeni district is managed by a board of directors, representing various stakeholders participating in the rural water supply. Besides the director general, appointed by the MoW after the recommendation of the board of the RUWASA, and the chairman, appointed by the President of Tanzania, there are six members from several institutions which have interests and competencies in rural water provision in the Handeni district. In Handeni District, the real execution of the water projects is carried out by the RUWASA. At the district level, the RUWASA is composed of a DWE, DCDO, technicians, and drivers. All of these actors are reporting directly to the RUWASA District Manager.

The RUWASA is expected to conduct regular monitoring of domestic water provision in the chosen small-town communities. The District Manager is also authorised to monitor and guarantee that the facilities and infrastructures are in an adequate condition to realise their services to the community. However, empirical information exposed that issues relating to monitoring of water systems such as access to domestic water services were not carried out regularly by the RUWASA District manager. These findings



were revealed in the focus group deliberations. One member respondent commented:

RUWASA District Manager does not frequently visit the community to check on the situation of the domestic water services and water infrastructure conditions in place. (Focus Group Discussion, July 2018)

Similarly, the use and management of water sources and water facilities are also among the tasks of the RUWASA. Consequently, the managerial structure mandates the RUWASA District Manager to guide the local actors on planning, management, guidelines, and support in the areas of human resource improvement, technical and training support to non-district service operators, and coordinating and disseminating the relevant information to the assembly and other local actors in the community.

### 7.2.2 RUWASA Financial Resources Mobilisation and Use

Based on the water policy of 2019, it is contended that the RUWASA is one of the important actors in ensuring efficient and effective community water services provision and governance in a given jurisdiction. Further work was undertaken to get detailed information concerning financial resource mobilisation by the RUWASA concerning the provision and governance of domestic water in the study community. The findings revealed that the RUWASA receives very limited financial support from the Central Government. For example, it was found that per capita investment in the water sector decreased from the budget in 2016/2017 to 2017/2018, (Figure 13). The national budget share for the water sector decreased enough to threaten the competence and proficiency of domestic water services provision in the district.

The capacity of the RUWASA to fulfil their roles of support, coordination, and supervision is very limited. Part of the challenges relate to the inadequate number of staff<sup>10</sup> and the absence of performance management, but a significant part relates simply to the lack of funding. Therefore, planning, budgeting, and mobilising financial and material resources are major challenges hindering services provided throughout the

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<sup>10</sup> The district has only one water engineer who is responsible for overseeing domestic water issues in all villages and towns in the district (Field work, July 2018).

district. The decrease in government budget allocation for the domestic water sector not only threatens the effectiveness of policy choices envisioned to facilitate service provision with the involvement of water recipients at the local level, but it is also a reflection of the problematic and contextual realities in realising national water policy. Furthermore, there is a regular decrease in budget allocation to the water sector, and this study found that delays in the disbursement of funds to local government affect prospects for small towns to increase their chances for universal access to domestic water services.

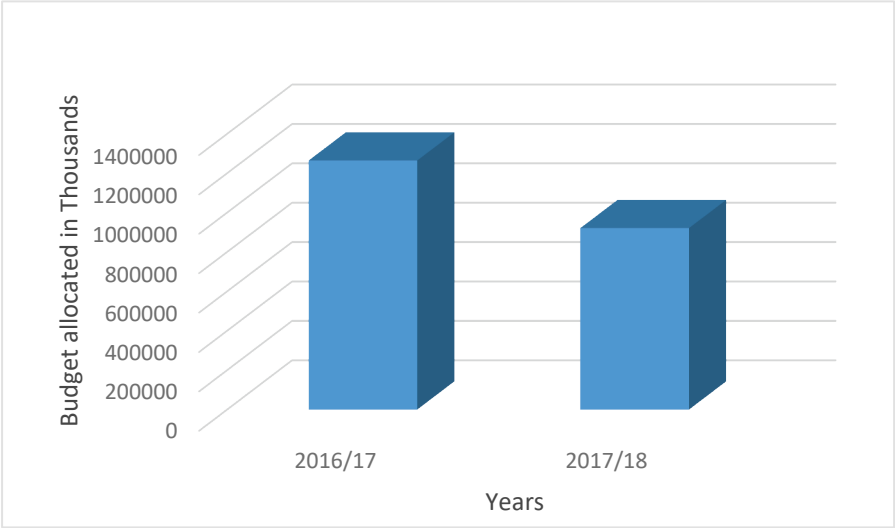


Figure 13. Budget Allocation by Central Government. Source: Fieldwork, July 2018

Nevertheless, the RUWASA District Manager suggested that the Ministry of Water and the Treasury set the conditions for disbursing domestic water budgets to the regions and districts. Instead of distributing the same amounts to all local government authorities, they recommended adding practical conditions connected to the size of the region and district, geographical settings and terrain, type of potential water sources and technology, population, and prevailing requirements for domestic water service. For instance, the geographical setting of Kabuku small town needs a lot of distribution pipes to be able to tap water from the source and distribute it to the households, and the distribution pipes need to pass through several villages. The RUWASA District Manager also highlighted the significance

of timely and adequate funding along with sufficient transport facilities and human resources. The District Manager specified the significance of explicit funding for follow-up technical training at the small-town level and the upkeep of the longstanding water infrastructure facilities.

Likewise, the findings of this study reveal that considerable challenges are facing the provision of public services in most sectors in Tanzania. The water sector is mostly weak due to the reason that the approach of service provision outsources service provision to water users themselves and local actors. Similarly, the ability and capacity of water users and local actors in Kabuku small town differ, which results in an uneven environment of domestic water provision development across the small town.

### 7.3 Handeni Trunk Main Water Supply Authority (HTMWSA)

At the district level, there is also a central government operated water supply scheme called the HTMWSA. The HTMWSA is accountable for the provision and governance of domestic water services in Handeni District including Kabuku small town, and it owns all domestic water distribution infrastructures in the district. HTMWSA is also responsible for planning, the allocation of resources, construction and operation of water and sewerage systems, monitoring and evaluation of water projects, setting of water charges and billing.<sup>11</sup>

It is also responsible for everyday routine domestic water development activities such as: operating and upholding domestic water and sewer systems providing service connections and constructing and restoring the main domestic water network systems in the district. Therefore, the current governance arrangement gives HTMWSA the main tasks and mandates over the governance of domestic water in the district. This also implies that the HTMWSA is responsible and liable to their governing boards and the ministry accountable for water. Concerning the water guidelines, local institutions, are accountable for the governance of domestic in local settings. It is also the duty of the HTMWSA to screen and control the functions of the non-governmental actors participating in the governance of domestic water services in the district. These non-public domestic water actors include

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<sup>11</sup> Tariff set by HTMWSA water supply for water and sewerage services are regulated by the EWURA – Energy and Water Utilities Regulatory Authority.

communal water vendors, individual water vendors, and mobile water vendors.

### 7.3.1 Handeni Trunk Main Water Supply Authority (HTMWSA) Institutional Arrangements

According to the HTMWSA Managing Director, in compliance with the principles of good corporate governance, the overall responsibility for management and leadership of the HTMWSA is vested in a Board of Directors, under a non-executive Chairperson. HTMWSA is under the directive of a board of directors as per section 11 of the Water and Sanitation Act no. 5 of 2019. The board of directors constitutes seven (7) members representing diverse stakeholders. The management of the HTMWSA operates directly under technical management which is directly accountable to the MoW. In addition, according to the HTMWSA, water supply has an advisory board appointed by the Handeni District Council. Sixty per cent (60%) of the advisory board are water users.

The board of directors has formulated three committees for its proper operations as per the Water Supply and Sanitation Act No. 12 of 2009 section 12 (2) as amended in the supplementary act (the Water Supply and Sanitation Act No. 5 of 2019). These committees are finance and planning committees responsible for reviewing the plans and sources of funds for their implementation for the board's approval. The other committee is the audit committee responsible for ensuring the integrity of financial controls and integrated reporting (both financial and sustainability reporting), identifying and managing financial risk. The third committee is the employment and disciplinary committee responsible for employment, fire, and ensuring appropriate measures are taken to solve staff misunderstandings that management have failed to solve. Generally, the HTMWSA project has a staff of some 170 engineers, technicians, sales officers, administrators and labourers. Fee collecting agents at domestic water points are proposed by the village water committees, approved by village governments, and confirmed by the HTMWSA management. These findings were confirmed by the HTMWSA managing director who remarked:

The board of directors is assisted in the discharge of its duties related to financial, compliance, risk management, planning, management, and staff issues by the committees. Also, the Managing Director is assisted by eight heads of units,

namely the Water Supply and Sanitation Unit, Customer Service Unit, Finance and Account Unit, Human Resource Management and Administration Unit, Procurement Management Unit, Internal Auditor Unit, Legal Service Unit and ICT and Statistic Unit. Staff composition in management, professional, clerical, artisans and vacant posts, academic qualification, designation, gender, and position of the utility. (Interview with HTMWSA Managing Director, July 2018)

The aforementioned board of directors and committees within the HTMWSA framework aims to ensure the efficient use of water resources and efforts to increase the availability of water and sanitation services as stipulated in the National Water Sector Development Strategy (NWSDS 2002, amended 2006) and the Water Sector Development Programme (WSDP 2006).

### 7.3.2 Handeni Trunk Main Water Supply Authority (HTMWSA) Financial Resources Mobilisation and Use

According to HTMWSA's Managing Director, it was found out that HTMWSA depends on two sources of funds to finance day to day operations. The sources were government subvention and bill collection from water supply and waste management services. It was revealed that out of the two sources, government subvention was the main source of finance for the utility. The fund allocations from the MoW to HTMWSA for their development activities related to the creation and improvement of domestic water infrastructure. In 2017, the MoW increased the allocation from 5 to 7.5% of the country's total tax revenue to the Common Fund for the implementation of domestic water programmes at the district level. The actual amount that goes to the water sector, however, depends on the actual national tax revenues collected in the year. While government subvention was the main source of finance, the utility received less than the actual budget. For instance, in the financial year 2021/2022, the utility received only TZS. 226,547,323.25/= (12.41%) of the total budget. The bulk of the domestic water budget was for capital expenditure on a new domestic water project development.

According to the HTMWSA Managing Director, the budget deficit was to be covered through bill collection from the supply of domestic water and wastewater management. Through descriptive statistics, further analyses were carried out to determine the influence of financial resource constructs on the efficiency of the utility. Internally generated funds cover mostly

capital expenditure related to domestic water service provision and to a lesser degree capital maintenance expenditure and direct support costs. The latter are mainly funded through transferred funds from the MoW. Water users of piped water schemes are required to contribute to capital maintenance expenditure through tariffs.

Funds for the management of small-town piped schemes are collected from water users through tariffs, which are also supposed to cover part of the replacement, repair and extension costs. The shortage of funds affects the organisational efficiency of the HTMWSA. Concerning this, the HTMWSA Manager stated:

[...] Our mandate is to supply domestic water to all villages and towns within Handeni District. But due to inadequate financial resources, we are unable to meet our targets. HTMWSA has been shaped by severe budgetary constraints that most water utility agents face country-wide, as decentralisation has proceeded. Although the HTMWSA benefits from the transfer grant from the central government for domestic water project development purposes, these funds tend to be inadequate and ineffectively used. (Interview with HTMWSA Managing Director, July 2018)

This quotation reveals that there was a great disparity between government budget allocation and the actual amount received by the HTMWSA. Similarly, the low rate of return on investment affects the organisational efficiency of the HTMWSA. These findings suggest that the utility obtains a low rate of return on investment, due to low connection capacity to enhance domestic water bill collection which could increase the productivity of the utility in service provision.

## 7.4 Ward and Sub-Ward Actors

The wards and sub-wards serve as, first, a political/administrative connection between the community and the higher-level administration structures that comprise the municipality, and the district and central government authorities. Secondly, the responsibilities of the wards and sub-wards administration are to provide and facilitate the general management of social and economic development activities for the community through coordinating community activities at the lowest local government level. According

to local government affairs, these administrative officers play an active role as both regulators and enforcers of central government-initiated rules, laws, plans and strategies, together with norms, in communities.

In Kabuku small town, wards and sub-wards are the actors with which nearly most community members have reciprocal relationships. In wards and sub-wards complications, opportunities, and conflicts among community members or with external actors are deliberated during ad-hoc meetings attended by ward council members. Ward council meetings, formal and informal, are regular and organised occasions to debate questions and to propose resolutions to community conflicts.

#### 7.4.1 Wards and Sub-wards Institutional Arrangements

The existing institutional structure at the local level is supported by several functional committees having representative members from sub-villages/hamlets in Kabuku small town as shown in Figure 14. The council seemed very significant for the community development structure because they were composed of community members. Though some were active, others were not because it depended on the nature of the responsibility being carried out in the community. The operational approach was self-help initiatives (volunteering), which appeared to prevent some members from participating actively in water governance activities. Informal social networks are also involved in ensuring that community members obtain domestic water. The recognised and relevant institutions, entities, and actors, generally form an amalgamated part of institutional arrangements and often positively or negatively affect domestic water governance in Kabuku small town.

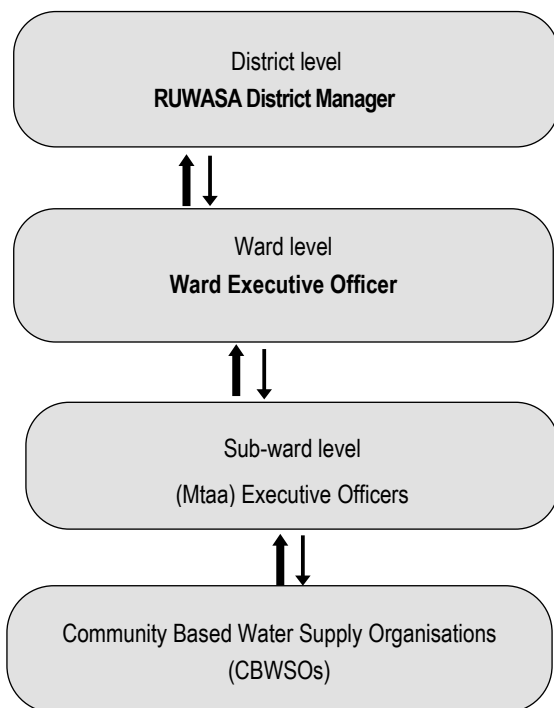


Figure 14. Institutional Levels for Wards and Sub-wards.  
Source: Author's Elaboration, July 2018

Besides fostering the development of the community, the ward and sub-ward officers were also seen as playing an important role in impacting domestic water governance in the small town as it is a basic service to the whole community in the small town. As was discovered by this study, ward and sub-ward officers are responsible for overseeing rules governing domestic water such as safeguarding water resources, recognising water consumers, distributing water rights and monthly bills, collecting water abstractions taxes and mediating water conflict within Kabuku small town and also checking financial documentation on the revenue and spending from consumer fee collection. The other responsibilities are the cleaning near and of the water facilities (water tank, and gravity schemes), operation of the water management committee activities, and the conditions of the domestic water development and its infrastructures.

This study also found that there was adequate management capability to operate together with the community in mobilising resources and organising



community involvement in water provision and governance in the small town. The ward and sub-ward officers also exercised considerable influence on collective action and meddled with the composition and functions of the water management teams and water user associations. For instance, in some situations, they dissolved water management teams or interfered in their everyday administration of the water operations. Likewise, ward and sub-ward officers follow up and oversee most public water development projects in their area. They may look at the operational challenges of water supply projects, as well as water shortages in the small town. In terms of decision-making, decisions are overseen by a locally determined water management committee in collaboration with ward and sub-ward leaders. These actors have a robust sense of oversight in community water management, though there were no defined hierarchies for communication between actors and communities, and communications tend to be unplanned.

#### 7.4.2 Community Water Management Committee

The community water management committee is the lowest appropriate management level for water supply and sanitation services at the community level. It is a locally elected committee under the guidance of ward executive officers (WEO) to ensure the provision and governance of water resources in the small town. This is an executive organ of domestic water management at the ward and sub-ward level which has a role and is regarded as part of the institutional arrangement for matters related to the provision and governance of domestic water services in Kabuku small town.

The water management committee is very common where the communities want to take an active role and involve the local population in managing domestic water services. The water management committee in Kabuku small town is accountable and answerable for the monitoring and supervision of the provision and governance of domestic water at the local level. The observed roles of water management committees in the governance of domestic water are enhancing the establishment of water supply infrastructure, coordinating financial resources within ward and sub-ward council funds, representation on the water management body, preparation of by-laws regarding water supply and sanitation services, and addressing conflicts within and between communities regarding domestic water challenges relating to the water sector. The community water management team operates and manages the domestic water services on behalf of the

relevant district authority and recipient community. The institutional arrangements for the community water management committee were highly influential in local domestic water governance. These community administrations are overseen by local water consumers, who shaped their own rules, strategies, plans, by laws and rights to govern domestic water services through self-management and collective action.

## 7.5 Kabuku Water User Association (KWUA) CBWSOs

Kabuku Water User Association (KWUA) is a registered CBWSO in Kabuku small town. KWUA is responsible for the provision and management of domestic water provision in Kabuku small town, using a rehabilitated public pipe system. The domestic water provision is gravity-fed and has been extended progressively to serve part of the small town. They financially sustain themselves by charging households who wish to connect and sell domestic water by the bucket at communal water points in Kabuku small town. Though, the provision and charge of domestic water are such that its use is confined to domestic determinations only – no water is regularly available for animal keeping or irrigation. Kabuku Water User Association is part of the bigger water supply project operated by HTMWSA in combination with the district utility provider. KWUA is typically a group of ten (10) members elected by the community to be accountable for communal domestic water management. The association has a formal institutional arrangement, with a chair and treasurer, and a 50:50 gender balance among representatives is formalised in the constitution and appears to be observed. Figure 15 presents the structure of the water user association in Kabuku small town.

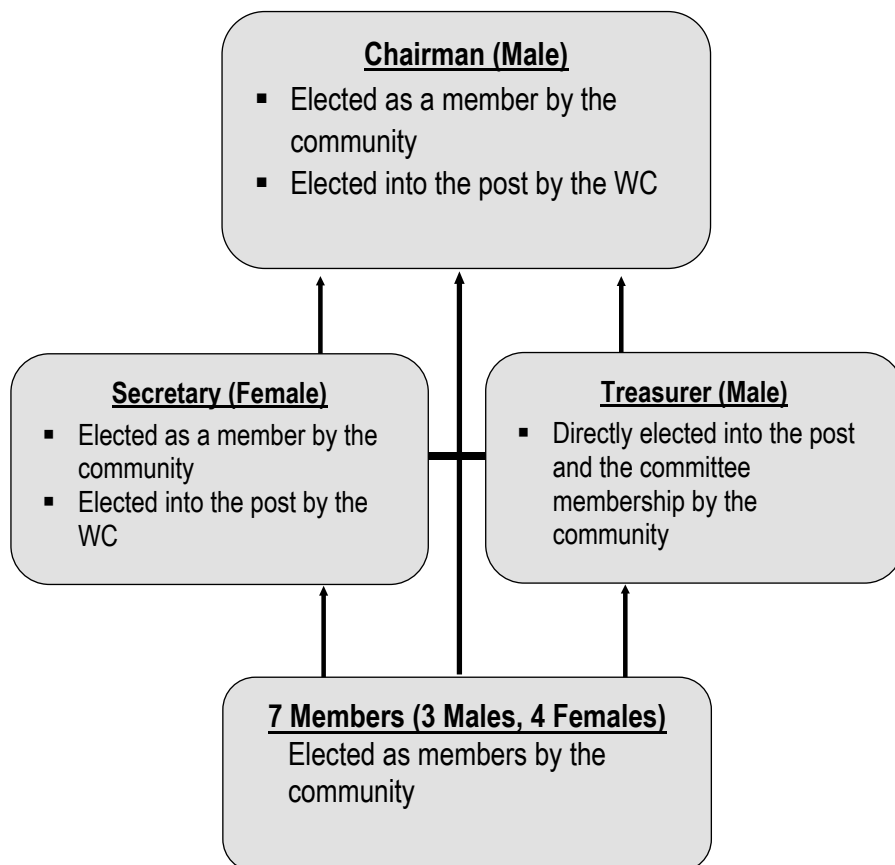


Figure 15. Kabuku Water User Association (KWUA) Structure and Composition.  
Source: Fieldwork, July 2018

The KWUA is organised into three core institutional stages which include: the sub-wards, the ward and the district levels. These levels create a hierarchy that comprises a chain of responsibility based on the structure of water management committees (WMCs). At the settlement level, the organisation is comprised of the water management committees of the communal water vendors and the sub-ward committee for the service area. Beyond the settlement, there are the ward level and the district authority level, as presented in figure 16.

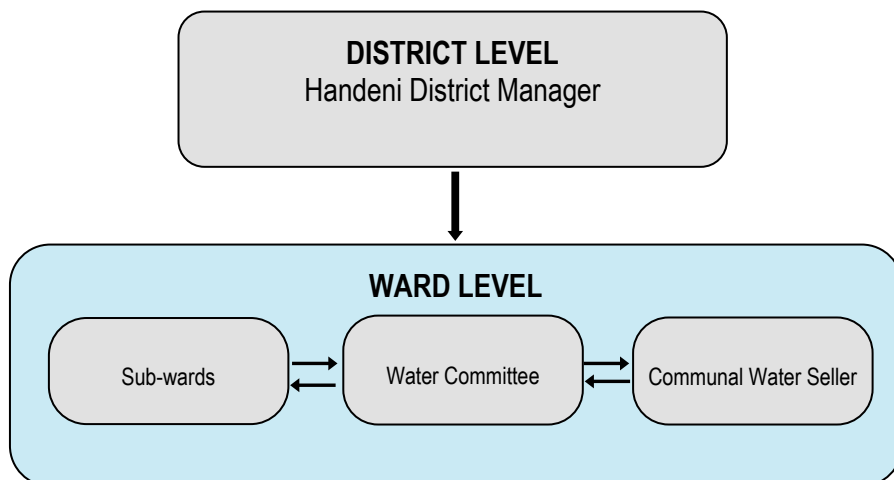


Figure 16. Institutional levels for Kabuku Water User Association (KWUA)-CBWSOs.  
Source: Fieldwork, July 2018

These institutional levels also constitute the key levels at which interactions are taking place among local actors in the governance of communal domestic water. The communal water management is organised into the same levels that are also used for the local government management structure. The use of this already established structure of local government administration has so far proven to be advantageous for domestic water governance, as far as there is enforcement of rules and regulations for the communal domestic water services. Consequently, it transpired that to become an association member, one should have the following qualifications: be aged 18 and above, be able to read and write, be accepted by the community, be trustworthy, patient, and ready to volunteer. Tolerance is obligatory because whenever the water service is not available to meet the community's expectations, the KWUA members are among the first to be answerable, even when the challenges are not their fault.

According to the community water management committee leader and focus group discussion, it was revealed that readiness to volunteer is significant since members of the water user association receive little reimbursement for their time. The study recognised that some members of the water user association protested the absence of motivation or incentive to carry out their responsibilities. Other members accepted the fact that it was a social duty to serve the community. They, however, had other tasks and

activities to engage in which were considered more beneficial. The water user association meets once a month and convenes extra meetings in case of emergency. The water user association has both technical and financial responsibilities. They supervise communal water points, ensure there is enough water at the communal water points, collect water fees from water users, deposit the revenues at the water fund bank account at HTMWSA and monitor whether the revenues reflect the quantity of water pumped and sold. Also, the association members receive training for one day by facilitators from the RUWASA and HTMWSA offices. Generally, the training is focused on the management of communal water points, safeguarding water resources, and how to carry out minor maintenance and safeguard cleanliness around the water storage tank. However, the findings reveal that the management of communal domestic water points was constrained by institutional and technical capacity gaps among water user associations. A lack of understanding of the institutions frustrated association members' capability to manage their domestic water arrangement.

As was stipulated by the NAWAPO of 2023, water user associations are accountable for engaging the community in financing, administrative and technical activities. They also monitor and oversee water operations, and decision-making on the everyday water system operations. These requirements assume that association members have adequate technical and financial skills. Otherwise, they would hardly be in a position to coordinate and supervise the communal water workers. Not only did the associations have insufficient capacity to guide appropriate monitoring and coordination, but the work of the domestic water management committee also was not compensated with a reasonable wage, leaving little to motivate members for their struggles. Besides, members of the water user association obtained only an allowance for appearing in meetings, and even this stipend depended on the availability of financial resources.

The voluntary nature of the position and absence of payment clarify why more technically savvy and administratively experienced community members failed to move forward to take this responsibility. The mismatch between the technical requirements and real capacities of the water user association was worsened by the absence of sustained training to permit them to implement their tasks adequately. However, it has been observed that for some parts of Kabuku small town, water user associations are the solution to domestic water services problems by generally serving as a bridge between

the local community and the RUWASA District Manager and HTMWSA. The associations are not without challenges. They vary from formal groups which are set up by the community to resolve explicit challenges, to people operating informally to fill a public water deficit that is incapable of encountering water demand in Kabuku small town. However, insufficient financial support and deficiencies in guidelines can constrain these associations from realising their objectives and being able to create local-level strategies and innovation that can be incorporated into larger development plans. Furthermore, it was found that the association lacks the essential oversight to ensure that its revenues are consumed properly. Thus, the strength of the communal water user association is their independence from the HTMWSA, but their challenge is a lack of resources and capacity to successfully meet their objectives such as increasing provision and strengthening domestic water governance in Kabuku small town. Besides, it has been observed that most community members cannot be served equally by community water programmes as the programmes do not supply enough domestic water to the household.

## 7.6 Stationary Communal Water Vendors

Communal Water Vendors are the households responsible for handling the communal water standpipes constructed by the HTMWSA in Kabuku small town. They have two key accountabilities which include: monitoring the opening and closing of communal standpipes and collecting cash from water consumers when they collect water. Revenue gatherers then collect everyday sales earnings from the communal water seller. In response, the communal water seller obtains a 15%-20% commission on the quantity of domestic water sold. However, it has been observed that for some parts of Kabuku small town, communal water vendors are the answer to Kabuku small town domestic water services provision problems. Water vendors are not without challenges. The findings reveal that the introduction of new technologies (from flat rate to metered consumption) made the management of domestic water more hygienic and easier than with the boreholes and hand-dug wells which existed earlier. Nevertheless, these benefits and the new technologies applied in the communal water provision systems brought technical complications to the communal water seller. For example, a water meter was mounted onto all five (5) communal taps to measure and control the water

supply to each communal water tap. Plate 4 shows the condition of the water tap used by the communal water vendor to resell water.



Plate 5. Water Tap Used by Communal Water Vendor for Reselling Domestic Water.  
Source: Fieldwork, July 2018

This implies that water vendors had to have some elementary education to be able to understand and report domestic water meter readings and therefore provide interpretation for all water retailed. The findings of this study found that the educational level of the three (3) communal water vendors was insufficient to fulfil this duty. This caused tension and clashes between the communal water vendors and the revenue collectors, as inconsistencies regularly emerged between estimated remunerations and actual remunerations from water sales. The communal water vendors felt that the revenue collectors were taking advantage of their illiteracy to cheat them, while the revenue collectors were under the impression that the communal water vendors were pretending illiteracy, using ignorance as a justification to avoid their duties and cheat. These findings were confirmed by one communal water seller who remarked:

We have not been trained on how the water meter works and therefore do not understand how the water meter works. We know our roles and responsibilities, such as not giving free water, collecting money from users on water sold, reducing waste, and not allowing water to overflow. Although we follow this instruction to prevent water loss, we still make losses. This is very frustrating. (Interview with Communal Water Vendor, July 2018)

Following irregular community training in the planning, design, and implementation of domestic water supply, the community members and their community organisations do not have suitable knowledge in the administrative field (such as secretary and treasury skills) and also inadequate technical expertise. This reduced community supervision of the domestic water supply facilities and rendered them dependent on the RUWASA and the HTMWSA for domestic water provision. Therefore, there should be mechanisms to ensure all stakeholders, including community members, are fully involved in making social and economic decisions affecting domestic water supply.

## 7.7 Mobile Water Vendors and Stationary Individual Water Vendors

Due to the challenge of the inability of most households of Kabuku small town to have access to the public piped water distributions, the majority have reverted to indirect access through informal water service distribution such as mobile water vendors and individual water vendors. Mobile water vendors in Kabuku small town consist of a few enterprising individual members of the community, who diversify their livelihood strategies in selling domestic water to generate income while meeting community water needs. On the one hand, mobile water vendors play quite a significant role in Kabuku small town. This study found that 30% of the interviewees identified that mobile water vendors supply domestic water in their community. Mobile water vending in Kabuku small town involves obtaining domestic water from a variety of water sources, mostly from owners of individual water connections, but sometimes from free open shallow wells, and buying from communal domestic water points.

The finding of this study also found that 70% of mobile water vendors in Kabuku small town are retail water vendors who are typically males (75%),



and a few females (25%), and who distribute water door-to-door to households with bicycles, motorcycles, and pushcarts to supply domestic water to already known customers. Mobile water vending which operates in a regulatory vacuum is emerging as an alternative strategy for domestic water provision in a small town, especially on the periphery of Kabuku small town where the area has unreliable public domestic water supply networks.

#### 7.7.1 Financial Resource Mobilisation for Mobile Water Vendors

While both the cost and quality of domestic water provision by mobile water vendors have been problematic for the users, the findings of this study reveal that there are disparities in domestic water charges among sub-wards. The sub-wards which are located on the periphery of Kabuku small town had slightly higher charges with significant differences – TZS 100–500 (US\$ 0.04-0.24) for a 20-litre bucket. Nevertheless, it is widely acknowledged by the households that the providers play a significant role in areas and groups of the community outside the reach of the public water supply network. Mobile water vendors were also confronted with problems in the course of water service provision to their water users. The finding of this study also revealed that 44% received complaints about high water prices and 23% named poor road conditions as a key hindrance in their work to sell water. Nuisance by local government authorities was also a main challenge described by 19% of the respondents. 14% of the respondents experienced a main upsurge in water user demand. These problems perceived by water vendors still point out a vital connection to the water provision and prevailing institutional arrangements in the community.

#### 7.7.2 Institutional Arrangements for Stationary Individual Water Vendors

Similarly, an individual water vendor is a stationary vending setting, characteristically operated by an attendant, where domestic water is retailed or supplied by HTMWSA through individual standpipes. The individual water vendors in Kabuku small town rely on water from the HTMWSA which formed an important part of the domestic water supply in the small town. The findings of this study revealed that 70% of individual water vendors in Kabuku small town are household water resellers or simply neighbours or water-selling households. They sell domestic water to other households and to distributing vendors. These operators sell water on an

everyday basis in small amounts, ranging from 20 to 100 litres of water to an average of 20 households. The households connected to the public water system normally pay flat rates to the water agent and the amount of domestic water sold does not affect the household's monthly bill. The operation of individual water vendors is unofficially reselling domestic water from the HTMWSA network connection.

Therefore, the operation of individual water vendors has no legal status. The findings of this study further indicate that domestic water obtained from individual water vendors is used for drinking and cooking, as it is trusted as safe and clean compared to that supplied by mobile water vendors where the sources cannot be established. However, individual water vendors' business appears to be limited to low and middle-income households.

### 7.7.3 Financial Resources Mobilisation for Individual and Communal Water Vendors

Domestic water provision costs money and depending on the technology requires a relatively large sum of upfronting capital. The individual and communal water vendors have to raise funds for their operation. According to individual and communal water vendors, there are two main ways participating communities have collected and raised funds for their domestic water systems. To raise money, they depend on being involved in other commercial activities such as retail and wholesale business, agricultural activities and collecting water user fees. Regarding water connection, from the findings of this study, individual water connections and communal water points are more financially capable of supporting the domestic water supply rather than the mobile water vendors. Individual water connection costs around 300,000 TZS or \$ 131.28, while communal water point vendors capitalise around 200,000 TZS or \$ 87.52. The regular financial investment of mobile water vendors was low, which is around 100,000 TZS or \$ 43.76.

The domestic water provision abilities of mobile water vendors, communal water vendors, and individual water vendors were restricted to their direct neighbours due to the inadequate capacity of financial resources to provide water services and expand provision coverage. This can be presumed from the fact that these domestic water vendors engaged not originally as profitable domestic water operators, but rather as a network of self-help in Kabuku small town in reaction to their own domestic water requirements. Technically, individual and communal water vendors were

perceived as devising local innovation, applying local technology, knowledge and skills in reaction to the domestic water requirements of the households through selling domestic water. However, though not formally prearranged, individual water vendors are more connected and collaborate in the public water provision system.

The action of familiarity served as a main advantage in the functioning of the informal water service provider. Domestic water vendors are reactive not only to the inabilities of one another, but also to their water consumers. Though individual water vendors' deficiency can impact water consumers for domestic water supply, they are more reactive to the domestic water demands of water consumers with whom they have established a relationship even in periods of unpredictable domestic water. However, this was perceived as a fundamental institutional aptitude for supporting domestic water service governance. Local actors usually establish relationships with water users who can often pay for the charges of the domestic water provided.

#### 7.7.4 Motivation for Mobile Water Vendors and Stationary Individual Water Vendors

Regarding the motives of domestic water, mobile vendors and individual water vendors in selecting their focus, and how it is regularly bounded within the entrepreneurialism versus survivalism discussion, one mobile water vendor stated:

I have lived in this town, and it has been difficult, and conditions have always been difficult. But now because of the number of people, I must say the conditions are worse and more common. I am lucky, I have my water tap so I wanted to help my neighbours. I now sell my water to neighbours when there are no services, but I make sure that I do not make any money. (Interview with Mobile Water Vendor, July 2018)

Similarly, the individual water vendor, when delineating her motivations, clarified:

Domestic water services are so important to every household. We need it for domestic purposes such as preparing food, drinking, and washing our bodies and

clothes. But there is not enough water for domestic purposes, so this is why I started selling domestic water to households close to me for the same as what I pay. (Interview with Individual Water Vendor, July 2018)

These two instances highlight how the choice to become an individual water seller and mobile water vendor can be the outcome of an innate readiness to help other community members, something that is rarely mentioned in the prevailing domestic water governance scholarship. There is, though, an additional common denominator with these two instances. The two interviewees referred to the fact that they are in a good situation financially and have extra sources of household revenue to be able to engage in domestic water provision. They can charge water users a similar price per unit of volume to what they pay their service provider, just to cover their charges. On occasions, domestic water users tip or pay these two water operators a small sum in addition to what is charged, as a gesture of appreciation for permitting them to allocate the money for other household requirements. This leads to reflection upon the comprehensively described motives for becoming individual domestic water operators that emerge from the information gathering: survivalism. Again, individual water vendors and mobile water vendors enter the unregulated water market as an act of entrepreneurship. The respondent outlined how they engaged in selling domestic water services to generate urgently needed income.

One of the examples of an interviewee specified survivalist motives for engaging in domestic water provision activities – he remarked:

I am a primary school teacher, and my salary is not enough to cater to my everyday needs. So, I decided to start selling domestic water from our individual tap to get extra income to assist the family. I try to charge the water fairly, as the money is still good and I have reliable water users. (Interview with Individual Water Vendor, July 2018)

It is exciting to document that, though the respondents did indeed display survivalist intentions in involving informal water market activities at the outset, both also seemed to move towards more of a commercial means of thinking in their decision to proceed with selling domestic water services. The findings reveal that 75% of the individual water seller respondents

referred to monetary benefit as their fundamental motivation for becoming domestic water operators in Kabuku small town. Though unregulated, it became clear in almost all the discussions and at different stages of the observation with these individual water vendors and mobile water vendors that they have sound information about the multifaceted water market in Kabuku small town.

Furthermore, this study found that 60% of individual water vendors and mobile water vendors have turned their first-hand practices of domestic water scarcities as inhabitants into a commercial reality, highlighting the continual shifting of the RUWASA and the HTMWSA domestic water coverage loophole left by the public water system, and filling it accordingly. In other words, respondents identified the community water market loophole and replaced it. Although the mobile water vendors and individual water vendors are foremost in the provision of domestic water services in Kabuku small town, the way the provision is implemented presents a risk of denying access to a broader segment of the households in the small town.

It can also be a source of unfair water charges, which makes domestic water services high-priced and inaccessible for most of the low and medium-income population in the small town. The rules governing this type of informal water services provision are negotiated purely and privately between the service provider and the water consumer. These service operators are not regulated or watched by any institution at either the community or district level. This presents as a sign of a lack of responsibility and accountability of the RUWASA and the HTMWSA.

## **7.8 Men and Women's Participation in Domestic Water Governance**

This subsection discusses gender and water governance, emphasising the importance of gender equity as a sub-principle of responsiveness. This is followed by an exploration of the gender issues in water governance, covering two main facets: access to domestic water and participation in decision-making processes. Generally, it was observed that the gendered division of labour is a main factor that shapes domestic water governance within the households and community in Kabuku small town. In this study, intra- and extra-household divisions of labour were examined in terms of who does what in issues related to domestic water governance within and

outside the household. The study found that 85% of women were participating in the preparation of utensils for fetching domestic water, while 87 % were fetching water for domestic uses, 68% treating water, and 70% were responsible for clearing water storage facilities. All of these domestic water-related activities rest within the intra-household domain which is normally considered the women's domain. It was also found that to a greater extent girls (70%) compared to boys were also participating in these activities, particularly in female-headed compared to male-headed households. Thus, fetching water and managing it at a household level was considered as the duty of women.

In contrast to this, the study found that 72 % of men were mostly involved in paying for water charges, 82 % participated in domestic water development activities and fetching water for economic purposes – the activities which were recognised as the men's domain. One woman in the Women Focus Group discussion affirms these beliefs:

Males or boys do not fetch water for domestic purposes because that is not their duty. They can only fetch water as an additional job to increase their daily income and other financial gains. (Women Focus Group Discussion, July 2018)

The study found that there were few female water vendors (25%) in the town as this was thought to be too energetic an activity for women; most of the mobile water vendors were men (75%). As revealed in the Women Focus Group Discussion:

We have a few female mobile water vendor in our town. It is difficult for a woman to be a mobile water vendor, since pushing a bicycle entails a lot of energy that women do not have. Only men can manage to be mobile water vendors. (Women Focus Group Discussion, July 2018)

This demonstrates that women and girls disproportionally encounter notable challenges of domestic water fetching activities within the household compared to men. Among the women respondents, 48 households from the women's group and three from the girl's group contemplate water fetching activities as high-level challenges, demonstrating a significant inequality compared to male respondents (1 and 5 individuals, respectively). Besides,

the disproportionate burden is borne by women due to the time-consuming nature of fetching domestic water, which adversely affects their ability to participate in other economic activities. This is demonstrated by the main insight among women respondents, with 19 households from the women's group and 3 households from the girl's group, considering water fetching activities as high-level challenges. In contrast, male respondents described a significantly lower level of concern, with only 2 individuals in each group. It was also found during focus group discussions that mostly women were accountable for the preparation and cleaning of water storage facilities, specifically buckets, water storage facilities and fetching water while men in some scenarios were accountable for fetching water for economic purposes and paying domestic water bills. One woman stated:

We are the ones accountable for fetching water for domestic purposes. You have to be involved in small business to get money for buying water. Daily, I have to buy two buckets of water. A bucket of water with a capacity of 20 litres costs Tshs. 500. On a few occasions particularly in the dry season my husband assisted us in collecting water through his bicycle. (Women Focus Group Discussion, July 2018)

However, the findings from the focus group discussion found that changes within the community affected the household gender division of labour in domestic water access and governance. It was found that both boys and girls were engaged in domestic water supply activities. One member remarked:

All of my children assist each other in the preparation of utensils for storage of water and in fetching water for domestic purposes. Each day they wake up at 5 a.m. On occasions, the boys are responsible for collecting water while the girls are in charge of preparing breakfast and cleaning the house compound. The following day, the girls fetch water while the boys prepare breakfast and clean the house compound. (Women Focus Group Discussion, July 2018)

This indicates that women serve as the main suppliers of domestic water in the community owing to the socially created division of labour regardless of slight changes in the household division of labour between boys and girls. This reflects previous explanations elsewhere that men and women have

divergent roles and responsibilities concerning water provision and governance owing to the social norms which structure intra-household divisions of labour and the gender power relations at household and community levels. The study also found the crucial role played by family authority relations and property relations in guiding the gender division of labour within the household, which in turn impacts access to household resources including the use of household labour. It was further found that a household's geographical proximity to the water source is a context-specific indicator of domestic water governance in the town, and it is also likely to worsen women's and girls' burden due to the gendered division of labour within the household and town.

## 7.9 Power Relation Between Men and Women in Domestic Water Governance

Power relations in domestic water governance were examined in this study by questioning who makes decisions for diverse domestic water-related activities at the household level. The findings display that 85% of the women were involved in decisions for when to fetch water, 82% participated in choosing the type of water source, 75% decided on containers to be used, 83% the amount of water to be collected, 90% fetched water and 70% were involved in water treatment methods. It was also further reported by the FGDs that men were responsible for fetching water for economic purposes and paying water bills for domestic purposes. One woman remarked:

Money for buying water from the water tap is being paid by my husband. When he doesn't have any money, I fetch water from other alternative water sources such as rivers and shallow wells. (Women Focus Group Discussion, July 2018)

This implies that a household power relation regarding access to domestic water within and outside the household is linked to traditionally assigned roles in a particular community. The findings of this study show that non-monetary decisions on access to domestic water are assigned to women while monetary decisions are assigned to men. This implies that men's decision-making powers in the household increase by the level of importance to



household income as opposed to women whose decision-making power is more related to household management activities.

## 7.10 Chapter Summary

The foregoing discussion in this chapter has shown that various actors influence domestic water governance in Kabuku small town. However, from the results, the RUWASA and the HTMWSA appear to lack the capacity to effectively govern domestic water services in the small town. The findings of this study show that the RUWASA continues to greatly depend on the central government's financial support for the provision and governance of domestic water services to the inhabitants in the researched community. With the increasing inspiration of multiple local actors (formal and informal) in domestic water services governance, and some even becoming key in domestic water services provision practice, their roles and responsibilities cannot be constantly overlooked and confidence to resolve domestic water services disparities are increasing across the small town.

Regarding representation in local water governance, the study found that most of the key local level water actors such as the community water management committee, water user associations, mobile and stationary water vendors, wards and sub-wards are the more privileged men. It has been further found that these actors use their power, positions and roles to determine and affect the participation of women and men in local domestic water governance institutions.

This leads to the final claim, that domestic water governance in contemporary Kabuku small town illuminates a paradox of multi-actor service providers. Besides, informal local actors alone cannot be left to provide the services abandoned by the formal market. The strength of informal local actors, their independence from the central government and originating in the community, is also their weakness.



## 8 Unpacking Institutional Dynamics Influencing Domestic Water Governance in Kabuku Small Town

### 8.1 Introduction

This chapter analyses institutional dynamics influencing domestic water governance in Kabuku small town. Based on the study findings, the identified institutional dynamics include enforcement of regulative instruments, local actors' transparency and accountability, a network of information sharing, collaborations and coalition building. Other institutional dynamics are institutional capacity of local actors and the existence of old and new institutional arrangements in domestic water governance in Kabuku small town. These institutional dynamics are hereby discussed.

### 8.2 Enforcement of Regulative Instruments

The establishment of the RUWASA at the district level was viewed as a critical approach identified by several stakeholders as a possible path forward for improving rural water system delivery and sustainability at the district level. However, it was observed that in Kabuku small town there is still an enforcement gap for effective regulation of rural water service delivery quality, standards, or tariffs.

The Water Supply and Sanitation Act (2019) assigns the RUWASA the functions of monitoring, regulating, and technically backstopping CBWSOs that are responsible for operating and maintaining water systems. The RUWASA role in regulation has gaps in implementation, including

enforcing effective operations and maintenance of installed domestic water services infrastructure.

This study found that EWURA does not have direct regulatory oversight of CBWSOs. The proposed structure is for each CBWSO to obtain an operator's licence from the RUWASA that assigns operational responsibilities to the CBWSO and technical support, backstopping, and regulatory oversight responsibilities to the RUWASA. EWURA can use its well-developed knowledge of regulation to assist the RUWASA to implement its CBWSOs, expressing a high demand for formal linkages with the RUWASA through a form of a contract to receive continuous technical backstopping, but there seems to be a challenge on the supply side of and on the part of RUWASA in meeting that expectation.

The RUWASA District Managers interviewed attributed this to inadequate staffing, equipment, and funding for extension support for operation and maintenance beyond the infrastructure development rehabilitation budgets. Also, the interviewed district water manager mentioned only having one vehicle and few technicians to provide what was expected. There is an increased importance on enhancing coordination and collaboration between the RUWASA and District Council Departments to ensure effective and efficient domestic water services provision and governance.

Again, the community water management committee's scope excludes control over water service operators such as individual water vendors and mobile water vendors. Although mobile water vendors and individual water vendors are foremost in the provision and governance of domestic water in small towns, the way the water provision is administered creates a danger of not providing access to a wider segment of the inhabitants in small town. These individual stationary and mobile vendors service operators are neither legalised nor controlled by any organisation at the local or district level. Similarly, the study found that there is a weak enforcement of community by-laws by water user associations to regulate the operation of the communal water points. It was observed that there were weak enforcement mechanisms of instructions and principles controlling the schedule of opening the communal and individual water points. Communal and individual water vendors attended to standpipes at their own expediency, and consequently, some households could not access to water when they required it. For this reason, some populations were forced to collect domestic water from insecure sources.

### 8.3 Local Actors' Transparency and Accountability

This study also identified challenging trade-offs between efficiency and participation in domestic water governance. The most prominent effect of the establishment of the RUWASA is the reduction of spaces for local actors' representation and participation in domestic water governance.

The study found that the disconnect between the centralised RUWASA led water sector planning and the district council reduced the spaces for public participation in water issues and for linking water to the multifaceted nature of livelihoods in practice. However, when combined with the limited financial resources of the RUWASA, the previous district-led approach of domestic water provision could (and often did) lead to a failure of effective action.

Again, since transparency and accountability are governed by a regulatory framework, poor adherence and enforcement of the latter negatively affect transparency and accountability, implying weak domestic water governance in the small town. The water legislation provides for clear institutional arrangements and accountability channels for *inter alia* local actors' participation in domestic water governance.

In accordance with this, each local actor has to possess a licence of water provision from the regulatory authority and operate as individual water vendors and mobile water vendors upon being contracted by the district water authority. Both of those legal requirements are not adhered to and neither the HTMWSA nor the RUWASA enforces them. As a result, the responsibility of the local actors in Kabuku small town is not supervised or monitored. In the apparent absence of an accountability chain, it is not strange that transparency is also poor or limited in domestic water governance. The individual water vendors and mobile water vendors operate without having to answer to the key water supply institutions which are the HTMWSA and the RUWASA. Issues like tariff rate determination, water quality and customer services remain solely under the individual water vendors and mobile water vendors. As such, the key actors in the water sectors do not have important information on the operations of communal, individual, and mobile water vendors. Since the HTMWSA and the RUWASA do not undertake follow-ups on communal, individual, and mobile water vendors, they operate much more freely. Consequently, the chain of accountability as provided for by the domestic water sector's legislation is broken. Logically, the local water actors are accountable to no

one. They also remain transparent for no one in the process of domestic water governance.

## 8.4 Network of Information Sharing

The study found that communication among the HTMWSA was seen as restricted to the requirements of edicts where the actors are forced to be involved as a matter of lawful obligation, and not due to the free will and gratitude of the need to exchange data regarding the planning and operation of domestic water governance. The common means of communication is through letters, memos, phone calls, and face-to-face discussions with the RUWASA District Manager, ward and sub-ward workplaces. The findings reveal that there is continual data sharing within the network among government operators, the HTMWSA, community water management committees, communal and individual water vendors who are connected to public pipe networks. Communication between the RUWASA District Manager-mandated water service providers such as the HTMWSA, and the community water management committee arose very powerfully in the discussions as more regular and exhaustive.

The type of interaction that occurs centres on follow-ups on the water charges. For instance, the HTMWSA occasionally has to write a letter to the water management committee requesting reimbursement of domestic water withdrawal fees owed to the authority. This indicates that the interaction is infrequent and grounded on obligation. Again, the relationship among communal domestic water point vendors is another situation that demonstrates how inadequate interaction in the form of communication can impact consistency and the charge of domestic water services to the community.

## 8.5 Collaboration and Coalition Building

At the district level, domestic water services are technically led by an RUWASA District Manager (DM). The rural water and sanitation focuses on the goals set in the water sector development plan, while district councils use the ministry of finance and planning's guidelines for the preparation of plans and budgets. This has implications for domestic water projects and governance as siloed budgets are harder to pool together. The study also

found that another effect of dissociating the district councils from the RUWASA budget is that Handeni district departments can no longer implement joint activities related to domestic water provision and governance. Former water departments used to receive larger budgets that supported counterparts in other departments with insufficient budgets to realise some of their objectives. Currently, with the RUWASA the District Manager oversees domestic water independently. District environment and community development departments can no longer provide training and conduct regular monitoring of domestic water infrastructure conditions. From an institutional and governance perspective, the physical disconnection of other actors at the district level sabotages their capacity to collaborate, interact, share research and learning or explain plans for a particular issue related to domestic water governance in small town.

However, from decentralised governance perspectives, it is assumed that corporations and coordination networks of diverse expert groups and providers would improve competence. This study found that uncoordinated behaviour among the RUWASA, the HTMWSA and the Handeni district departments undermines the efficiency of domestic water provision and governance. This uncoordinated behaviour could weaken the capability to produce necessary achievements in the governance of public domestic water in Kabuku small town.

At the community level, communal water vendors neither have a platform that brings them together nor do they interconnect with one another. There are instances when most of the communal and individual water vendors within a particular part of the sub-set close their communal domestic water points at the same time. This situation leads to the community around that area being without a source of domestic water henceforth impacting the regularity of water obtainability. One respondent of the communal water vendors remarked:

There is no such arrangement. If I get busy, I just close and go to my business. Sometimes you find almost every communal water point around here is closed. That means the households will have a problem with finding domestic water services. So, they have to travel long distances to search for water. (Interview with Communal Water Vendor, July 2018)

Generally, this study found that individual and communal water vendors acknowledge a comparatively inadequate or absence of communication among themselves. Most of these actors perceive one another as commercial competitors with nothing else to be involved in. However, interaction only happens when an individual or communal tap is dry and there is a requirement to monitor if the other household's water is flowing so that the seller can direct community fetching for domestic water to the area. As such, the content of the interaction is less detailed. Among the mobile water vendor actors, it was revealed that there is not only the presence of communication but also a more regular and comprehensive interaction among them, particularly those within the same network. Mobile water vendors constantly communicate through phone calls. The contents of these communications include knowledge sharing about the location of water sources, the availability of customers, and updates on the price of water.

The findings of this study also identified that sometimes domestic water was charged differently by different mobile water vendors and price estimation depended on the vendors' conditions for measuring a 20-litre bucket or gallon which was very personal. These matters gave rise to a lot of concerns from the households. Thus, the nature and levels of interaction reflected in low levels of communication and the lack of active partnerships and coalitions have also weakened the exchange of information and technology that have the positive effect of advancing domestic water provision and definitive domestic water governance. Mobile water vendors and communal water vendors revealed inadequate skills and knowledge transfer through the water supply network. Even though some of the individual water vendors who own private wells appear to have improved strategies and techniques for domestic water service provision to the community. Other service providers are constantly applying ineffective techniques such as relying on communal water networks. When asked about their view on this, the study found out that 50% of the water vendor respondents articulated an assertion that it is due to inadequate connections among the local actors which similarly seems to generate a lot of doubt. Both formal and informal local actors act as if they compete among themselves rather than having the opinion that they are all operating towards domestic water services governance for a similar community. As a consequence, they do not exchange ideas, information, skills and technologies that would then strengthen domestic water governance in Kabuku small town. Nevertheless,



it was observed that domestic water service providers who demonstrate features of interaction among themselves have been able to attain a lot of achievement in household domestic water services provided through the exchanging of ideas, information, skills and technologies. For instance, the cooperation between the water management committee of Kabuku Ndani and the HTMWSA facilitated the adoption of domestic water metering technology that not only decreased the price of water for the community but also ensured better revenue collection by the water service operator.

Lack of interaction among service providers was also found to be an obstacle to inter-service operators' understanding and conflict resolution. When local actors do not closely operate collectively, they fail to understand one another in terms of planning, implementation and problems, making it problematic to address any conflicts when they emerge and accordingly this impacts domestic water governance. For example, it was found that at some point communal water vendors of Kabuku Ndani, due to some financial limitations they were experiencing, were unsuccessful in paying their water abstraction bills to the HTMWSA administration for three (3) months. However, since the HTMWSA was not acquainted with the financial problems encountered by the communal water seller, they prevented the provider from abstracting water for the whole two weeks when the conflict was on. Households who depended on communal water points did not have domestic water flowing in their taps, hence weakening domestic water obtainability.

Therefore, it has been revealed by this study that interaction among the local actors such as individual, communal, and mobile water vendors that work towards domestic governance in Kabuku small town is poor and of a low level and is more restricted to responsibility than gratitude of the worth of local actor cooperation. This adds to the general impression of poor and ineffective interaction among local actors at both the local and district levels. Furthermore, the challenge confronting the water user association is with the volunteer based nature of administration. By regulations, the actions of the local level water user association and domestic water vendors are voluntary. The opportunity costs are the monetary and other improvement members would forgo to participate in the activities of the committee. The study found that members' reluctance to invest their time in the work of the water association committees was partially because there were very few incentives for them to participate in the communal water committee.

## 8.6 Institutional Capacity of Local Actors

The study found that the unionised network of action was identified as being valuable in restructuring water charges and nurturing cooperation with the HTMWSA and the RUWASA officers for domestic water governance. The mobile water vendors expressed less interest in union factors – rather, local water operators revealed that an amalgamated function would restrict them and diminish revenues from their processes due to the diverse sources from which they haul domestic water for sale. Among all other aspects, the absence of registration, association, and technical abilities were identified not only as a negative for domestic water governance, but also as a constraint in obtaining financial support from formal credit institutions and advancing and sustaining provision coverage to other unattended populations in Kabuku small town.

Notwithstanding, the study found that individual and communal water vendors hold important information on local norms and values of domestic water supply requirements in the small town. Individual water vendors provide water to households out of necessity, but without instant cash. They validate readiness to undertake operations by the regular provision of domestic water in the small town. Generally, it has been observed that a comprehensive network of informal domestic water governance capacities occurs within the formal domestic water supply networks, where the capacities of the individual, communal, and mobile water vendors depend on the formal water supply infrastructure. These actors utilise the technologies of the formal domestic water infrastructure, such as formal water networks and electricity for domestic water distribution in Kabuku small town. Individual, communal, and mobile water vendors help fulfil not only the requirements of the community but also act as complementary formal actors to the public domestic water supply system in Kabuku small town.

## 8.7 The Existence of Old and New Institutional Arrangements at the Local Level

Currently, the RUWASA facilitates the establishment of CBWSOs in Handeni District. However, the study found that until they start functioning, the old institutional arrangements remain widely used in Kabuku small town. Elected water committees keep legal authority for financial management, collecting user fees and managing funds for the maintenance and repair of

domestic water infrastructure. The committees are also accountable for the preparation of by-laws and local informal rules for domestic water provision and governance. The study also found that the existing water committees have been inhibiting the challenges of sabotaging their capacity in domestic water provision and governance. The existing water committee members participation in domestic water related issues is time consuming and has no financial reward, and local community elders can be involved in the role without any real interest or capacity for the associated task. As a result, water committee members often fail to attend water related discussions. According to the current institutional framework, water committee members must also comprise female participants, but women are frequently already burdened with other family and economic responsibilities that make their engagement in domestic water governance difficult. This was revealed by one member of the water management committee. She remarked:

[...] I was a member of the water committee for more than one year but often I nearly quit because it was adding a lot to my everyday busy timetable. Many other women like me had to vacate because of family and business commitments. I am a small businesswoman, and I value my business, my business needs me to be available full time, I know community members need a person like me who understands their domestic water needs, but it is hard to continue to be a member of the water committee. (Interview with Water Committee, July 2018)

This study found that the new institutional framework incorporates paid professionals and CBWSOs are anticipated to have better technical knowledge while incorporating local government representatives and other local actors in order to make them accountable. By streamlining communication between water users through experts, their policy objective is to ensure professional, entrepreneurial and efficient financial and technical domestic water provision and governance. However, CBWSOs report to the RUWASA, not to local level elected institutions. This upward accountability withdraws power and diminishes agency from the water users, as they do not establish targets or attainment indicators. Rather, these are the duties of central government officials who have limited ability to feedback on local domestic water services provision and governance issues.

This upward accountability also sabotages subsidiarity, as decisions are made neither at the level where the impacts will be felt nor where most

knowledge rests. Notwithstanding that CBWSOs have to incorporate a representative of both water users and women, they are surpassed by professional appointees. These risks undermine local actors more than technical knowledge. They also marginalise local capacity to provide domestic water and portray local domestic water governance practices within their local social and environmental context. This was revealed by one member of the water management committee. He remarked:

I acknowledge that in previous, our water committees were ineffective. But just contemplate that, for instance, village executive officers are not indigenous from the local areas where they execute their duties and could be transferred at any time. This is a challenge. My perception is that having locals in the water committees adds additional advantages because we know the locality and inhabit in it. So, we are able and willing to contribute the significant local knowledge that is needed to provide and manage domestic water related issues in our community. (Interview with Water Management Committee, July 2018)

From a local institution perspective, the study found that the new local institutional arrangements privilege technical, scientific and managerial skills over local direct experience and accumulated first-hand skills. But rather than build on local ownership and solutions that amalgamate from various perspectives, the new local institutional framework risks driving them away from each other and isolating local communities from the solutions that are being provided. As a result of poor domestic water provision and governance, local actors are more likely to be lacking in collaboration and coordination.

## 8.8 Chapter Summary

This chapter has provided a detailed examination of institutional dynamics that were found to be influencing water governance in Kabuku small town. Importantly, this study noted that the small town is faced with several institutional dynamics that need to be addressed in order to improve water governance in the town. Such dynamics as discussed above range from issues of transparency and accountability, collaboration and coalition building, networks of information sharing, enforcement of regulative instruments and institutional capacity of the local actors themselves.

## 9 Policy Direction to Strengthen the Role of Local Actors in Facilitating Domestic Water Governance in Small Towns

### 9.1 Introduction

This chapter looks at the practices for enhancing the role of local actors in facilitating domestic water governance in small towns. Based on the study findings, a set of practices were captured and these included local actors' participation and access to resources, local actors' motivation, enforcement of regulatory instruments, coalition building, collective institutional arrangements and complementary roles of formal and informal actors. Details on these practices are presented and hereby discussed.

### 9.2 Local Actors' Participation and Access to Resources

The concern of this subsection is to show how local actors' access to resources compels or permits the practices they adopt to engage in domestic water governance. This will enable institutional entrepreneurship scholars to understand what resources enable local actors as institutional entrepreneurs to be involved in institutional entrepreneurship. In turn, this study agreed with the definition suggested by Battilana (2006), and Bakir (2009) who explain that institutional entrepreneurs are individuals or a collective (or networks) who are eager to capitalise their resources to influence a situation in response to predicted forthcoming improvement within a shared context. Based on this explanation, the study found two core factions of local actors displaying some form of institutional entrepreneurship.

The first type is the HTMWSA, comparable to Klein et al. (2010). This kind of institutional entrepreneur comprises resources and knowledge, and their skilful operation had transformative effects on national water policy implementation while also inspiring others to join them through what Fligstein (1997) explained as a social skill. The second category of the institutional entrepreneur includes ward and sub-ward officers, water committees, communal water vendors, individual water vendors, and mobile water vendors, comparable to Jensen and Fersch (2019). This kind of actor is eager to capitalise on the resources created as a means of doing things at a local level for a future return, while aiming towards addressing domestic water challenges. Institutional entrepreneurs' aptitude to engage in alteration and the techniques adopted happen within the boundaries of the obtainable resources and social conditions (Cleaver, 2017). These resources as explained by Giddens (1984) offer the toolkits with which institutional entrepreneurs can affect domestic water provision and governance.

A discrepancy between the capabilities of communal and individual water vendors, their predictable roles and duties, and the absence of commitment and support affected the domestic water governance in the small town. The HTMWSA and the RUWASA have access to resources such as technical expertise, skills, finance, and knowledge on national water policy matters. These actors applied their experts to addressing the technical problems encountered by some of the communal water vendors and individual water vendors in governing domestic water in the small town. The position of the RUWASA as the core technical supervisor for the operation of the domestic water provision implies that it had an intense interest in guaranteeing inclusive domestic water governance in the small town. The HTMWSA as agents, mobilised the essential technical and financial resources to ensure efficient and effective availability of water service and at the same time strengthen the institutional arrangement in domestic water governance they sought (Jensen & Fersch, 2019). This finding is consistent with institutional entrepreneurship scholarships which maintain that institutional entrepreneurs' social skills and expert knowledge facilitate institutional entrepreneurship to happen (Klein et al., 2010; Fligstein, 1997).

Similarly, domestic water governance demands some knowledge and understanding of basic institutional, technological and financial operations. The findings of this study reveal that communal, individual water vendors and mobile water vendors, compared to the HTMWSA and the RUWASA,

had fewer financial and technical resources to engage in domestic water governance. The domestic water provision abilities of mobile water vendors, communal water vendors, and individual water vendors were restricted to their direct neighbours due to the inadequate capacity of financial resources to provide water services and expand provision coverage. This can be presumed from the fact that these domestic water vendors engaged not originally as profitable domestic water operators, but rather as a network of self-help in the small town in reaction to their own domestic water requirements. Fewer financial resources have implications for the institutional alteration predicted under decentralised governance. This study foresees that any additional institutional alterations are likely to be slow and demonstrate slight development in relation to strengthening domestic water governance. Again, as described in the previous sections, most communal water vendors were uneducated, and without formal education or regular capacity-building training.

As a result, the aptitude gaps led to inadequate administration and underachieving water services provision. This impacted the quality of the services provided. For instance, billing was incompetent, records keeping for the water distributed was imperfect, revenue was pilfered and the domestic water storage tank experienced regular collapses. This inhibited their capacity to supervise the operations of communal standpipes, resulting in inconsistencies between the predicted revenues and those collected by the communal water vendors. The training of these actors is an important precondition for them to be competent in technical expertise, skills, finances, and knowledge on national water policy matters to face institutional, financial, and technical challenges in domestic water governance.

However, it is significant to document that actors might pretend ignorance to evade such regulators. This relates to principal-agent theory, which elaborates that agents may benefit from the principal's dimness to escape accountability. Similarly, this study acknowledges that the availability of resources provided for the toolkits with which both the formal and informal actors practise institutional entrepreneurship can affect the existing institutional arrangement to resolve the institutional, technical, and financial challenges (DiMaggio, 1988; Dorado, 2013).

### 9.3 Local Actor Motivation

The key concern of this subsection is to explain factors which motivate or trigger actors' institutional entrepreneurship. The study identifies that motivation differs from one local actor to another in the studied area, basically as influenced by a number of autonomous local actors' institutional arrangements. The ward and sub-ward officers regulate the establishment of the water management committee and water user association to enhance cooperative water governance of the community they serve. This is connected to their social status as leaders liable for organising and directing development actions in the community they administer. These administrative officers have been interested in the aspiration to reaffirm their status as vibrant development agents. This impetus signifies a benevolent action, in line with Helmsing (2016), who maintains that institutional entrepreneurs capitalise their resources to enhance communal development in society.

The HTMWSA was dissatisfied with the performance of the chairperson and revenue collector of the water committee team. In response, the ward and sub-ward officers facilitated the replacement of underperforming members with other trusted nominees. Certainly, as leaders and development agents, the responsibility was on the ward and sub-ward officers to ensure that the water committee was accountable to the community. Here it can be established that prevailing entrenched institutions such as social norms and values influenced ward and sub-ward officers to implement national domestic water rules, bylaws, strategies, and techniques of a particular setting. The connection between the ward officers and the water user committee strengthened the activities and practices of the day-to-day activities of domestic water services governance, which implies that administrative officers with less influence on the local actors did not have a financial or individual curiosity. This finding is corroborated by Jensen and Fersch (2019) and Onsongo (2019) who contend that agents sustain the formation of institutions that they consider to be suitable and allied with the benefit of the society. These actors act strategically to improve the situation by reconfiguring organisational roles and structures.

Notwithstanding, in some situations, ward and sub-ward officers' actions were motivated by financial considerations and individual benefits including employing relatives in domestic water selling positions, and communal standpipes – these were located on their compound or close to their residential areas – and borrowing money from revenue collectors and



consuming water revenues for actions unconnected to domestic water services. Communal and individual water vendors and mobile water vendors were interested in stabilising their financial gains into the future and similarly sought to enhance the provision of domestic water in the small town. The study also observed that some communal and individual water vendors' practices were not always informed by economic motivation but also motivated by the social values and norms to serve the community.

The challenges in accessing domestic water for the majority of the households in the small town place some communal and individual water vendors in a position where their sense of moral obligation came to outweigh their economic interests. The communal and individual water vendors did not want to deviate from the agreed institutional arrangements and responsibility to ensure accessibility and availability of domestic water to the community. The conduct of some of the water vendors in Kabuku small town contradicts the overall insight of other local actors as being little interested in their financial benefit. The examples documented in this subsection are usually in line with other institutional entrepreneur scholarship, highlighting that economic benefits are not the only factor that activate institutional entrepreneurship (Campbell, 2004). The likelihood of local actor engagement is also framed by the institutional logic and social dynamics that define the boundaries of the service provision. Institutional logic refers to broader social norms, values and rules embedded in the local context that structures the cognition of local actors and guide their practices and determines the form of institutional entrepreneurship (Dorado, 2013; Greenwood et al., 2011).

## 9.4 Enforcement of Regulatory Instruments

The findings of this study were that the practice of local actors was characterised by the enforcement of regulatory instruments such as laws, regulations, rules, constitutions, and procedures. This factor was very influential in the domestic water service provision, despite some variations. Weak enforcement of rules on the management of communal and individual water vendors resulted in a situation that implied a loophole leading to the weakening of the institutional practices and strategies adopted by local actors to provide and govern domestic water service in a small town. Likewise, the

findings reveal that ward executive officers collaborated with the HTMWSA and the RUWASA to enforce the governance of domestic water.

Ward executive officers had been liable for decentralised governance and community development at the community level. Given that role, ensuring households had access to domestic water services is within their role and duties and they were currently operationalising that role up to the time of conducting this research. This was perceived as legitimately within the authority of their leadership position. However, ward executive officers' actions demonstrated their capacity to enforce community participation and engagement in the administration and upkeep of the domestic water services and this is in line with the main aspect of agents discussed by Jensen and Fersch (2019), that is they reinforced the formation of institutions that they regarded as applicable and allied with their interests, and they acted strategically to bring improvement to the service provided. Ward executive officers supported the construction of the water storage tank in Kabuku Ndani because it would ensure that households had access to a safe water source and guarantee community access to a reliable domestic water service. These actions of the ward and sub-ward officers were linked to their role and duties as significant improvement brokers to facilitate the development of the inhabitants and add to the wellbeing of citizens within their authority. The net outcome was to develop the ward and sub-ward officers' image and strengthen their control as leaders in the public sphere. Improving the provision of domestic water amenities also advanced the administrative leaders' social status and identity among their peers in neighbouring societies. The current provision of domestic water is associated with innovation and power in terms of access to financial capital, to which not all communities have access. In addition, the findings of this study indicate that the level to which local actors participated in specific actions was dependent on local actors' ability to impose the given institutional framework. For example, enforcement was stricter by revenue collectors for communal domestic water points-imposed interpretations from the water meter to control the revenue predicted from the communal water vendors. Hence, communal water vendors could then make sure that no water is lost to improve revenue collection.

Moreover, it was also observed that in other situations, the enforcement of rules was relaxed as a result of communal and individual water vendors manipulating opening times to be involved in other income generating

activities to supplement their everyday commission remunerations. Besides, as it was observed in this study, there are weak enforcement mechanisms on mobile water vendors and individual water seller operations. These actors are not controlled or supervised by any authority at all levels. As a result, mobile water vendors inflate the water charges so that they can then make more profit from selling domestic water. This results in biased water charges in the small town, which makes quality domestic water services unobtainable to households. Thus, connected to translation scholarship (Mukhtarov, 2014; Whittle et al., 2010), the study demonstrates that the diversity of local actors, with their diverse beliefs, values, customs and identities, is vital in determining the degree to which local actors operate and implement the central government rules, plans, strategies and techniques in domestic water governance in particular settings.

## 9.5 Coalition Building Among Local Actors

The study confirmed that effective institutional entrepreneurship is the outcome of a rectilinear procedure controlled by the arrangements of insufficient local actors. Instead, it is the result of close collaboration and interconnectedness among inter-related actors cutting across diverse institutional restrictions. The HTMWSA is important for institutional entrepreneurs influencing development activities through the design and implementation of strategic solutions. Among the strategies adopted by the RUWASA and HTMWSA officers to resolve the shortfall that had arisen in domestic water governance is allowing different actors to be involved in domestic water provision activities. The findings of this study reveal that the RUWASA and HTMWSA officers used their status as authorities with knowledge, skills and technical capability to find solutions that challenge public domestic water services provision. Indeed, the HTMWSA's engagement with individual water seller actors to provide and manage domestic water services was consistent with the institutional arrangements existing at the period. This study established that the technical aptitude of communal water vendors was deficient to positively succeed in their water provision operation.

To address the technical capacity shortfall, the HTMWSA decided to open the door to small-scale individual actors such as individual water vendors. Though domestic water services provision had initially opted for

community-based management, poor management of the water system makes the HTMWSA's intervention necessary. The HTMWSA adjusts the prevailing institutional arrangements for handling the water operations under informal individual operators, to fit the communities' institutional and technical needs. Adjusting implies altering the procedures and rules that have been taken for granted to respond to institutional stress and procedures (Oliver, 1991). The practices employed by the HTMWSA of changing the institutional arrangements to individual water operators and community-based management can be termed as examples of translation. This provides the credibility needed to push for changes in existing institutional arrangements. The changes made were institutional measures to confirm that individual-based governance and community-based governance is appropriate to the local community and institutional settings to address domestic water governance in a small town.

This study argues that the RUWASA and the HTMWSA not only exploit opportunities for institutional entrepreneurial operations but also act as institutional entrepreneurs by creating the essential institutional arrangements to influence other actors. Following on from the knowledge of institutional work (Lawrence & Suddaby, 2006) this study perceives the RUWASA and the HTMWSA as institutional entrepreneurs possessing technical skills, knowledge and resources to deliberately generate and capture their institutional setting in their authority. As recommended in the institutional scholarship, local actors' gratitude for opportunities to be involved in institutional entrepreneurial exertion was assisted by enabling circumstances such as emergencies, uncertainties, and crises to provide the opportunity to more easily break with the dominant institutional logic (Greenwood & Suddaby, 2006; Battilana et al., 2009). Regarding domestic water governance, uncertainties and crises of domestic water provide opportunities for actors to change established ways of doing things.

Again, it was found that the water management committee employed different strategies to ensure households had reliable access to domestic water services. The water management committee modified existing institutional arrangements to handle the shortfall they encountered. The capacity to adjust institutional arrangements was assisted by the support delivered by the HTMWSA which provided the required technical knowledge and institutional backstopping. Measures included reinforcing power relations through demonstrating their capacity to implement

development creativities by institutionalising community participation and collective action in the operations and upkeep of the water development programmes. Furthermore, it collaborated with HTMWSA to enforce compliance and reconstitute the water association's initial community contribution to water storage tank construction.

Besides, it improved the institutional organisation under communal water governance to deal with the institutional, financial, and technical capacity challenges they faced. The above demonstrates that water management committee strategies and practices have reinforced the establishment of institutions that they regarded as applicable and allied with their welfare (Tina Dacin et al., 2002) and they performed tactically to facilitate institutional alteration in domestic water governance in the small town (Andreasen & Møller-Jensen, 2016). Respectively, communal water vendors, individual water vendors, and water mobile vendors are essential institutional entrepreneurs with straight interactions with water consumers. These actors demonstrate the following activity: they are willing to sustain operations for the regular provision of domestic water in a small town by investing time and money. They also employ local skills and knowledge which are conversant with local reality. In addition, they utilise the technologies of the district's domestic water infrastructure to expand domestic water coverage in the small town.

Linking these practices with institutional entrepreneurship scholarship, these actors demonstrate characteristics and actions of institutional entrepreneurship in times of crisis and emergency. The social skills and technology of institutional entrepreneurs provide a significant role in addressing the challenges in society. However, some proceedings such as technological gaps, and institutional guideline alterations lead to tension, which then provides the incentives for institutional entrepreneurs to set up and participate in alteration (Fligstein, 2001). However, the institutional setting of recipients pressured and fashioned their collaborations and entrenched institutions and also delivered opportunities for local actors to adjust institutions (North, 1990). These institutions are articulated through rules, beliefs, values, identity and social norms which offer opportunities and mechanisms whereby local actors make decisions and implement decisions (Campbell, 2004; North, 1990). In this study too, domestic water actors depended on the prevailing institutions and institutional organisation. They

also improved to suit their local situation and were the social ingredients necessary to strengthen domestic water governance in the small town.

## 9.6 Collective Action Arrangements Among Local Actors

The need for collective action among the local actors is not novel. Prior institutional entrepreneurship scholarship on institutional change illustrates the necessity of collective action among local actors to effect change (Hardy & Maguire, 2008). This section shows that sharing knowledge, skills and resources has been undertaken by different local actors, thereby strengthening domestic water governance in the small town. Although the argument for collective action holds for this study's findings, it happens to differ from one source of water to another in the studied small town. Basically, it has been influenced by the number of autonomous service providers' institutional arrangements. The establishment of the Kabuku Water Association was originally designed to enhance collective capacities and actions within the communities to strengthen inclusive domestic water governance in a small town. The formulation of communal water provision matches the collective nature of the domestic water challenge with a collective reaction. It is clear from this study, and in line with the work of Baksh et al. (2013), that the community demonstrates the extent of communal social norms values and beliefs which promote action cooperation to address domestic water challenges in the small town.

Generally, at the periphery of the small town (human settlement with rural characteristics), the communal setup of domestic water governance was embedded in individual relationships connecting family ties and networks. The communal and individual water vendors possibly had some relationship with most of the households who purchased water from them. These relationships among communal water vendors, mobile water vendors, and water users went beyond domestic water transaction. This advance to a system of self-help governance in response to domestic water needs. They reached into extended family relationships, and denying water users access to domestic water would not be perceived as the right way of dealing with extended family and maintaining social relationships in a small town. Besides, community embedded institutions and practices based on trust and social cohesion dissuaded communal and individual water vendors from engaging in practices that would constrain community members from getting

access to domestic water. However, the fact that most collective action at the individual level relies on family ties, suggests that critical social network variables might be defined within the family sphere and expand beyond the family boundaries.

Conversely, it was further observed that local actors' interests and ability to contribute and reap the benefits of domestic water governance vary greatly across socio-economic groups in the small town. Apart from potential socio-economic and spatial inequalities within local actors' actions, these socio-economic and spatial inequalities skew the selection of communities that get to benefit from HTMWSA and RUWASA support based on human and financial capacity. As Ostrom (2000) elaborated in her pioneering work on collective action and the development of social norms, the shortfall of collective action can take numerous forms, and even for domestic water services, it diverges with the technology as well as the social and economic settings. Therefore, communities that have formulated water committees and collected financial resources are in a better position to attract RUWASA support. As discussed, (Andreasen & Møller-Jensen, 2016), such pragmatic selection conditions may further exacerbate the inequalities in domestic water governance in a rural-urban dichotomy community, as the most disadvantaged and disempowered community, which lacks the time and energy to organise themselves, remains without district authority support.

## 9.7 Training and Networking Among Local Actors

This study offers further insights into institutional entrepreneurs' illustration of networks and expert knowledge to participate in institutional entrepreneurship. The lack of capacity for communal water vendors and individual water vendors demanded a unified response from the HTMWSA to organise training on domestic water governance in small towns. The training and networking of the local actors led to strengthening cooperation between the HTMWSA and the water user association, as they needed the support of local government actors to assist them in finding solutions to domestic water challenges.

Communal and individual water vendors' exposure to a network of operators provided them with access to technical skills, capacity, knowledge, and resources. The training and networking led to improved customer satisfaction and the technical, operational, and financial performance of the

domestic water services. In line with these findings, Bosworth et al. (2016) emphasise the dynamics of local horizontal networks and partnerships in reciprocation, negotiation, and interaction as a way of mobilising and benefiting from both technical skills and resources to address local needs. However, the real network structure that acts as a consequence of these interactions may differ and can strengthen the social relations essential to address even more complicated development matters. As emphasised by Vasstrøm and Normann (2019), a network of different actors fosters dynamic mechanisms that combine skills, capacity, knowledge, and resources to respond to local needs and adhere to national water policy. Therefore, networks of local actors are the domain for inclusive domestic water governance, but networks need to be ruled to control behaviour and give opportunities and incentives to local actors' contexts and realities.

## 9.8 Complementarity Role of Formal and Informal Local Actors

The HTMWSA and informal water providers (communal water vendors, individual water vendors, and mobile water vendors) are observed to operate in the same spheres. The study findings revealed that informal actors play a complementary role to the RUWASA by utilising resources such as skills, knowledge, information, institutions, finance, and technologies of the district authority for water distribution in the small town. The informal actors also depend on the formal actors for their stability and strength in domestic water governance. Unfortunately, however, this study reveals that there has been a failure in enforcing the established system of rules of formal actors. That failure has allowed individual water vendors and mobile water vendors to operate freely and informally, despite their services being crucial in the small towns. Therefore, the presence of local enforcers such as ward and sub-ward officials at the local level is key to ensuring compliance with domestic water governance. Thus, there is a need for Kabuku small town to recognise the legal operations of the individual water vendors and mobile water vendors through the formation of associations and registration. This will provide an avenue for frequent monitoring of their operations and facilitation of capacity building in relation to domestic water services provision and governance. Legal recognition and partnerships with the HTMWSA may provide an opportunity for less financially capable informal water vendors to



seek financial assistance to expand operations and increase domestic water provision to the unserved population in the small town, which may also strengthen inclusive domestic water governance in Kabuku small town. Notwithstanding, it can be said that the aforementioned institutional entrepreneurs, namely individual water vendors, communal water vendors, mobile water vendors, ward and sub-ward officers, and the HTMWSA were the proponents and orchestrators of the inclusive domestic water governance in the small town. The strategies and practices of these institutional entrepreneurs were accountable for drivers for change in domestic water governance in the small town. These insights have been borrowed from numerous streams of institutional entrepreneurship scholarship to demonstrate that, in combination, the social skills, positions, and strategies of institutional entrepreneurs serve as core devices to activate interest in and mobilise resources for the operations and implementation of new forms of domestic water governance. Helmsing (2013) and Campbell (2004) contend that mobilising supporters by forging new relationships and the construction of successful coalitions (Meijerink and Huitema 2010) is a significant means for institutional entrepreneurs to engage in institutional alteration. Thus, collaboration and backing from both supporters and opponents appears to be necessary to forge and strengthen domestic water governance in the small town.



# 10 Conclusions, Policy Implications and Recommendations

## 10.1 Introduction

This is the concluding chapter. It presents the conclusion, policy implications and recommendations emanating from this study. The conclusion is drawn based on synthesised study findings, and its contribution to theory and practice. Furthermore, areas for further study related to domestic water governance have been identified.

## 10.2 Conclusion

As documented earlier, the starting premise for this study was a knowledge gap from different studies regarding domestic water governance in small towns which have a rural-urban dichotomy. In particular, the study took into account the local social and institutional setting. These contextual drivers are the main aspect of concern in institutional reform and decentralised domestic water governance scholarship. This was also the focus of this study. This section synthesises a summary of the study findings.

### 10.2.1 Local Social and Institutional Settings as Drivers of Domestic Water Governance

The analysis in this study found that community members obtained access to domestic water from multiple sources, and thus, the small town has been observed to have a combination of both public piped water arrangements and communal systems water provision. This can be deduced from the fact that none of the water provision systems is reliable enough to satisfy the domestic

water consumption needs of the community in the small town. The complementarity role of the multiple water operations was observed to be more flexible to accommodate water users' preferences and selections in the small town. The analysis of the socio-economic background aspects of the sampled surveyed community reveals that occupations, income levels as well as household size influence the type of domestic water source households most frequently depend on.

The promotion of a multi-model water provision network will sufficiently serve the domestic water requirements of both the low-income groups together with the high-income households. Households will select a water provision arrangement depending on their income level, the value of the water and the required water uses. Again, the existing socio-economic and geographical inequalities and rural-urban dichotomy in a small town have affected the social dynamics of the area in terms of domestic water governance. This study revealed a significant contrast between policy-driven and needs-driven practices in domestic water governance in a small town. The findings further reveal that the provision of domestic water services in a small town is mostly needs-driven and a combination of formal and informal institutions rather than the outcome of purely formal rules, strategies and plans. Therefore, the creation of institutional arrangements for domestic water governance in the small town is dependent upon the physical attributes such as the local social and institutional settings of the small town.

#### 10.2.2 Domestic Water Governance Practice, Local Actors and Resources

The study found that domestic water governance in Kabuku small town is practised through a wide range of actors and institutional arrangements. Some of these actors are formal (policy-driven) mechanisms explicitly supported by the central government, such as the HTMWSA and the RUWASA. These actors are responsible for the provision and governance of public domestic water services within the small town. However, due to the limited capacity to meet domestic water demand has attracted a wide array of informal local actor arrangements. The informal institutional arrangements operation is based on solidarity, reciprocity, or need, such as the provision of domestic water as a gift among community members. The community actors such as communal water vendors, individual water vendors, and mobile water vendors access domestic water through different

means and resell it to members of their community. The role of the informal local actors is recognised as being important in two aspects: First, it deals with the evidence that many households gain access to domestic water through a variety of informal practices. Second, these informal practices or activities, interact with formal arrangements and institutions to generate a range of more or less formal and informal relationships. These forms of formal and informal collective action characterise the new institutional arrangement in domestic water governance in the small town.

Again, the practice of domestic water governance is highly dependent on the resources that actors possess and enable them to display institutional entrepreneurship (Cleaver, 2017). For example, as observed in this study, the HTMWSA and the RUWASA had access to resources including technical expertise, skills, and knowledge on national water policy matters, and finances to initiate solutions to domestic water challenges in a small town. A mismatch between the capacities of local water actors and their expected roles and responsibilities, a lack of commitment and support, and power struggles among local actors affected domestic water governance in a small town. This paved the way for local government actor intervention. Among the strategies adopted by local government actors to solve the challenges that had arisen in water system management was to change the management model from community-based to individual-based management. At the district level the HTMWSA and the RUWASA used their position as experts with knowledge and technical expertise to regulate the institutional arrangements to address the challenges facing some of the domestic water providers.

In comparison, communal water vendors and mobile water vendors had fewer financial resources which limited their ability and capacity to finance, extend and sustain domestic water supply coverage. Indeed, these disparities between local water actors' actual capacity and their technical and institutional needs had a bearing on how they governed the domestic water services. The capacity gaps among local actors led to poor governance and under-performing of water services provision. Therefore, the synergy of the financial, technical, and institutional capacities of the various local actors is useful for positively influencing inclusive domestic water governance in the small town. In this study, the synergy among local actors is viewed as a more multi-directional one that transcends differences in financial resources, institution endowments, level of service provided, and power influence.

Hence, mutual support, trust, respect, and collective learning are indispensable ingredients of governance that small town domestic water sector actors ought to consciously pursue to scale up the quality and volume of domestic water provision to communities.

### 10.2.3 Motivating Factors for Local Actors Engagement

The study also revealed that the actions of the water user committee and those of the ward and sub-ward officers were motivated mostly by the administrative role of an administrative leader to address domestic water challenges in the small town. By engaging in domestic water governance, the administrative officers reinforced their power and control over society. They used social and administrative status to promote collective action in the community, as is consistent with their role and responsibilities. This is connected to their administrative status as leaders responsible for coordinating development activities in the community they administer. The administrative officers also have been motivated by the desire to reaffirm their position as active development agents to address domestic water governance challenges in the society they govern. This motivation signifies a benevolent action, consistent with Helmsing (2016) who maintains that institutional entrepreneurs use their resources to bring social development for the benefit of the community.

The study also provides insights into the role of economic concerns in motivating local actors to participate in domestic water governance. Some communal water vendors, individual water vendors, and mobile water vendors were interested in preserving their economic benefits. It was also observed that in some of the situations, economic considerations were not the only aspects that informed local actors – social relationships also played a substantial role in domestic water governance. The communal and individual water vendors' actions were informed by their social norms and values regarding domestic water services as collective goods. The shortfall encountered by community members in accessing domestic water services in the small town drove communal and individual water vendors into a position where their sense of moral obligation came to outweigh their economic interests. Also, this study found that economic benefits are not the only factor that activates institutional entrepreneurship. The social norms and values embedded in the local context also play a key role in informing local actors' practices and institutional entrepreneurship. This finding corrobo-

rates March and Olsen (2006) who elaborate that actors' motivations can be explained by rational and economic concerns. Similar to other institutional entrepreneurship scholarships, the thesis argues for the influence of broader factors beyond merely economic justifications. That is, this study acknowledges the role of social status, social norms, and the values of the community in influencing local actors' motivations and practices. Therefore, without effective domestic water governance at local levels, there is a high likelihood for some local actors to pursue their own individual interests which automatically conflicts with domestic water provision standards, goals and targets of the community.

#### 10.2.4 Institutional Translation and Institutional Entrepreneur

The application of the concept of translation in this study provided an understanding of how the local social and institutional settings influenced or stimulated local actors' practices which they employed in domestic water governance. Discussion on the enforcement of regulatory authority provides clarity on how and why local actors translate national water guidelines differently. Consistent with translation scholarship (Mukhtarov, 2014; Whittle et al., 2010), the study reveals that the multiplicity of local actors, with their different beliefs, values, customs and identities, are important in determining the magnitude to which local actors enforce regulatory authority ideas and guidelines.

Likewise, national water policy translation reveals institutional alteration since local actors' practices and strategies towards domestic water governance are not only constrained by existing institutions. But also, existing institutions provide the means that enable local actors to achieve domestic water governance which reflects their local setting. In addition, translation was observed to be context-specific (the local, social and institutional) since local actors can only make use of the available resources and institutions within their reach and control, and hence direct domestic water governance which reflects their local context.

Moreover, the concepts of institutional entrepreneurship direct the focus of the study to local actors and the motivations behind their practices. It sheds additional light on how local actors activated their everyday water governance actions. Besides, it bridges the shortfall between institutions and local actors by focusing on how local actors activate their services provision activities and arrive at the practices they employ, which ultimately

contributes to the strengthening of domestic water governance. Nevertheless, this study has revealed that each concept on its own is insufficient to explain local operations in domestic water governance. By analysing institutional translation and institutional entrepreneur concepts holistically, the study has enhanced knowledge of what informs local actors' operations and the reasons for variation in the practices and strategies adopted. It also empowered the researcher to better account for differences between water policy guidelines as they were developed and the way they were practised in the local setting to strengthen domestic water governance in Kabuku small town.

### 10.3 The Contribution to Theory and Practice

This thesis highlights how social structures in a small town in Sub-Saharan Africa shape domestic water governance. The results of this study support the idea known from urban centres and rural regions that domestic water governance practices are often triggered and influenced by context-related aspects which include physical characteristics, the local actors, the availability of information, knowledge of the institutional reforms, technical and capacity gaps between implementers, and the role of institutions (both formal and informal). Besides, the ideological stance of local actors and their interpretations and understandings of the challenges, and the kinds of institutions available to them, provide a link to the types of domestic water governance that are locally fashioned. The degree to which an institution may address the challenges depends on the magnitude of the enforcement of regulatory instruments, and the availability of institutional entrepreneurs who take the initiative to provide and govern domestic water.

As the study employs the concepts of translation and institutional entrepreneurship it contributes to existing knowledge on the role of institutions and resources in constraining and empowering actor agency. This reasserts the primacy of context and actor agency for understanding and analysing institutional and domestic water governance. Though institutions constrain actors' ability to translate national policy, they also provide ways for actors to exercise their agency. The main contribution is that it traces additional insights to find what factors motivate local actors to participate in diverse practices and strategies to circumvent the shortfall encountered. The motivations and logic behind actors' actions legitimise domestic water



governance and also enhance the durability and acceptance of practices presented by local actors. This research additionally proposes that the presence of institutional entrepreneurs and the availability of resources play a significant role in the practice and the strategies employed in domestic water governance.

Finally, the study has deeper implications which are informative for national water policy and practice. It reveals different local social and institutional context elements embedded within social structures and analyses diverse ways by which they can be deployed for domestic water governance in small towns. By analysing local social and institutional contexts, which had been a major gap in the research of water governance discourse in the Sub-Saharan African region, it is thought particular small town in Tanzania, which has been frequently taken for granted. In the local policy settings, this presents an imperative area in local policy discourse that this study contributes to – urban planners, water managers and policymakers can draw insights on how to capitalise on the prevailing local, social and institutional settings in the course of strengthening domestic water governance in a small town which has rural and urban characteristics. Thus, the empirical contribution of this thesis becomes relevant to policy and practice across scales. Broadly this study has characterised the understanding of domestic water governance in a small town which has both rural and urban characteristics.

## 10.4 Planning Policy Implication Issues

In light of the above-mentioned research findings and conclusion, some issues for policy recommendations have been ascertained. These are inadequate local actor coordination and coalitions, weak partnerships between public and informal water providers, increasing need for capacity building and networks among local actors, low level of local actors' participation, inadequate resource mobilisation and use at the local level, weak gender relations in matters related to domestic water governance and weak enforcement of regulatory instruments. Clarifications on each of the policy issues are subsequently discussed.

#### 10.4.1 Inadequate Local Actor Coordination and Coalitions

The study findings reveal that none of the local actors are effective, equitable, financially sustainable and efficient in domestic water governance in Kabuku small town. It has also revealed that communities have demonstrated that demand for domestic water provision is low and demand for domestic water provided by formal operators is even lower. It further reveals most of the local actors view one another as commercial competitors with nothing else to participate in domestic water governance. This gives an overall impression of weak and ineffective interaction among local actors at both the local and district levels. Inclusive domestic water governance normally requires appropriate coordination, cooperation and willingness among local governments and the local actors available in a small town. It is necessary to recognise the existing institutional arrangements and consider ways and means by which coordination and cooperation between institutionally distinct bodies with overlapping mandates might be enhanced and their purpose and functions constructively arranged. At the same time, a dedicated and strong willingness is inevitable, and domestic water governance must be treated as a cross-cutting issue among responsible actors in the small town.

#### 10.4.2 Weak Partnerships Between Public and Informal Water Providers

The role of informal local water providers has been accepted as an alternative water services provider in Kabuku small town. These water actors allow the households to opt in or out of the water service at their convenience. Despite the significant role played by informal water actors, currently there is a weak partnership between public and informal water providers. Most informal water providers in Kabuku small town had cooperation with neither the district nor the water utility agents. If Tanzania wants to realise her long-term vision of achieving universal access to safe water by 2050 and other related sustainable development goals (SDG6), the partnership between Public and informal water providers will remain significant for local and international visions to be achieved.

#### 10.4.3 Increasing Need for Capacity Building and Networks among Local Actors

The findings of this study reveal that there is inadequate capacity building among local actors in domestic water governance in terms of knowledge,

skills, resources, commitments and social corporate responsibility. At the policy level, adequate capacity building must involve the improvement of the rules of governance along with regulations and practices that foster the development of local actors; all relevant institutions and the context in which these institutions operate. In this regard, therefore, capacity building represents a broader perspective to include in the creation of a conducive internal and external environment within which local actors operate and function; and which represent human resources training and development.

#### 10.4.4 Low Level of Local Actors' Participation

The study found that potential stakeholders such as ward and sub-ward leaders were not fully involved in domestic water governance. In addition, they were not entirely utilised to promote effective resource mobilisation in domestic water governance except on rare occasions. The roles of these actors who could be useful in horizontal and vertical linkages were not clearly defined. This act almost cut off such potential stakeholders from contributing a stake to stakeholders' involvement in domestic water governance involvement. This is a weakness in a government aspiring to achieve inclusive domestic water governance in the small town.

#### 10.4.5 Inadequate Resource Mobilisation and Use at the Local Level

This study has shown that one of the constraints to inclusive domestic water governance is some deficiencies in resource mobilisation among local actors in a small town. These acute shortages of resources include personnel, finances, and technical skills. The study found out that the HTMWSA and the RUWASA were endowed with a resourceful potential. Thus, the acute resource shortage among informal water providers including trained personnel to train local actors on matters related to domestic water governance could be resolved by tapping this local resource.

#### 10.4.6 Weak Gender Relations in Matters Related to Domestic Water Governance

Generally, gender division of labour in access to domestic water within and outside the household is linked to traditionally assigned roles and responsibilities in a particular community in urban and rural areas. The findings of this study found that women are the major suppliers of domestic

water for their households. Although some indications of equity in the household division of labour concerning access, decision-making, and power relations for domestic use were also emerging between men and women, it is evident from the findings that non-monetary decisions on access to domestic water are given to women, while monetary decisions are assigned to men. These findings indicate the need for more gender-focused actions in the accessing and governance of domestic water in small towns.

#### 10.4.7 Poor Enforcement of Regulatory Instruments

Although mobile water vendors and stationary water vendors are leading in the governance of domestic water services in the small town, the way the domestic water is governed presents a risk of denying access to a wider section of the population in the small town. These local actors are not regulated or monitored by any authority at all levels. This denotes a weakness and a loophole for unaccountability and poor-quality domestic water service provision in the small town. If the operations of informal local actors are left uncontrolled, they can also be a source of unfair prices, which in turn cause domestic water to be unaffordable/inaccessible to the majority of the low and medium-income households in the small town.

### 10.5 Policy Recommendations

For Tanzania to realise her long-term vision of achieving universal safe water coverage by 2050, sustainable development goal targets (SDG) 6 targets 6.1, 6.4, 6.5 and other water-related SDG targets, the following recommendations are provided. It is recommended that small towns should be recognised as a distinct subsector within national water-policy frameworks.

National policies on small town water governance should specifically address the following key issues. Strengthening coalition building for inter-model coordination; strengthening partnerships between public and small-scale actors; enhancing local actors networking at the local level; enhancing local actors' participation at the local level; ensuring efficient and effective resource mobilisation at the local level; promoting gender mainstreaming for inclusive domestic water governance; and enhancing enforcement of regulatory instruments at the local level. These recommendations encompass short-term and long-term interventions and require further research on their feasibility.

### 10.5.1 Strengthening Coalition Building for Inter-Model Coordination

The analysis of this study has shown that each of the preceding options for domestic water governance in Kabuku small town has its own niche and that no universally accepted option exists for domestic water governance in small towns. Hence, it is now widely accepted that addressing the inclusive domestic water governance challenges in small towns requires a combination of domestic water governance approaches, and therefore a combination of agents. This study reveals that there is no silver bullet or single model that is automatically suitable for domestic water provision and governance in all small towns. Interactions among local actors are inevitable as they share some service areas and sometimes act as back-up to one another. This is because of the perceived advantages of dividing responsibilities between the formal and informal actors to combine their resources and inputs either within hierarchical or horizontal structures. This study proposes that policymakers and planners consider the immediate adoption of inter-model coordination to ensure inclusive domestic water governance in the town.

### 10.5.2 Strengthening Partnerships Between Public and Small-Scale Actors

The involvement of small-scale private water actors in domestic water governance has been long overdue. The National Water Policy 2023 and the Sustainable Development Goals (SDG) targets are actively encouraged to build partnerships with other service providers as part of efforts to ensure universal safe water coverage by 2050 and promote inclusive domestic water governance. As evidence indicated in this study, efforts by the government have not managed to address all domestic water challenges. Besides, informal local actors have been useful in water management for years; the need to rethink domestic water governance is critical, especially with increased competition of multiple users. This study argues for strengthening partnerships between public and small-scale water providers to improve the current situation and thus enhance inclusive domestic water governance at the local level. Furthermore, the actors at the district level should strengthen the understanding and implementation of good governance among actors recognised by the National Water Policy of 2023 to enable them to practise domestic water governance principles effectively.

### 10.5.3 Enhancing Local Actors Networking at the Local Level

The study established that, although the local actors in domestic water governance had significantly increased, they were still not well networked, both vertically and horizontally. In order to improve such relations and interactions, the local actors need training so that the community benefits more from their co-existence and services. The training, apart from enhancing the understanding of their respective roles and responsibilities, will also increase awareness of the local actors, as well as their status. This is likely to reduce unnecessary misunderstandings, conflicts, and confusion among local actors. Consequently, the local actors get a chance to collaborate and form a network as actors with equivalent roles and status in small town domestic water governance through mutual adjustment. Furthermore, this can help foster the mutual sharing of experience and opportunities in addressing domestic water governance challenges.

### 10.5.4 Enhancing Local Actors' Participation at the Local level

Active participation by local actors in domestic water governance is a prerequisite requirement for the successful implementation and operation of the multi-model water supply system. As small towns differ by socio-economic and environmental conditions, households in the small town should be allowed to choose the set of actors they perceive suitable for their environmental conditions and for their domestic water activities. This will contribute towards sustainable operations of the water supply both to satisfy consumption demand and cost recovery.

Again, there are local actors in the ward and sub-ward levels. These officials are responsible for the economic and social development of the ward and ensure that the welfare and well-being of the residents of the ward are adequately addressed. Additionally, they also implement directives from the local authorities at the local level. The ward or sub-ward officials are, however, not responsible for domestic water governance in the small town. It is high time by-laws are made to entrust officials at ward and sub-ward levels to monitor all local actors in the localities. This will include ensuring and monitoring water resources, mobilising resources, organising community participation and collective action in water provision and management at the ward and sub-ward levels. For these actors to be effective, they require basic training on domestic water governance issues, i.e. the dos and don'ts as domestic water governance is concerned.

#### 10.5.5 Ensure Efficient and Effective Resources Mobilisation at the Local Level

The study established that deliberate and effective involvement of local actors from designated domestic water governance helps to address many domestic water operational and governance problems at ward and sub-ward levels by directly involving individual water operators and service users, as well as empowering or giving local actors the mandate they deserve. However, according to this study, it was found that actors' participation in local resource mobilisation towards domestic water governance in small towns in small town was challenging. Also, this study further revealed that after the advent of the bottom-up approach which involves broad local actor participation at the local level, tremendous improvements were registered in domestic water governance. Thus, there is a need to create a policy that puts more emphasis on local actors' networking and resource mobilisation at the local level towards domestic water governance in small towns.

#### 10.5.6 Promote Gender Mainstreaming for Inclusive Domestic Water Governance

The RUWASA, the HTMWSA and other actors, such as Non-Governmental Organisations such as Water Aid, World Vision Tanzania, and other actors in the water sector, should organise regular community-wide sensitisation and awareness programmes to combat gender stereotypes and encourage the participation of both men and women in activities related to domestic water provision and governance. More attention should be given to empowering women in domestic water governance and their participation in water-related decision-making. Water sector police should prioritise and promote gender mainstreaming, provide sufficient resources and a conducive environment for domestic water providers.

#### 10.5.7 Enhance Enforcement of Regulatory Instruments at the Local Level

Though informal water vendors have a socio-cultural capacity in local domestic water governance, the social good component of domestic water is missing where these informal water vendors dominate in the domestic water governance network. The consequences are enormous ranging from the provision of unaffordable and poor quality domestic water services to the community to poor enforcement of regulatory instruments. The study found

that there is a dominance of informality in domestic water services provision, in the sense that they are dominated by local actors who are not registered (do not have a licence) and therefore are not recognised by the formal institutional framework of domestic water governance and limited adherence to regulatory instruments. For example, there is weak enforcement of rules for the management of communal and individual water vendors and mobile water vendors, which resulted in a situation that implied a loophole leading to the weakening of the institutional practices and strategies adopted by local actors to govern domestic water. The observed potentials of the local water vendors are worth considering for strengthening domestic water governance in the local community. Hence, the enforcement of regulatory instruments has to be better to improve domestic water governance at the local and district levels.

## 10.6 Area for Further Study

The study found out that there are complementary roles played by multi-model local water actors in meeting the endogenous domestic water preferences of the rural-urban dichotomy households. The operation of the multi-model water operation is flexible and able to accommodate the diverse domestic water consumption preferences and choices of the different socio-economic groups in the rural-urban dichotomy. However, it is unclear and largely inconclusive as to the quality of domestic water services provided by these models. Therefore, further research should be conducted to determine the cross-sectional survey strategy to assess the suitability of the domestic water quality provided by multi-model local actors for inclusive domestic water governance in small towns which have a rural-urban dichotomy.

Apart from that, it is essential to conduct comparative research on small-town water governance in areas with diverse dominant livelihood arrangements, such as those based on animal husbandry or fishing, and in diverse conditions such as being adjacent to commercial agricultural estates or mining centres, because of the resultant diverse domestic water requirements. Similarly, in such research in the sampling strategy, a distinction can be made between easy to reach and remote small towns.

Furthermore, this study does not specifically address gender issues in domestic water governance, but these issues arose in the course of the discussion of the findings. It was thus realised that several issues relating to domestic water management in the study areas have to do with women.



Therefore, it is essential for a comparative, multidisciplinary, and anthropological study on the practicalities of women's status in patrilineal and matrilineal communities to be undertaken. The purpose is to find how the informal structures in diverse locations respond to a women's quota, what lessons can be learned from diverse aspects, and how these can be integrated into national development guidelines and implementations to challenge the existing socio-cultural gender roles.



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## Popular science summary

Domestic water governance has become a prominent topic in international discourse and is widely recognized as a critical factor in achieving sustainable and equitable progress toward universal access to domestic water in both urban and rural settings. However, a systematic understanding of domestic water governance in small towns across sub-Saharan Africa remains limited.

This study identifies key contextual drivers of domestic water governance, including existing hydrological conditions, diversity in domestic water sources, and disparities in water service delivery between central and peripheral areas. The findings indicate that domestic water governance operates through a hybrid system that incorporates both formal and informal actors.

Key challenges include weak enforcement of regulatory frameworks, low levels of participation from local actors, limited resource mobilization and utilization at the local level, inadequate gender inclusiveness in water governance processes, and insufficient coordination and coalition-building among local actors.

The study recommends fostering coalitions among local actors to promote co-production in domestic water provisioning and governance. It encourages active participation and resource contributions from stakeholders, driven by intrinsic motivation and supported through stronger enforcement of community-based regulatory instruments.



## Populärvetenskaplig sammanfattning

Förvaltningen av hushållsvatten har blivit ett framträdande ämne i den internationella debatten och är allmänt erkänt som en avgörande faktor för att uppnå hållbar och rättvis utveckling mot allmän tillgång till hushållsvatten i både urbana och rurala miljöer. Den systematiska förståelsen av hushållsvattensförvaltning i små städer i Afrika söder om Sahara är dock fortfarande begränsad.

Denna studie identifierar viktiga kontextuella drivkrafter för hushållsvattensförvaltning, inklusive befintliga hydrologiska förhållanden, mångfald av källor till hushållsvatten och skillnader i vattentillgång mellan centrala och perifera områden. Resultaten visar att hushållsvattensförvaltningen fungerar genom ett hybridsystem som omfattar både formella och informella aktörer.

Centrala utmaningar är bland annat svag tillämpning av regelverk, låg deltagandegrad från lokala aktörer, begränsad mobilisering och användning av resurser på lokal nivå, otillräcklig jämställdhet i vattenförvaltningsprocesser samt bristande samordning och koalitionsbyggande mellan lokala aktörer.

Studien rekommenderar att man främjar koalitioner mellan lokala aktörer för att främja samproduktion inom hushållsvattenförsörjning och vattenförvaltning. Den uppmuntrar aktivt deltagande och resursbidrag från intressenter, drivet av inre motivation och stödd av en starkare tillämpning av samhällsbaserade regleringsinstrument.



# Appendices

## Appendix 1: Comparison of Roles and Responsibilities of Actors Indicated in the Water Supply Frameworks and Actual Situation from Empirical Data

Level	Actors	Roles and Responsibilities as indicated in National Water Policy (2002) and National Water Sector Development Strategy (2019)	Actual Roles and Responsibilities
Central government	Ministry of Water (MoW) and donors	Policy and guideline formulation, coordination, monitoring & regulating. Liaise with donor-funded rural water supply programmes & projects.	As indicated in the policy and strategy
Central government	Prime Minister's Office - Regional Administration & Local Government (PMO-RALG)	Coordinate planning of water projects from local government authorities (LGAs). Coordinate water projects' budgets in the LGAs. Coordinate capacity building of the personnel working with the Water department in the LGAs.	As indicated in the policy and strategy
Local government	Local government authorities (LGAs) <i>Urban authorities:</i> city, municipal & town councils. <i>Rural authorities:</i> District councils, township authorities, village councils; District Water Department (DWD)	Regulate water users' entities. Representation on Water Supply & Sewerage Authority (WSSA) boards. Co-ordinate WSSA budgets within Council budgets. Disburse block grant funds to WSSAs. Co-ordinate physical planning with WSSAs. Conduct performance monitoring & evaluation (M&E) and regulation of Community-Owned Water Supply organisations (COWSOs). Formulate by-laws on water supply and sanitation. Training in basic technical and managerial features	Liaise with the MoW, PMO-RALG and institutions working on and affected by rural water supply. Liaise with Planning, Education, Health & Community Development departments in the DCs. Coordinate all villages' water projects in the district. Provide technical expertise in planning & design, construction, and O&M. Conduct erratic M&E for the villages. Occasionally train the VWCs and/or selected villagers in basic technical and managerial features

Level	Actors	Roles and Responsibilities as indicated in National Water Policy (2002) and National Water Sector Development Strategy (2019)	Actual Roles and Responsibilities
Small town /Village government	Small town/ Village councils	Regulate water users' entities. Promote the establishment of the water management committee. Representation on water management committee body. Co-ordinate water management committee budgets within Council Budgets. Resolve conflicts within and between communities. Formulate by-laws concerning water supply and sanitation.	Liaise with the DWD. Overall supervision of the water project(s). Supervise and collect households' contributions to capital investment. Coordinate election of the Water Management Committee members. Coordinate processes to get Private Operators (POs). Oversee performance of the WMCs and/or POs. Communicate financial reports to the villagers
Small town /Village government	Water Management Committees (WMCs)	Not explicitly indicated	Monitor performance of the water projects. Oversee performance of the water provision Sell water and collect water user fees Coordinate cleanliness around the borehole, DPs, and water tank
Small town /Village government	Water User Association (WUA)	To provide water services based on varying contractual arrangements.	Hire water vendors for all the domestic water points. Supervise fetching of water at distribution points Supervise communal water vendors to sell water and collect user fees. Remunerate all communal water vendors.
Small town /Village government	Communal Water Seller	To provide water services based on varying contractual arrangements.	Provide water services as per agreement with the WUA. Pay the village the amount of money agreed, in cash or by depositing it to the water fund account. Pay for minor repair of water infrastructures.



Level	Actors	Roles and Responsibilities as indicated in National Water Policy (2002) and National Water Sector Development Strategy (2019)	Actual Roles and Responsibilities
Small town /Village government	Private/ Individual water operators	Not explicitly indicated	Sell water and collect water user fees
Community	Community members	Initiate demand for improved water services. Approve and supervise the design, construction, and operational contracts for their water supply systems. Contribute to part of the capital investment in cash and in kind. Cover full costs of O&M through the users' fee. Protect and conserve water sources	Contribute to the 5% capital investment through a flat rate contribution from a household as a whole and/or each able adult above 18 years old in the household, and physical labour. Protect and conserve water sources as well as water infrastructures. Other roles are similar to the ones in the policy and Strategy
Household	Users in households	Not explicitly indicated.	Paying users' fee. Participate in development meetings deliberating on water services. Participate in management activities pertaining to water services

Source: (URT, 2023)

## Appendix 2: Population Size and Growth Rate in Coastal Regions

SN	Region	Population Size	Average Annual Rate %
1.	Tanga	2,045,205	2.2
2.	Pwani	1,098,668	2.2
3.	Lindi	864,652	0.9
4.	Mtwara	1,270,854	1.2

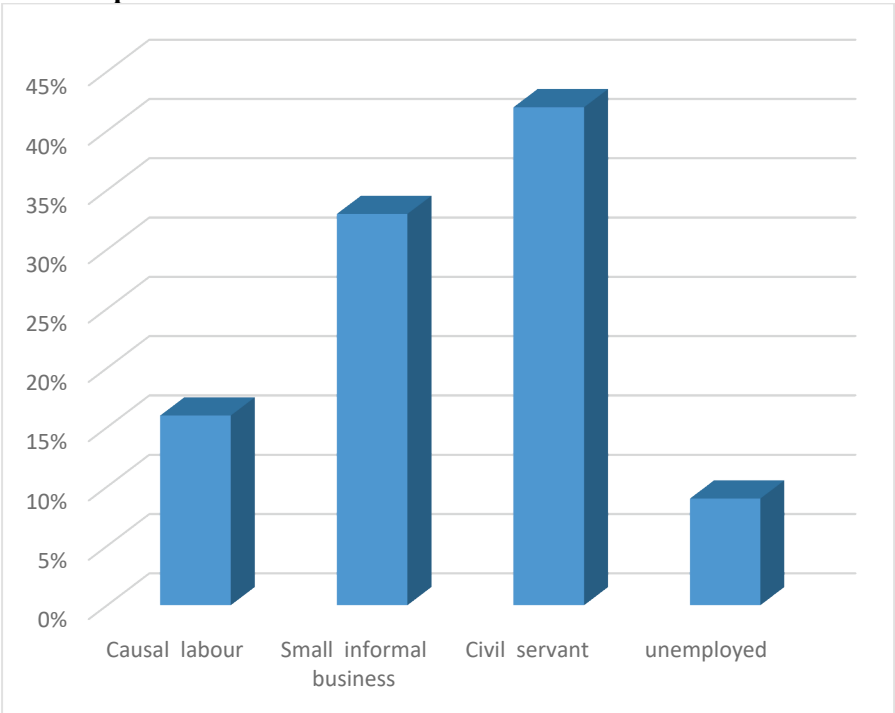
Appendix 3: Population Size in Tanga Region

SN	District	Population
1	Lushoto	492,441
2	Korogwe	242,038
3	Muheza	204,461
4	Pangani	54,025
5	Handeni	276,646
6	Kilindi	236,833
7	Mkinga	118,065

Source: (URT, 2012,2017)

Appendix 4: Socio-Economic Characteristics of Kabuku Town

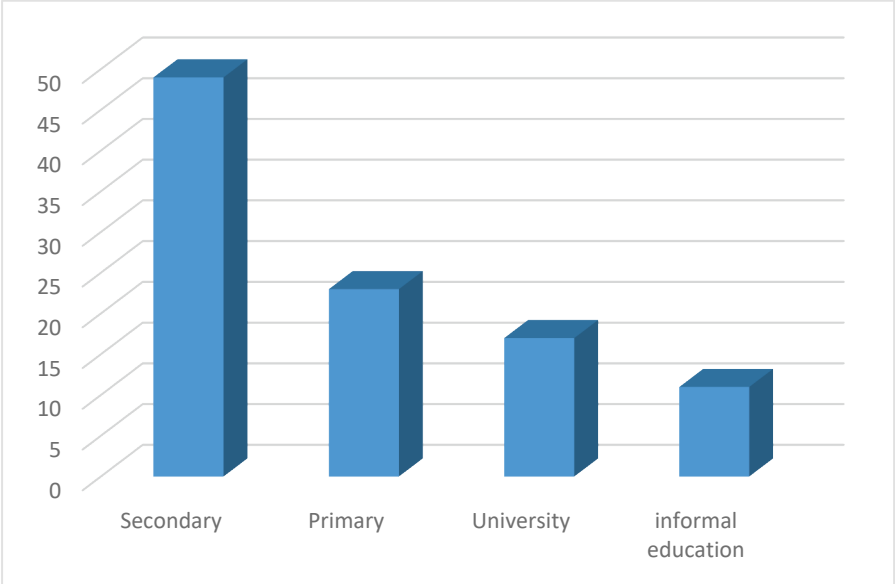
4a: Occupation Status in Kabuku



Source: Fieldwork, 2018

The greater proportion of respondents who received income in a month mostly engaged in formal work such as teaching in their communities and were employed in the public and private sectors. Corresponding to the findings, it was revealed that the low level of income of the respondents had critical implications on their attitude towards willingness, ability to pay and management of domestic water services in the household units.

**4b: Education Status in Kabuku**



Source: Fieldwork, 2018

The possible relationship between attainment of formal education and domestic water governance is that education is an avenue to attaining an income, hence the consumer’s likelihood to have an education and choice of domestic water services strategies. Thus, good domestic water governance practices usually start from the personal level to the household units, and then end at the community level.

#### 4c: Technical and Economic Capacities of Local Actors in Domestic Governance

Actors	Technological Capacity	Economic Capacity
Handeni Trunk Main (HTM) Water Supply)	The use of generators or electricity PVC pipes connected Skilled district plumbers	Individual or group investors Connection fees on average of 300,000 TZS - 200,000 TZS or \$131.28 \$87.52 Recover cost through monthly billing Initial cost is very expensive
Communal water sellers	The use of generators or electricity PVC pipes connected Local plumbers	Group or organisations Connection fees on around 200,000 TZS or \$87.52 Cost recover from daily sales (cash & carry System)
Individual water sellers	PVC pipes connected Skilled district plumbers Construction of block water tank storage	Individuals Cost of connection about (300,000 TZS or \$ 131.28), Recover cost through cash and carry system Allows credit purchase
Mobile water vendors	The use of carts, bicycles, and motorcycles	Individual investor Cost of operation is an average of (100,000 TZS or \$43.76) Recover cost from the sale of the water No room for credit purchase

Source: Fieldwork, 2018

## Appendix 5: Guidelines for Water Source and Infrastructure Mapping Exercise

1. Mapping of all water sources. To get their location and other relevant data as it is shown in the table below.
2. Public and private water services supporting facilities such as the main water tank. To get an overview of their location and its interaction and management as well as sustainability.
3. Main human settlements areas, to get information on the location and distance of the human settlements and that of water source accessibility.
4. Men and women's preference of location of water source from which they fetch water for their households' domestic water uses. To capture men's and women's perspectives in terms of location of the existing water sources, their preferred location and water source, and whether they rarely and frequently fetch water for domestic water.

## Appendix 6: Checklist for District Water Authority

### 1.Roles and responsibilities

- i. What role does the district authority play as far as domestic water services provision is concerned?
- ii. How do you pursue that role as a district authority? (activities, linkages, relations, inputs, outputs, etc.)
- iii. To whom are you answerable, and who is answerable to you as far as domestic water provision is concerned? (If present, include formal and informal affiliations and their implications).

### 2.Decision-making and Institutional Collaboration

- i. What other actors does the district authority collaborate with in pursuing its role in domestic water services provision?
- ii. Why does your institution take part in such joint undertakings?
- iii. What are the roles of each of the other actors with whom you form a partnership in domestic water services provision?
- iv. What mechanism do you use in partnership with the other actors' tasks?
- v. Who coordinates the actors in the process of domestic water services provision in a town? (Narrate the whole process of institutional coordination including actors, tasks, dependencies, coordination mechanisms, and the result of the processes).

- vi. What are the structures of institutional collaboration in place among actors, and how effective are they?
- vii. How formal/informal is your institutional collaboration among other actors/partners? (Provide examples and evidence).
- viii. Explain how some formal and informal institutional elements (e.g. laws, by-laws, directives, guidelines, norms, agreements, contracts, rules, MoU, and beliefs) have been used in domestic water services provision.
- ix. Do you share information, knowledge, and resources with other actors in relation to domestic water services provision? Who are they and how?
- x. What do you consider to be factors for effective domestic water services provision in a small town? Give examples and evidence.
- xi. What do you think could be done in order to improve the domestic water services provision in this town?

### **3. Regulatory mechanisms**

- I. How does the district authority monitor water abstraction in settlements?
- II. How many water user associations and individual/private water vendors are registered so far? What is the procedure for registration?
- III. How many local actors have domestic water permits in town? (Provide examples and evidence).
- IV. What challenges and opportunities do you see in the process of managing and facilitating domestic water services provision?

### **4. Availability of resources**

- I. Elaborate on the processes and availability of financial resources for pursuing its roles in domestic water services provision and management.
- II. In terms of manpower, how is the district authority facilitated in pursuing its role as far as domestic water services provision and management is concerned?

## Appendix 7: Checklist for Individual Operators

### 1. Membership to become an individual operator

- I. When did the individual operator start to operate in this town?
- II. What were the procedures and qualifications to become individual/private operators?
- III. What is the legal basis of the individual operator?

### 2. Responsibilities of individual operators

- i. What is the role of individual operators as far as water governance is concerned in this ward? (Include a description of infrastructure owned/under the individual; capacity and consumption per day; the number of houses served; individual standpipes).
- ii. What are the main responsibilities of the individual operator?
- iii. How do you pursue that role as an individual operator? (activities, linkages, relations, inputs, outputs, etc.)
- iv. To whom are you answerable, and who is answerable to you as far as domestic water governance is concerned? (If present, include formal and informal affiliations and their implications).

### 3. Decision-making and institutional coordination

- I. Who are the other actors participating in domestic water governance?
- II. Why does your institution take part in such joint undertakings?
- III. What are the roles of each of the other actors with whom you form a partnership in domestic water services governance?
- IV. What mechanism do you use in partnership with the other actors' tasks?
- V. Who coordinates the actors in the process of domestic water governance in a town? (Narrate the whole process of institutional coordination including actors, tasks, dependencies, coordination mechanisms, and the result of the processes).
- VI. What are the structures of institutional collaboration in place among actors, and how effective are they?
- VII. How formal/informal is your institutional collaboration among other actors/partners? (Provide examples and evidence).
- VIII. Explain how some formal and informal institutional elements (e.g. laws, by-laws, directives, guidelines, norms, agreements, contracts, rules, MoU, and beliefs) have been used in domestic water governance.
- IX. Do you share information, knowledge, and resources with other actors in relation to domestic water governance? Who are they and how is it shared?

- X. What do you consider to be factors for effective domestic water services governance in a small town? Give examples and evidence.
- XI. What do you think could be done in order to improve the domestic water governance in this town?

#### **4. Payment and management of domestic water funds**

- i. How do households pay for domestic water services in this town?
- ii. Who sets the tariffs, which criteria are used?
- iii. Are there any households failing to pay, what proportion?
- iv. Main challenges the town is facing after involving individual/ private operators?
- v. What are your suggestions about involving individual/ private operators

#### **5. Availability of resources**

- I. Elaborate on the processes and availability of financial resources for pursuing its roles in domestic water governance.
- II. In terms of manpower, how is an individual/private operator facilitated in pursuing their role as far as domestic water governance is concerned?

### **Appendix 8: Checklist for Mobile Water Vendors**

#### **1. Membership to become mobile water vendors**

- i. When did the mobile water vendors start to operate in this town?
- ii. What were the procedures and qualifications to become mobile water vendors?
- iii. What is the legal basis of the mobile water vendors?

#### **2. Responsibilities of mobile water vendors**

- I. What is the role of mobile water vendors as far as water governance is concerned in this ward?
- II. What are the main responsibilities of the mobile water vendors?
- III. How do you pursue that role as a mobile water vendor? (activities, linkages, relations, inputs, outputs, etc.)
- IV. To whom are you answerable, and who is answerable to you as far as domestic water governance is concerned? (If present, include formal and informal affiliations and their implications).



### **3. Decision-making and institutional coordination**

- i. Who are the other actors participating in domestic water governance?
- ii. Why does your institution take part in such joint undertakings?
- iii. What are the roles of each of the other actors with whom you form a partnership in domestic water governance?
- iv. What mechanism do you use in partnership with the other actors' tasks?
- v. Who coordinates the actors in the process of domestic water governance in a town? (Narrate the whole process of institutional coordination including actors, tasks, dependencies, coordination mechanisms, and the result of the processes).
- vi. What are the structures of institutional collaboration in place among actors, and how effective are they?
- vii. How formal/informal is your institutional collaboration among other actors/partners? (Provide examples and evidence).
- viii. Explain how some formal and informal institutional elements (e.g. laws, by-laws, directives, guidelines, norms, agreements, contracts, rules, MoU, and beliefs) have been used in domestic water governance.
- ix. Do you share information, knowledge, and resources with other actors in relation to domestic water governance? Who are they and how?
- x. What do you consider to be factors for effective domestic water governance in a small town? Give examples and evidence.
- xi. What do you think could be done in order to improve the domestic water governance in this town?

### **4. Payment and management of domestic water funds**

- I. How do households pay for domestic water services in this town?
- II. Who sets the tariffs, which criteria are used?
- III. Main challenges the town is facing after involving individual/private operators?
- IV. What are your suggestions about involving mobile water vendors?

## **5. Availability of resources**

- i. Elaborate on the processes and availability of financial resources for pursuing its roles in domestic water governance.
- ii. In terms of manpower, how are mobile water vendors facilitated in pursuing their role as far as domestic water governance is concerned?

## **Appendix 9: Checklist for Communal Water Vendors**

### **1. Membership to become communal water vendors**

- I. When did the communal water vendors start to operate in this town?
- II. What were the procedures and qualifications to become communal water vendors?
- III. What is the legal basis of the communal water vendors?

### **2. Responsibilities of communal water vendors**

- i. What is the role of communal water vendors as far as water governance is concerned in this ward? (Include a description of infrastructure owned/under the communal water vendors; capacity and consumption per day; the number of houses served; individual standpipes)
- ii. What are the main responsibilities of the communal water vendors?
- iii. How do you pursue that role as a communal water seller? (activities, linkages, relations, inputs, outputs, etc.)
- iv. To whom are you answerable, and who are answerable to you as far as domestic water governance is concerned? (If present, include formal and informal affiliations and their implications).

### **3. Decision making and institutional coordination**

- I. Who are the other actors participating in domestic water governance?
- II. Why does your institution take part in such joint undertakings?
- III. What are the roles of each of the other actors with whom you form a partnership in domestic water governance?
- IV. What mechanism do you use in partnership with the other actors' tasks?
- V. Who coordinates the actors in domestic water governance in a town? (Narrate the whole process of institutional coordination including actors, tasks, dependencies, coordination mechanisms, and the result of the processes).
- VI. What are the structures of institutional collaboration in place among actors, and how effective are they?

- VII. How formal/informal is your institutional collaboration among other actors/partners? (Provide examples and evidence).
- VIII. Explain how some formal and informal institutional elements (e.g. laws, by-laws, directives, guidelines, norms, agreements, contracts, rules, MoU, and beliefs) have been used in domestic water governance.
- IX. Do you share information, knowledge, and resources with other actors in relation to domestic water governance? Who are they and how is it shared?
- X. What do you consider to be factors to effective domestic water governance in a small town? Give examples and evidence.
- XI. What do you think could be done to improve the domestic water governance in this town?

#### **4. Payment and Management of Domestic Water Funds**

- i. How do households pay for domestic water services in this town?
- ii. Who sets the tariffs, and which criteria are used?
- iii. Are there any households failing to pay, what proportion?
- iv. Main challenges the town is facing after involving individual/private operators?
- v. What are your suggestions about involving individual/ private operators

#### **5. Availability of Resources**

- I. Elaborate on the processes and availability of financial resources for pursuing their role in domestic water governance.
- II. In terms of manpower, how is a communal seller operator facilitated in pursuing their role as far as domestic water governance is concerned?

### **Appendix 10: Checklist for Men and Women**

#### **1) What is the main source of domestic water?**

- i. What are the main domestic water uses?
- ii. What have been the main challenge of domestic water governance? Access to water (availability, affordability, quality) in this area over the past five years?
- iii. What factors have contributed to these challenges and changes?
- iv. Who has been involved in addressing the challenges and how?

## **2) Payment mechanisms for domestic water services**

- I. How do households pay for domestic water services in this town?
- II. Who sets the tariffs, which criteria are used, and who collects?
- III. Are there any households failing to pay, and what proportion?
- IV. Are there any groups that are exempted from paying user fees?
- V. How the money is spent, who decides, and are you satisfied with water funds expenditures?

## **3) Appropriateness of domestic water services for households' needs**

- i. How appropriate are domestic water services to the needs of the user in terms of the following: -
  - a. Cost (user fee)
  - b. Taste
  - c. Distance to a domestic water source
  - d. Water availability at the distribution point

## **4) Participation in the governance of domestic water sources**

- i. How many people are in the communal water management team?  
Men..... women.....
- ii. How much is the allowance of the communal water management member per day/ month?
- iii. Who decides on the amount of the communal water management member's monthly allowance?
- iv. Is the communal water management member responsible for the security of the water storage tank and domestic water points? If yes how?

## **5) Individual/Private operator**

- i. When did the individual /private operator start to work in this town?
- ii. What was the situation of public water services before individual/private operators?

## **Appendix 11: Questionnaire for Ward and Sub-Wards Leaders**

1. How is a community served with domestic water services in this town?
2. What guidelines and policies exist for the governance of water in this town?

3. How can you tell that the guidelines and policies for water governance are well known or not known to the community and local actors and what is the status quo at present?
4. Are the guidelines and policies strictly followed in the allocation of water sources in the town no matter who the actor/service promoter is? Please explain.
5. How do local actors utilise these guidelines and policies? Are there any ingenious modifications to the national guidelines and policies that suit local contexts?
6. What can you comment on the existing national guidelines for domestic water service governance to communities?
7. What are the strengths of these guidelines and policies in the governance of domestic water in this town?
8. What are the constraints of these guidelines and policies in the governance of domestic water in this town?
9. To what extent do the problems and constraints of the guidelines and policies explain the challenges of domestic water governance in the town?
10. What are other factors that you think affect the governance of domestic water in this town?

## Appendix 12: Checklist for Water Management Committees (WMC)

### 1. Membership in water management committees

- I. What are the qualifications to become a member of a WMC?
- II. What is the structure of your committee? (Leaders and members)
- III. What is the legal basis of that structure?
- IV. How does the committee get its members and leaders?
- V. What is the leadership tenure?
- VI. What is the proportion of men and women in the WMC? Why are there few men and women on the committee?
- VII. How does age influence relationships and decision-making among WMC members?

### 2) Responsibilities of the WMC

- i. What is the role of your committee as far as water governance in this ward is concerned? (Include a description of infrastructure owned/under the committee; capacity and consumption per day; the number of house connections; communal standpipes)

- ii. What are the main responsibilities of the WMC?
- iii. How do you pursue that role as a committee? (Include leaders, other actors, activities).
- iv. To whom is your committee answerable, and who is answerable to you as far as the water supply is concerned? (If present, including local and international affiliations and their implications).
- v. How do you pursue that role as a committee? (Include leaders, other actors, activities, linkages, relations, inputs, outputs, etc.).
- vi. Do both men and women in the MWC perform the same responsibilities or is there a division of responsibilities? If so, who does what and why?
- vii. How do women rate their involvement in the WMC?

### **3) Decision-making and institutional collaboration**

- I. How often do men and women influence decision-making?
- II. How has the presence of men and women in WMC helped to provide domestic water services?
- III. What barriers are constraining men's and women's active involvement in WMC?
- IV. Who are the other actors participating in domestic water governance?
- V. Why does your institution take part in such joint undertakings?
- VI. What are the roles of each of the other actors with whom you form a partnership in domestic water governance?
- VII. Explain how your tasks are linked/related to the other actors' tasks (and vice versa) in domestic water governance in a town.
- VIII. Do the other actors provide services timely and in the required manner? Elaborate.
- IX. Do you know and have you ever witnessed/experienced any measures/punishments for the actors who collude in the process of domestic water governance?
- X. What mechanism do you use in partnership with the other actors' tasks?
- XI. Who coordinates the actors in the process of domestic water governance in a town? (Narrate the whole process of institutional coordination including actors, tasks, dependencies, coordination mechanisms, and the result of the processes).
- XII. What are the structures of institutional collaboration in place among actors, and how effective are they?
- XIII. How formal/informal is your institutional collaboration among other actors/partners? (Provide examples and evidence).

- XIV. Explain how some formal and informal institutional elements (e.g. laws, by-laws, directives, guidelines, norms, agreements, contracts, rules, MoU, and beliefs) have been used in domestic water governance.
- XV. Do you share information, knowledge, and resources with other actors in relation to domestic water governance? Who are they and how?
- XVI. What do you consider to be factors to effective domestic water governance in a small town? Give examples and evidence.
- XVII. What do you think could be done in order to improve the domestic water governance in this town and the coordination in this and in other localities/cities in the country?

#### 4) Payment and management of domestic water funds

- i. How do households pay for water services in this town?
- ii. Who sets the tariffs, which criteria are used, and who collects?
- iii. Are there any households failing to pay, what proportion?
- iv. Are there any groups that are exempted from paying water tariffs?
- v. Do you have an active domestic water fund account? When did you open a water fund account? How is the money spent? And who decides?
- vi. How is the overall management of the water fund's collections?

## Appendix 13: Households Interview

1. Name of respondent (optional)

.....

2. a) Male    b) Female

Type of Water source	Drinking	Cooking	Other Uses	Distance to source	Distance	Time (mins)
Inhouse tap						
Groundwater						
Shallow well						

<b>Type of Water source</b>	<b>Drinking</b>	<b>Cooking</b>	<b>Other Uses</b>	<b>Distance to source</b>	<b>Distance</b>	<b>Time (mins)</b>
Rainwater						
Communal water tap						
Others (Specify)						

3. How long have you been living here?

a) 0-1years    b) 1-3 years    c) 3-5years    d) over 5years

4. How many people reside in this household? .....

### **Water Supply and Consumption**

5. What are the main water sources and the distance to the source?

6. How much water do you use and at what cost per 20-litre jerry can? (Refer to previous answer)

<b>Type of Water source</b>	<b>Quantity (No. of 20-litre cans)</b>	<b>Cost per 20 litres</b>
Inhouse tap		
Groundwater		
Shallow well		
Rainwater		
Communal water tap		
Others (Specify)		

7. How often do you get water?



a) Not available at all b) Available all the time c) Periodically  
(specify).....

8. Do you think the water you are using is clean and safe?

a) Yes            b)No            c) I don't know

9. If no, how do you treat the water?

a) Boiling b) Filtering c) Water Guard / Chlorine d) Settling e) Others  
(specify) .....

10. What problems do you encounter with your current domestic water  
governance?

a) Unreliable supply b) Interrupted supply c) Poor water quality d) High  
prices

e) Billing and revenue collection is inappropriate f) Water Source is too far  
g) Others (specify)

.....

### **For respondents served by public piped water**

11. If you are connected to public water network, how often do you get  
water and why?

.....

12. Do you sell water to your neighbours?

If yes, how much per 20-litres? And what are the payment modalities?

.....

13. Who is currently responsible for managing public piped water provision?

.....

14. Are you comfortable with the management of the public piped water  
provision?

If yes, explain.....

If no, explain .....

15. What are the challenges and opportunities with public piped provision?

(Please explain)

- a) Access.....
- b) Price .....
- c) Quantity.....
- d) Quality.....
- e) Corruption .....
- f) Others (Specify).....

**For respondents served by communal water points**

16. What are the payment modalities for communal water?

17. Are you comfortable with the location of communal water points in this town?

- a) If yes, explain .....
- b) If no, explain .....

18. Who is currently responsible for managing the communal water point?  
.....

19. Are you comfortable with the management of the communal water point?  
If yes, explain.....

If no, explain .....

20. What are the challenges and opportunities with communal water governance? (Please explain)

- a) Access.....
- b) Price .....
- c) Quantity.....
- d) Quality.....
- e) Corruption .....
- f) Others (Specify).....

**For respondents served by individual water sellers**

21. Who is currently responsible for managing the individual water sellers in this town?

.....

22. What are the water payment modalities for water under individual water operators?

.....

23. Are you comfortable with the management of the individual water sellers’ operation?

If yes, explain .....

If no, explain .....

24. What are the challenges and opportunities with communal water governance? (Please explain)

a) Access.....

b) Price .....

c) Quantity.....

d) Quality.....

e) Corruption .....

f) Others (Specify).....

**For respondents served by mobile water vendors**

25. Who is currently responsible for managing the individual water sellers in this town?

.....

26. What are the water payment modalities for water under mobile water vendors’ operations?

.....

27. Are you comfortable with the management of the mobile water vendors?

If yes, explain.....

If no, explain .....

28. What are the challenges and opportunities with mobile water vendors' governance? (Please explain)

g) Access.....

h) Price .....

i) Quantity.....

j) Quality.....

k) Corruption .....

l) Others (Specify).....

## Appendix 14: Permit from Handeni District

HALMASHAURI YA WILAYA YA HANDENI	
Simu ya mdomo:	027 -2641703
Tel Fax:	027 2643048
E-mail:	
Kutib. yako:	
Kumb. yetu:	LD/HD/905/VOLIV/33



Ofisi ya Mkurugenzi Mtendaji(W)  
S.L.P 355  
Handeni, Tanga,  
12/02/2018

Afisa Mtendaji,  
Kata ya Mkata, Kabuku, Kabuku Ndani  
na Segera.

**YAH: KUMTAMBULISHA NDUGU HAPPINESS JACOB MULULA.**

Husika na mada tajwa hapo juu.

Minusika tajwa hapo juu ni Mkufunzi katika Chuo kikuu Ardhi (Ardhi University) kichepo Dar es Salaam. Kwa sasa anarany utaiti kuhusu upanikanaji wa miundombinu mbalimbali (maji taka, barabara, maji, na taka ngumu) katika miji midogo inayokuwa ambayo ni Mkata, Kabuku na Segera.

Mhusika amesharipoti katika Ofisi ya Mkurugenzi Mtendaji Wilaya, hivyo kwa barua hii mnatakiwa kumpa ushirikiano wa kutosha kwa kumpa taarifa mbalimbali za utafiti atakazohitaji ili aweze kufanikisha utafiti wake kikamilifu.

Nakutakia utekelezaji mwema.

10-1-13

NAPOLÉON MLOWE  
KNY: MKURUGENZI MTENDAJI (H/W)  
HANDENI

10-1-13

**Nakala**  
Mkurugenzi Mtendaji(H/W)  
Handeni

- Kwa taarifa.





# ACTA UNIVERSITATIS AGRICULTURAE SUECIAE

## DOCTORAL THESIS No. 2025:68

This thesis examines water governance in small towns in sub-Saharan Africa, focusing on the roles of local actors and institutional dynamics in domestic water provision. It adds to the existing knowledge on the ways bottom-up practices in water supply affect domestic water governance, whether positively or negatively. The study highlights the significance of local actors and existing institutions as key elements in strengthening domestic water governance in small towns across developing countries.

**Happiness Jacob Mlula** obtained her MSc. Degree in Human Settlement, specializing in Urban Planning and Design from Katholieke Universiteit Leuven, Belgium in 2010. She graduated her Bachelor of Science Degree in Urban and Regional Planning (BSc.URP) from the University of Dar es Salaam, Tanzania in the year 2006.

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