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Money Flows, Water Trickles: Decentralized Service Delivery Under Hegemonic Party Rule

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of the requirements for the degree
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by

Ruth Denali Carlitz

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Abstract of the Dissertation

Money Flows, Water Trickles:

Decentralized Service Delivery Under Hegemonic Party Rule

by

Ruth Denali Carlitz

Doctor of Philosophy in Political Science

University of California, Los Angeles, 2016

Professor Miriam A. Golden, Chair

This dissertation focuses on Tanzania, a hegemonic party regime where nearly half of the population lacks access to clean and safe drinking water despite massive investments in this sector in recent years. In order to make sense of this disconnect between spending and improved outcomes, I analyze novel data on financial allocations and infrastructure construction for water provision, contextualized by public opinion surveys, interviews and focus group discussions conducted during six months of fieldwork. I find that Tanzania's strategy of decentralizing water provision to local governments has largely failed to promote responsiveness to local needs, due to local capture and politicized misallocation. I demonstrate how politicians have skewed resource distribution in such a way that favors their core supporters at the expense of demonstrably needier constituents. At the same time, citizens have been unable to compel responses to their needs given the lack of credible alternatives to the ruling party, as well as confusion over government responsibility for water provision, low expectations of self-efficacy and collective action, and entrenched gender norms. My study adds to the rich literature on decentralization by illuminating the challenges it can encounter in the context of a hegemonic party regime. By illuminating the role of local politics, my dissertation also adds to our understanding of how hegemonic party regimes – the most common type of authoritarian rule in the post-World War II period – survive and endure.

The dissertation of Ruth Denali Carlitz is approved.

Stephen K. Commins

Jean E. Ensminger

Daniel N. Posner

Miriam A. Golden, Committee Chair

University of California, Los Angeles

2016

To Rakesh,

for starting me on this journey . . .

and to Philip,

for helping me complete it.

Mwanzo mateso, mwisho furaha.

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Vita

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"Budget Transparency Around The World: Results From The 2008 Open Budget Survey."

(with Paolo De Renzio, Warren Krafchik and Vivek Ramkumar) 2009. *OECD Journal on Budgeting 9*(2): 1–17.

CHAPTER 1

Introduction

1.1 Motivation

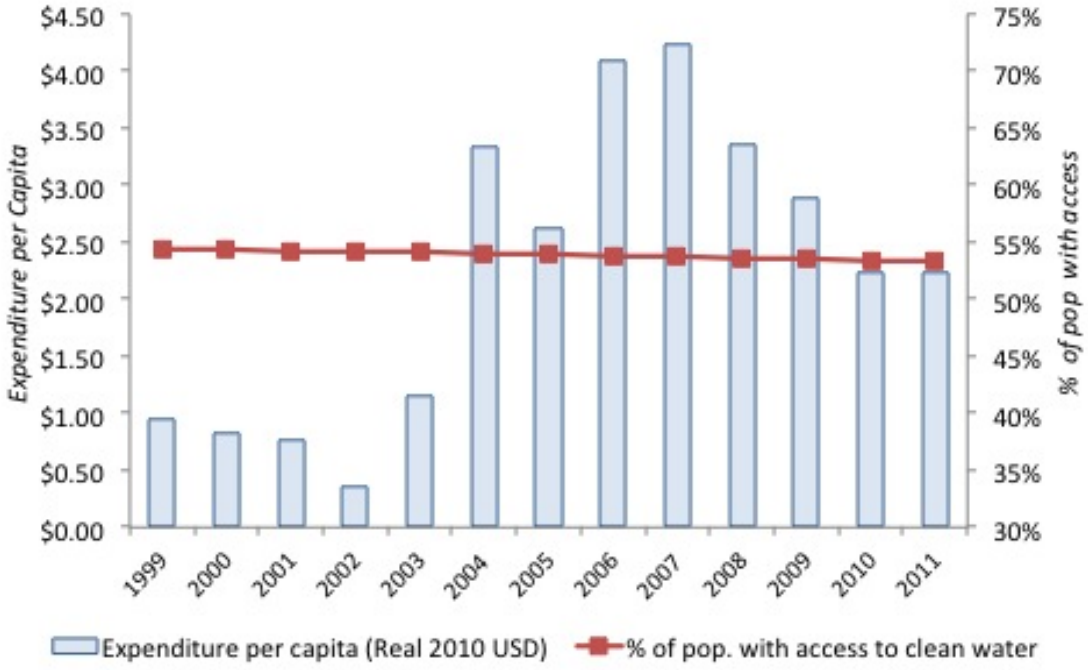
Washing the dishes. Taking a shower. Parching one's thirst on a hot day. To the average citizen of Tanzania, these seemingly mundane activities present a regular challenge. For decades, ready access to clean water has remained out of reach for millions of people in the East African nation. Every day, the country's women and girls spend hours walking, waiting, and carrying 40-pound buckets over considerable distances to obtain sufficient amounts of water for home use. Each year, over 4,000 children under five die from preventable diseases caused by poor water and sanitation (WaterAid, N.d.).

A casual observer might think that Tanzania's lack of clean water is simply an unfortunate but inevitable reflection of the country's poverty. Tanzania is, after all, a country where nearly half of the population subsists on less than two dollars per day.[1] But while poverty is part of the story, Tanzania presents a puzzle, since the lack of clean water has persisted in spite of massive funding increases meant to address this exact problem. In 2000, the Tanzanian government – and the majority of its foreign aid donors – began coordinating their efforts around the Millennium Development Goals (MDGs), a series of time-bound targets aimed at reducing extreme poverty by 2015. The MDGs included a goal of reducing by half the proportion of people without sustainable access to safe drinking water and basic sanitation (United Nations Statistics Division, 2008). By 2004, the government of Tanzania had incorporated a number of MDG targets into its national poverty reduction strategy, and

[1] According to the World Bank's World Development Indicators, 46.5% of all Tanzanians lived on less than $1.90 a day in 2011, at 2011 international prices.

initiated a doubling of its budgetary resource allocation to the water sector (van den Berg et al., 2009, 5). This increase, largely sustained over the next decade, put the country ahead of its African neighbors in terms of finance for water supply (African Ministers Council on Water, 2010). At the same time, however, access to clean water has stagnated at just over 50%, as shown in Figure 1.1.

Figure 1.1: Spending on Water vs. Access



Note: Expenditure data for 1999-2007 from van den Berg et al. (2009), Annex Table 1; expenditure data for 2008-2011 calculated by combining data from from Quinn and Tilley (2013), Table 3 with GDP figures from the National Accounts of Tanzania Mainland 2011. Expenditure figures are adjusted for inflation and converted into per-capita amounts using population data and the Consumer Price Index (2010 = 100) for Tanzania from the World Bank World Development Indicators. Figures on access to clean water are from World Health Organization and UNICEF (N.d.).

The pages that follow represent an investigation into this puzzle. I analyze finely grained data on budget allocations, actual spending, and construction of infrastructure for water provision, as well as electoral returns and nationally representative panel surveys. My study also draws on insights from fieldwork conducted over six months in Tanzania (June - December 2013[2]), where I interviewed government officials, representatives from foreign aid agencies and employees of non-governmental organizations (NGOs) working in the water sector and on broader governance issues. I also spent time in eight rural districts, where I met with local government politicians and appointed officials, and conducted numerous focus group discussions with Tanzanian citizens.[3]

I find that Tanzania's failure to translate spending on water into improved outcomes results primarily from the devolution of funding and decision-making authority to Tanzania's local governments. Although scholars and development practitioners have advocated such reforms as a way to promote government accountability and responsiveness to local needs, I show that decentralization can have the opposite effect in a hegemonic party regime. In such a context, increasing the discretion of local officials creates incentives for them to allocate resources in a manner that promotes regime survival, rather than meet the needs of their constituents.

The politicized misallocation of resources also reflects the intensity of foreign aid to Tanzania's water sector. The high degree of foreign aid makes it difficult for politicians to take credit for improved outcomes, and reduces the motivation of citizens to hold their elected officials to account.

Tanzania's failure to translate public spending into tangible impacts on outputs and services is not unique. For example, Filmer and Pritchett (1999) find that public spending on health has a minimal effect on reducing child and infant mortality. Empirical studies have also found little if any relationship between public education spending and educational outcomes (Hanushek, 1995; Mingat and Tan, 1998; Tan and Mingat, 1992; Wolf, 2004). Other

[2]I also made a follow-up trip in June 2014.

[3]See Table 5.4 in Chapter 5 for more details.

scholars have failed to find an association between levels of spending and levels of access to water supply and sanitation (van Ginneken, Netterstrom and Bennett, 2011). While the literature documenting such disconnects is extensive, few studies have investigated the political factors that account for them; I am not aware of any that investigate the role of decentralization. This represents a key contribution of my dissertation.

This chapter proceeds as follows. The next section contextualizes my study with respect to the broader literature on decentralization, and provides relevant background information on the Tanzanian case. Section 1.3 then highlights the dissertation's main contributions, while Section 1.4 presents an outline of subsequent chapters.

1.2 Decentralization of Water: Promise and Reality

1.2.1 Why Decentralize?

Since the 1980s, at least 41 countries have decentralized water and sanitation services to subnational governments (Herrera and Post, 2014). This reflects broader trends with respect to public service delivery; decentralization reforms of one sort or another have been implemented in almost every country in the world (Faguet, 2014; Parker, 1995).

In low- and middle-income countries, these reforms were spurred on by economic, fiscal, and political crises, as well as pressure from foreign aid donors (Olowu, 2003). Decentralization's catalogue of purported benefits includes: increased citizen voice and participation, greater government accountability and responsiveness, deeper democracy, improved economic performance, reduced bureaucracy, and increased policy stability (Bird, 1994; Conyers, 2007; Faguet, 2012). In theory, bringing government closer to the governed should facilitate the identification and targeting of needy populations (Crook, 2003; Galasso and Ravallion, 2005), and make it easier for citizens to sanction or reward local officials (Faguet, 2012).

A similar set of motives has driven the decentralization of water provision, but some factors are unique to the sector, causing reforms to proceed in a particular manner. Water has features that justify its treatment as both a public and private good. On the one

hand, improved access to clean water has a number of positive externalities, including public health and environmental benefits. Lack of awareness about these benefits and a failure to internalize them can lead to suboptimal levels of investment and consumption without government intervention. Furthermore, water distribution represents a natural monopoly, limiting the scope for competitive pressures. The sector is also characterized by a high degree of sunk costs (van Ginneken, Netterstrom and Bennett, 2011). For decades, these factors and others motivated a centralized, supply-driven approach to water provision.

By the late 1980s, financial crises and rapid population growth meant that many governments – especially those in poor countries – lacked the resources to provide and maintain sufficient infrastructure for water provision. Fragmented planning, inefficiency, and lack of cost recovery further exacerbated the situation (Wedgwood, 2005; World Bank, 1994). Awareness of these challenges led to a new conception of water as an *economic good*, which had important implications for sector governance. Specifically, the World Bank and other influential international organizations reached consensus around the Dublin Principles, advanced at the International Conference on Water and the Environment, in Dublin, Ireland, in January 1992. Of particular importance are the "Institutional Principle," which requires participatory water management, including the devolution of responsibility "to the lowest appropriate level," and the "Instrument Principle," which requires that water be managed as an economic resource (McLean, 2002, 73). This consensus led foreign donors to encourage decentralization of water in aid-recipient countries, often making it a condition for receiving aid. Compared to other sectors, the construction of water point infrastructure was seen as particularly amenable to decentralization given its low levels of "externability" (geographic spillovers), high levels of "chargeability" (ease with which it could be financed by charges as opposed to taxes), and relatively low levels of "technicity" (required technical and managerial expertise) (Prud'homme, 1995). Decentralization was seen as a way to increase user influence on policymaking, which would in turn build political support for raising needed revenue from users in order to improve service provision (Herrera and Post, 2014, 621).

The decentralization of water provision has taken three main forms: *private sector participation*, which ranges from from full privatization to contracting out for services; *delegation*,

where governments transfer water management to public or semiprivate water companies; and *devolution*, which entails two processes that are meant to reinforce each other: (i) devolution to local governments, and (ii) devolution to community-based groups (McLean, 2002, 73–74). The second process reflects the so-called 'demand-responsive approach' (DRA), which has emerged as the leading paradigm for rural water provision in developing countries over the past two decades (Koehler, Thomson and Hope, 2015; Lockwood and Smits, 2011; Neef, 2009). According to the DRA, water users are supposed to demand, own, and maintain their water services and participate in their design. In practical terms, demand for water tends to be understood as the willingness to pay for it (Rout, 2014). In a number of countries, this has led to mandatory cost-sharing, requiring beneficiary communities to contribute a given percentage of total project costs before construction can begin (Wedgwood, 2005).

Despite widespread acceptance of decentralization as the preferred mode of water provision in many countries, reforms that devolve money and authority to local governments and water users have frequently failed to achieve their stated aims of improved cost recovery, sustainability, and access to services. In general, decentralization can falter if local decisions are not fully democratic, if the costs of local decisions are not fully borne by decision makers, and if benefits "spill over" jurisdictional boundaries (Bird, 1994). Synthesizing case studies that provide detailed data on service delivery in Africa, Conyers (2007) finds that the potential benefits of decentralization are often undermined by: inadequate devolution of power, particularly over finance and staff, vague and/or inappropriate systems and procedures, under-qualified and unmotivated staff, political interference and corruption, and a lack of "downward" accountability (of local politicians to their constituents). In a study of 15 countries in Sub-Saharan Africa, van Ginneken, Netterstrom and Bennett (2011) reach similar conclusions, noting that in spite of the official decentralization of water provision in most cases, the devolution of responsibilities to local governments has not been accompanied by sufficient authority and resources. Finally, looking at the urban water sector, Herrera and Post (2014) find that decentralization has not increased support for cost-recovery policies as promised, given local political opposition to such measures.

Evidence for the effectiveness of community management is mixed. Isham, Narayan

and Pritchett (1995) analyze 121 rural water projects and find that increased beneficiary participation directly causes better outcomes such as overall project effectiveness and the percentage of the water system in good condition. On the other hand, Koehler, Thomson and Hope (2015) note that operations and maintenance of rural water infrastructure has barely improved despite widespread adoption of DRA principles. In practice, the approach is often thwarted given a lack of acceptability, feasibility, or limited capacity of communities to sustain their chosen option.

1.2.2 Tanzania's Experience with Decentralization

Tanzania represents an informative case study of the various trends described above. Like many of its neighbors in sub-Saharan Africa, Tanzania has gone through multiple phases of decentralization since achieving independence in 1961. The ruling Chama Cha Mapinduzi (CCM) party began by abolishing the local governments that had been established in 1926 by the colonial British. In 1972, the government absorbed local officers into the national civil service, decentralized national ministries, and attempted to consolidate the rural population into *Ujamaa* ("family-hood" in Swahili) villages as a means of providing necessary services efficiently (Ringo et al., 2013).[4] Single-party rule during this period made it difficult to distinguish between organs of the party and the state, both of which were organized in a hierarchical fashion.

The late 1970s and early 1980s saw Tanzania plunged into a period of prolonged economic crisis, which led to a decline in essential services (Venugopal and Yilmaz, 2010). The CCM reestablished local governments in 1982, in the hopes that this would facilitate democratic participation in decision-making at the local level, and that elected local councils would be better able to collect revenue and mobilize people to participate in self-help activities than was the central government. Despite the reestablishment of local governments, resources such as manpower, expertise, and equipment were retained at the regional level, where centrally

[4] *Ujamaa* was a concept that shaped Tanzania's founding President Julius K. Nyerere's vision of "African Socialism," and had significant implications for economic and social policy during his tenure and beyond. For an in-depth treatment of how villagization has affected public goods provision, see Miguel (2004).

appointed officials governed (Mollel, 2010).

Most recently, with considerable financial support and pressure from its foreign aid donors, Tanzania embarked on a Local Government Reform Programme (LGRP) in 1996 that promoted "decentralization-by-devolution" (Gould and Ojanen, 2003; Green, 2003). The LGRP led to the introduction of a formula-based system of intergovernmental grants in 2004. These latest reforms were motivated by the desire (of both the Tanzanian government and its donors) to make the distribution of resources among local governments more objective, transparent, efficient, and equitable (Boex and Martinez-Vazquez, 2006), and ultimately to improve service delivery (Pallotti, 2008).

In the wake of these reforms, Tanzania's 169 local government authorities (LGAs, also known as districts) are responsible for over 25 percent of public spending (PER-Macro Group, 2013). Ironically, the increase in funds flowing from the central to the local level has constrained the autonomy of local governments by making them more financially dependent on the center, leading to what some have termed "recentralization" (Kessy and McCourt, 2010). The central government also continues to influence local and regional structures, with centrally appointed officials serving beside their locally elected counterparts at almost every level of government.

Ultimately, LGAs have very little control over their budgets given the high proportion of fixed costs and the strong role of the central government in determining both the quantity and structure of most revenues received by local authorities (Noiset and Rider, 2011). In recent years, transfers from the central government have accounted for around 90% of all revenues for LGAs. Locally elected officials nominally have a fair amount of autonomy in deciding how to spend the money they receive from the center. However, hegemonic party rule promotes "upward accountability" of local elected officials to the central government rather than "downward accountability" to their constituents (Venugopal and Yilmaz, 2010, 218).

1.2.3 Water Provision in Tanzania

Tanzania's overall experience with decentralization contextualizes historical and recent trends with respect to water provision. Shortly after independence, the government took full responsibility for funding rural water supplies, and declared that water at public distribution points (standpipes, boreholes, etc.) should be free (Jiménez and Pérez-Foguet, 2010). In 1971, the ruling party created an ambitious plan stating that by 1991 the entire population (both rural and urban) should have access to safe water within easy reach of their homes (Giné and Pérez-Foguet, 2008). However, economic crises throughout the 1970s and 1980s led to major declines in service delivery. Tanzania's many foreign aid donors stepped in to fill the gaps – in the water sector and elsewhere. Foreign-funded infrastructure for water provision was rapidly constructed and then transferred to regional water engineers who had neither the budget nor capabilities to operate the new schemes. As a result, the new infrastructure quickly fell into disrepair and a sizable proportion of the population remained without access to clean water. In an attempt to rectify this situation, the Government of Tanzania launched a new National Water Policy in 1991, establishing a new target: by the year 2002, all Tanzanians were to have clean and safe water within 400 meters of their households. Unfortunately, this target was not achieved. Close observers of the Tanzanian water sector blame this failure on the fact that the 1991 policy made the central government the sole investor, implementer and manager of projects in rural and urban areas, while shifting part of the responsibility for operations and maintenance to end-users. The failure to achieve universal access by 2002 led to a major revision of the National Water Policy. Under the new policy framework, which governs the sector as of this writing, the central government plays the role of coordinator and facilitator, while local governments hold the main responsibilities for implementation (Jiménez and Pérez-Foguet, 2010).

In order to implement the revised policy, a coalition of donors[5] worked with the Government of Tanzania to establish the Water Sector Development Program (WSDP) in 2007. The WSDP was intended to enhance coordination among donors who had previously im-

[5]These include the World Bank, the African Development Bank, the UK Department for International Development (DFID) and a handful of others.

plemented discrete projects aimed at improving access in particular geographic areas.[6] The WSDP also aimed at promoting decentralization and greater public participation. As a result, a significant amount of funds and decision-making authority over water provision now reside at the district level. District governments are then supposed to allocate resources to projects in specific rural communities within their jurisdiction, based on a combination of need, as demonstrated by current levels of access, and demand, as demonstrated through a grassroots process. As I show in subsequent chapters, implementation of the WSDP to date has failed to achieve a number of its stated goals.

Most of the analysis in this dissertation focuses on rural water provision, for a number of reasons. First, need is much more pronounced in rural areas. As of 2015, 19.5 million rural Tanzanians lacked access (55% of all rural residents), compared with 3.8 million urbanites (23% of all urban residents).[7] In part, this reflects the fact that Tanzania is nearly 75% rural. In addition, urban residents are much more likely to have water piped into their homes – 28% vs. just 5.6% of rural residents as of 2015 (World Health Organization and UNICEF, N.d.) – or are able buy water from private vendors (Banerjee and Morella, 2011, 48). Given that rural residents have limited access to private water vendors, they rely more on the government to meet their needs. Finally, the criteria meant to guide resource allocation to rural areas is much more clearly specified than that guiding the distribution of resources to urban areas, as funding for urban water supply tends to be concentrated in a few large, earmarked projects (Oxford Policy Management, 2013). In addition, the water point mapping exercise that I examine in my empirical analysis was conducted in rural areas only.

[6]From 1974–1983, Regional Water Master Plans (RWMPs) were prepared for 17 of Tanzania's 20 regions. These plans, which typically spanned 20 years, laid out the "optimal" use of all wear resources in the region and emphasized "firm guidelines" for water supplies. All but one were funded by foreign aid agencies, primarily the Nordic countries (Denmark, Finland, Holland, and Sweden) and the World Bank (Therkildsen, 1988).

[7]These calculations of unserved populations are based on estimates from World Health Organization and UNICEF (N.d.).

1.3 Contributions of the Dissertation

While the literature on distributive politics in developing countries has been expanding (Golden and Min, 2013; Stokes et al., 2013) studies such as mine that incorporate finely grained, geo-referenced data on public goods provision are still rare.[8] Considering outcomes at the level of service delivery (access to an improved water point, in this case) strengthens my inferences, particularly when compared with studies that rely on blunter measures of resource distribution (e.g., district-level spending on water). Specifically, I am able to distinguish between local capture and politicized misallocation by local governments, showing that the latter is equally if not more important to account for the disconnect that motivates this study.

Furthermore, I look at the allocation of resources both *to* and *within* districts, allowing me to compare the logic of distribution by Tanzania's central and local governments. My finding that targeting is more regressive at lower levels of government contrasts with much of the extant research on pro-poor targeting in low-income countries. Table 1.1 shows that most scholars have found more pro-poor targeting at the local level than by central governments.

[8]Notable exceptions include Harris and Posner (2015); Burgess et al. (2015); Wilfahrt (2014).

Table 1.1: Studies of Central vs. Local Targeting of the Poor

Author(s)	**Focus of Study**	**Findings**	**More Pro-Poor Targeting at Lower Levels?**
Alderman (2001, 2002)	Social assistance program in Albania	Local authorities better allocate social assistance among households than does central government among local authorities.	Yes
Baird, McIntosh and Özler (2013)	Community-driven development program in Tanzania	Strongly regressive pattern of demand across districts. However, progressive funding formula, eligibility rule, and decentralized beneficiary selection combine to result in mildly pro-poor targeting within districts	Yes
Bardhan and Mookherjee (2006*b*)	Local government development programs in West Bengal	Inter-village allocations exhibit anti-poor bias while intra-village targeting favors the poor.	Yes
Chase (2002)	Social fund in Armenia	Social fund was successful in targeting communities with poorest infrastructure, but these communities were not always among the poorest and fund was slightly regressive in targeting households in rural areas.	No
de Janvry, Nakagawa and Sadoulet (2009)	Social fund in Zambia	Center's targeting of districts was not progressive, while within-district targeting of wards became more progressive over time, especially as districts were given greater discretion. Districts given greater discretion also had greater managerial capacity.	Yes
Galasso and Ravallion (2005)	Food-for-education program in Bangladesh	Capture within community less severe than distorted inter-community allocations decided by higher-level governments	Yes
Paxson and Schady (2002)	Social fund in Peru	The social fund, which emphasized geographic targeting, reached poorest districts but not poorest households in those districts.	No

My study also sheds light on the broader question of how hegemonic party regimes stay in power. This is important given that hegemonic party rule represents the most common type of authoritarian rule in the post-World War II period.[9] Empirical work on hegemonic party survival has focused on how national-level elections and legislatures serve to bolster regimes. Less well understood is how the dynamics of hegemonic party rule play out at the local level.

The focus on rural water provision also represents an important contribution. Recent studies of cost-effectiveness in the water sector have focused on the urban water sector (Herrera and Post, 2014; Marson and Savin, 2015). However, the vast majority of people around the world who lack access to improved drinking water sources live in rural areas. As of 2015, 79% of the people using unimproved sources and 93% of people using surface water were rural residents (UNICEF and World Health Organization, 2015). Furthermore, despite rapid urbanization over the past half century, most countries in Africa remain predominantly rural.

Finally, my findings have important implications for thinking about the effectiveness of foreign aid. In 2015, the member states of the United Nations agreed to a set of 'Sustainable Development Goals' (SDGs), successors to the Millennium Development Goals (MDGs), which have driven the international development agenda of the past two decades. Experts estimate that reaching the SDGs, which include a target of of universal access to clean water by 2030, will require an additional $80 billion of foreign aid, as well as substantially increased allocations of domestic resources to social service sectors in low- and lower-middle-income countries (Manuel and Hoy, 2015). Such cost estimates assume that every dollar allocated to meet a given SDG target will be spent as intended. My dissertation challenges this assumption. Beyond resource mobilization, achieving the SDGs will require careful consideration of the different systems of governance and resource allocation that characterize water-poor regions.

[9] Author's analysis of the GWF Autocratic Regimes 1.2 (Geddes, Wright and Frantz, 2012), which includes all authoritarian regimes from 1946 onwards. I sum country-years for all regimes coded as "party," "party-military," "party-military-personal," and "party-personal." These account for 2,199 country-years out of 4,591.

1.4 Plan of the Dissertation

This dissertation proceeds as follows. The next chapter characterizes Tanzania's hegemonic party regime, and describes the country's dependence on foreign aid – showing how neither factor is sufficient to explain the disconnect between spending and outcomes that we observe.

My primary empirical analysis then proceeds in the following two chapters. Chapter 3 analyzes the allocation of funds for water provision to Tanzania's 97 mainland[10] rural districts. I find that the formula meant to guide resource distribution has largely been ignored. Political interference helps explain some of the deviations from the formula – with districts that demonstrate higher levels of support for the ruling party receiving consistently larger amounts of money.

Chapter 4 then looks at what happens when money reaches the district level. I first present evidence of significant variation in "value for money" when it comes to how districts use the money they receive to build new infrastructure for water provision. Districts that are relatively better off, and that have lower levels of inequality, tend to allocate resources more efficiently; however, overall spending efficiency is low. Given that efficiency does not appear to be the main driver of local government decision-making, I also investigate the role of local politics to explain where new infrastructure for water provision gets built. I find evidence of significant politicized misallocation – with the distribution of new water infrastructure skewed to favor communities with higher demonstrated levels of support for the ruling party. In addition, wealthier and better connected communities are significantly more likely to experience improvements in water point coverage. My analysis shows that local politicians funnel the resources they get from the central government to their supporters, as well as other vocal citizens they cannot easily ignore.

Chapter 5 examines the disconnect between spending and outcomes in Tanzania's water sector from the point of view of Tanzanian citizens. I find that while Tanzanians are deeply unsatisfied with the status quo when it comes to water provision, they largely fail to sanction

[10]My analysis excludes Zanzibar, given a lack of data and the fact that Zanzibar's system of local government and framework for water provision are very different from the mainland's.

government officials for poor performance – at the polls or by taking other actions. These findings reflect the nature of politics in a hegemonic party regime, where political competition is limited and based primarily on the ability to offer patronage goods. Other constraints on electoral and non-electoral sanctioning include: confusion over government responsibility for water provision, low expectations of self-efficacy and collective action, and entrenched gender norms. I conclude Chapter 5 by discussing interventions to relax these constraints.

Finally, Chapter 6 zooms out to consider the implications of this dissertation for comparative research. I take stock of the preceding chapters, noting three main themes: (1) Tanzania's hegemonic party regime status, (2) the way in which rural water provision has been decentralized, and (3) the extent to which the sector is funded by foreign aid. I then generate hypotheses regarding the effects of varying these factors, and describe suitable empirical tests to conduct across and within countries.

CHAPTER 2

Tanzania's Aid-Dependent, Hegemonic Party Regime

2.1 Introduction

The preceding chapter presented the motivating puzzle of this dissertation: massive funding increases have failed to meaningfully improve access to clean water for millions of Tanzanian citizens. Regrettably, this situation is not unique. Low levels of service provision persist across much of sub-Saharan Africa and the developing world, despite an influx of billions of dollars in foreign aid. Among other things this reflects the absence of consolidated democracy. In many countries, elections do not serve as a source of accountability given the absence of programmatic parties competing for people's votes, and a lack of open and informed public debate (Joshi and Houtzager, 2012). We might therefore understand the Tanzanian government's failure to improve access to clean water over the past 25 years as reflecting the absence of democracy. Yet, as I show in this chapter, Tanzania's hegemonic party is not indifferent to the needs of the country's citizens, and often tailors its policies to respond to their concerns.

Perhaps, then, the disconnect between spending and outcomes reflects the relatively low priority that the international donor community has placed on the water sector in recent decades – in Tanzania and elsewhere. However, I show that in spite of the country's high degree of donor dependence, Tanzania's government retains a fair degree of autonomy when it comes to policy implementation. Furthermore, water represents an important domestic policy priority.

In what follows, I describe Tanzania's hegemonic party regime and discuss the implications of this type of politics for public service provision. I then characterize Tanzania's

dependence on foreign aid, and the extent to which donors influence the country's policy agenda. This chapter concludes by making the case for studying the politics underlying the provision of public services in Tanzania – and specifically, for investigating politics of water provision, the focus of the two subsequent empirical chapters.

2.2 Hegemonic Party Politics

2.2.1 The CCM in Power: Five Decades and Counting

Tanzania's Chama Cha Mapinduzi (CCM) party has dominated politics since the country achieved independence in 1961[1] – serving for decades as the country's sole legal party, and since the transition to multi-party politics in 1995, as the dominant ruling party.

Since its inception, the CCM has been characterized by an extensive grassroots organization, and remains a "genuinely national party" (Lofchie, 2014, 10). This is due in part to the legacy of its founder, Tanzania's first president Julius Nyerere. Nyerere was a unifying figure whose socialist policies promoted a strong national identity. These included the use of Swahili as a national language, suppression of chiefs and ethnic leaders (Tripp, 2012) and mandatory national service for all secondary school leavers wishing to enter university.[2] Miguel (2004) also suggests that Tanzania's public school curriculum functioned as a nation-building tool, as did a relatively equitable distribution of public goods in the post-independence era. The country's large number of small ethnic groups bolstered such efforts; as a result, ethnicity has been a weak source of national-level polarization (Whitehead, 2012). On surveys of public opinion, Tanzanian respondents consistently articulate much higher levels of national identification than their neighbors. For instance, in a nationally representative survey conducted in 2012, when asked if they had to choose between being Tanzanian and being a member of their ethnic group, 62% of respondents said that

[1]Tanzania's ruling party at independence was called the Tanganyika African National Union (TANU); in 1977 TANU merged with the ruling party in Zanzibar to form the current CCM party.

[2]Nyerere initiated the national service requirement 1963; it was suspended in 1994 due to lack of funding and reinstated partially in 2013 (Ramat, 2015).

they identify solely as Tanzanian (Afrobarometer, 2012). For the other 27 African countries surveyed during this period, just 38% of respondents reported that they identify solely as citizens of their respective countries. In light of this, one recent study of national versus ethnic identification in Africa excludes Tanzania given its outlier status (Robinson, 2009).

In the 1980s, a dramatic economic downturn led to a legitimacy crisis for the ruling party (Lindemann and Putzel, 2008, 23). The CCM initially responded by adopting a repressive stance that continued the increasingly authoritarian tendencies of late 1970s. Ultimately, however, the regime was forced to make some concessions to its political opponents. Somewhat ironically, advocacy by the one-party system's founder, Julius Nyerere, helped spur the transition to multi-party politics. Although Nyerere had relinquished the presidency in 1985, he remained an influential figure in Tanzanian politics and saw multipartyism as a necessary response to pressure from foreign donors, who financed nearly a third of the country's budget at the time. Furthermore, Nyerere and his supporters believed that if the party could act before the growing global pressures for reform reached Tanzania, they could manage the transition in a way that would give them the upper hand (Hoffman and Robinson, 2009; Therkildsen and Bourgouin, 2012; Tripp, 2012). CCM's continued dominance suggests that this instinct was correct.

Indeed, opposition political parties in Tanzania have remained weak, largely due to efforts by the ruling party to impede potential competitors. First, biases in the electoral formula give CCM more than its proportional share of seats in parliament. Furthermore, the country's National Electoral Commission lacks independence, and onerous party registration procedures create barriers to entry for would-be challengers. The distribution of state-subsidized campaign finance in particular helps the ruling party maintain its dominant position. In the country's first multi-party elections in 1995, the government distributed equal subsidies to all candidates, wishing to appear supportive of democratic competition – and not fearing any real threat. However, when the opposition won more of the popular vote than the CCM expected, Parliament passed a new subsidy law that strongly favored the ruling party. According to the new law, parties receive half of the subsidy in proportion to the party's popular vote share in the previous election, and the other half according to how

many seats the party holds in Parliament and local governments (Hoffman and Robinson, 2009). Given the country's relatively low population density and high rural population, such a lack of resources significantly constrains opposition candidates' abilities to campaign.

While local media outlets have become increasingly vibrant and critical, a number of restrictive laws remain on the books when it comes to press freedom (Friedrich-Ebert-Stiftung, 2012). Ambiguous clauses regarding sedition and libel give the ruling party substantial leeway when it comes to punishing critical voices. For instance, in 2013 the Government of Tanzania banned the widely read *Mwananchi* and *Mtanzania* newspapers "due to their trend of publishing news stories and articles that provoke incitement and hostility, with the intention of influencing the citizens to lose confidence in State organs, and thus endanger the peace and cohesion that prevails in the country" (Article 19, 2013). In early 2015, the government banned one of the most respected weekly newspapers in the region, *The East African*, allegedly because the paper had been circulating in the country without registration, though many suspect the ban stems from the government's discontent with the newspaper's reporting and analysis (Friedrich-Ebert-Stiftung, 2015). These patterns have continued with the election of a new President (John Pombe Magufuli) in November 2015. Less than two months after taking office, his government announced a permanent ban on the printed weekly *Mawio* (a Swahili-language newspaper) for "inflammatory" reporting (Mohammed, 2016). Days later, the Tanzania Communications Regulatory Authority (TCRA) – the agency that regulates the country's communications and broadcasting sectors – announced a three-month suspension of six television and 21 radio stations if they failed to pay license fees (Mhagama, 2016).

As may be clear from the language employed in the above paragraphs, the distinction between Tanzania's ruling party and the Tanzanian state is far from clear. This is due in part to the party's control of the bureaucracy. Although central government employment declined substantially during the 1990s in response to structural adjustment policies, it has grown considerably since the end of that decade, largely due to donor funding to achieve the Millennium Development Goals (Therkildsen and Bourgouin, 2012). Furthermore, the President, who also serves as chair of the party, controls access to powerful positions in the

bureaucracy, further entrenching the CCM's dominance (Makulilo, 2014). The blurred lines between state and party not only give ruling party officials disproportionate access to public resources, they also make it easier for the party to influence outcomes at the local level given the state's extensive reach.

Finally, the CCM has made targeted use of repression to maintain its dominant position. For instance, security forces and ruling party operatives have at times blocked demonstrations or unleashed tear gas at opposition rallies (Whitehead, 2012). That said, the CCM's use of repression is much more limited and covert than that of other African electoral authoritarian regimes, where harassment and intimidation, media manipulation and election rigging are more prevalent (Morse, 2013; Whitehead, 2012).[3] Indeed, the CCM's ability to maintain civil peace is cited as one of the main factors explaining the party's continued dominance (Lofchie, 2014; O'Gorman, 2012). During elections the CCM has gone so far as to show videos depicting the Rwandan genocide as example of what might happen should the opposition win (Bakari and Whitehead, 2013).

The CCM did falter in the two most recent elections (in 2010 and 2015), which saw opposition parties make significant inroads. In 2010, the Chama Cha Demokrasia na Maendeleo (CHADEMA) increased its number of elected seats in Parliament from 5 to 23,[4] overturning many constituencies that had previously been held by CCM. Incumbent President Jakaya Kikwete also saw his share of the vote decline from 80.3% in 2005 to 61% in 2010. Close observers of Tanzanian politics attributed this decline to the country's changing demographics and effective mobilization by the opposition (Babeiya, 2012). It was also seen as a sign of the ruling party being tainted by corruption (Lofchie, 2014). Along with support for the ruling party, turnout was also considerably lower than it had been in any previous election since the transition to multipartyism, with just 39% of registered voters turning out to vote in Parliamentary contests, compared with over 70% in all three previous elections. Tripp

[3]This is particularly so when Zanzibar is excluded from the analysis.

[4]Tanzania's Parliament consists of both elected and appointed representatives. In the 2010 election, 239 out of 350 members of Parliament were directly elected; another 102 seats were reserved for women, five were elected by the Zanzibar House of Representatives, and the remainder were appointed by the President of Tanzania.

(2012) suggests that voters believed the outcome to be a foregone conclusion and/or lacked confidence in the electoral process.

With the exception of the decline in turnout, these trends persisted in 2015. With term limits precluding Kikwete's standing for office again, many expected that his former Prime Minister Edward Lowassa would run as the ruling party's standard-bearer. However, when the CCM's Central Committee rejected Lowassa, he defected to the opposition. The party instead chose Magufuli, a relatively unknown former government minister whose main credentials appeared to be his lack of alignment with any particular faction of the CCM, and the fact that he could not be linked to any of the corruption scandals that had come to light during Kikwete's tenure (Economist Intelligence Unit, 2015). In spite of expectations that Lowassa's charisma and entrenched networks of supporters might finally cause CCM to be unseated, Magufuli won handily with 58% of the vote to Lowassa's 40%. It is worth noting, however, that Magufuli's vote share was the lowest of any CCM candidate for President in the party's history. In addition, Chadema increased its number of elected Parliamentary seats from 23 to 34. Expectations about the close nature of the contest likely boosted turnout to 67% – in keeping with historical trends.

Lofchie (2014, 199) eloquently sums up CCM's ability to hold on to power:

> Tanzania has attained its post-reform equilibrium. During five decades of independence, it has morphed from a failed experiment in socialist egalitarianism to a dystopian realm in which economic and political inequalities have taken on every appearance of permanence. The principal political characteristics of contemporary Tanzania are dominance by a political-economic oligarchy embedded within the CCM hierarchy, the propensity of many members of this oligarchy to use corruption as a means of consolidating and maintaining their dominance, and a pattern of economic growth that benefits those at the top of the society.

The CCM's continued dominance, and the tactics the party has employed to maintain its dominant position, combine to make Tanzania look more like an authoritarian regime than a democracy. Statistics such as the country's Polity IV score reflect this. Since the

transition to multi-partyism, Tanzania has consistently scored a -1 on Polity's 21-point scale (Polity IV, 2014), which ranges from -10 (fully institutionalized autocracy) to +10 (fully institutionalized democracy).

2.2.2 Implications for Service Provision

To what extent should we expect a semi-authoritarian, hegemonic party regime such as the CCM to respond to its citizens' needs? Theories of democratic accountability suggest that Tanzania's relative lack of electoral competition should limit responsiveness. As Diaz-Cayeros, Estevez and Magaloni (2012) explain, accountability crucially depends on voters' capacity to sanction the poor performance of their elected leaders. Single-party hegemony therefore severely limits the ability of voters to sanction elected officials who fail to respond to their needs because there is no credible opposition. Furthermore, political parties with denser organizational structures and greater monopolies of state resources are more capable of trapping citizens into supporting the system (Magaloni, 2006). Diaz-Cayeros, Magaloni and Weingast (2003) have highlighted such systems' "tragic brilliance" – tragic in that the party can maintain power without responding to citizens' needs, and brilliant in that voters play an active role in sustaining it.

As a consequence of the weakened accountability relationship between citizens and leaders under hegemonic party rule, such regimes are thought to perform poorly when it comes to improving the welfare of the poor – particularly when compared to democracies. This is due in part to the fact that hegemonic party regimes' electoral processes are less able to force such governments to spend their revenues on public services (Carbone, 2009). As a result, hegemonic party regimes are characterized by fewer public goods and less income redistribution than democracies (Deacon, N.d.; Lake and Baum, 2001; McGuire and Olson, 1996; Niskanen, 1997). A complementary line of reasoning suggests that hegemonic party regimes produce fewer public goods because they have a narrower range of supporters to appease (Bueno de Mesquita et al., 2003; Ghobarah, Huth and Russett., 2004).

Empirical evidence for such arguments is mixed. A number of studies show that democ-

racies tend to fund public services at a higher level than do regimes where political power is more concentrated (Avelino, Brown and Hunter, 2005; Brown and Hunter, 2004; Gerring, Thacker and Alfaro, 2005; Kaufman and Segura-Ubiergo, 2001; McGuire, 2006; Tavares and Wacziarg, 2001). Others have found evidence that democracy increases access to public goods as well. For instance, Deacon (2009) demonstrates that the provision of safe water, sanitation, and road networks is higher in more democratic regimes. Min (2008) finds that democratization is associated with a substantial increase in electrification. However, the link between democracy and human development outcomes is less clear. Ross (2006) suggests that many studies on the question are flawed given selection bias, since most cross-national studies exclude nondemocratic states with good economic and social records, creating the false impression that democracies have outperformed nondemocracies. Most scholars also fail to control for country-specific fixed effects and global health trends. Once these flaws are corrected, Ross finds that democracy has little or no effect on infant and child mortality. Carbone (2009) further notes some flaws with the theories linking democracy and improved outcomes for the poor. First, even if outnumbered, the middle class in many low-income countries may face fewer collective action problems and hence be more influential. There is also no guarantee that issues such as poverty, education, or health will acquire political saliency.

Indeed, most hegemonic party regimes hold onto power not solely by force or fraud but by cultivating fairly high levels of support from citizens. As Magaloni (2006, 19) puts it, "autocrats... cannot remain in power without some form of mass support." This rings true for Tanzania, where CCM's "status as a popularly elected government is not in question" (Lofchie, 2014, 3). One of the ways that hegemonic party regimes cultivate such support is through the distribution of spoils and patronage. Blaydes (2011) characterizes Egypt under Mubarak in this way, explaining how economic insecurity led underemployed, poor citizens to prefer small, targeted economic rewards over the discounted value of programmatic benefits in the future.

Notably, however, vote-buying in Tanzania is less widespread than in many other African countries. In the most recent (2010-2012) round of the Afrobarometer survey in which the

question was asked, just 14% of Tanzanians reported that a candidate or someone from a political party offered them something, like food or a gift or money, in return for their vote during the last national election. Compare this with neighboring Kenya, where 32% of respondents reported vote-buying, or Uganda, where 41% of respondents confirmed the existence of such behaviors. One reason for Tanzania's relatively low level of vote-buying may be the fact that its elections are generally less competitive and that ethnic identities are not politically salient. These factors have been found to predict vote-buying in cross-national studies of African countries (Jensen and Justesen, 2014).

Taken together, the above discussion suggests that Tanzania's hegemonic party regime might not be expected to invest great efforts into improving public goods such as access to clean water. At the same time, the regime does not owe its dominant position solely to the targeted use of repression and vote-buying. The CCM has garnered sizable victories over the years in part due to genuine mass appeal. Section 2.4 of this chapter describes how policies related to public service delivery may have helped it generate such support.

2.3 Foreign Aid Dependence

2.3.1 Tanzania: A Donor Darling

Since independence, Tanzania has been heavily reliant on foreign aid, though the government's relationship with its donors has changed considerably over time. During the 1970s and 1980s, aid from a wide array of bilateral donors and international financial institutions allowed the government to function and maintain demonstrably flawed economic policies. Sustained donor support during this time reflected an affinity between Nyerere's vision of 'African Socialism' and the social ideals of many of its donors, particularly representatives of the Nordic countries and the Dutch (Lofchie, 2014). These countries gave their aid on terms set by Tanzania, leaving the country considerable leverage to set its own policy agenda (Hyden and Mmuya, 2008).

A tipping moment occurred in November 1984 when the head of the Swedish develop-

ment agency made it clear that Sweden was no longer willing to subsidize Tanzania's social experiment. In 1981 the World Bank published the Berg Report, highlighting the role of poor policy choices in bringing about poor economic results. This led to a major change in the Bank's lending approach and exerted a strong influence on other donors. Subsequently, the World Bank and other donors began to insist on economic and political liberalization as a condition of continued assistance. In order to place pressure on the government, donors reduced their aid commitments substantially – between 1981 and 1985, Tanzania saw net aid receipts fall by about 30% (Lofchie, 2014, 115). Faced with these pressures, Tanzania found it necessary to adapt. Reform proceeded slowly at first but by the end of the 1990s the government had not only legalized multi-party politics, it had also removed subsidies for key agricultural inputs, eliminated export restrictions, and relaxed foreign exchange constraints (Read and Parton, 2009). While these policies were all implemented at the behest of the country's donors, Lofchie (2014) explains that the pace of reform quickened once government leaders realized that economic liberalization offered new opportunities for them to acquire wealth and power. With the motives of government elites and foreign aid donors so aligned, Tanzania has gained a reputation for cooperation and adaptation (Yamada, 2005).

Such acquiescence to reform, combined with the maintenance of civil peace and the capital city's languid Indian Ocean setting, makes the country an attractive place for donors to do business. Over the first phase of the WSDP, foreign funding has contributed between 70 and 80% of the total budget for water in any given year (Development Partners Group, N.d.; Quinn and Tilley, 2013). While the water sector is a somewhat extreme example, it is characteristic of Tanzania's overall reliance on foreign aid, which has accounted for between 40% and 65% of annual government expenditures over the same period.[5]

2.3.2 Whose Priorities?

Tanzania's high foreign aid intensity suggests that its donors have considerable influence when it comes to setting the country's policy agenda. Aid can weaken institutions, allowing

[5]Data from the World Bank World Development Indicators, Net ODA received (% of central government expense).

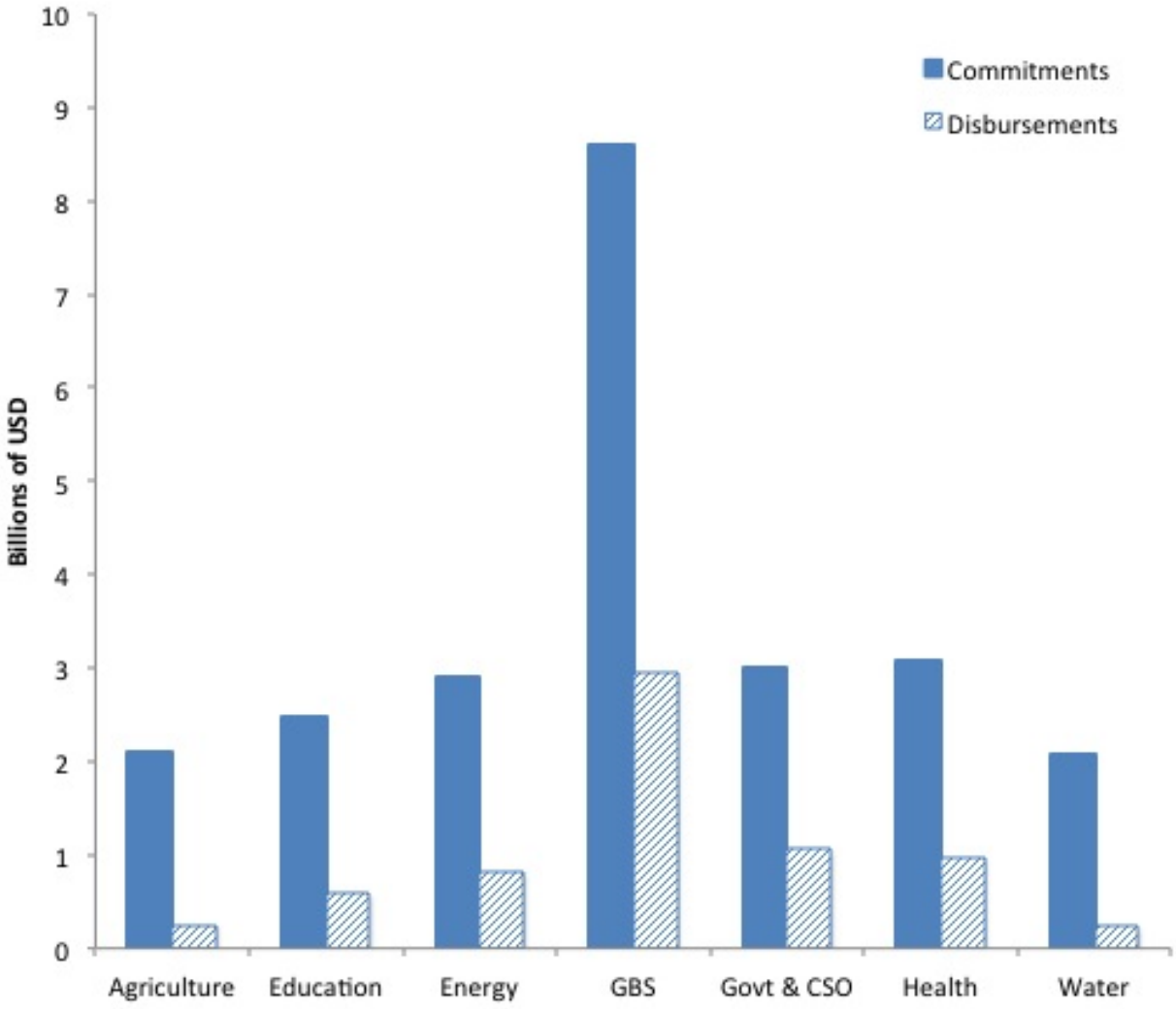
donors to promote their own goals, rather than those of the recipient country (Brautigam and Knack, 2004; Easterly, 2002). In addition to political and economic liberalization, many recent policy reforms in Tanzania and other aid-dependent countries reflect the priorities of the international aid community, including HIV/AIDS (Shiffman, 2008), expanding access to primary education (Wedgwood, 2007), and decentralization (Olowu, 2003).

Tanzania's donors have been seen as particularly focused on the health and education sectors in recent decades, which water sector specialists and local politicians argue has come at the expense of the water sector.[6] An examination of the data on aid commitments and disbursements provides suggestive evidence to support such allegations. As shown in Figure 2.1, while commitments to the water sector are on par with these other sectors, actual disbursements have been considerably lower – $231 million between 1990 and 2012 compared to over $1 billion for governance initiatives, $582 million for education, and $965 million for health.

The discrepancy between commitments and disbursements reflects the fact that a commitment is "the face value of the activity at the date a grant or loan agreement is signed," whereas "a disbursement is the placement of resources at the disposal of a recipient country or agency, or... the outlay of funds by the official sector. It can take several years to disburse a commitment" (Organisation for Economic Co-operation and Development, N.d.).

[6]Interviews with John Mnyika, CHADEMA (opposition political party) Member of Parliament and Gertrude Kihunrwa, Social Policy Adviser, DFID Tanzania, October 2013.

Figure 2.1: Sectoral Commitments and Disbursements by Donors to Tanzania, 1990-2012



Data from AidData Research Release 2.1 Dataset (Tierney et al., 2011)

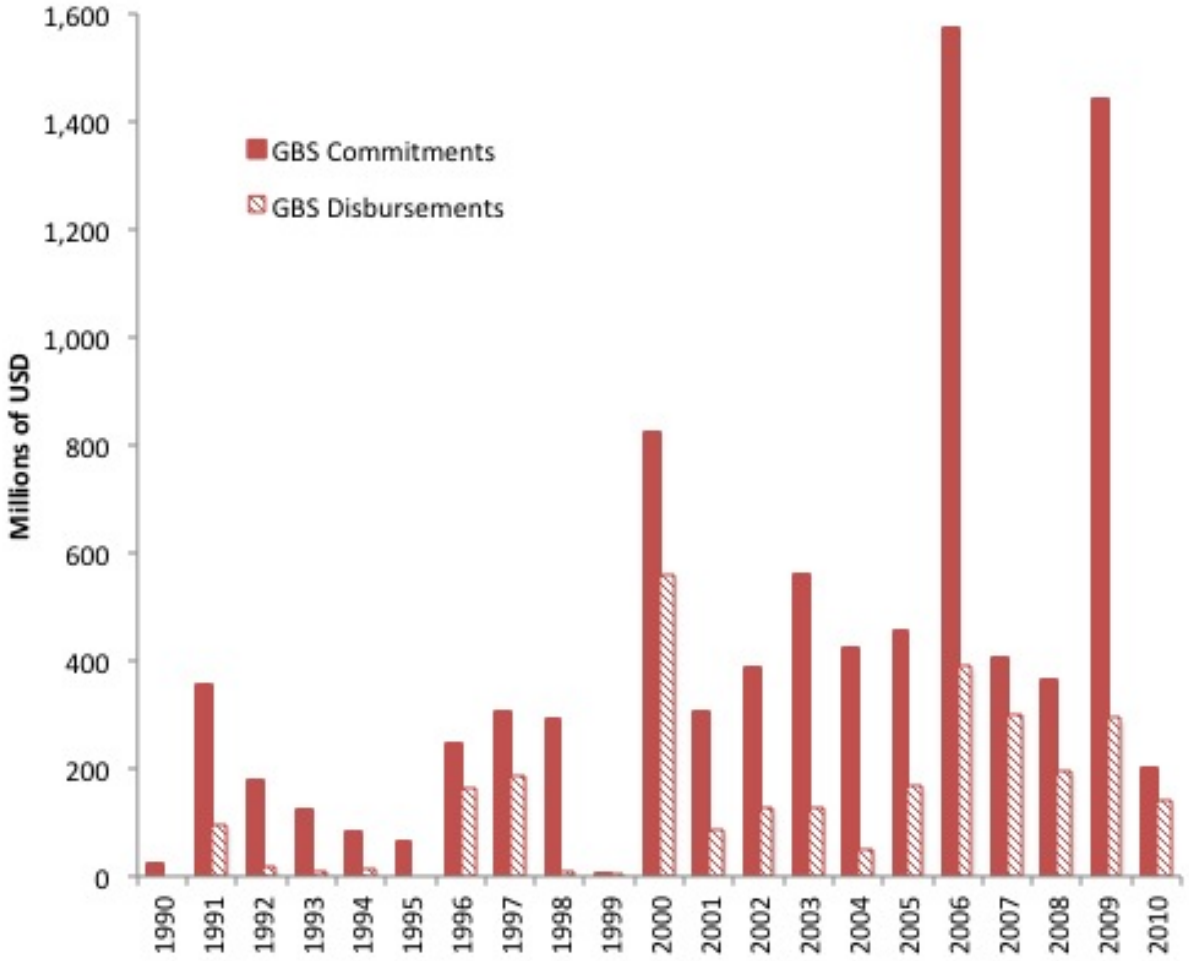
All of these sectoral priorities are dwarfed by donors' general budget support (GBS) commitments ($8.6 billion) and actual disbursements ($2.9 billion). The rise of GBS, which entails donors pooling resources and transferring them directly into the government's treasury, reflects broader trends with respect to foreign aid delivery. In 2005, over 100 representatives of governments and international organizations signed the Paris Declaration, an agreement emanating from the second High-Level Forum on Aid Effectiveness that enshrined harmonization and 'ownership' by aid-recipient country governments as key principles. Following the Paris Declaration, GBS emerged as a preferred funding modality among many donors and recipients of foreign aid, given its presumed contribution to economic stability, predictability through long-term commitments from donors, reduction in transaction costs, and enhanced efficiency of public expenditure (Hayman, 2011).

In Tanzania, the Paris Declaration inspired the United Kingdom's Department for International Development (DFID) and the World Bank (the country's two most important donors) to develop a Joint Assistance Strategy (JAS) with the government as a means of improving coordination by identifying donors' comparative advantage and introducing a single review cycle. Nineteen donors, who together contribute over 90% of Tanzania's aid, have signed on to the agreement, which was also meant to replace individual country assistance strategies of participating donors. In light of these efforts, Tanzania has been lauded as a successful example of "recipient-led aid policies and donor management" (Menocal and Mulley, 2006, vii).

As a result of the JAS, external support to the Tanzanian government has been organized around a National Strategy for Growth and Reduction of Poverty (NSGRP), better known by its Swahili acronym MKUKUTA. MKUKUTA was meant to represent an agreement between Tanzania's major donors and the government regarding strategies for meeting various development targets including the Millennium Development Goals. As Tanzania's donors have harmonized their efforts around the JAS and MKUKUTA, the country's dominant aid funding modalities have changed as well. The early 2000s were characterized by a shift from project aid (the earmarking of funds for specific projects, such as building schools or wells in a particular region) to 'a sector-wide approach' (SWAP), which involves donors pooling

funds towards a common sectoral objective (e.g. primary education or water). Furthering this trend, an increasing number of donors began providing funds through GBS. Figure 2.2 depicts the growth of GBS to Tanzania from 1990-2010. The spike in 2006 corresponds to the signing of the JAS. Between 2005 and 2010, Tanzania was the largest recipient of this type of aid worldwide (Swedlund, 2013). GBS donors in Tanzania are also highly coordinated among themselves, using a common performance assessment framework to condition disbursements (Harrison and Mulley, 2007).

Figure 2.2: Yearly GBS Commitments and Disbursements by Donors to Tanzania, 1990-2010



Data from AidData Research Release 2.1 Dataset (Tierney et al., 2011)

In recent years, GBS has fallen out of favor as the preferred foreign funding modality in the wake of corruption scandals as well as a more general realization by donors of the political dimensions of this type of support (Tripp, 2012). Reversing the previous shift, foreign aid to Tanzania is increasingly coming in the form of project aid (KEPA Tanzania, 2012). However, this need not mean that Tanzania's donors are beginning to exert renewed power over the country's policy agenda as a result. Although project aid is intended to reduce recipient countries' discretion, there is evidence that money provided in this manner may still be misallocated for political purposes. For instance, Briggs (2014) analyzes project aid in Kenya and finds it was disproportionately directed to the president's co-ethnics between 1989 and 1995. Jablonski (2014) reaches a similar conclusion, analyzing the subnational distribution of World Bank and African Development Bank projects in Kenya from 1992-2010. Tanzania's ability to politicize aid is arguably even greater than Kenya's, given that Kenya's donors were seen to be in clear positions of power during the time periods that Briggs and Jablonski study, unlike Tanzania's. For example, in 2004, the government required that assistance from the Global Fund for AIDS, TB and Malaria be routed through government channels (Harrison and Mulley, 2007).

Furthermore, even when the country adopts policies that reflect donor priorities, they are typically implemented in a manner that is more in line with the government's own aims (Lawson and Rakner, 2005). In addition, the Tanzania's status as a 'donor darling' also gives the country leverage. As Harrison and Mulley (2007, 25) note, "Having heralded Tanzania as a success story both for aid-funded development, and for a new model of aid itself, donors have a lot at stake."

Finally, Tanzania's dependence on traditional donors has been declining as domestic revenues have increased, Chinese investment has grown, and a significant amount of natural gas has been discovered (Swedlund, 2013). These developments seem likely to further empower the government to set its own priorities. For instance, in 2011 the Tanzanian government came out with its own Five-Year Plan, riling some donors who thought MKUKUTA should be the sole blueprint for development (Tripp, 2012).

2.4 Domestic Politics of Service Delivery in Tanzania

Lofchie (2014) argues that both foreign aid and and public revenues have been misallocated in a manner that largely serves to enrich Tanzania's political-economic oligarchy. However, the shift to multipartyism in 1995 has also encouraged the ruling party to pursue more populist policies (Lawson and Rakner, 2005; Therkildsen and Bourgouin, 2012). In this section I provide evidence of the political calculus underlying some recent policy decisions, and conclude by hypothesizing that water provision is likely politicized as well.

2.4.1 Populist Policies

To what extent has the Tanzanian government tailored its policies to reflect the interests of Tanzanian citizens? Kjaer and Therkildsen (2012) argue that multi-party elections have motivated Tanzania's political elites to focus on policies they perceive will help them gain votes. The authors analyze a series of major policy decisions, which they argue reflect elite perceptions of voter priorities. These include: (1) free universal primary education, (2) the abolition of local personal taxes, and (3) the (re)introduction of fertilizer subsidies. Each of these policies aimed at national coverage, had immediate and visible results, and was implemented through the public sector.

On the one hand, Tanzania's decision to abolish school fees for primary education in 2001 reflected a trend sweeping the international development community. As Wedgwood (2007) notes, the Education for All (EFA) movement and the education targets within the MDGs encouraged many African countries to push for such reforms, generously supported by foreign aid donors. However, this shift also reflected an alignment of donor priorities with those of voters in recipient countries. Stasavage (2005) suggests that the need to obtain an electoral majority prompted many democratizing African governments to spend more on primary education and to prioritize primary schools over universities within their education budgets. He documents that democratically elected African governments have spent more on primary education than have their non-democratic counterparts, while spending on universities (which benefit a much smaller proportion of the population) appears unaffected

by democratization. Although Tanzania is not a fully fledged democracy, popular pressure arguably played a role in motivating the 2001 universal primary education (UPE) reform. The CCM's emphasis on primary education dates back to independence. Since then, the party has consistently pushed to make it free and accessible to all, first implementing a UPE reform in 1974 (Sifuna, 2007). However, the policy was abolished in the early 1980s, following economic crises and pressure from donors to cut public spending. When the World Bank and the IMF changed their position on universal primary education in the late 1990s, the CCM recognized an opportunity. During the campaign leading up to the 2000 presidential elections, several candidates, including incumbent president Benjamin Mkapa, promised to reduce or abolish primary school fees, which they perceived to be a widespread concern among voters. A few months after Mkapa'ss re-election, he announced that UPE would be implemented. The decision proved to be very popular among members of Parliament (MPs) of all parties, as well as with the majority of Tanzanian citizens (Kjaer and Therkildsen, 2012).

The other two policy decisions that I examine in this section do not reflect such an alignment of donor priorities with those of the Tanzanian government. As such, they are more revealing of the extent to which the country's government acts independently when it comes to setting and implementing policies. First, Kjaer and Therkildsen (2012) consider the government's 2003 decision to abolish the development levy, a flat tax levied by local governments on all able-bodied men and wage-earning women. The development levy was first introduced by colonial authorities and initially abolished in 1969 following popular outrage at the death by suffocation of tax defaulters in overcrowded prisons. It was reintroduced in 1982 as part of donor pressure for structural adjustment (Kjaer and Therkildsen, 2012). From that time to its re-abolition, revenue from the development levy constituted the single most important local government tax in Tanzania (Fjeldstad, 2001). However, compliance with the tax was rather low, making its incidence somewhat arbitrary. Furthermore, tax collectors often resorted to physical coercion, which was seen as out of line with the size of the tax (Kjaer and Therkildsen, 2012). Abolishing the unpopular tax therefore represented a means of appealing to a large proportion of the electorate. At the same time, removing the

development levy resulted in the central government being able to exert more control at the local level. Since the development levy had been collected by local government authorities, its abolition resulted in their being more dependent on the central government (Kessy and McCourt, 2010).

The next policy decision that Kjaer and Therkildsen (2012) examine, the reintroduction of fertilizer subsidies, paints a similar picture. These subsidies had existed in some form since independence but were abolished in the mid-1990s, again in response to donor pressure. Then during the 2003 budget session the government announced a reversal of the policy following an earlier drought. The subsidies were phased in geographically, first targeting the regions growing the most maize. In 2005 (an election year) the subsidies were expanded to cover all regions. After some reductions to the program in 2007, the subsides were expanded again in 2009 – just prior to the 2010 elections (Kjaer and Therkildsen, 2012). Given that rural farmers constitute the majority of the electorate, this policy can be understood as intended to generate mass appeal. Similarly, the lifting of export bans on maize and other crops prior to the 2010 elections has been interpreted as a means of responding to the interests of rural voters (Cooksey, 2012).

Lawson and Rakner (2005) analyze a similar set of policy decisions, noting that both the re-introduction of the development levy and agricultural subsidies "... may both be seen as direct responses to concerns expressed by the electorate" (29). They also concur that in both of these cases, especially the reintroduction of fertilizer subsidies, the policies went against advice from donors.

Finally, Tanzania's impressive reduction of child mortality between 1996-2007 can be understood as another way in which the government was responding to the needs of the masses. This time period saw Tanzania reduce under-5 mortality by nearly 35%, compared with an average decline for sub-Saharan Africa over the same period of 18%. Croke (2012) compares Tanzania's progress to neighboring Uganda, a country with similar levels of income and donor involvement, but where child mortality barely declined over the period in question, despite making markedly stronger progress on poverty reduction overall. Croke (2012) explains the divergent outcomes in terms of Tanzania's successful efforts with respect

to malaria control. While electoral pressures are less evident in this case, high-level political support is cited as an important factor to explain Tanzania's success. Furthermore, Tanzania created an enabling institutional environment that facilitated meaningful collaboration between the government and foreign researchers and technical experts.

The populist policy decisions discussed in this section demonstrate that the government of Tanzania frequently feels compelled to respond to its citizens needs, though the electorate's influence on policy-making tends to be indirect (Lawson and Rakner, 2005). Furthermore, the government is not afraid to contradict its donors' wishes.

2.4.2 Water as a Domestic Policy Priority

Water has been high on the CCM's stated agenda since shortly after independence. Although economic crises during the 1970s and 1980s made the party's stated goal of universal access unattainable, water remained at the top of the policy agenda. In the country's *Development Vision 2025*, formulated through a consultative process beginning in 1995, "universal access to safe water" is identified as a key target to be achieved by the year 2025 (United Republic of Tanzania, 1999, 13).

The first phase of MKUKUTA (2005-2010) identifies the provision of water infrastructure as an important source of economic growth. Furthermore, improving access to clean, affordable, and safe water is stated as critical for improving Tanzanians' quality of life and social well-being (United Republic of Tanzania, 2005*a*). The MKUKUTA Phase II (2010-2015) document also identifies water as one of the country's main "growth drivers" and again includes increasing access to affordable, clean, and safe water among its specific goals (United Republic of Tanzania, 2010). Both documents include operational targets related to improved access for urban and rural populations.

Therkildsen and Bourgouin (2012) argue that MKUKUTA is not a good indicator of the government's political priorities since it was mainly prepared to attract donor funds. Hence we may also examine the ruling party's manifestos from recent years. In the CCM's 2005 Election Manifesto, the word "water" appears 41 times, somewhat more than "health"

(33 times) but less than "education" (93 times). Similar patterns persist in subsequent manifestos. In the 2010 document, "water" appears 103 times (compared with 56 mentions of "health" and 139 of "education"); "water" then appears 121 times in the 2015 manifesto, while "health" appears 95 times and "education" 162.[7] Comparing MKUKUTA with the CCM's 2005 Election Manifesto, Selbervik (2006, vi) notes that "both documents underscore the importance of clean and safe water and express the same operational targets in this regard." Similarly, the 2010 manifesto highlighted improvements to water supply systems under Kikwete's first term and promised that uncompleted projects would be concluded in the second term (Mwiturubani, 2010).

Beyond the goals and targets outlined in policy documents, the public statements of politicians also reflect the extent to which they understand water to be a top concern of their constituents. For instance, the lead-up to the 2005 elections featured regular promises to improve access to clean water by the CCM Presidential candidate Jakaya Kikwete. At a campaign stop in Tanzania's southern Ruvuma region in August 2005, Kikwete said that his government would ensure that citizens could access safe water within a distance of 400 meters from their homes. The following month, in central Dodoma region (where the nation's political capital is located), he told residents that nearly 700 million Tanzanian shillings (approximately $750,000) in World Bank funds had been set aside for an extensive water project in Kondoa (HakiElimu, 2006). Mwiturubani (2010) also notes that, "throughout the [2010] campaign period both print and electronic media reported that water supply was among the main topical campaign issues."

In 2013, the Government of Tanzania included rural water provision among the six priority sectors that are part of the Big Results Now! (BRN) initiative. BRN was launched with great fanfare in Feburary 2013 and represented an attempt to duplicate a similar development initiative from Malaysia.[8] After selecting six priority sectors the GoT convened a

[7]Author's concordance of CCM (2005, 2010, 2015). Thanks to Keith Weghorst for sharing the files and method.

[8]Supposedly, Tanzanian President Kikwete visited Malaysia in 2010 and was shocked to see that a country which was on par with Tanzania at independence had made such remarkable development gains in the intervening 50 years. This motivated him to attempt to replicate Malaysia's success by copying their development

series of eight-week, problem-solving 'labs,' which produced concrete action plans with clear milestones and targets to be incorporated into the 2013/14 annual budget of the Government of Tanzania (Department for International Development, N.d.).

My interviews with close observers of the Tanzanian water sector suggested that political calculations motivated the inclusion of water as a priority sector.[9] The influx of foreign aid had encouraged ruling party politicians to make grand promises with respect to improving rural water provision. However, weak implementation of the Water Sector Development Program (discussed in further detail in the next two chapters) made it difficult for them to keep their promises. As the 2015 election neared, it became more important for the ruling party to be seen to be making an effort to keep its promises. Indeed, the entire BRN initiative is understood to be politically motivated, given that the targets for many of the 'big results' aligned neatly with the December 2015 elections.

The inclusion of water as a priority sector in BRN may also reflect increased responsiveness on the part of government to an increasingly demanding public. As a World Bank official based in Dar es Salaam noted, the Minister for Water is "almost killed" every budget session because MPs get pressure from their constituents regarding the lack of water.[10] For instance, the June 2013 budget session was characterized by a heated debate on the water sector, with MPs from the opposition and ruling party rejecting the initial budget proposal (the first time this had ever happened) and demanding increased funds.

2.5 Conclusion

A cursory analysis of the disconnect between spending and improved access to clean water in Tanzania might blame the country's lack of consolidated democracy or misalignment between donor and domestic priorities for the problem. Yet as I have shown in this chapter,

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policy initiatives.

[9]Interviews conducted in Dar es Salaam, July 2013 with Denis Biseko, Senior Public Sector Specialist, World Bank; Norbert Geyer, Programme Officer, KfW; Lukas Kwezi, Water Adviser, DFID; Hosea Sanga, Water Witness.

[10]Interview with Kristoffer Welsien, Dar es Salaam, November 2013.

the Tanzanian government is not indifferent to its citizens' needs, and has frequently crafted policies with the goal of mass appeal. Furthermore, despite the fact that half of Tanzania's budget is funded by foreign aid, the country retains a fair degree of autonomy. The Tanzanian government – supported by funding modalities such as general budget support – has managed to craft and implement policies that at times have gone against the wishes of its donors. Understanding the political calculus of water provision thus bears further consideration. As the next two chapters show, politicized misallocation at the central and local government levels represents a key explanation for the discrepancy between spending and outcomes in Tanzania's water sector.

CHAPTER 3

Allocation of Financial Resources for Water

3.1 Introduction

In 2004, the Government of Tanzania changed its mode of allocating funds to local government authorities (LGAs, also called districts) for public service delivery. As part of ongoing decentralization reforms, the government introduced a formula-based system of block grants for water and other social services (including education, health, and roads). Each year, the amount of money that a given district received for delivering a particular service would now be guided by a formula based on "objective" criteria as a way to ensure a standardized and equitable distribution of resources (Weinstein, 2011). The new framework was meant to reform a previously "ad hoc and discretionary" system of allocating money to districts (Allers and Ishemoi, 2011, 1783). However, this chapter will present evidence that the formulas meant to guide the allocation of financial resources to LGAs have frequently been bypassed.

One reason the formulas have not been followed are "hold harmless" provisions, through which districts that would receive a lower grant as a result of the introduction of a formula are given additional funds to prevent them from receiving fewer resources than the previous year. Allers and Ishemoi (2011) explain that in practice, districts being held harmless frequently receive *more* resources than they did the year before. In addition, the Tanzanian parliament may approve additional funds beyond the formula-based allocations. Finally, local officials are frequently misinformed about the formula criteria, making it difficult for them to demand their fair share of sector budgets (Oxford Policy Management, 2013). Indeed, in researching this chapter I came across multiple and at times conflicting accounts of the funding formula for rural water provision in different documents produced by the Government of Tanzania.

Recent empirical work from Tanzania illustrates considerable deviations from the funding formulas in a number of social service sectors. Allers and Ishemoi (2011) analyze allocations of five sectoral block grants (for education, health, water, agriculture and roads), as well as the general purpose grant, subventions and basket funds, and the development grant before and after the introduction of funding formulas in 2004. They find that the criteria meant to guide allocations do not explain a considerable amount of variation, and that in some cases the criteria seem to be completely ignored (e.g. under-five mortality, an indicator of health spending need, and one of the variables in the health grant allocation formula, is completely unrelated to the health grant received by LGAs). They conclude that the introduction of the formulas has done nothing to help reduce the strong effect of political influence on the grants.

Tidemand et al. (2014) also present evidence of skewed grant allocations across Tanzanian districts. They analyze inequity in terms of an "index of fit" – the degree to which different sectors are aligned with the official allocation formula, where a value of 1 indicates a perfect fit. While the primary education and health sectors adhere well to their allocation formula for salaries and other recurrent costs (with indices of fit of over 0.8), roads, agriculture and water exhibit relatively low indices of fit (approximately 0.6).

Tanzania's failure to adhere to the formula in allocating grants to districts for social services is not unique. For instance, Banful (2011) shows that Ghana's system of intergovernmental transfers (which was meant to address interregional inequalities) failed to eliminate politically motivated targeting of the grants. Furthermore, she presents evidence that the formula indicators and their weighting were chosen and amended to produce politically desired patterns of transfers. Unlike Ghana, Tanzania's formula for allocating money for water to districts does not seem to be influenced by political machinations, though it does create some perverse incentives. In this chapter, the main object of inquiry is whether and how politics can explain deviations from the formula meant to allocate money for water to Tanzanian districts.

I analyze actual disbursements of financial resources for water to Tanzania's 97 mainland

rural districts over a seven-year period (2007-2013).[1] My analysis suggests that the formula has been largely ignored, and that political interference helps to explain the deviations – with more money flowing to districts that demonstrate higher levels of support for the ruling party. Path dependence also plays an important role

This chapter proceeds as follows. The next section provides background information about funding for water provision in Tanzania. Section 3.3 then reviews the relevant literature and derives hypotheses to explain variation in patterns of distribution. Section 3.4 presents my empirical strategy and describes my data, Section 3.5 discusses my findings, and Section 3.6 concludes.

3.2 Funding Rural Water Provision in Tanzania

As described in Chapter 1, water provision in Tanzania is guided by the Water Sector Development Program (WSDP), a joint donor-government initiative launched in 2006. As part of broader efforts to harmonize activities of the country's foreign aid donors, the WSDP established a "basket fund" for the water sector. Through this funding modality, the country's main water donors[2] pool their resources into a common fund, which the government then tops up and decides how to allocate. Table 3.1 illustrates how WSDP funds have been allocated and spent across the program's four main components during the first phase of implementation (FY2007/08 - FY2012/2013).[3] The table shows that rural water supply has been relatively under-resourced compared with the urban sub-sector.

The water sector's urban bias begins in the budgeting stage and is then compounded by funds not being released in full (often due to bureaucratic complexity associated with foreign aid) and poor budget execution (Mosha and Kihunrwa, 2014). While Tanzania has been steadily urbanizing over the past decade, over two-thirds of the population still resides in

[1]This time period saw the creation of 30 new districts in Tanzania. The Appendix to this chapter (Section 3.7) explains how I account for this.

[2]The World Bank, the United Kingdom's Department for International Development, or DFID, and the African Development Bank contributed the bulk of the funds to the basket for the time period I study.

[3]Tanzania's fiscal year begins on July 1 and ends June 30th of the following year.

Table 3.1: WSDP Components: Budget, Releases and Expenditure, FY2007-FY2013

Component Description	Approved Budget (Millions of USD)	Actual Release (Millions of USD)	Release as % of Component Budget	Expenditure (Millions of USD)	Component Expend. as % of Total
Water Resource Management	96	62	65%	56	6%
Rural Water & Sanitation	562	377	67%	323	34%
Urban Water & Sanitation	887	518	58%	512	53%
Institutional Strengthening*	106	68	64%	68	7%
Total	1,652	1,025		959	

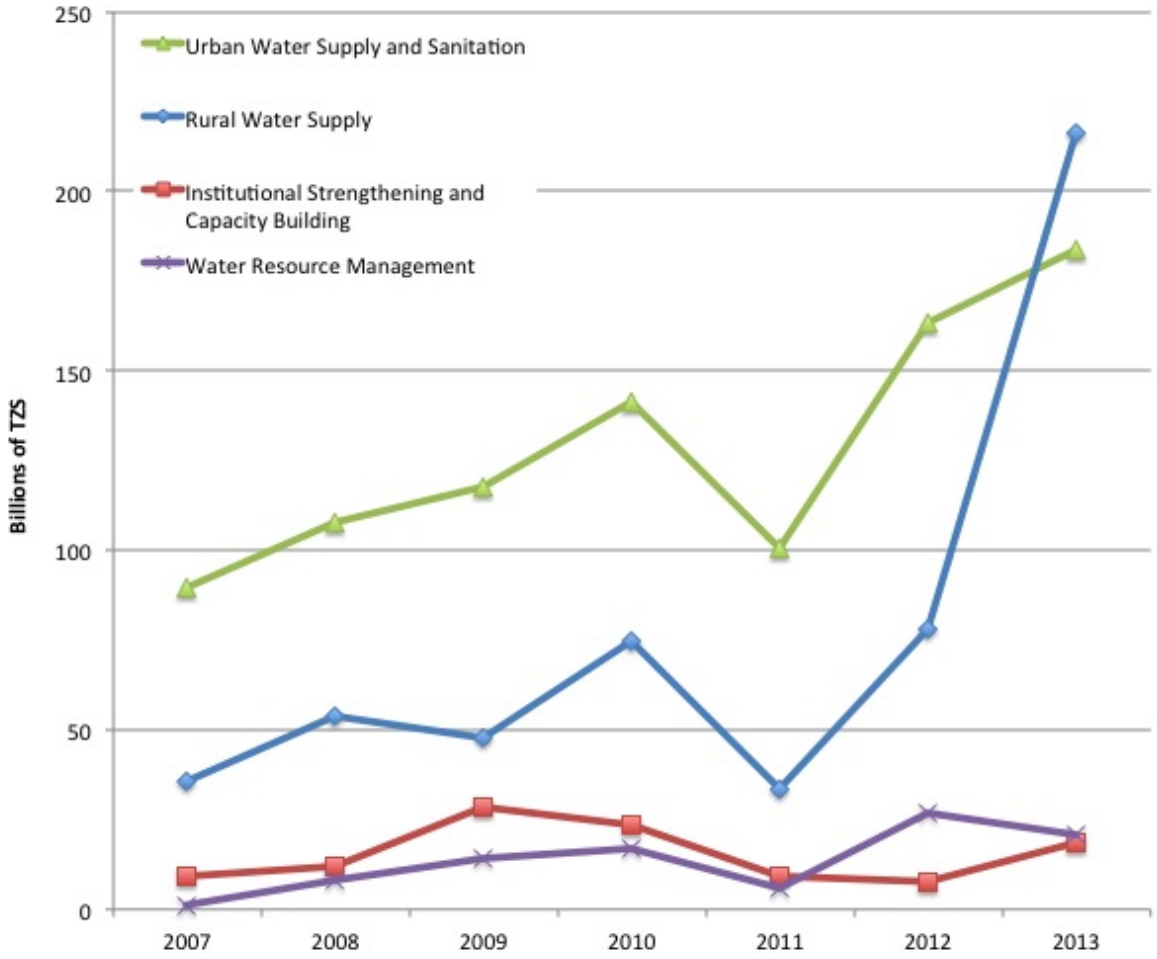
Data from the Ministry of Water's Management Information System (MIS) Database. Figures were converted from Tanzanian Shillings (TZS) to U.S. Dollars using the exchange rate as of September 24, 2014.
*Full component description is, "Institutional Strengthening and Capacity Building." This component includes technical assistance and training, as well as management functions such as monitoring and evaluation.

rural areas. These rural residents demonstrate considerably greater need for clean water than do their urban counterparts.[4] As of the WSDP's inception in 2006, 55% of rural residents lacked access to an improved water source, compared with just 18% of urbanites. However, over half of all WSDP spending to date has been on urban water supply and sanitation. Much of the increased budget for urban water is due to the "Improve Dar es Salaam Water Supply and Sewerage project," which increased from 3 percent of the WSDP budget in 2011 to 35 percent in 2013 (Quinn and Tilley, 2013). In spite of this, access among urbanites has *fallen* over the first phase of WSDP implementation (from 82% in 2006 to 78% in 2013) while access for rural residents has stagnated at around 44% (World Health Organization and UNICEF, N.d.). This may reflect the fact that unit costs of urban infrastructure tend to be higher than in rural areas. However, performance reviews of the first stage of the WSDP point to limited needs-based allocation of urban water infrastructure (Oxford Policy Management, 2013).

[4]Data on urban vs. population from the World Bank World Development Indicators. Tanzania was 74.5% rural as of 2006 and 69.8% rural as of 2013.

Figure 3.1 depicts trends in expenditure across the different WSDP components during the first phase of implementation. Again we can see that spending on rural water has lagged behind urban water for most of this period, excepting a notable spike in 2013. This increase has been attributed to additional funding from donors upon the conclusion of the first phase of the WSDP, responding to rural water's historically low allocation (WaterAid, 2013).

Figure 3.1: Expenditure on WSDP Components, FY2007-FY2013



Data on WSDP component expenditure from the Ministry of Water's Management Information System (MIS) Database.

Funds for water (capital improvements, salaries, and other recurrent expenses) account for about 3% of district budgets (Tidemand et al., 2014). While a relatively small proportion, water funding is often more fungible than other monies that districts receive. Unlike education and health budgets, which are largely earmarked to pay the salaries of teachers and health workers, funds for water are dominated by grants for capital improvements ("development grants"), which are allocated in a discretionary manner by district officials. Furthermore, there tend to be fewer district officials affiliated with the water sector, as compared to health and education. Each district typically has just one district water engineer, with 2-10 subordinate officers of varying specialties and ranks (Impact Evaluation to Development Impact, 2016). On the other hand, districts have separate education and health departments, which oversee considerable numbers of staff.

Development funds for water are supposed to be allocated across districts in accordance with a formula that is increasing in the proportion of the population in each district that is unserved by an 'improved' water source,[5] and also takes into account the district's dominant extraction technology,[6] which serves as a proxy for hydrological factors affecting the difficulty of extracting water from the ground.

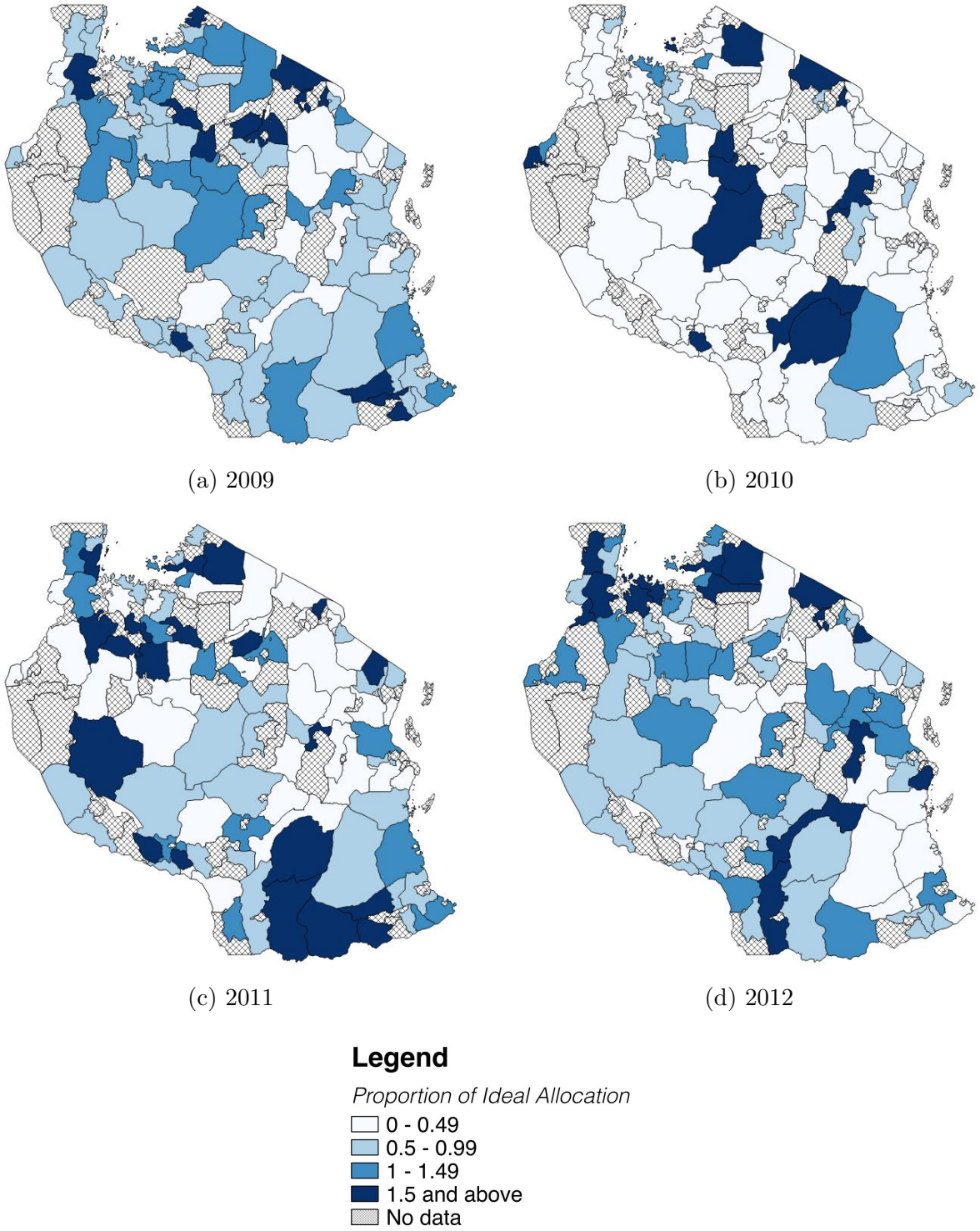
I use the formula to approximate ideal (counterfactual) allocations to districts for water for each year over the first phase of the WSDP (2007-2013), which I then compare to the actual amount that each district received.[7] I find that actual allocations diverge substantially from ideal allocations in the majority of cases. Figure 3.2 compares actual and ideal allocations in all rural districts between 2009 and 2012.

[5]'Improved' water sources include: include piped water, public taps or standpipes, tubewells or boreholes, protected dug wells, protected springs, and rainwater.

[6]More funds are meant to be allocated to districts dominated by pumping schemes (a more expensive technology), less funds go to districts dominated by shallow wells (a cheaper technology) with hand pumps; districts dominated by gravity schemes receive a middling amount.

[7]I describe how I construct the ideal allocations in the Appendix.

Figure 3.2: Actual Allocations as a Proportion of Ideal Formula Allocations, 2009–2012



(a) 2009

(b) 2010

(c) 2011

(d) 2012

In any given year, we see that a number of districts receive less than their ideal allocations, while others benefit to a disproportionate degree. Notably, the same districts are not consistently favored (or punished), supporting an analysis that looks both across districts and over time. The subsequent sections presents a series of hypotheses to account for the patterns of misallocation we observe in each year.

3.3 Accounting for Misllocation to Districts

One of the main reasons why increased public spending does not always lead to improvements in service delivery is the predilection of politicians to target resources for political expediency rather than efficiency. While pork-barrel politics are present in some of the most highly developed countries in the world (e.g. Sweden, as demonstrated by Dahlberg and Johansson (2002)), distortions in the allocation of public goods are of greater concern in poor countries, where large swaths of the population lack access to basic social services.

Not only is the misallocation of public resources more detrimental in poor countries, it is often more prevalent due to the fact that such countries tend to lack effective systems of oversight and accountability. Keefer and Khemani (2005) point to a series of "political market imperfections" that allow misallocation to persist in many poor countries. These include a lack of information among voters about the performance of politicians, social fragmentation, and a lack of credibility of political promises to citizens.

A growing empirical literature has begun to document the politicized allocation of public goods and services, or what Stokes et al. (2013) refer to as "nonprogrammatic distributive politics."[8] In the African context, these studies tend to emphasize ethnic politics. For instance, Franck and Rainer (2012) find evidence of widespread ethnic favoritism in education and health in a sample of 18 countries in sub-Saharan Africa. As noted in Chapter 2, ethnic politics are much less prevalent in Tanzania than in many other African countries given the large number of small ethnic groups and a concerted effort by founding President Julius

[8]See Golden and Min (2013) for a review. Stokes et al. (2013) also provide a table summarizing relevant studies in the first chapter of their book.

Nyerere to create a united national identity. However, other modes of politicized distribution still seem likely to prevail as a strategy for maintaining the country's hegemonic party regime. Below I present five hypotheses to account for politicized misallocation of money for water.

3.3.1 Political Competition and Resource Allocation

Theories of democratic accountability hold that competitive elections create a relationship of formal accountability between policymakers and citizens, with the latter group using their vote to sanction or reward the former on election day (Ashworth, 2012). This suggests that when competition is absent, elections have considerably less utility to influence the behavior of elected officials. A lack of competition characterizes much of Tanzania, where many voters lack credible alternatives to the ruling party and so cannot sanction politicians who fail to deliver clean water. Numerous interviewees that I spoke with as part of my fieldwork suggested that there is more pressure for improving service delivery in areas where the opposition has made inroads. This is thought to stem both from ruling party politicians responding to perceived threats and from opposition politicians who are already in power trying to prove they can do better than the ruling party. As the district water engineer for Karatu District (which is held by the Chadema opposition party) explained, opposition politicians try to show a good example. Whereas ruling party politicians can afford to make mistakes, if opposition politicians make mistakes they will be scrutinized.[9]

Rosenzweig (2012) provides systematic evidence of this phenomenon, documenting improved access to electricity and piped water in Tanzanian districts that have become more electorally competitive since the transition to multiparty politics in 1995. This suggests the following:

Hypothesis 3.1. *More money for water will be directed to political units with higher levels of electoral competition.*

[9]Interview, December 2013.

3.3.2 Distributive Politics in Hegemonic Party Regimes

Concentrating resources in more competitive districts may not be politically instrumental for a hegemonic party regime, however. As Magaloni (2006) notes, hegemonic party regimes are not simply interested in winning elections. Rather, they strive to obtain supermajorities, which allow them to maintain control over electoral institutions and project an "image of invincibility."

One way that hegemonic parties seek to maintain supermajorities is by instituting "punishment regimes" – distributing resources to citizens who remain loyal and withdrawing them from those who defect (Magaloni and Kricheli, 2010, 128). Diaz-Cayeros, Estevez and Magaloni (2012, 235) explain that in settings characterized by limited political competition, "voters... are forced to support the incumbent party even when it fails to deliver any collective benefits, because they are likely to be punished and removed from the government's spoils system if they defect to the opposition." Interviews conducted as part of my fieldwork suggest that a punishment regime may be in effect in at least some parts of Tanzania, with the Tanzanian government withholding resources in areas that vote for the opposition. For instance, the councillor for Oldeani ward (in Karatu), a member of the opposition Chadema party explained how in 1995, when Karatu elected an opposition MP to Parliament (Dr. Willibrod Slaa), all of the ward councillors were affiliated with the CCM and did not want to cooperate with him. Slaa had secured a donor to bring a big project to the district, but when he proposed it to the district council, they did not support him. Slaa responded by putting speakers on his car, driving around the villages calling for meetings with citizens, where he explained that their councillors were being dishonest. In a more recent example, the ward councillor for Karatu ward, also a member of the opposition Chadema party, explained how efforts to build a teachers' college were thwarted by ruling party officials who would not allow it to be registered, since it had been established by an opposition-held district council.[10]

At the same time that CCM attempts to thwart the efforts of opposition politicians, the

[10]Interviews conducted in Karatu district, December 2013

party is seen as disproportionately favoring those who stay in the fold, consistent with a logic of patronage politics thought to be common across African polities. The CCM's longevity is attributed in part to its ability to distribute patronage within the its extensive clientele networks (Whitehead, 2012, 16).

Evidence of resources being allocated in a way that disproportionately favors supporters of the hegemonic party, while punishing those that defect to the opposition has been documented by, among others, Magaloni (2006) in Mexico, Blaydes (2011) in Egypt, and Weinstein (2011) in Tanzania. This suggests the following:

Hypothesis 3.2. *Money for water will be disproportionately channeled to districts that support the ruling CCM party with a higher margin of victory, and will be reduced when the CCM's margin falls.*

Another way local politicians target their supporters is by rewarding areas with high levels of voter turnout, which can reflect support for the hegemonic ruling party. For instance, research on communist elections in Eastern Europe has focused on turnout, since to abstain or to spoil ballots was seen as an act of defiance in that context (Gandhi and Lust-Okar, 2009). Blaydes (2011) notes that turnout was of utmost importance to Egyptian regime under Mubarak, since it helped to legitimize the elections. Similarly, Magaloni (2006) cites turnout as key in helping to create and sustain a hegemonic party regime's image of invincibility. This suggests:

Hypothesis 3.3. *Money for water will be disproportionately channeled to districts with higher levels of voter turnout in the most recent election.*

I also consider whether the Minister for Water's home district is favored when it comes to the allocation of finance for water provision. This reflects a longstanding tradition of politicians in Africa use their offices to favor their ethnic kin, who are frequently concentrated in their home regions. In the Kenyan context, Kramon and Posner (2014) find that coethnics of the minister of education acquire more schooling than children from other ethnic groups. Similarly, Burgess et al. (2015) find that Kenyan districts that share the ethnicity of the

president benefit disproportionately when it comes to new road construction. Empirical evidence of hometown favoritism with respect to infrastructure provision has also been found in a broader sample of African countries (Öhler and Nunnenkamp, 2014) and other authoritarian contexts such as Vietnam (Do et al., 2013). Although regional favoritism tends to be strongest when political institutions are weak (Hodler and Raschky, 2014), it has also been documented in Belgium (Jennes and Persyn, 2015), Norway (Fiva and Halse, 2015), and the United States (Knight, 2002), among other developed democracies.

Hypothesis 3.4. *Money for water will be disproportionately channeled to the Minister for Water's home district.*

3.3.3 Political Representation and Grant Allocations

Another political factor that might affect the distribution of grants is relative political representation. Ansolabehere, Gerber and Snyder (2002) present one of the first rigorous empirical studies demonstrating the importance of political representation for the distribution of public funds. They analyze the geographic distribution of money by U.S. states to counties to show that counties that had relatively more legislative seats per person prior to court-ordered redistricting received relatively more transfers from the state per person. Over time, counties that lost seats subsequently received fewer state funds per capita.

Dragu and Rodden (2011) cite empirical studies finding that overrepresented states receive larger shares of the national budget – a pattern that is typically attributed to bargaining advantages associated with greater representation. However, they note that such studies may be subject to identification problems since it is possible that both representation and fiscal transfers are determined by other characteristics of the state. In order to account for this, they pool data from federations around the world so as to focus explicitly on states that had nothing to do with the negotiation of the initial bargain and had no impact on representation scheme. They find strong evidence that legislative apportionment affects the distribution of long-run governmental expenditures; the effect holds when they constrain their sample to states that did not yet exist when the fundamental rules of territorial representation were

decided.

Allers and Ishemoi (2011) extend this type of analysis to Tanzania, where representation in Parliament varies considerably across districts. Each district contains one to three single-member Parliamentary constituencies, which are not proportional to population. The authors find that political representation exerts a strong and substantive effect on the allocation of many types of grants – with relatively more funds going to districts with fewer constituents for each Member of Parliament. Furthermore, the effects of political representation do not appear to have been diminished by the introduction of the formula-based grant system. Unlike Weinstein (2011), Allers and Ishemoi (2011) do *not* find that vote share for the ruling party significantly influences the allocation of any of the existing intergovernmental grants in Tanzania. They interpret this as evidence of CCM's dominance: "Because the ruling party has no reason to feel threatened, there is no need to punish LGAs that support the opposition" (1789). (This interpretation ignores the hegemonic party's long-term goal of maintaining dominance.) The authors go on to suggest that in Tanzania's hegemonic party regime, political rivalry is not played out between different parties but within the ruling CCM party. The lack of term limits implies that MPs will want to remain CCM candidates in order to be reelected, giving them strong incentives to strive for higher grants aimed at the LGA in which their constituency is located. This leads to my final hypothesis:

Hypothesis 3.5. *Money for water will be disproportionately channeled to districts with higher levels of political representation (fewer constituents per MP).*

3.4 Empirical Strategy and Data

As noted above, the central government's funding formula relies on two main criteria to allocate funds for water infrastructure to districts – the proportion of the district population that lacks access to an "improved" water source and the dominant extraction technology. The latter criterion serves as a proxy for the geographic and hydrological factors that affect the difficulty of extraction, and hence, the cost of building appropriate infrastructure. Table 3.2 depicts the formula more precisely, showing how the total pot of money for water

infrastructure is to be divided across districts in a given year.

Table 3.2: Formula Allocating Water Budget to Districts

Category	**Proportion of total water budget**
Unserved population	**70%**
Districts with unserved population of...	
Less than 30%	receive 10% of total budget
Between 30% and 50%	receive 20% of total budget
More than 50%	receive 40% of total budget
Dominant extraction technology	**30%**
Districts dominated by...	
Gravity schemes	receive additional 20% of total budget
Pumping schemes	receive additional 8% of total budget
Shallow wells with hand pump	receive additional 2% of total budget

Table adapted from Ministry of Water (2006, 10)

First, 70% of the total pot is distributed to districts according to need – with 10% divided equally among districts where less than 30% of the district population is unserved, 20% divided among districts where 30-50% of the population is unserved, and the remaining 40% divided among districts where over half of the population is unserved. As a result, more money is supposed to be directed towards districts with the highest numbers of unserved residents. The remaining 30% of the total allocation is allocated to districts according to their dominant extraction technology in a similar manner – more money goes to districts dominated by gravity schemes, the most expensive type of extraction technology (indicating that water is difficult, and thus more costly to extract in these districts).

In addition to the allocative criteria, districts must satisfy a set of minimum conditions related to financial management, planning and budgeting, procurement, and other functional processes. Councils that do not meet the minimum conditions are supposed to receive only 50% of the development grant amount amount. Districts are also subject to performance assessments that further condition eligibility to receive funds. In addition to development funds, all districts are supposed to receive an equal Capacity Building Grant. In 2011 this amounted to about $10,000 per district – a small fraction of the development grant, which exceeded $700,000 in some districts (United Republic of Tanzania, 2011).

Note that the formula creates a perverse incentive in a way – if districts improve access

(reducing the proportion of the population that is "unserved" by a water point) they will receive less money. Given the relative fungibility of money for water, reducing this funding stream may not be in the best interest of MPs and local officials – particularly if they are fairly secure in their positions (low levels of electoral competition). This aspect of the formula bolsters my expectation that districts will largely fail to follow the formula.

In order to understand what does determine the actual allocations that districts receive, I consider a number of factors, relating to the hypotheses presented above. I estimate regressions based on the following model:

$$\begin{aligned} log(Alloc)_{it} = \alpha_{it} + \beta_1 Unserved_{it-1} + \beta_2 GravDom_{it-1} + \beta_3 Opin_{it-1} + \\ \beta_4 CCM(Opp.)Support_{it} + \beta_5 Turnout_{it} + \beta_6 MinHome_{it} + \\ \beta_7 Rep_{it} + \beta_8 X_i \end{aligned} \tag{3.1}$$

where $log(Alloc)_{it}$ is the actual allocation of funds for water (logged) to district i in year t. The first three regressors represent the formula criteria. $Unserved_{it-1}$ is the proportion of the population that was unserved (did not have access to an improved water source) in district i in the year preceding the allocation of resources. $GravDom_{it-1}$ is a dummy variable indicating whether gravity schemes were the dominant extraction technology in district i in $t-1$. $Opin_{it-1}$ is the auditor's opinion of the district's accounts in the previous year, a proxy for the quality of financial management.

The subsequent variables correspond to the district-level hypotheses outlined in Section 3.3. $CCM(Opp.)Support_{it}$ is support for the ruling party or opposition measured in various ways as I describe below, $Turnout_{it}$ is district-level turnout in the most recent election, $MinHome_{it}$ is a dummy variable indicating the Water Minister's home district, and Rep_{it} indicates relative representation in Parliament. X_i is a vector of time-invariant controls such as poverty and depth-to-groundwater. Finally, I also estimate a series of regressions that include $year$, $year^2$, and $year^3$ to account for temporal trends.

The main specification I consider is a pooled linear regression model, since most of the

regressors vary more across than within districts over the seven-year period I study. Standard errors are clustered by district.

3.4.1 Data

The dependent variable, $log(Alloc)$, is measured using data on actual disbursements to rural districts for water projects for each year from 2007-2013 from the Ministry of Water's Management Information System.[11]

To calculate $Unserved_{it-1}$, I compare the stock of water points with the population in each year, assuming that each water point serves 250 people (per the Ministry of Water's guidelines). My data on water point stock is derived from a water point mapping (WPM) exercise conducted by the World Bank and the Tanzanian Ministry of Water between 2011 and 2013. The WPM dataset includes observations of 75,000 public water points serving rural communities in mainland Tanzania, with information on their year of construction, source type, management scheme, functionality status and precise geographical location. This information allows me to construct a time series, using Geographic Information Systems (GIS) software to map the water points into districts. The WPM data also facilitate the calculation of $GravDom_{it-1}$.

As a proxy for the quality of financial management, I consider the Controller and Auditor General's (CAG) opinion of the district's accounts in the year preceding disbursement. The CAG reports take into account much of the same criteria as the annual assessments of financial management, which are not publicly available for all years that I study. Each year, the National Audit Office (NAO) of Tanzania subjects each district to an audit and then issues an overall opinion, which can be of three main types: "Unqualified" (clean), "Qualified" (when there are material misstatements in districts' financial record-keeping), or "Adverse" (when the district's financial statements are not in accordance with the applicable financial reporting framework or accounting standards). In each year, I code $Opin_{it-1}$ on a 3-point scale such that higher scores correspond to better financial management (Adverse=1,

[11] `http://www.mowimis.go.tz/`

Qualified=2, Unqualified=3).[12] Adverse opinions are fairly rare. Of the 871 district-years in my sample, just 11 Adverse opinions were issued. Overall, about two-thirds of all districts received Unqualified (clean) reports, while about one-third received Qualified reports.

Given that they are conducted by parties external to the district CAG reports are thought to be less subject to manipulation than locally generated reports. As an independent assessor explained, "They [district officials] can't manipulate audit opinion. The evidence is there, you can see it. It is not the same as minutes. They can cook minutes but not the audit opinion" (Mkasiwa and Gasper, 2014, 48).

I measure regime support using both the vote margin (percent) for the CCM Parliamentary candidate (equal to the difference between the vote share for the CCM candidate and the runner-up) and the CCM Presidential candidate's vote share in the most recent election. (There were two elections during the study period: 2005 and 2010.) *Turnout* serves as another proxy for regime support.

I operationalize support for the opposition using a dummy variable indicating whether the district was represented by an MP from an opposition party following the most recent election, and another variable indicating the district's vote share for the CCM Presidential candidate in the previous election.

I also construct a dummy variable for the Minister of Water's home district, which changed three times during the study period.[13]

Following Ansolabehere, Gerber and Snyder (2002) and Allers and Ishemoi (2011), I include a measure of relative political representation, dividing the number of constituencies (MPs) per inhabitant of each district by the national average of that ratio.

Deviations from the formula may also be explained by district-level poverty, which I therefore include as a time-invariant control.[14] I measure poverty using estimates from

[12]For more detail on the criteria corresponding to the different opinions, see United Republic of Tanzania (2013)

[13]See the Appendix for details.

[14]While poverty rates arguably vary over time, I only have estimates for 2010.

the WorldPop high resolution poverty maps (Tatem et al., 2013). The WorldPop poverty maps illustrate the proportion of people living in poverty (defined as less than $1.25 per day) per square kilometer in 2010.[15] In addition, I control for population (logged), district area (logged), and depth to groundwater as a proxy for how difficult it is to extract water from a given district. My data on depth to groundwater is from MacDonald et al. (2012)'s quantitative maps of groundwater resources for Africa.

Table 3.3 depicts summary statistics for the district-level variables.

Table 3.3: Summary Statistics (District-Level Variables)

	count	mean	sd	min	max
Actual Allocation (Millions of TZS)	602	684.36	864.21	0.00	8735.80
Absolute Vote Margin (%, MP)	658	0.49	0.25	0.01	0.92
CCM MP Margin	688	0.50	0.29	-0.28	1.00
CCM Vote Share (President)	688	0.78	0.13	0.31	0.96
Turnout	652	0.65	0.16	0.27	0.93
Minister for Water's home district	688	0.01	0.12	0.00	1.00
Relative Political Representation	688	0.94	0.65	0.26	5.16
Audit Opinion	600	2.63	0.50	1.00	3.00
Poverty Rate	688	0.82	0.07	0.65	0.93
Population (thousands)	688	319.71	161.55	45.38	1009.94
Area (km squared)	688	9380.54	8465.62	627.62	49601.80
Depth to Groundwater (meters)	688	3.82	2.05	0.94	9.72

3.5 Results

My analysis of financial allocations to districts for water provision suggests considerable deviations from the funding formula, which appear in part to be a function of political interference. Table 3.4 depicts the correlates of financial allocations for water provision to rural districts. Model 1 includes only the formula criteria as regressors. We see that neither the proportion unserved nor the dominant extraction technology appear are significantly correlated with allocations, though districts with more favorable ratings from the audit agency receive more money for water on average. Note that the R^2 for Model 1 is extremely

[15]The fact that my measure of poverty is predicted rather than observed suggests possible attenuation bias. That is, the effect of poverty that I predict on my dependent variable are likely to be smaller than the actual effect.

low – implying that the formula criteria explain less than 2% of the variation in allocations across districts and over time. This is striking but in keeping with other studies of the formula-based block grants mentioned above.

It is important to note that my formula criteria variables do not measure need using precisely the same data as the government (due to lack of public availability). The government may be using worse or different data. I suspect the government's data is less reliable since I am relying on information from the WPM exercise whereas the central government typically relies on reports from district officials, who aggregate the information they receive from the villages within their jurisdictions (Harris, 2012). District officials may have an incentive to misrepresent the true scenario – making things look worse than they really are can result in more money flowing in. The relative fungibility of funds for water likely increases this incentive.

If we want take a more generous view, district officials simply might not have the most up-to-date information at their fingertips. Districts are fairly large – about 1,500 square miles on average – with only one district water engineer who has a variety of responsibilities beyond collecting accurate information each year. So it could be that the government is trying to follow the formula but they do not have the accurate information to do so. Thus any deviation from the ideal may be due to errors in the government's calculation.

Models 2-4 then add in the political variables and temporal controls, which help to explain an additional 27% of the overall variance in grant allocations. The pattern which emerges suggests political favoritism when it comes to the yearly allocation of funds for water infrastructure. Districts exhibiting higher levels of turnout and support for CCM candidates consistently receive more money. At the same time the formula criteria remain insignificant.

Models 5 and 6 add in non-political controls. Unsurprisingly, districts with more people receive more money. More notably, the influence of political variables persists.

Table 3.4: DV = Log of Actual Allocation to District, 2007-2013 (Pooled Model)

	(1) Model	(2) Model	(3) Model	(4) Model	(5) Model	(6) Model
L.% Unserved	-0.17	0.08	0.10	0.08	-0.12	-0.12
	(0.18)	(0.22)	(0.22)	(0.21)	(0.18)	(0.17)
L.% gravity schemes	0.02	-0.06	-0.05	-0.05	-0.15	-0.14
	(0.22)	(0.21)	(0.21)	(0.21)	(0.19)	(0.19)
L.Audit Opinion	0.34***	0.15	0.15	0.15	0.18	0.17
	(0.12)	(0.12)	(0.12)	(0.12)	(0.11)	(0.11)
Absolute Vote Margin (%, MP)		0.42				
		(0.26)				
Turnout		1.50***	1.55***	1.42***	1.98***	1.80***
		(0.52)	(0.52)	(0.51)	(0.50)	(0.48)
Minister for Water's home district		1.01	1.01	0.96	1.05	1.00
		(0.64)	(0.64)	(0.60)	(0.67)	(0.64)
Relative Political Representation		-0.16*	-0.17*	-0.17*	0.05	0.02
		(0.10)	(0.10)	(0.10)	(0.10)	(0.10)
CCM MP Margin			0.45*		0.49**	
			(0.24)		(0.22)	
CCM Vote Share (President)				1.01*		0.90*
				(0.56)		(0.52)
Poverty Rate					-0.90	-0.97
					(1.10)	(1.09)
Population (log)					0.39***	0.34***
					(0.11)	(0.12)
Area (log)					0.09	0.08
					(0.08)	(0.08)
Depth to Groundwater (meters)					0.04	0.04
					(0.04)	(0.04)
Year Fixed Effects	No	Yes	Yes	Yes	Yes	Yes
Observations	556	527	527	527	527	527
R^2	0.019	0.293	0.295	0.294	0.313	0.309

Standard errors in parentheses
The dependent variable is the log of the actual allocation to districts.
All models restricted to rural districts and those for which year of construction is not missing.
All models include standard errors clustered by district.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

These findings provide evidence in favor of Hypotheses 3.2 and 3.3 – suggesting consistent favoritism of districts that elect CCM candidates for Parliament and to the Presidency. This is consistent with some, though not all, previous studies of district grant allocations in Tanzania (e.g., Weinstein (2011)), as well as empirical work from other hegemonic party regimes (Blaydes, 2011; Magaloni, 2006).

3.5.1 Accounting for Temporal Variation

Could it be that districts which receive considerably more than their formula allocation in one year are disfavored in the following year, and vice versa? That is, might deviations from the formula average out over time?

To answer this question, I simply regress the actual allocation (logged) that each district receives in a given year on its allocation in the previous year. If deviations from the formula were averaging out over time, the coefficient on the previous year's allocation would be negative. Table 3.5 shows that in fact, a district's allocation in a given year tends to relate *positively* to its allocation in the immediately preceding year, suggesting that deviations from the formula do not even out over time but rather build on each other.

Table 3.5: Log of Actual Allocation to Districts as a Function of Allocation in Previous Year, 2007-2013

	(1) Log of Actual Allocation to District
L.Log of Actual Allocation to District	0.22***
	(0.03)
Observations	593
R^2	0.074

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This suggests that in spite of the formula-based system, and conditioning of yearly allocations on the quality of financial management, incremental budgeting methods (whereby a certain percentage of the previous year's budget is added to arrive at a new figure) largely persist.

Given such persistence, we may wish to know what accounts for the overall favoritism or marginalization of some districts over the first phase of the WSDP. To answer this question I collapse all of my variables by district such that I have a new dataset with indicators of total district allocations over the 2007-2013 period, which serves as my dependent variable for a 'between' model, accounting for differences across districts. I regress this on averages of the various political variables over the same span of time. I also include time-invariant factors such as poverty[16] and depth to groundwater, as above.

Table 3.6 shows that the only variables explaining cross-district variation in overall funds allocation are the dummy indicating the Minister for Water's home district and district population. None of the formula criteria variables are significant in explaining any of the cross-district variation. Given that the two main formula criteria (% unserved and dominant extraction technology) did not vary dramatically within districts over the time period in question this is a striking result. That is, the consistently neediest districts (according to the formula) largely fail to receive more money than their less needy counterparts.

It is interesting to note the positive and significant sign on the Minister for Water's home district when it comes to the cross-district analysis. One district had this distinction for the longest period of time – Rungwe district, which is home to Mark Mwandosya, who served as Minister for Water from February 2008 to May 2012. When Rungwe is excluded from the model the dummy variable for Minister for Water's home district is no longer significant.

[16]While poverty rates arguably vary over time, I only have estimates for 2010.

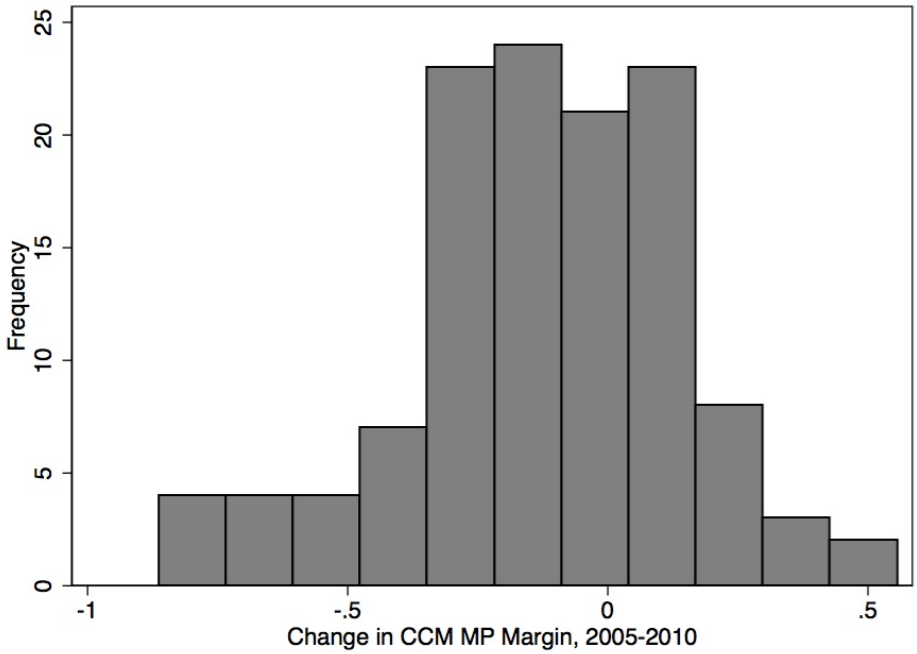
Table 3.6: DV = Log of Total Actual Allocation to District, 2007-2013 (Between Model)

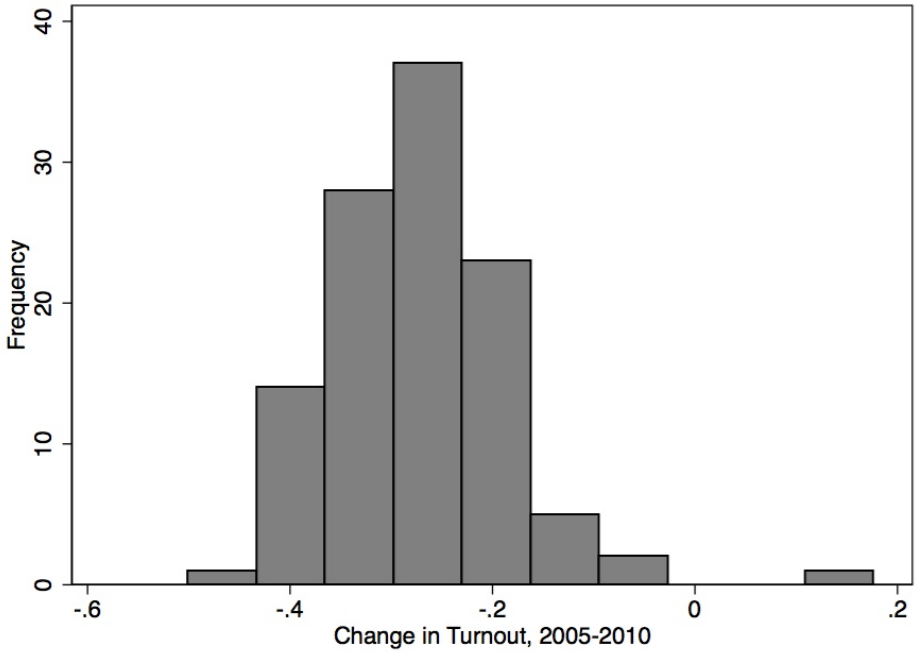
	(1) Model	(2) Model	(3) Model	(4) Model	(5) Model	(6) Model
% unserved	0.08	0.16	0.15	0.16	-0.18	-0.18
	(0.15)	(0.15)	(0.15)	(0.15)	(0.16)	(0.16)
% gravity schemes	0.24	0.19	0.20	0.19	0.01	0.02
	(0.15)	(0.15)	(0.15)	(0.15)	(0.14)	(0.14)
Audit Opinion	-0.04	-0.01	-0.02	-0.01	0.03	0.03
	(0.20)	(0.21)	(0.21)	(0.21)	(0.19)	(0.20)
Absolute vote margin (%, MP)		0.09				
		(0.21)				
Turnout		0.29	0.25	0.32	0.87	0.85
		(0.58)	(0.60)	(0.60)	(0.59)	(0.58)
Minister for Water's home district		1.34**	1.34**	1.33**	1.25**	1.28**
		(0.53)	(0.53)	(0.53)	(0.49)	(0.49)
CCM MP margin			-0.01		0.14	
			(0.20)		(0.18)	
Vote share for CCM Presidential candidate				0.23		0.38
				(0.53)		(0.50)
Poverty rate					-0.30	-0.33
					(0.68)	(0.68)
Population (log)					0.37***	0.36***
					(0.09)	(0.09)
Area (log)					0.03	0.02
					(0.06)	(0.06)
Depth to groundwater					0.03	0.03
					(0.02)	(0.02)
Observations	86	85	85	85	85	85
R^2	0.031	0.109	0.107	0.110	0.297	0.297

Standard errors in parentheses
The dependent variable is the log of the total actual allocation to districts over the 2007-2013 period.
All models restricted to rural districts and those for which year of construction is not missing.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The fact that the political variables do not retain significance reflects the loss of information caused by collapsing the indicators for turnout and ruling party support over the two elections. A number of districts experienced considerable swings over the two elections. On average, CCM candidates saw their margins of victory fall by 12 percent between the 2005 and 2010 elections, while turnout fell by 27 percentage points on average. These averages mask considerable swings in both positive and negative directions within districts. Figure 3.3 shows that while support for the ruling party declined in more districts than it increased, there is considerable variation across districts. We also see that while turnout declined in nearly all districts, it did so to varying degrees.

Figure 3.3: Change in District Support for CCM MPs and Turnout, 2005-2010





3.6 Conclusion

This chapter shows that one reason why increased spending has not generated improved access to clean water in Tanzania is the fact that the formula meant to guide financial allocations to districts has largely been bypassed. Political factors help to explain these deviations, with districts that support the ruling party to a larger degree consistently attracting more resources from the central government.

Rewarding districts that deliver higher levels of support for the ruling party promotes "upward" accountability (of district officials to the ruling party) rather than "downward" accountability (from district officials to their constituents), which would engender more responsive allocations. It can also facilitate costly corruption. Given the fungibility of district water allocations, district officials may be able to skim off some of the money they receive and divert it away from its intended purpose. I discuss the scope of such diversions in the subsequent chapter, looking at what happens when money reaches the district level.

3.7 Appendix

3.7.1 Accounting for New Districts

Between 2006 and 2013, Tanzania added over 30 districts – in keeping with a trend common to sub-Saharan Africa, where almost half of the countries have increased their number of administrative units by at least 20% since 1990, following decentralization reforms (Grossman and Lewis, 2014). Given that Tanzania's land mass has not expanded, all of the new districts have been carved out of existing districts. Though I have not been able to obtain any official record denoting the timing and process of district creation, I have been able to determine the 'parent' wards of all newly created districts by comparing election results for 2005 and 2010, comparing shape files from the 2002 and 2012 Census, and conducting additional Internet searches where necessary. In order to analyze changes over time since beginning of WSDP, I collapse all new (as of 2006) rural districts in with their 'parents.'

3.7.2 Deviation from Formula

The formula described in the WSDP Program Implementation Manual (Ministry of Water, 2006) allows for the derivation of allocation coefficients for each district, which can then be applied to the entire development budget allocation for water for a given year in order to determine the district's ideal allocation according to the formula. Specifically, the formula for allocation of development budget to the districts is equal to $d * Y$, where Y is the total development budget allocation, and d is the coefficient to be applied, which is the sum of t (the technology coefficient) and u (the coefficient for unserved population).

For gravity schemes t is $0.2/m_1$, where m_1 is the total number of districts where gravity schemes and protected springs dominate by at least 60% of the coverage. For pumping schemes it is $0.08/m_2$ where m_2 is the total number of districts where pumping schemes dominate by at least 60% of the coverage. For shallow wells it is $0.02/m_3$ where m_3 is the total number of districts where shallow wells, deep wells with hand pumps and traditional sources developed dominate by 60% of the coverage.

u is the coefficient to be applied depending on the unserved population. For unserved population <30% it is $0.1/h_1$ where h_1 is the total number of LGAs with unserved population less than 30%. For unserved population between 30% to 50% it is $0.2/h_2$ where h_2 is the total number of LGAs with unserved population between 30% to 50%. For unserved population>50% it is $0.4/h_3$ where h_3 is the total number of LGAs with unserved population>50%.

I derive the underlying formula criteria using the water point mapping (WPM) database. Given that the WPM database has information on the year of construction for each water point, I can estimate existing water point stock for each district for each year from 2006-2012. I calculate the proportion unserved as per the Ministry of Water's guidelines described above, assuming 250 people per water point.

In order to determine the dominant extraction type, I once again leverage information from the WPM database on each water point's source ($source_g$ in the WPM database) well as the extraction technology ($extract_c$ in the WPM database). Table 3.7 shows the equivalents between the classification of water points in the PIM and the classification I undertake using information in the WPM database.

Table 3.7: Extractive Technology Classification – PIM and WPM Data

PIM Classification	WPM Classification
Shallow wells, deep wells with hand pumps or improved traditional sources	$source_g ==$ "$shallowwell$"| $extract_c ==$ "$handpump$"
Gravity schemes and protected springs	$extract_c ==$ "$gravity$"
Pumping schemes	$extract_c ==$ "$motorpump$"|"$submersible$"

I am unable to derive allocation coefficients for a number of districts for two reasons. First, some districts have no one extraction technology that accounts for 60% or more of all water points. For instance, in 2006, of the 64 districts for which I have data on the year of construction, there are 29 districts in which no single extraction technology exceeds 60%. In light of this, I construct an alternate measure that considers which of the extraction technologies makes up a majority of the water points (i.e., which exceeds 50%). Even by

that alternate measure, I still identify 9 districts where no single extraction technology holds a majority. I therefore construct a third alternate measure that simply considers which extraction technology has the plurality in each district for each year. This allows me to classify all districts, and is what I ultimately use for variable construction.

Additionally, the year of construction is missing for 8,762 waterpoints (11.7%) of the 75,178 water points in the WPM database. I therefore exclude districts where year of construction is missing for over 50% of all water points from my analysis, since in these districts I cannot distinguish between water points that are part of the existing stock and those that were newly constructed between 2007 and 2013. Ultimately, I construct allocation coefficients based only on the universe of districts for which I have data on year of construction for the majority of water points I then determine ideal formula allocations by applying the allocation coefficients for each district to the total amount of money allocated to this restricted universe of districts.

My data on allocations is from the Ministry of Water's Management Information System (MIS).[17] The MIS allows for the tracking of project funds to different components of the WSDp, and creation of reports for each district from 2007-2013, showing how much money they are allocated for rural water supply. Given that the MIS is a project tracking system, I assume that the funds allocated for water projects are essentially equivalent to the development budget.

[17] http://www.mowimis.go.tz/

3.7.3 Minister of Water's Home District

The table below provides background information for use in my construction of the dummy variable indicating whether a district is home to the current Minister of Water.

Table 3.8: Minister of Water's Home District, 2006-2015

Minister	**Year Entered**	**Year Left**	**Home District**	**Home Region**
Shukuru Kawambwa	2006	2008	Bagamoyo	Coast
Mark Mwandosya	2008	2012	Rungwe	Mbeya
Jumanne Maghembe	2012	NA	Mwanga	Kilimanjaro

CHAPTER 4

Value for Money within Districts

4.1 Introduction

The previous chapter provided a partial explanation for the disconnect between spending and outcomes in Tanzania's water sector, showing that money for rural water provision largely has not been distributed according to the formula meant to guide its allocation to districts. However, even following the formula to the letter would not guarantee improved outcomes, given the potential for funds to be spent inefficiently, wasted, or captured by local elites. Thus it is important to investigate whether and how misallocation persists once money reaches the district level.

Studies from Tanzania and elsewhere have found that inter-district inequities are sometimes offset by better within-district targeting (Baird, McIntosh and Özler, 2013; Bardhan and Mookherjee, 2006*a*). To what extent is this true for the Tanzanian water sector? Have local governments been able to counteract the welfare losses arising from the misallocation of financial resources by the center? This chapter finds that to a large extent they have not; rather, misallocation at the local level serves to compound that by the central government to districts.

Using an extensive set of data on spending and construction of water infrastructure, this chapter looks at how – and where – local government authorities spend the money they receive from the central government. Overall, I find that district-level spending on water is highly inefficient and somewhat regressive. Furthermore, even when spending produces *outputs* (new water points) in a relatively efficient manner, they often are not allocated in a way that improves *outcomes* (access to clean water). Poverty and inequality account for

some of the considerable variation in "value for money" (VFM) across districts – with poorer and less equal districts exhibiting greater inefficiency.

Given that efficiency considerations do not appear to drive allocation decisions within districts, I next consider how local politics affects the placement of new water points. I find that the distribution of new water infrastructure within districts is skewed to favor communities with higher demonstrated levels of support for the ruling party, echoing the patterns revealed in the previous chapter. In addition, wealthier and better connected communities – those with the resources to more effectively express their demands – are significantly more likely to experience improvements in water point coverage. My analysis therefore suggests that local politicians skew resource allocation in favor of their supporters, as well as other vocal citizens they cannot easily ignore. This points to a failure of decentralization to achieve its aim of promoting greater accountability and responsiveness to local needs.

This chapter proceeds as follows. The next section provides relevant background information on the local government budget process. Section 4.3 presents evidence of widespread inefficiency and local capture by districts. Section 4.4 then examines variation in VFM, Section 4.5 considers the distribution of water points within districts, and Section 4.6 concludes.

4.2 Local Government Budget Process

Before delving into the particulars of local government budgeting for water provision, some background information on the country's overall budget process is in order. Developing the budget for a given fiscal year (which runs from July 1 to June 30) begins in the previous year with the Ministry of Finance (MoF) issuing budget envelopes at the sectoral level – i.e., the total amounts available for education, health, water, etc. The relevant central government ministries then work with the MoF to assign budget envelopes (also called budget ceilings) for local government authorities (LGAs, also known as districts) and regional secretariats. This is critical given that over 25 percent of public spending occurs at the LGA level (PER-Macro Group, 2013). Hence, the total budget for health, education, water, and other sectors that have been decentralized will be divided between the relevant sectoral ministry and

the LGAs. The budget ceilings are communicated to the LGAs and define the maximum expenditure allowable for each district (Impact Evaluation to Development Impact, 2016). In theory, the budget ceilings that LGAs receive should reflect the various formulas meant to guide allocation of the block grants for water, health, and other social services under the local government's jurisdiction, though as we see in the preceding chapter, these formulas are often bypassed.

Within the bounds of these budget ceilings, LGAs are then supposed to formulate detailed plans and budgets that respond to the needs of the local population. This process is supposed to follow a participatory framework called "Opportunities and Obstacles to Development" (O&OD). The O&OD process begins with an extensive consultative process to identify community priorities using a variety of participatory approaches including a "transect walk," which involves the collection of spatial information through direct observation while walking across a selected route in the village, development of a historical timeline to chronicle and analyze major historical events affecting the community, and the collection of relevant socioeconomic data. Once relevant information has been gathered, communities are supposed to gather in focus groups to draft community development plans, in collaboration with the village executive officer (VEO), a centrally appointed local government official (Prime Minister's Office – Regional Administration and Local Government, 2007).

Community plans are then compiled by the village council, which is made up of a chairman elected by the village assembly (comprised of every person over the age of 18 who ordinarily resides in the village), the chairman of all *vitongoji*, or sub-villages,[1] and other members elected by the village assembly. The resulting village plan is then forwarded up to the ward level, the level of government above the village. (Each ward contains about four to eight villages on average.) Specifically, village plans are sent to the Ward Development Committee (WDC), which is comprised of the councillor elected to represent the ward, chairpersons of all village councils within the ward, member(s) of the district council who

[1] A legacy of the ruling party's hierarchical structure under communism, every Tanzanian village consists of not more than five sub-villages, each of which has a chairperson elected by the sub-village electoral meeting, consisting of all adult members of the sub-village. Tanzania's villages vary considerably with respect to population, ranging from under 300 people to over 7,000 according to the 2012 Census.

ordinarily reside in the ward and non-state actors involved in the promotion of development in the ward. The secretary of the Ward Development Committee is the Ward Executive Officer (WEO), which is also a centrally appointed position. The WDC is supposed to discuss the village plans and then provide each village council with technical advice to incorporate into a revised version of the plan. After the revised plans are approved by the village council they are then incorporated into a ward plan and forwarded up to the district level (Mollel, 2010).

Decisions at the district level are the purview of the district council, which consists of councillors elected from each of the district's 20-40 wards, as well as members of parliament (MPs) representing constituencies within the council (Venugopal and Yilmaz, 2010). In theory, district councils are supposed to incorporate the priorities outlined in village and ward plans into their respective council plan, a framework for allocating funds expected from the central government. The draft council plan is then submitted to the regional secretariat, another centrally appointed official who oversees matters at the regional level. (Tanzania is divided into 30 regions, each of which contains 2-10 districts. The region is an administrative division only; there are no elected representatives at this level.) The regional secretariat then scrutinizes the draft district plan to ensure that central government regulations, policies, guidelines and directives have been adhered to. Once comments from the regional secretariat are incorporated, the council plan is then presented, discussed and approved by the district council. The approved district plan is then sent back to the regional secretariat, who combines the budgets from all of the region's council plans, and submits them to the Prime Minister's Office – Regional and Local Government, the central government ministry overseeing local government affairs. The district budgets are then submitted to the Ministry of Finance for incorporation into a national plan and budget, which is ultimately presented to the parliament for discussion and approval (Mollel, 2010).

This intricate, participatory process is often little more than a fiction. District plans frequently do not reflect local development needs. We observe that at almost every level of government, centrally appointed officials have considerable decision-making power, which they can use to undermine their elected counterparts. Even when districts work to make sure

that citizen priorities are represented, delays in the process frequently undermine participation. Although the budget ceilings are supposed to be issued in November, they often don't reach districts until May, a month before the national budget session, whereas the planning and budgeting process in the councils is supposed to have been completed by March. This leads to plan and budgets that are approved by the councils being subjected to further changes by PMO-RALG and Ministry of Finance, reflecting the central government's priorities rather than those of each district (Venugopal and Yilmaz, 2010).

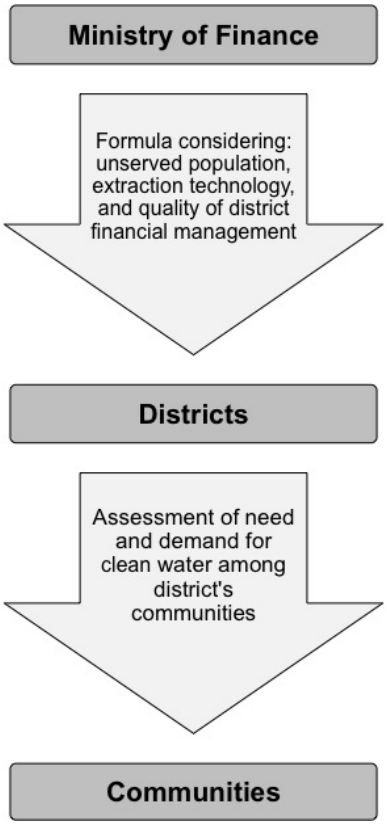
4.2.1 Budgeting for Water Provision

As described in Chapter 3, funds for rural water supply are supposed to be allocated to districts according to a formula that considers the level of need (proportion of district residents unserved by an improved water source), the difficulty of water extraction (proxied by dominant extraction technology), and the quality of financial management at the district level. Districts are then supposed to allocate resources to projects for communities within their jurisdiction, based on a combination of need and demand expressed for services. Unlike the distribution of funds by the central government, allocation decisions at the district level are fairly discretionary, with no formula to guide them. Figure 4.1 illustrates how funds are supposed to flow from the central government (Ministry of Finance) to districts and local communities.

In addition, the WSDP calls on districts to form District Water and Sanitation Teams, comprised of centrally appointed technocratic staff. These teams are meant to support overall input in planning, preparation of designs, studies, tender document preparation, supervision and advice to communities on matters pertaining to water supply, sanitation and hygiene services (Mmuya and Lemoyan, 2010, 6). These teams do not have a formal place within district councils; as a result, their degree of influence differs from district to district (Tilley, 2013, 8).

Within-district allocations reflect the so-called 'demand-responsive approach' (DRA). As described in Chapter 1, the DRA requires water users to demand, own, and maintain their

Figure 4.1: WSDP Flow of Funds



water services and participate in their design. In Tanzania and a number of other countries (e.g., Nigeria and Mozambique), this has been understood as mandatory cost-sharing, with the government's water policy requiring communities to contribute a given percentage of the total project cost before construction can begin (Wedgwood, 2005). Additionally, Tanzanian communities must open a bank account if they wish to receive a new water project. As I show below, these conditions affect the placement of new infrastructure within districts. Before getting to that point, let us first examine the extent to which the money that districts receive leads to the construction of new infrastructure in the first place.

4.3 Inefficiency and Local Capture

In general, social spending in Africa has not tended to be very efficient (Gupta and Verhoeven, 2001), and often disproportionately benefits those who are better off (Castro-Leal

et al., 1999). In addition, the fact that local governments do not raise much of their own revenue creates 'soft budget constraints,' whereby local governments' spending and borrowing decisions are influenced by the expectation of receiving additional resources from the central government, leading to inefficiency (Pisauro, 2001; Vigneault, 2005). Relatedly, transfers from the center share some properties with windfall revenues, which can hinder accountability. Rodden (2002) explains that individuals tend to view grants and 'own-source' local revenues through different lenses. Heavy reliance on central government transfers can create a 'fiscal illusion,' whereby voters do not internalize the true cost of public goods. As a result, voters are less likely to sanction overspending by politicians. In the Tanzanian context they may be less likely to sanction misspending as well.

Indeed, overspending at the local level is not a major cause for concern in Tanzania. As in many African countries, the grants received by Tanzania's local government authorities are often far less than local needs. This can diminish effective local authority and reduce people's incentives to involve themselves in local affairs. Furthermore, the fact that funds are allocated from the top down in a fairly opaque process can reduce the incentive for citizens to engage in local politics and hold their locally elected representatives to account for misuse of these funds (Wunsch, 2001). Overall, voters in Tanzania (and other countries where decentralization has proceeded in a similar manner) tend to lack motivation to monitor local spending.

As a result, it is not surprising that Tanzania's districts have on the whole exhibited low levels of efficiency when it comes to spending the resources they receive from the central government for rural water provision. Of particular note is the flawed implementation of the '10-village schemes,' an initiative through which districts were supposed to select the 10 neediest villages (with respect to water provision) to receive new, WSDP-funded projects. Design and construction of the new projects was contracted out to private consultants[2] who were to visit the 10 villages selected in each district and consult with community members

[2]It is not entirely clear why the district did not do this themselves. One of my interviewees at the World Bank cited staffing constraints; the position of the District Water Engineer (DWE) is a fairly new one and many districts didn't have DWEs when WSDP began. My impression from living and working in Tanzania is that it is fairly common to employ private consultants when donor funds are involved.

in order to come up with suitable designs. The design process proved to be extremely time-consuming and expensive. First, rather than cluster by region, each district hired its own consultants. Given the limited number of consultants suited to the task, this meant that each consulting firm was scattered across the country - designing projects in multiple regions. This contributed significantly to delays and cost inflation, although the main driver of cost inflation was the designs chosen. Communities chose (or were encouraged to choose) much costlier technologies than anticipated. The original cost estimates developed by the World Bank were based on the assumption that about half of all communities would select hand pumps (a relatively cheaper technology) for their new schemes, but at the end of the design phase hand pumps only constituted about 5 percent of all projects. As a number of my informants noted, it was in the consultants' interest to design more expensive projects, which would ultimately increase their cut of the funding. As of 2013, only two to three WSDP projects per district have been implemented out of the 10 originally planned.

4.4 Accounting for Variation in VFM Across Districts

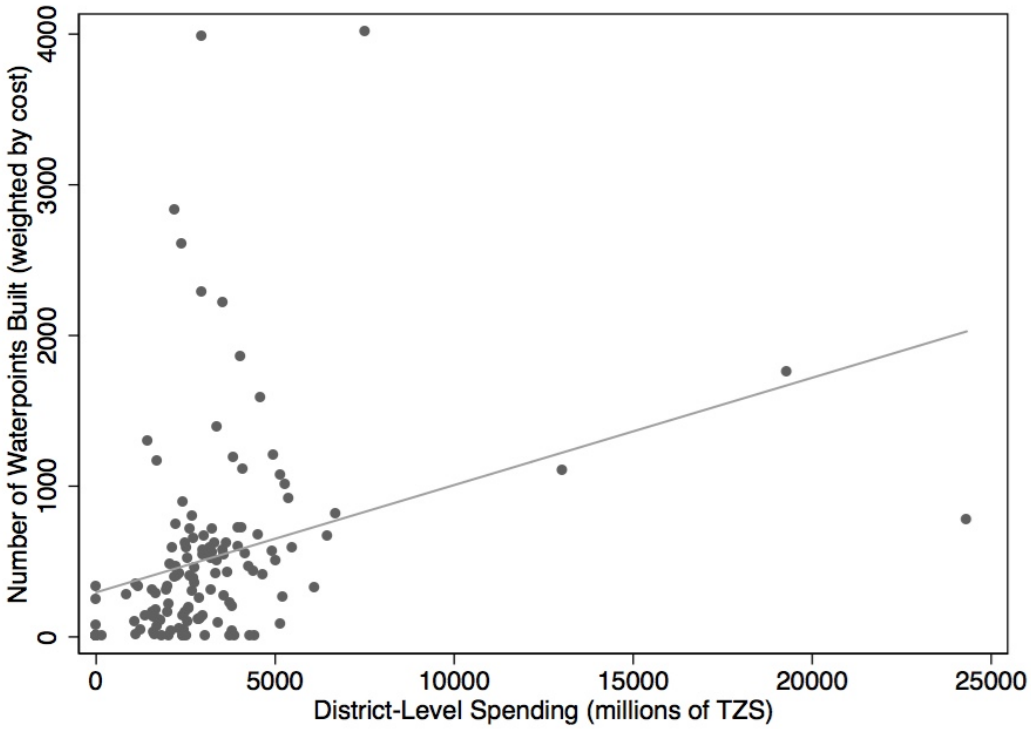
Although overall efficiency has been rather low, Tanzania's rural districts exhibit considerable variation when it comes to value for money (VFM). Figure 4.2 plots the total number of water points built in each district over the first phase of the WSDP (2007-2013) against district spending on water point construction during the same time period. The figures for water points built are weighted such that more expensive schemes (e.g., diesel pumps) are given a higher weight than less expensive schemes (e.g., hand pumps).[3]

My data on spending comes from the Ministry of Water's Management Information Database (MIS), while my data on water point construction comes from a recent water point mapping (WPM) exercise conducted by the World Bank and the Tanzanian Ministry of Water.[4] The WPM dataset includes observations of all 74,289 public water points (communal standpipes, hand pumps, improved springs, dams, cattle troughs, etc.) serving rural

[3]The weighting scheme is described in more detail in the Appendix to this chapter (Section 4.7).

[4]Mapping was completed in February 2013. For more information, see `http://wpm.maji.go.tz/`

Figure 4.2: Spending vs. Construction by Districts, 2007-2013



communities in mainland Tanzania, with information on their year of construction, source type, management scheme, functionality status and precise geographical location. The mapping exercise covered rural and 'mixed' wards only, reflecting the fact that urban Tanzanians tend to have water piped into their homes or buy water from vendors rather than rely on communal water points. I use the WPM data to create a time series of water point construction, calculating the number of water points built in each district between 2007 and 2013.[5]

The fitted line in Figure 4.2 depicts a positive relationship – on average, districts that spend more money on water build more water points. However, there are a large number of outliers. In a number of districts, large sums have been spent but not a single water point has been built. Even when new water points have been constructed, there is considerable

[5]I exclude 11 districts in which the year of construction was not given for 50% or more of the water points, since in these districts I cannot distinguish between water points that are part of the existing stock and those that were newly constructed between 2007 and 2013.

variation in value for money, with some districts spending their money much more efficiently than others.

4.4.1 Hypotheses

In order to account for the variation in VFM across districts, I draw on the empirical and theoretical literature on the determinants of "local capture." While local capture typically refers to the diversion of resources by traditional local elites, I understand it as a broader proxy for inefficiency and/or corruption, making it relevant to my study.

I turn first to the important work of Reinikka and Svensson (2004), who use data from a public expenditure tracking survey to assess the extent to which capitation grants for education in Uganda actually reach the intended end-users (schools). They find evidence of substantial capture, with schools receiving just 13% of the grant on average. The authors develop a framework to study variance in capture, in which schools in communities with higher incomes will be better able to bargain and so will receive more of their allocations. The authors' theoretical predictions are borne out in their empirical analysis, which finds that higher-income communities experience significantly lower levels of leakage.

Bardhan and Mookherjee (1999, 2000) confirm the salience of income, developing a theoretical model based on Baron (1994) and Grossman and Helpman (1996). Their model identifies a number of determinants of local capture including the average level of political awareness, and disparities in awareness levels across classes. These factors suggest that capture will increase with poverty, as well as with inequality. Bardhan and Mookherjee (1999, 2000) explain that higher levels of inequality can increase the fraction of uninformed voters in the population, making the electorate less likely to sanction capture.

The theoretical model developed by Bardhan and Mookherjee (1999, 2000) also predicts that electoral competition can reduce capture by weakening the incentives of special interest groups to contribute to campaign finance. Electoral competition could reduce capture more directly as well, if voters sanction misspending and corruption by withholding their votes from politicians who engage in such behavior. This suggests that when competition is limited,

voters will have less recourse to sanction government officials for misusing public funds.

Finally, local government capacity may affect the degree of capture. If local governments lack appropriate mechanisms of internal control, it will be easier for corrupt officials to divert resources for their own purposes. Wunsch (2001) explains that local governments in many African countries face constraints when it comes to planning and budgeting given insufficient or unresponsive local technical personnel resources and the complexity and confusion of the budget process. In the Tanzanian context, Noiset and Rider (2011) note that widespread poverty leads to a lack of qualified individuals to staff local government offices.

These studies provide some guidance in identifying which factors will help to explain variation in efficiency across Tanzania's local districts. I summarize the anticipated effects in Table 4.1.

Table 4.1: Predicted Effects on Efficiency

Variable	Expected Sign
Poverty	–
Inequality	–
Electoral Competition	+
Local Government Capacity	+

4.4.2 Empirical Strategy

In order to test the hypotheses summarized in Table 4.1, I estimate the following OLS regression model:

$$VFM_i = \beta_1 Poverty_i + \beta_2 Inequality_i + \beta_3 CCMMargin_i + \beta_4 Capacity_i + \beta_5 GroundwaterDepth_i + \epsilon \quad (4.1)$$

where VFM_i is a measure of value for money in district i, which is regressed on district-level estimates of poverty, inequality, CCM Members of Parliaments' margin of victory in a given district, local government capacity, and depth to groundwater. Per the hypotheses outlined above, I expect that value for money will be higher in districts that are wealthier

(suggesting that β_1 will be negative), that exhibit lower levels of inequality (negative β_2), that are more competitive (negative β_3) and that have greater local government capacity (positive β_4). Depth to groundwater should be negatively correlated with VFM (negative β_5), since in districts where water is further from the surface it is likely harder to extract, constraining the ability of local officials to build new infrastructure where it is needed.

I measure VFM in two ways. First, I consider VFM in terms of *spending efficiency*, comparing money spent in each district during the first phase of the WSDP to the number of water points built over the same period. Next, I construct a measure of *allocative efficiency*, which compares money spent in each districts with improvements in access (the proportion of district residents living within 1km of an improved water point). We can also interpret VFM as a proxy for corruption. This interpretation is similar to the measure of corruption developed by Golden and Picci (2005), which is based on the difference between the amount of existing public infrastructure in Italy's 95 provinces and 20 regions and the amounts of money cumulatively allocated by the government for public works in each province/region. Places where the difference between money allocated and infrastructure built is larger are understood as being more corrupt. The intuition behind the measure is that, "all else equal, governments that do not get what they pay for are those whose bureaucrats and politicians are siphoning off more public monies in corrupt transactions" (41).

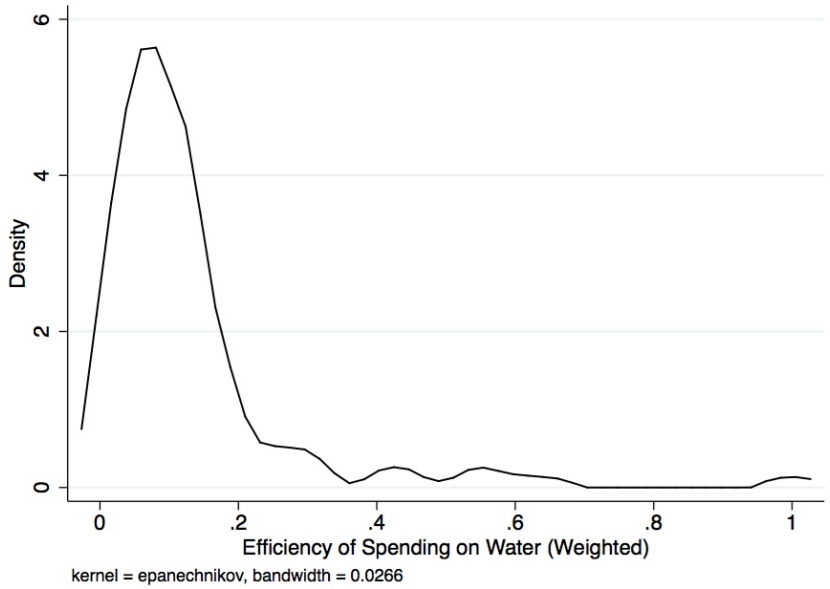
4.4.3 Measuring Spending Efficiency

I measure spending efficiency by dividing the number of water points built by the total amount spent in each district over the same time period.[6] As above, the figures for water points built are weighted such that more expensive schemes are given a higher weight than less expensive schemes. I then standardize the resulting figure to range from 0 to 1, with one corresponding to maximum efficiency and zero corresponding to minimum efficiency. Figure 4.3 depicts a density plot of the spending efficiency metric. It shows that there are a

[6]I adjust my efficiency metric to account for the fact that the water point mapping exercise spanned three years: 2011-2013. Hence, in districts where water points were mapped in 2011, I compare spending from 2007-2011 with water point construction in the same period; in districts mapped in 2012 I consider the 2007-2012 period.

substantial number of districts exhibiting low levels of spending efficiency.

Figure 4.3: Kernel Density Estimate of Efficiency of Spending on Water



This metric is a proxy – best used for relative comparisons across districts rather than as an absolute measure of efficiency. First, not all spending on water at district level necessarily goes towards water point construction. That said, only a tiny amount is likely spent on other items, given that over 90% of the budget for rural water that districts receive is intended for 'development' purposes – building water infrastructure and constructing demonstration latrines (Jiménez Fernández de Palencia and Pérez-Foguet, 2011). Secondly, my spending data mainly reports transactions from foreign aid donors and central government transfers.[7] This implies possible undercounting since spending of districts' own-source revenue is not necessarily included. Such undercounting is unlikely to be very significant, however, given that most districts rely overwhelmingly on transfers from the central government. (See Table 4.2 at the end of Section 4.4.5 below for summary statistics on districts' own-source revenue.) Furthermore, undercounting is not likely to be systematically related to my independent variables.

[7]N. Kihunrwa, personal communication, August 2014.

4.4.4 Measuring Allocative Efficiency

Spending efficiency provides an incomplete picture of value for money at the district level. The construction of new water points will only translate into improved access to clean water if infrastructure is built in places where people previously lacked access. Since the water point data is geo-coded, it is possible to see precisely where new infrastructure has been built. I incorporate high-resolution data on population distributions for Tanzania from the WorldPop database[8] in order to determine whether new construction has been targeted to previously underserved areas.

As a baseline, I first construct estimates of the proportion of the population in each district that lived within close proximity to a water point as of 2006 (prior to the WSDP's initiation). I use Geographic Information Systems (GIS) software to draw 1-kilometer radii around each water point, dissolving the overlapping circles to identify 'catchment areas.' (The 1-kilometer radii catchment areas correspond to the United Nations' definition of access to clean water.[9]) I then calculate the number of people residing within all catchment areas of each district. Dividing this figure by the total district population gives me an estimate of the proportion of the population with access to a water point.

In order to see whether new water points are targeted at previously underserved areas, I look at how the proportion of the population with access changes following the construction of new water points during the 2007-2013 period. I compare the change in access to the 2006 level of access in order to derive a metric of improved access (the percent improvement in access).[10]

To illustrate this technique, consider Moshi district in Northern Tanzania, depicted in Figure 4.4.

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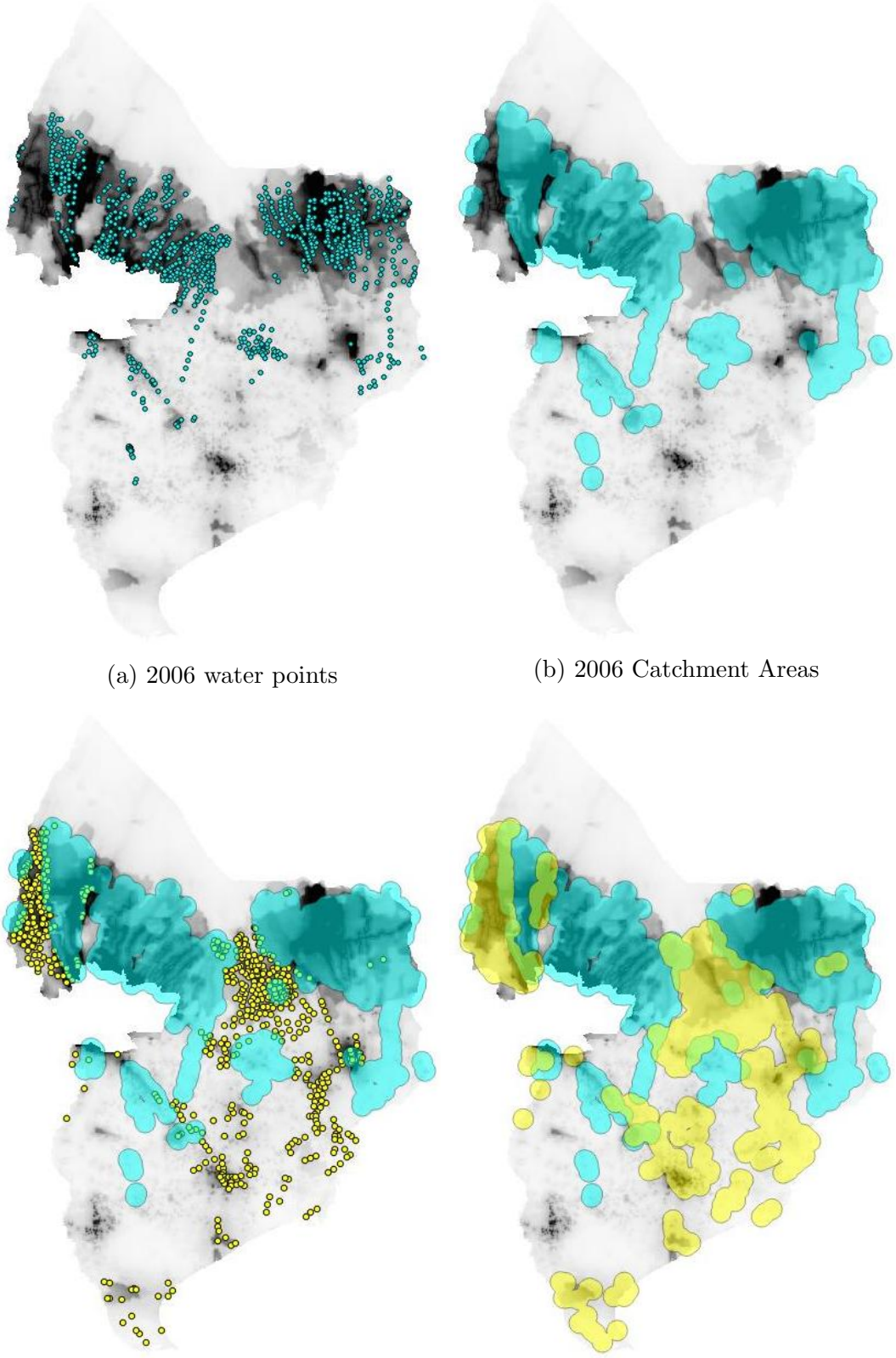
[8]Worldpop datasets are available under the Creative Commons Attribution 4.0 International License. For more information, see `http://www.worldpop.org.uk/`

[9]`http://www.un.org/waterforlifedecade/human_right_to_water.shtml`

[10]The estimates of improvements in access may be somewhat overstated since they rely on a static measure of population, from 2010. This means that the access estimates from 2006 are likely understated, since the population has grown in most districts since then. Hence the changes in access will be somewhat overstated.

Figure 4.4: Targeting of Water Infrastructure in Moshi District



(a) 2006 water points

(b) 2006 Catchment Areas

(c) 2006 Catchment Areas with New water points, 2007-2013

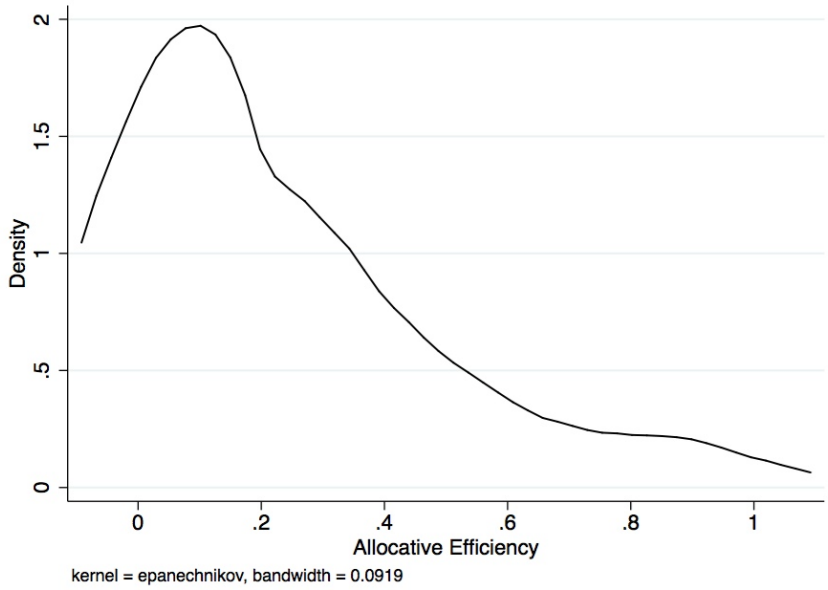
(d) 2006 Catchment Areas with New Catchment Areas, 2007-2013

In all figures, water points are overlaid atop population distribution, with darker areas corresponding to more densely populated areas. The top left panel (a) illustrates the distribution of the 2006 stock of water points (in light blue) in Moshi district. The top right panel (b) depicts water point catchment areas as of 2006 (light blue polygons). We see that prior to initiation of the WSDP, a fair amount of the population resided outside the catchment area of a water point. This is illustrated by the dark portions of the map that are not covered by light blue shading.

Specifically, in 2006, 72.3% of Moshi's population lived within 1 kilometer of a water point. The bottom left panel (c) shows the placement of new water points, 2007-2013 (in yellow), and the bottom right panel (d) illustrates the catchment areas corresponding to these new water points. We see that a substantial portion of the previously dark areas are now covered. By 2013, the proportion of Moshi's population residing within 1 kilometer of a water point had risen to 94.6%. This 22.4 percentage *point* increase represents a 31 *percent* improvement in access.

Finally, since I want to see how money spent corresponds to improvements in access, I divide the change in the proportion of the population with access between 2007-2013 by funds spent over the same period and once again standardize the resulting figure to range from 0 to 1. Figure 4.5 provides a density plot of the allocative efficiency metric. We see that districts exhibit greater variation in allocative efficiency than spending efficiency, if we compare this to Figure 4.3.

Figure 4.5: Kernel Density Estimate of Allocative Efficiency



4.4.5 Independent Variables for Analysis of Variation in VFM

The previous two sections explain how I operationalize the dependent variable in Equation 4.1. I this section, I explain how I operationalize my independent variables for the analysis of variation in VFM across districts.

As in Chapter 3, I measure poverty using data from the WorldPop high resolution poverty maps (Tatem et al., 2013). I obtain district-level estimates of inequality from a poverty mapping exercise undertaken by the local Tanzanian organization REPOA, with technical support from the World Bank (United Republic of Tanzania, 2005*b*). The poverty mapping exercise constructed district-level Gini coefficients for 2000/01. A Gini coefficient of zero reflect perfect equality, whereas a Gini coefficient of one reflects maximal inequality.

I consider political competition at two levels, for the 2005 and 2010 elections. First, I consider political competition for ward councillor, since councillors have the primary responsibility for planning and budgeting at the district level. I also consider competition at the Parliamentary level, since Members of Parliament also sit on the district council and can play

an influential role in district-level decision making. I measure electoral competition in terms of the average margin of victory achieved by the winning candidate in the last election.[11]

I measure local government capacity in three ways. First, I consider the average audit opinion that each district received over the period FY2007/08 - FY2012/2013. Next, I look at districts' budget execution in terms of their ability to spend the funds that are allocated to them for water. I take the average of total spending as a percent of total disbursements over the 6-year period. I also consider own-source revenue as a proportion of total district revenue as another measure of local government capacity. This information is available for three years only (2010-2012).

The hydrology of different districts could also affect value for money. Specifically, it is likely more difficult to extract water in places with greater depth to groundwater. My data on depth to groundwater is from MacDonald et al. (2012)'s quantitative maps of groundwater resources for Africa.

Table 4.2 provides summary statistics for the dependent and independent variables used in my analysis of value for money across districts.

Table 4.2: Summary Statistics, District-Level Variables

	count	mean	sd	min	max
Efficiency of Spending on Water (Weighted)	93	0.13	0.15	0.00	1.00
Allocative Efficiency	93	0.23	0.25	0.00	1.00
Gini Coefficient (2000/01)	127	0.32	0.03	0.26	0.43
Avg. Councillor Margin of Victory (%), 2005-2010	132	0.40	0.14	0.11	0.70
Avg. MP Margin of Victory (%), 2005-2010	131	0.44	0.23	0.02	0.96
Avg. Audit Opinion (FY07-FY12)	134	2.63	0.21	2.00	3.00
Water Budget Execution (%)	133	0.64	0.15	0.00	0.96
Own-source revenue (%), avg. 2010-2012	132	0.07	0.04	0.02	0.30
Depth to Groundwater (meters below groundlevel)	137	3.72	1.98	0.76	11.81

[11]Each district contains one to three Parliamentary constituencies, which are contiguous with district boundaries.

4.4.6 Correlates of Spending Efficiency

This section attempts to account for variation in the degree to which local government authorities translate finance into new infrastructure. Why have some achieved more or less value for money? I begin by looking at the correlates of spending efficiency, shown in Table 4.3.

Returning to the hypotheses outlined in Table 4.1, I find support for only the first one – that poverty inhibits efficiency. This finding aligns with that of Reinikka and Svensson (2004), who find that schools in communities with higher incomes experience lower levels of leakage in terms of capitation grant allocations from the central government. This suggests that poorer communities may have a harder time monitoring their elected officials and demanding that politicians respond to local needs with the money they receive from the center. On the other hand, politics does not seem to matter for spending efficiency – I find no evidence to suggest that political competition or support for the ruling party has any influence.

Two of the three proxies for local government capacity have the opposite association of that anticipated. Districts with higher levels of budget execution, and those that raise a greater proportion of their own revenue, exhibit *lower* levels of spending efficiency. One possible explanation for this pattern is that local government authorities that are more adept at raising and spending money may also be better at skimming off the top of local coffers. As discussed above, the majority of citizens (particularly those in poorer communities) lack incentives – or capacity – to closely monitor the behavior of local officials.

Table 4.3: Linear Regression Analysis of District-Level Spending Efficiency, FY2007/08-FY2012/13

	(1) Model	(2) Model	(3) Model	(4) Model	(5) Model	(6) Model
Poverty Rate (2010, 1.25)	-0.67***	-0.67***	-0.68***	-0.68***	-0.69***	-0.69***
	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)	(0.19)
Gini Coefficient (2000/01)	-0.79	-0.88	-0.64	-0.69	-0.71	-0.73
	(0.64)	(0.65)	(0.62)	(0.63)	(0.63)	(0.63)
Avg. Councillor Margin of Victory (%), 2005-2010	0.09		0.10		0.06	
	(0.11)		(0.11)		(0.11)	
Avg. Audit Opinion (FY07-FY12)	-0.05	-0.08				
	(0.07)	(0.08)				
Depth to Groundwater (meters below groundlevel)	-0.00	-0.00	0.00	0.00	-0.00	-0.00
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Avg. MP Margin of Victory (%), 2005-2010		-0.05		-0.04		-0.07
		(0.07)		(0.06)		(0.06)
Water Budget Execution (%)			-0.23**	-0.23**		
			(0.11)	(0.11)		
Own-source revenue (%), avg. 2010-2012					-0.86*	-1.04**
					(0.48)	(0.49)
Observations	93	92	93	92	93	92
R^2	0.147	0.148	0.186	0.181	0.173	0.181

Standard errors in parentheses
The dependent variable is a waterpoint construction efficiency metric that compares waterpoints built with money spent.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.4.7 Correlates of Allocative Efficiency

Whereas the previous section considered *outputs*, this section looks at the impact of spending on *outcomes* – or how money spent corresponds to improvements in access. Table 4.4 depicts the correlates of allocative efficiency.

In these regressions, the result for poverty persists though it is somewhat less robust. I also find that inequality is negatively associated with allocative efficiency: districts with higher Gini coefficients (those that are more unequal) do less well when it comes to allocating new infrastructure efficiently for the money they spend. This result is unsurprising – it seems likely that wealthier wards within districts will be better able to advocate for themselves compared with their poorer neighbors – thereby skewing the distribution of new infrastructure. The negative result on depth to groundwater is also as expected. When water is harder to extract from the ground, local officials are more constrained as to where they can place new infrastructure. That is, putting new water points in the places where people need them most may be geographically impossible. Finally, the unexpected results for local government capacity persist. Again this could imply a lack of effective community monitoring. It is worth noting that in both sets of regressions, the R^2 values are rather low – that is, much of the variation in VFM across districts remains unexplained.

Table 4.4: Linear Regression Analysis of District-Level Allocative Efficiency, FY2007/08-FY2012/13

	(1) Model	(2) Model	(3) Model	(4) Model	(5) Model	(6) Model
Poverty Rate (2010, 1.25)	-0.55	-0.54	-0.56*	-0.55*	-0.57*	-0.58*
	(0.34)	(0.34)	(0.33)	(0.33)	(0.33)	(0.33)
Gini Coefficient (2000/01)	-1.91*	-2.15*	-1.69	-1.89*	-1.76	-1.92*
	(1.12)	(1.12)	(1.10)	(1.11)	(1.09)	(1.10)
Avg. Councillor Margin of Victory (%), 2005-2010	-0.07		-0.04		-0.13	
	(0.20)		(0.19)		(0.19)	
Avg. Audit Opinion (FY07-FY12)	-0.07	-0.10				
	(0.13)	(0.13)				
Depth to Groundwater (meters below groundlevel)	-0.02*	-0.03**	-0.02	-0.02	-0.03**	-0.03**
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Avg. MP Margin of Victory (%), 2005-2010		-0.02		-0.00		-0.05
		(0.11)		(0.11)		(0.11)
Water Budget Execution (%)			-0.33*	-0.31		
			(0.19)	(0.19)		
Own-source revenue (%), avg. 2010-2012					-1.80**	-1.68*
					(0.84)	(0.85)
Observations	93	92	93	92	93	92
R^2	0.092	0.103	0.118	0.124	0.134	0.136

Standard errors in parentheses
The dependent variable is a measure of allocative efficiency that compares improvements in access with total money spent.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.5 Local Politics and Infrastructure Allocation

If efficiency considerations do not drive the distribution of water infrastructure in many districts, what, then, explains where new water points get built? I expect that local politics will play an important role – specifically at the level of the district council, given this body's planning and budgeting mandate following decentralization reforms.

Tanzania's central government has proven reluctant to relinquish decision-making powers to district councils (Pallotti, 2008; Kessy and McCourt, 2010). As a result, local officials are often seen as more accountable to their national party caucuses and central government officials than to the people that elected them within their districts (Venugopal and Yilmaz, 2010). That being said, Harrison (2008, 179) notes that "the revival of the [district council] has produced a routinised opportunity for councillors to lobby and advocate for their own wards." Indeed, lobbying by ward councillors is said to be a decisive factor affecting decisions regarding the selection of villages to benefit from new water schemes (Jiménez Fernández de Palencia and Pérez-Foguet, 2011; Oxford Policy Management, 2013).

4.5.1 Hypotheses

Which ward councillors will expend the greatest effort lobbying district officials to build new water points in their wards? Who among them will be most successful? Theories of democratic accountability hold that political competition should increase pressures on local officials to provide services desired by their constituents. Rosenzweig (2012) draws on such theories to explain his finding that access to electricity and piped water have improved in districts that have become more competitive since 1995. He notes that improved public goods provision as a result of greater competition may result from two mechanisms: (1) the allocation of financial resources to swing districts, and (2) better translation of allocated resources to public goods outcomes, if accountability pressures force incumbents to reduce rent-seeking. Given that Chapter 2 did not find evidence of the first mechanism at work, I test for the second in this chapter:

Hypothesis 4.1. *Wards with higher levels of electoral competition will experience greater improvements in water infrastructure.*

That being said, Tanzania is a hegemonic party regime. In Chapter 3, I note that hegemonic parties often institute "punishment regimes" – distributing resources to citizens who remain loyal and withdrawing them from those who defect – in order to obtain supermajorities. Local politicians lack the legislative imperative to obtain supermajorities, but winning by large margins could still conceivably serve to deter opposition parties from entering local politics. In hegemonic party regimes where access to funding is controlled by the central government, local governments must rely heavily on the center, so local organizations, politicians, and voters have strong incentives to affiliate with the national ruling party (Scheiner, 2006). Presumably, if the national ruling party is seen as invincible, the cycle of dependence can be maintained.

Indeed, the survival of local politicians in hegemonic party regimes depends largely on their ability to "deliver" the votes of their constituents to party higher-ups. Such demonstrations of competence are rewarded by party bosses with continued access to resources from the central government. Local politicians then distribute these resources to their constituents in a manner intended to promote their reelection, at the same time shoring up support for the ruling party. Hence, I argue that in the context of hegemonic party regimes, local politicians function as political brokers – "local intermediaries who provide targeted benefits and solve problems for their followers" in exchange for votes (Stokes et al., 2013, 75).

The "targeted benefits" that local politicians provide in this context are not the private, material goods such as food, clothing, household items, cash handouts that typify the clientelist exchange (Stokes et al., 2013). This reflects the relatively low level of vote-buying in Tanzania, which, as discussed in Chapter 2, results from the low level of electoral competition in many races. Rather, local politicians in hegemonic party regimes target the distribution of public goods over which they have discretion. By allocating local public goods to regime supporters, politicians help to cultivate mass support for the party, which is essential for regime survival (Magaloni, 2006). As Kramon (2013) notes, voters in Africa, and especially

in rural Africa, value the delivery of local public goods. Furthermore, local public goods are often the only outputs of government that rural voters can observe. In the context of district politics this suggests the following:

Hypothesis 4.2. *Within districts, water infrastructure will be disproportionately channeled to the CCM's 'core' wards, and will be reduced when the CCM's margin in local races falls.*

Another way local politicians target their supporters is by rewarding areas with high levels of voter turnout, as noted in Chapter 3. This suggests:

Hypothesis 4.3. *Within districts, water infrastructure will be disproportionately channeled to wards with higher levels of voter turnout in the last election.*

Beyond electoral politics, another important factor motivating the distribution of resources within districts is the degree to which communities can effectively express their demands. In light of the demand-responsive approach for water provision, income tends to serve as a proxy for demand. As noted above, the demand-responsive approach requires beneficiary communities to raise initial financial contributions for the capital costs involved in developing water supply and sanitation facilities (Ministry of Water, 2006, 28). Required community contributions range from 2.5% of capital costs for gravity-fed or pumped and piped schemes, to 30% in the case of spring protection. Such contributions can be substantial. For instance, the average cost of a small, gravity-fed piped scheme was projected to be $76,300 USD in 2006 (Ministry of Water, 2006, 28). The community contribution in such case would therefore amount to $1,907.50. While such a figure seems manageable when divided amongst the 1,500 beneficiaries that ought to be served by such a scheme, determining exactly who the beneficiaries will be and how to best raise money from them can be challenging. Even small sums can be difficult when the majority of the population survives on less than $1.25 per day, as is the case in many rural wards. Furthermore, many Tanzanians regularly lack access to cash. In 2012, over 80% of rural Tanzanians reported that in the past year they had gone without a cash income several times or more during the past year (Afrobarometer, 2012). The WSDP also requires beneficiary communities to open a bank account for their water and sanitation funds. Given that banks tend to concentrate in

urban areas, this presents another barrier (and also explains the negative sign on distance to nearest road in my regressions). This leads to my final hypothesis regarding the distribution of water infrastructure within districts:

Hypothesis 4.4. *Within districts, water infrastructure will be disproportionately channeled to wards with higher levels of income.*

4.5.2 Empirical Strategy

In order to understand local government decision making about the placement of new water points and test the hypotheses presented in the preceding section, I model the number of water points built in each ward over the first seven years of the WSDP as a function of ward-level political variables and appropriate controls. Both my dependent and independent variables vary over time within wards, so I estimate a count model with ward-level fixed effects. Specifically, negative binomial regression is appropriate, since the dependent variable is overdispersed.

Negative binomial regression entails that the mean response is related to the predictors (independent variables) through a link function, specifically the log link function. That is, the log of the outcome is predicted with a linear combination of the predictors. The model can thus be represented as follows:

$$log(WaterPoints_{it}) = \alpha_{it} + \beta_1 Politics_{it-1} + \beta_2 Turnout_{it-1} + \beta_3 Stock_{it} \tag{4.2}$$

where $WaterPoints_{it}$ refers to the number of water points built in ward i in year t, $Politics_{it-1}$ is a measure of political competition, support for the ruling party, or support for the opposition in ward i in the most recent election, $Turnout_{it-1}$ refers to that ward's turnout in the most recent election, and $Stock_{it}$ is the existing level of water point stock. The model also controls for a time trend.

I estimate another set of models with ward-level coverage improvements over the entire first phase of the WSDP as my dependent variable. Whereas the previous set of models

considered ward-year variation, in these models the ward is the unit of analysis. I focus on improvements in *coverage* (the number of water points per person) rather than *access* (the proportion of ward residents within 1 km of a water point) since the former is what district officials use in their routine monitoring (Harris, 2012). Coverage improvements at the ward level likely depend on district-level characteristics as well (such as the financial resources the district council receives for water provision, or geographic factors). In order to account for the clustered nature of the data, I estimate a two-level random intercept regression model (with wards clustered into districts) of the following form:

$$Coverage\Delta_{ij,2005-2012} = \alpha_{ij} + \beta_1 CCMCouncillorMargin_{ij,2005} + \beta_2 Turnout_{ij,2005} + \beta_3 Coverage_{ij,2005} + \beta_4 X_{ij} + \epsilon_{ij} \quad (4.3)$$

$Coverage\Delta_{ij,2005-2012}$ refers to the improvement in water point coverage in ward i in district j, $CCMCouncillorMargin_{ij,2005}$ is the CCM candidate for ward councillor's 2005 margin of victory in ward i in district j, $Turnout_{ij,2005}$ refers to that ward's turnout in the 2005 election, $Coverage_{ij,2005}$ is water point coverage as of 2005, and X_{ij} is a vector of ward-level controls.

4.5.3 Ward-Level Data

My ward-level data on water point construction is derived from the water point mapping exercise described above. I use GIS to map water points into wards, creating a time series with the number of water points built in each ward in each year. I also calculate total ward-level water point stock in each year.

Given that each water point is assumed to serve 250 people (per the Ministry of Water's guidelines) I calculate coverage by multiplying the number of water points in each ward by 250 and dividing the result by ward population. I then calculate the percentage difference in coverage between 2006 and 2013.

I operationalize my independent variables as follows: I measure competition as the ward

councillor's margin of victory (in percentage terms) in the most recent election. I measure support for the ruling party at ward level in multiple ways. These include a dummy variable indicating whether the ward elected a ruling party councillor in the most recent (2005 or 2010) election and the CCM candidate's margin of victory (where higher, positive margins indicate higher levels of support and negative margins indicate support for the opposition). The latter measure excludes observations from ward-level elections that were uncontested – of which there were 801 over the two periods (14% of all ward-level elections). I also consider the CCM councillor's vote share and whether the ward councillor was politically aligned with the ruling party member of Parliament in the previous election.

Turnout in the 2005 and 2010 elections serves as an additional measure of support for the ruling party. The official election data from the Tanzanian National Electoral Commission (NEC) do not include turnout figures so I estimate turnout by dividing the total number of votes in each ward by an estimate of the voting-age population in each election year.[12]

I control for existing water point stock in the ward-year model of water point construction, and ward-level water point coverage as of 2006, as well as a proxy for ward-level rate of water point functionality, in the model of coverage improvements. I cannot calculate the latter directly since I only have information on functionality as of the date of the water point mapping exercise. I therefore consider the proportion of the 2006 water point stock that was still functional as of the mapping exercise. Both of these variables allow me to determine whether district councils are trying to equalize the allocation of infrastructure across wards.

The model of coverage improvements also controls for the log of population density and poverty. I expect that more densely populated districts will require fewer water points per capita, and therefore will experience smaller increases in coverage. As above, I measure poverty as the proportion of people living in poverty per square kilometer using estimates from the WorldPop high resolution poverty maps (Tatem et al., 2013).

[12]Voting-age population is not provided by the NEC, either, so I use population data from the 2012 Census, and scale it back to 2005 and 2010 levels using growth rates from the World Bank's World Development Indicators. I calculate the proportion of the population that is of voting age using the proportions indicated by the International Institute for Democracy and Electoral Assistance (IDEA) Unified Database (`http://www.idea.int/uid/`).

The latter model also controls for remoteness. I construct my measure of remoteness using roads data from OpenStreetMaUsing `R` and GIS I first determine the geographic coordinates of each ward's centroid, which then allows me to calculate the distance from the center of each ward to the nearest road. I note that that 68% of all water points in the sample are located within 1 kilometer of a road

Finally, the coverage improvement model again controls for depth to groundwater using MacDonald et al. (2012)'s quantitative maps of groundwater resources for Africa.

Table 4.5 depicts summary statistics for the ward-level variables. We see that although the great majority of wards elect councillors from the ruling party, there is considerable variation in support for the ruling party candidates (as measured by their vote shares) and turnout.

Table 4.5: Summary Statistics (Ward-Level Variables)

	count	mean	sd	min	max
Number of water points built	21573	1.06	3.98	0.00	164.00
Water point stock	21573	22.49	23.69	0.00	313.00
CCM councillor won last election	16369	0.90	0.29	0.00	1.00
CCM councillor's vote margin in last election	14013	0.39	0.30	-0.72	1.00
CCM councillor's vote share in last election	14013	0.68	0.16	0.00	1.00
Turnout in Last Election (Proxy)	13268	0.54	0.19	0.01	1.74
Poverty Rate (% under 1.25 per day)	2397	0.82	0.09	0.26	0.95
Population Density (People per Km. Sq.)	2190	0.00	0.00	0.00	0.03
Distance from Nearest Road (meters)	2397	3980.76	5906.51	0.00	56849.72
Depth to Groundwater (meters)	2397	3.76	2.42	0.49	20.49
Waterpoint Coverage Rate	19726	0.51	0.51	0.00	7.61
2006 Functionality Rate (Proxy)	21573	0.56	0.28	0.00	1.00

4.5.4 Politicized Allocation of Infrastructure Within Districts

The results presented in this section suggest that political favoritism accounts for much of the inefficient placement of water points within districts. Table 4.6 shows that wards in which a CCM candidate was victorious in the most recent election are more likely to receive to infrastructure for water provision, as are those where turnout was higher.

Table 4.6: DV = Number of Water Points Built (Negative Binomial Regression with Ward Fixed Effects)

	(1) Model	(2) Model	(3) Model	(4) Model
CCM councillor won last election	0.14*			
	(0.08)			
Turnout in Last Election (Proxy)	0.02***	0.02***	0.02***	0.02***
	(0.00)	(0.00)	(0.00)	(0.00)
L.Water point stock	-0.00	-0.00	-0.00	-0.00
	(0.00)	(0.00)	(0.00)	(0.00)
CCM councillor's vote margin in last election		0.12		
		(0.09)		
CCM councillor's vote share in last election			0.27	
			(0.16)	
Councillor aligned with CCM MP in last election				0.15**
				(0.07)
Observations	10231	10231	10231	10231

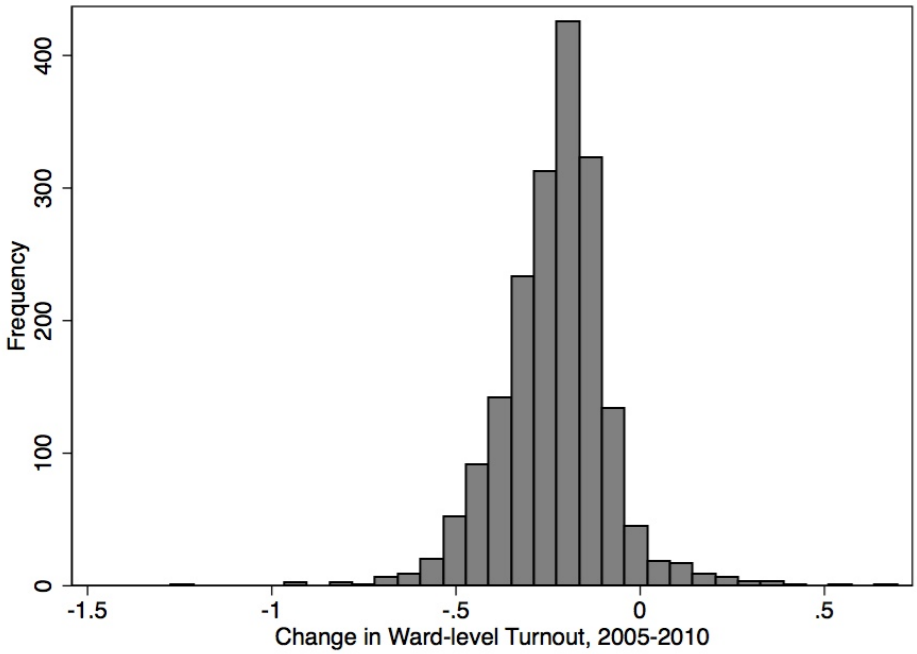
Standard errors in parentheses
The dependent variable is a count of waterpoints built.
Fixed-effects negative binomial regression.
All models include time trend.
All models exclude urban wards and those where data on year of construction is missing.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Given that the regression model is nonlinear, the coefficients are a bit hard to interpret. Negative binomial regression relies on a log-link function, so we may exponentiate the coefficients to observe the proportional change in the dependent variable given a one-unit change in a given predictor. Thus, the model tells us that wards which elect councillors from the ruling party get 15% more water points built in a given year compared with those represented by the opposition.[13] I have rescaled the turnout variable to range from 0 to 100 rather than

[13]This is the result of exponentiating the coefficient on CCM councillor: $e^{0.14} = 1.15$.

0 to 1 so that we may better interpret the coefficient.[14] Thus, a one percentage point increase in turnout is associated with a 2% increase in water point construction. Large swings in turnout are not uncommon. As shown in Figure 4.6, a number of wards experienced a considerable change in turnout between the two election periods.

Figure 4.6: Change in Ward-level Turnout, 2005–2010



As a robustness check, I also estimate logit models where the dependent variable is a dummy indicating whether water point construction occurred in each ward in each year. The results, shown in Table 4.7, confirm the importance of turnout. Table 4.7 also shows that wards with a higher level of existing water point stock are less likely to see new construction, suggesting some attempt to equalize distribution of new infrastructure within wards.

[14]There are a few values of turnout greater than 100 given that this measure is a proxy.

Table 4.7: DV = Dummy Indicating Whether Water Point Construction Occurred (Logit Regression with Ward Fixed Effects)

	(1) Model	(2) Model	(3) Model	(4) Model
CCM councillor won last election	0.08			
	(0.12)			
Turnout in Last Election (Proxy)	0.04***	0.04***	0.04***	0.04***
	(0.00)	(0.00)	(0.00)	(0.00)
L.Water point stock	-0.12***	-0.12***	-0.12***	-0.12***
	(0.01)	(0.01)	(0.01)	(0.01)
CCM councillor's vote margin in last election		-0.04		
		(0.17)		
CCM councillor's vote share in last election			-0.15	
			(0.33)	
Councillor aligned with CCM MP in last election				-0.04
				(0.11)
Observations	10180	10180	10180	10180

Standard errors in parentheses
The dependent variable is a dummy variable indicating whether waterpoint construction occurred.
Fixed-effects logistic regression.
All models exclude urban wards and those where data on year of construction is missing.
All models include time trend.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Turning to improvements in ward-level water point coverage, Table 4.8 reaffirms the importance of voter turnout. Again we see that wards with higher levels of turnout in both the 2005 and 2010 elections experience greater improvements in water point coverage.

Table 4.8 also shows that proportionate change in coverage at ward level is negatively associated with initial (2006) water point coverage. As above, this suggests an attempt by district councils to equalize the distribution of water points across wards. However, such attempts at equalization still fail to achieve allocative efficiency in most cases, given that people are not distributed evenly in most wards. Further compounding this, poorer and more remote wards are less likely to see improvements in water point coverage, as indicated by the negative signs on poverty and distance to the nearest main road.

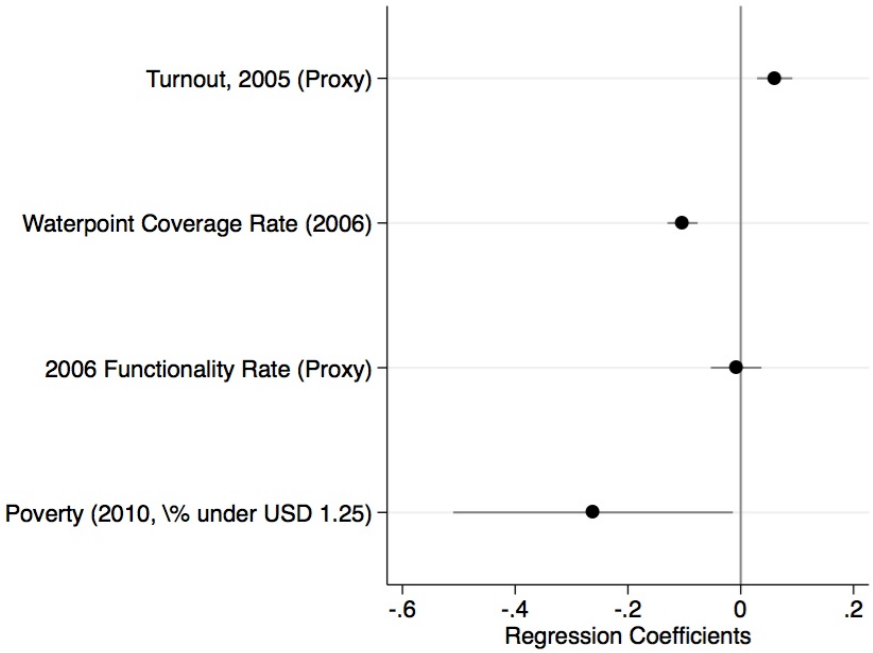
Table 4.8: DV = Proportionate Change in Ward-Level Water Point Coverage

	(1) Model	(2) Model	(3) Model	(4) Model	(5) Model	(6) Model	(7) Model	(8) Model
Councillor Margin (2005)	0.00							
	(0.03)							
Waterpoint Coverage Rate (2006)	-0.11***	-0.11***	-0.11***	-0.11***	-0.10***	-0.11***	-0.10***	-0.11***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
2006 Functionality Rate (Proxy)	-0.01	0.01	-0.01	0.01	-0.01	0.00	-0.01	0.00
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Poverty (2010, % under USD 1.25)	-0.27**	-0.19	-0.27**	-0.19	-0.25*	-0.22**	-0.26**	-0.20*
	(0.13)	(0.12)	(0.13)	(0.12)	(0.13)	(0.11)	(0.13)	(0.11)
Log of Population Density	-0.03***	-0.02***	-0.03***	-0.02***	-0.02***	-0.02***	-0.03***	-0.03***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)	(0.01)
Log of Distance to Nearest Road	-0.01***	-0.01**	-0.01***	-0.01**	-0.01***	-0.01***	-0.01***	-0.01***
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Depth to Groundwater (meters)	0.00	0.00	0.00	0.00	0.00	-0.00	0.00	0.00
	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)
Councillor Margin (2010)		0.03						
		(0.03)						
CCM Councillor Margin (2005)			0.00					
			(0.03)					
CCM Councillor Margin (2010)				0.01				
				(0.02)				
Councilor Aligned with CCM MP, 2005					0.01			
					(0.03)			
Councilor Aligned with CCM MP, 2010						0.01		
						(0.02)		
Turnout, 2005 (Proxy)							0.06***	
							(0.02)	
Turnout, 2010 (Proxy)								0.12***
								(0.03)
Observations	1628	1796	1628	1796	1789	2229	1789	2229

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Figure 4.7 shows that the effects of turnout and poverty offset any attempt at equalization.

Figure 4.7: Coefficient Plot, Proportionate Change in Ward-Level Water Point Coverage



In sum, these results imply that within districts, relatively wealthier communities are better able to express their demands, and that those demands are more likely to be met in places with higher levels of voter turnout. Given the hegemonic CCM party's interest in obtaining supermajorities, voter turnout is probably a closely monitored metric of regime support. While turnout is often thought to be more important in Presidential contests as a signal of regime invincibility (Gandhi and Lust-Okar, 2009), the hierarchical structure of Tanzania's hegemonic party regime suggests that it matters at lower levels of government too. As noted above, elected officials at lower levels of government are often seen as more accountable to their higher-ups in the central government than to the citizens that put them in office (Venugopal and Yilmaz, 2010). While citizens elect leaders at various levels of government (e.g. village chairmen and ward councillors), the ruling party also appoints administrators at each level (village and ward executive officers) who often share responsibilities – and sometimes office space – with their elected counterparts. These appointed officials can help to monitor the activities of local politicians, and pressure them to deliver

large numbers of voters on election day.

Failing to vote also represents a way of expressing opposition to the ruling party. Overtly supporting an opposition party can have negative consequences, in terms of the government withholding resources (the punishment regime described above) – or at least many Tanzanians fear that it can. Furthermore, the ruling party has managed to paint the opposition as dangerous and disruptive, serving to dissuade voters from supporting opposition parties even if they are dissatisfied with CCM.

Recent empirical work confirms the notion that turning out to vote in Tanzania tends to be rewarded. In the only other study of within-district targeting of public goods in Tanzania of which I am aware – Baird, McIntosh and Özler (2013)'s analysis of the Tanzanian Social Action Fund (TASAF) – the authors find that higher levels of turnout at the district level are associated with higher numbers of TASAF applications. Within districts, wards with higher levels of voter turnout receive more TASAF funds per capita. The authors interpret higher levels of turnout as being indicative of higher levels of political engagement.

Beyond fear, poverty also constrains communities' abilities to effectively express their demands. This is arguably a result of the DRA framework requiring beneficiary communities to contribute to infrastructure construction and open bank accounts to fund operations and maintenance.

In sum, my analysis of intra-district allocations of water infrastructure shows that local politicians tend to reward their supporters, and that they direct resources to those best able to articulate their demands. This pattern of allocation results in leaving much of the neediest population behind.

4.6 Conclusion

This chapter suggests substantial capture by local governments of resources for water point construction. Despite receiving large sums of money, many districts construct little or no new infrastructure for water provision. In order to account for variation in value for money

across districts, I investigate the correlates of both spending efficiency (how money spent corresponds to water points built in each district) and allocative efficiency (how money spent corresponds to improvements in district-level access). I find that poverty and inequality inhibit value for money, and may facilitate the diversion of resources by local officials personal gain.

Furthermore, the water points that *are* constructed only reach half as many people as they could have, had they been allocated more efficiently. Over the first phase of the WSDP, a total of 21,978 new water points were built.[15] Given that each new water point could serve up to 250 people, this could have represented an increase in 5.5 million people with access to clean water. However, the addition of these water points only generated access for 2.6 million people – less than half of the potential.[16] This reflects redundancies in water point placement, as well as a failure to allocate new infrastructure to needy areas.

Given that efficiency considerations do not appear to be driving the placement of new water points in most districts, this chapter looks at how local politics condition infrastructure allocations across wards. I find that wards with greater turnout in the most recent election see greater improvements in per capita infrastructure allocation. Furthermore, I show that the allocation of infrastructure within districts tends to be regressive - with fewer resources going to poorer wards. This serves to compound existing within-district inequalities with respect to water provision.

The fact that local politicians skim off their allocations has been well-documented elsewhere in the region (Reinikka and Svensson, 2004). The apparent favoritism of core supporters within districts is in keeping with our understanding of the strategies used by hegemonic party regimes to stay in power. I interpret this as a form of "upward" accountability (from elected officials at the local level to the ruling party). Ward councillors who deliver the most votes are rewarded with new water projects. While this benefits their constituents ("downward" accountability), it also creates opportunities corruption and kickbacks. Moreover, it

[15]This figure is restricted to the 85 districts for which I have complete information.

[16]Access is defined as living within 1km of the water point. I calculate access using data from WorldPop in QGIS.

allows incumbents to stay in power, and thus able to access a steady stream of benefits flowing to the district level.

This chapter also highlights the limits of the demand-responsive approach to public service delivery, given that "demand" effectively becomes an expression of wealth. The notion of wealth facilitating demand is not unique to water. In their study of community-driven development projects in Tanzania, Baird, McIntosh and Özler (2013) uncover a regressive pattern on the demand side, with richer districts producing more applications per capita and richer households more likely to be aware of the program. In addition, Reinikka and Svensson (2004) interpret their finding that schools in better-off communities received more of their entitlements as implying that these schools had greater bargaining power vis-à-vis local governments to secure greater shares of funding.

The Tanzanian water sector's major donors may be recognizing the limits of the DRA, as they begin to experiment with results-based financing, paying local government authorities for each additional well-maintained and functioning water point. Such efforts are promising, though they ultimately serve to promote accountability by the government to Tanzania's donors rather than to the country's citizens. However, as noted in Chapter 2, Chinese investment in Tanzania has been growing, and a significant deposit of natural gas was recently discovered offshore. While such developments may limit the ability of traditional donors to promote changes in government behavior, new resources in the hands of rural citizens may empower people to demand changes themselves.

4.7 Appendix

The WSDP Program Implementation Manual (Ministry of Water, 2006) provides information on unit costs for capital investment in new water systems, which I use to construct weights for the different water point types in the WPM database. The unit costs are given in Table 4.9.[17]

Table 4.9: Unit Costs for Capital Investment in New Water Systems

Technology	**Cost/system (USD)**	**Population served**
Shallow well and handpump	2,100	250
Borehole & Hand Pump	6,150	250
Gravity Fed and Piped (Small)	76,300	1,500
Gravity Fed and Piped (Large)	84,800	2,500
Electric or Diesel Pumped and Piped (Small)	64,000	1,500
Electric or Diesel Pumped and Piped (Large)	71,300	2,500
Protected Spring	900	250
Windmill	8,000	250
Rainwater Catchment	4,335	500
Charco Dam	15,600	1,500

Using information from the on extraction-class and water source, I weight water points as follows:

- Shallow wells with handpump (weight = 1)
- Boreholes with handpumps (weight = 3)
- Motor pumps (weight = 4)
- Gravity schemes (weight = 5)

These four classes make up 87.8% of water points in database. I weight all others the same as shallow wells with handpumps.

[17] I reproduce Table 4 from Ministry of Water (2006) in part.

CHAPTER 5

Need ≠ Demand

5.1 Water Provision in Tanzania: A Failure of Government Accountability

The misallocation and underprovision of water infrastructure detailed in the preceding chapters has left millions of Tanzanian citizens without ready access to a clean and safe source of drinking water. I argue that, above all, this represents a failure of government accountability. Broadly speaking, government accountability refers to situations in which voters can discern whether elected officials are acting in their interest and can sanction them appropriately when they fail to do so (Manin, Przeworski and Stokes, 1999). Accountability failures thus occur when voters lack such means, leaving government officials free to act against their wishes. Given the vital importance of water to health and daily life, increasing access is clearly in the interest of large numbers of Tanzanian citizens. And yet, despite having the resources and mandate to address this pressing need, the government of Tanzania has largely failed to respond.

This chapter attempts to understand this failure of accountability from the point of view of Tanzanian citizens. In essence, how have they allowed their elected representatives to get away with such negligence? Although Tanzania is not fully democratic, the country's government is also not completely repressive and unresponsive. As I show in Chapter 2, Tanzanian politicians frequently craft and implement policies intended to address the needs of the masses. Why, then, have Tanzanian citizens been unable transform their dire need for improved access to clean water – the lack of which contributes to the death of nearly five children every hour (UNICEF, N.d.) – into demands that compel responses from the state?

In order to answer this question, I examine the challenges Tanzanian citizens face when it comes to sanctioning elected officials at the ballot box, as well as the barriers they encounter in terms of compelling responsiveness through non-electoral means.

In distinguishing between electoral and non-electoral means of sanctioning, my analysis reflects the discourse on service delivery that emerged with the World Bank's publication of its 2004 *World Development Report* (*WDR*). The *WDR* distinguishes between the more traditional "long route" to accountability, through which citizens delegate authority to political representatives, who in turn influence service provision through their management of the bureaucracy, and a "short route," which links citizens directly to service providers, through various oversight, voice, and exit mechanisms (World Bank, 2003). Inherent in the *WDR*'s distinction between these two channels is the idea that the "long route" often breaks down in poor countries given weaknesses in these countries' electoral systems. More than a decade since the 2004 *WDR*'s publication, a review of initiatives to strengthen the "short route" suggests it may not be so short after all, especially when local service delivery problems reflect broader, more endemic governance failures (Fox, 2015). That said, the distinction is still useful in framing the potential strategies that Tanzanian citizens have at their disposal to demand responsive governance. I use the "long" and "short" routes primarily as shorthand to distinguish between voting and formal political engagement on the one hand, and public-facing individual or collective action on the other.

I begin this chapter by setting aside one plausible explanation for Tanzanian citizens' failure to sanction neglect by their elected officials – that Tanzanians have adapted to the widespread lack of access to clean water, and therefore do not perceive the situation as a problem they want the government to address. I demonstrate that this is not the case – lack of access is a widely felt need, and Tanzanians prioritize improved water supplies highly. Next, I examine the extent to which Tanzanians take the "long route" to accountability for water provision. After showing that Tanzanians do not express their concerns about water by withholding support at the polls, I discuss what accounts for this, suggesting that it may result in part from a lack of clarity about government responsibility for water provision. I then investigate the constraints that Tanzanian citizens face when it comes to demanding

improved access to clean water through the "short route." I show that the citizens most acutely affected by the lack of access to clean water – women living in poor, rural areas – are the least likely to engage in the sorts of activities that might better their lot. A low sense of efficacy, weak expectations about collective action, and the costs associated with taking action further constrain citizens' abilities and desires to act. This chapter concludes with a discussion of non-governmental initiatives that intend to remove some of these constraints in order to promote accountability and improved service delivery – in the Tanzanian water sector and beyond.

This chapter marshals evidence from a variety of sources, including two nationally representative surveys of Tanzania. I supplement the survey data with objective measures of access to clean water and electoral returns. I supplement the quantitative analysis with insights from six months of fieldwork conducted in Tanzania between June and December of 2013, as well as my evaluation of a failed citizen monitoring initiative in rural Tanzania, conducted September–October 2011.

5.2 Do Tanzanians Care About Improving Access to Clean Water?

As noted elsewhere in this dissertation, access to clean water is objectively poor for the majority of rural Tanzanians. Since 1990, access has stagnated at just 45% for rural residents (UNICEF and World Health Organization, 2015). Even so, Tanzanians may not prioritize improved access. Given how entrenched the lack of clean water is, Tanzanians may be accustomed to it and focused on improving other aspects of their lives – particularly where they have seen that improvements are possible. Analysis of nationally representative survey data and focus group discussions with Tanzanian citizens suggest this is not the case, however.

First, I examine the *Sauti za Wananchi* (SzW) survey, which is conducted by the East African NGO Twaweza. SzW consists of a baseline questionnaire that was administered on paper at the household level to a representative sample of 2,000 households from mainland Tanzania between October - December 2012. Subsequently, a number of shorter follow-up rounds have been conducted by mobile phone. In 2015 a new round was conducted,

asking almost exactly the same questions as in the baseline, but to a new random sample of households.[1] In both rounds of the survey, respondents were asked to name the three most serious problems facing Tanzania. In the baseline survey (conducted in 2012), over one-third of all rural residents (34%) indicated the lack of clean and safe water as one of the top three problems. Water was the third most commonly identified problem, following only those related to the economy and health services. (This mirrors responses in Round 5 of the Afrobarometer survey, also conducted in 2012, in which 32.5% of respondents indicated problems with the water supply among the top three that the government should address. Only problems related to health services were cited more widely.) In the 2015 round of the AIID survey, the proportion of rural residents citing water among the top three problems rose to 45%, a statistically significant increase. This made water the most frequently mentioned problem.

Though not nationally representative, a survey I conducted in 2011 in three Tanzanian districts yields similar results. I conducted this survey as part of my evaluation of a citizen monitoring initiative implemented by the Tanzanian NGO Daraja,[2] which I describe in further detail in Section 5.5.1. The initiative, called "Raising the Water Pressure," or *Maji Matone* in Swahili, aimed to promote citizen nimonitoring via text message in order to improve rural water provision. In each district, my team of interviewers and I visited five villages that were home to people who had sent messages to *Maji Matone*. We aimed to inniceterview the message senders as well as a random sample of other people living in the village. After interviewing people who had sent messages to *Maji Matone*, the interviewers identified additional households to interview using a random walk method, which involved stopping at every fifth household and requesting an interview with the first adult (person 18 years of age or over) who consented to be interviewed. In each of the 15 villages we conducted approximately 30 surveys for a total of 453 people surveyed. In each village we also conducted interviews with the elected village chairperson and village executive officer, or VEO, who is appointed by the central government, as well as members of the village water

[1]For more information, see `http://www.twaweza.org/go/sauti-za-wananchi-english`.

[2]`http://www.daraja.org/`

committee and other key informants. When respondents were asked to identify the main challenges affecting their villages, 78.6% cited problems with accessing clean water among the top three. These responses align with those given by village leaders, who consistently identified water among the top three challenges affecting their villages. Tours of the villages and interviews with village leaders revealed serious deficiencies with water infrastructure.

Fieldwork I conducted across rural Tanzania in 2013 yielded similar results. When asked to identify the biggest challenges facing their communities, respondents in my focus group discussions consistently mentioned problems related to accessing clean water. Many said they have to travel long distances to access water, or rely on natural sources (e.g. rivers and streams) of questionable cleanliness. In many communities, people complained about old, worn infrastructure that was not able to meet the needs of a growing population. Below, some quotations[3] from focus group discussions in rural villages give a flavor to these sentiments:nice

- *Water is the biggest problem [facing our community]. People travel seven kilometers to fetch it, but then sometimes there's no water. Or they go to the river but the water there isn't safe. People really suffer during the dry season. Women go in the morning to fetch water and don't return until 1PM.*[4]

- *Pipes have come but not in all places. People fight over water. This year, people are still not getting water.*[5]

- *The first problem [in our community] is water. For example, in this week, people have had to get up at night to wait for water. We can't go to other water sources because they are far.*[6]

- *The major problem [in our community] is water. There is very little... People go to the neighboring village [about six kilometers away] to get water. Population increases*

[3]Author's translation from Swahili.

[4]Focus group discussion in Terrat ward, Arusha region, conducted October 2013.

[5]Focus group discussion in Iselamagazi ward, Shinyanga region, conducted October 2013.

[6]Focus group discussion in Katunguru ward, Mwanza region, conducted October 2013.

have put pressure on the water source. Due to economic development and changes in people's habits, people are using more water. People don't have water for their crops. The water line is from 1979, but there have been no repairs for a long time.[7]

5.3 Access to Clean Water and the "Long Route" to Accountability

Having established that large numbers of Tanzanians are unhappy with the status quo when it comes to water provision, we may now examine the extent to which they register their dissatisfaction at the polls. I do this by examining the association between objective changes in access to clean water and support for the incumbent party in the 2005 and 2010 elections,[8] looking at changes within Tanzania's wards (the level at which local government councillors are elected) and Parliamentary constituencies. I estimate a series of regressions using the following model:

$$\Delta SupportCCM_{j,2005-2010} = \alpha + \beta_1 \Delta WaterAccess_{j,2005-2009} + \beta_2 \Delta Poverty_{j,2001-2010} + \epsilon \tag{5.1}$$

The outcome of interest is the change (between 2005 and 2010) in support for the ruling party. I measure this in terms of the vote share garnered by the ruling party candidate for ward councillor, MP, or President in ward j.[9] Given the constraints on vote choice that many Tanzanians face, I also consider voter turnout as an alternate measure of support for the regime. As noted in Chapter 4, failing to vote represents a way of expressing opposition to the ruling party in a hegemonic party regime.

$WaterAccess_j$ is an objective measure of access to clean water in ward j. If Tanzanian

[7]Focus group discussion in Mwanga district, Kilimanjaro region, conducted November 2013.

[8]These are the only years for which I have complete ward-level election data.

[9]Outcomes for Parliamentary contests are given at the constituency level only, so to construct ward-level measures of support for CCM candidates for MP I map each ward into its Parliamentary constituency. Hence, each of the 20-30 wards in a given constituency will have the same value for this variable.

voters are sanctioning or rewarding politicians for changes in water access, then β_1 should be positive. As described in Chapter 4, I measure access by combining data from (1) the water point mapping exercise conducted by the Tanzanian government and the World Bank with (2) high-resolution data on population distributions for Tanzania from the WorldPop database. I then calculate the proportion of ward residents living within one kilometer of a communal water point. (The 1-kilometer radii catchment areas correspond to the United Nations' definition of access to clean water.[10]) In order to address concerns of reverse causality, the access measure is lagged such that it captures the change in access between 2005-2009.

Increased access to clean water might be picking up economic development – and when wards become more developed, their residents may become more politically sophisticated, and thus less likely to support the regime. This would fit with general trends in the country, where urban residents (who tend to be better off) demonstrate lower levels of support for the ruling party than do their rural counterparts. To guard against this, I control for the change in ward-level poverty.[11] I expect β_2 to be positive if economic development is having the expected effect.

Obtaining ward-level estimates of poverty that vary over time is challenging. I rely on measures from two points in time (2001 and 2010), which come from two different data sources. The 2001 estimates are from a poverty mapping exercise, which drew from the 2000/01 Household and Budget Survey (HBS) and the 2002 Population and Housing Census, both conducted by Tanzania's National Bureau of Statistics (Kilama, Lindeboom and van der Weide, 2006). These estimates indicate the ward-level poverty headcount ratio, or the percentage of the population below the "basic needs" poverty line.[12] The 2010 estimates are from the WorldPop high resolution poverty maps, which illustrate the proportion of peo-

[10] `http://www.un.org/waterforlifedecade/human_right_to_water.shtml`

[11] Unfortunately I do not have data on other ward-level characteristics that vary over time for the period in question and might affect the relationship of interest.

[12] The basic needs poverty line is calculated by taking the the cost of meeting the minimum adult calorific requirement with a food consumption pattern typical of the poorest 50 percent of the population, and then inflating that figure by the share of expenditure on non-food items in the poorest 25 per cent of the population (National Bureau of Statistics, 2002).

ple living on less than $1.25 per day per square kilometer in 2010 (Tatem et al., 2013). The basic needs poverty line is considerably higher than $1.25 (approximately $10 using historic exchange rates) so I rescale both measures such that they have a mean of zero and a standard deviation of one (*Z-scores*). All regressions have standard errors clustered by ward.

I restrict my analysis to wards that elected CCM candidates for ward councillor or MP in the 2005 election, in order to isolate effects for incumbents only. Given the hegemonic nature of political competition, this represents a substantial proportion of wards: 93% of all wards elected ruling party councillors in 2005, while 84% of all wards were located in Parliamentary constituencies that elected a ruling party MP in that year.[13]

Table 5.1 shows that changes in access to clean water bear no relation to changes in support for the incumbent, suggesting that voters' concerns with respect to water do not feature into their voting calculus.

Table 5.1: Access to Clean Water and Support for the Ruling Party (Differences Regression)

	(1) Ward Councillor	(2) MP	(3) President	(4) Turnout
% living within 1km of waterpoint	-0.23	-0.40	-1.26	0.30
	(0.51)	(0.49)	(1.14)	(0.37)
Poverty Rate (Z-score)	0.45	-0.35	-0.44	0.27***
	(0.50)	(0.38)	(0.46)	(0.10)
Observations	3557	3623	3738	3292
R^2	0.001	0.001	0.003	0.006

Standard errors in parentheses
Regressions restricted to rural wards with non-missing waterpoint data that elected CCM candidates in 2005.
Wards in which the election for ward councillor or MP was uncontested are recoded as having a vote share of 100 percent for the CCM candidate.
All outcome variables rescaled to range from 0 to 100.
All models include ward fixed effects and robust standard errors clustered by ward.
Models 1 and 2 restricted to wards that elected CCM politicians in 2005.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

This result is fairly unsurprising and is in keeping with the literature on Tanzanian vote choice and studies of other hegemonic party regimes. The ruling party's dominance means

[13]18% of all ward elections were uncontested in one or both years and 10% of all wards were located in constituencies with uncontested Parliamentary elections in either 2005 or 2010 or both. In order not to lose a substantial amount of information, I recode the incumbent's vote share in these wards to 100%.

that many voters have little real choice over electoral outcomes. The deck is so stacked that many constituencies lack credible opposition candidates. In some cases there are no opposition candidates at all – in 2005, 215 out of 2,299 elections for ward councillor were uncontested, as were 578 out of 3,272 ward councillor contests in 2010. Similarly, 7 out of 232 Parliamentary elections were uncontested in 2005 and 17 out of 239 Parliamentary elections went uncontested in 2010.[14] Those opposition candidates that do compete frequently lack the resources to fund their campaigns adequately.

In a number of my focus group discussions, I noted that many of the district councillors that people were vehemently complaining about were in their second or third terms. When I asked why they kept reelecting such unresponsive leaders it became clear that many people's voting decisions are often based more on habit or acceptance of the status quo than a retrospective assessment of whether someone has delivered on his or her promises. Politicians who have won in the past are seen as invincible, or voters are just used to the incumbents, which is seen as a good enough reason to vote them in again. Politicians appear to make more of an effort during their first term but then rest on their laurels. As one man in a focus group discussion in Ukerewe explained, *"we vote because it's obligatory."*[15] Voting is not compulsory in Tanzania, but this comment reflects the sense that you have to vote for someone, even if it's not someone you really like. This gets at the lack of credible opposition in many districts. Candidates are typically chosen by political parties and a significant amount of corruption, bribery and political maneuvering is alleged to be involved. Many people also made reference to vote buying as a constraint on people sanctioning poor leadership through electoral means.

In addition, Tanzanian citizens – like citizens on hegemonic party regimes the world over – may prefer to support the "devil they know" rather than gamble on an opposition candidate with no documented history of delivering the goods. Even when those "goods" are provided at a suboptimal level, voters know that a ruling party candidate is more likely to

[14]The different number of wards and Parliamentary constituencies in the 2005 and 2010 elections reflect administrative unit proliferation.

[15]Focus group discussion conducted October 2013.

be able to distribute patronage than an opposition candidate with no access to state coffers.

Finally, voting is a blunt instrument. Even though a large proportion of Tanzanian voters would like to see the government make improvements to the water supply, they only have one vote to cast every five years, and their decision may reflect a number of issues. A lack of clarity over the responsibility that different government officials have for water provision further complicates the voting calculus, as I describe below.

5.4 Do Citizens Know Who is Responsible for Water Provision?

In this section I argue that confusion over responsibilities for water provision contributes to the failure of electoral accountability with respect to water provision in Tanzania. As detailed in previous chapters, the central government of Tanzania has devolved responsibilities for water provision to the local government (district) level. District councils (made up of elected councillors from each of the district's 20-40 wards) are supposed to deliberate over how to best use the funds at their disposal – the lion's share of which come from central government transfers – to construct and rehabilitate water infrastructure within their district. To what extent are Tanzanian citizens aware of this?

In order to get at this question I turn again to the *Sauti za Wananchi* survey, which in August 2013 asked, "If the number of water points in your community are insufficient, who is responsible for investing in new infrastructure to expand access to water?" Nearly half of all rural residents (47%) indicated "the government of Tanzania" as having this responsibility. The next most frequent response was the Ministry of Water (14%), followed by the village government (12%). Notably, only 4% of rural Tanzanians said the district council had this responsibility. This is remarkably low given that this is in fact that main responsibility of the district council.

Since access reflects not only whether physical infrastructure is available, but also whether a water point is functional or not, perceived responsibility for maintenance is also critical. This is especially so given the high rate of water point non-functionality across Tanzania. Of the 75,47 water points serving rural Tanzanians, 28,965 or 38.5% were non-functional

at the time of the water point mapping exercise (between 2011 and 2013, depending on the district). An estimated 25% of all water points fall into disrepair within two years of construction; this is followed by a steep and roughly linear decline in functionality over time (Impact Evaluation to Development Impact, 2016).

The *Sauti za Wananchi* survey does not get at the question of responsibility for water point functionality but another nationally representative survey sheds some light on it. Specifically, I analyze a survey commissioned by the Amsterdam Institute for International Development (AIID) to inform their evaluation of the East African NGO Twaweza.[16] The AIID survey also comprises two rounds of household-level data. The first round of the survey (baseline) took place in early 2011, and a follow-up round took place in mid-2015. Both rounds of the AIID survey asked, "If a water point is not functional, who is the first responsible to make sure it functions again?" Table 5.2 shows that people largely perceive this to be a very local responsibility. The majority of respondents perceive maintenance as the primary responsibility of citizens or the water committee (which is typically composed of the citizens that use a particular water source) or of the village government.

Table 5.2: Perceived Responsibility for Maintaining Water Point Functionality (AIID)

	Baseline	Followup
	%	%
Citizens	20.5	25.1
District government	6.6	6.3
National government	8.8	5.4
Village government	34.5	22.6
Water committee	22.6	29.1
Individuals or Company	7.1	11.5

The high degree of perceived citizen responsibility for water point maintenance reflects the "demand-responsive approach" described in Chapter 1. The Water Sector Development Program (WSDP) envisioned that each district would formulate a district-wide water and sanitation plan under which communities would be invited to submit applications for new or improved water supply schemes. Districts would prioritize those with the greatest need,

[16] `http://www.twaweza.org/`

subject to each collecting a minimum community contribution to create an operations and maintenance fund (Oxford Policy Management, 2013). Each scheme is then supposed to be managed by a community-owned water supply organization (COWSO). While the district is responsible for large capital investments, COWSOs are responsible for small investments, repairs and maintenance costs (SNV, 2012). To raise these funds, COWSOs are supposed to collect user fees. COWSOs can take a number of different forms, including water user groups and private companies, and are to be established and registered as independent legal entities. District officials are supposed to play a supervisory and backstopping role to strengthen and legitimize COWSOs. The district is also supposed to provide technical support to COWSOs, and fund major repairs and rehabilitation when community-generated COWSO funds are insufficient (Impact Evaluation to Development Impact, 2016). Specifically, the Water Supply and Sanitation Act No. 12 stipulates that local government authorities are responsible for "meeting part of the costs incurred by community owned water supply organisations in the major rehabilitation and expansions of water schemes and payment for costs of service rendered" (United Republic of Tanzania, 2009, Sec. 39,b). The Act does not, however, define "major" rehabilitation or make clear how it is distinct from minor repairs, leaving it up to districts to interpret the division of responsibilities.

In practice, village water committees (the previous water supply authority at village level, formed as part of village government and thus not independent) remain in place in many villages or continue to be formed in some cases. As of 2016, there were only 600 fully registered COWSOs nationwide (Impact Evaluation to Development Impact, 2016). This is just 11% of the target to be registered by 2017 (5,526). In addition, it currently takes an average of 250 days to register a COWSO with the appropriate authorities (United Republic of Tanzania, 2015). The registration process involves formulating a constitution or Memorandum of Agreement with the local government authority, electing an executive board or committee, and registering with the Ministry of Water (United Republic of Tanzania, 2009, Sec. 34). As a result, many villages are characterized by a complete lack of functional community management. In many cases, user fees are not collected or are set at a level that is too low to cover repairs when required. Even when user fees are collected they are often

spent for some other purpose or misappropriated (African Ministers Council on Water, 2010, 21).

Local government officials decry the widespread failure of community managemen, and often blame citizens for failing to take "ownership" of their communal water supplies. At the same time, citizens feel that an unfair burden has been placed on them. As a respondent from a focus group that I conducted in Mwanga district explained, *"Citizens don't have the ability to [fund repairs]. Local government fails to address the problem because they give the responsibility to citizens who don't have the ability to pay."*[17]

The village chairman in the community where I conducted that focus group expressed a similar sentiment: *"The central government [should address our problems]. They built the network. They left responsibility with the water board, but where can they begin? They [water board] don't have any revenues."*[18]

Finally, I note that it is common for rural Tanzanians to refer to new water infrastructure as part of a "World Bank project," perhaps reflecting the fact that all new infrastructure projects prominently display their main funding sources during, and often after, construction. Figure 5.1 depicts a typical signboard associated with a new water infrastructure project. The sign does not make clear who exactly is responsible for the new project, as it lists a variety of government bodies. The project's funding source, however, is very clearly displayed.

[17]Focus group discussion conducted November 2013.

[18]Interview, November 2013.

Figure 5.1: Signboard for Water Project in Sengerema District

Author's photo, October 2013.

Many water users may thus see foreign aid donors as having the responsibility – or at least ability – to meet their needs. As another respondent from a Mwanga focus group discussion put it, *"Government used to take care of water problems but now it's the responsibility of citizens. We are responsible for everything but our ability is low. We need a donor."*[19]

A woman in a focus group discussion in Ukerewe district made a similar comment: *"We don't have donor; maybe then we could contribute. Our ability is very low. We need a donor to help."*[20]

In sum, the lack of clarity around government responsibility for water provision helps to explain the fact that changes in access to clean water appear unrelated to demonstrated support for ruling party candidates. As I discuss below it might also constrain Tanzanians' abilities or motivation to sanction poor performance through non-electoral means.

5.5 Access to Clean Water and the "Short Route" to Accountability

The 2004 *WDR* envisages two ways in which citizens (termed "clients") can strengthen service delivery by taking a "short route" to accountability. First, they can help tailor the service to their needs, revealing the nature of demand, which might not be known in advance. Second, citizens/clients can monitor service delivery from their vantage point as end-users. Citizens can exercise these roles through increased choice and participation in service delivery (World Bank, 2003). School voucher schemes and citizen monitoring initiatives represent relevant reforms meant to promote the "short route."

What might the "short route" to accountability look like with respect to water provision in Tanzania? Choice is frequently quite constrained, particularly in rural areas. In villages lucky enough to have sufficient water infrastructure, people typically use the water point closest to their homes. They are unable to "vote with their feet" and find the water point

[19]Focus group discussion conducted November 2013.

[20]Focus group discussion conducted October 2013.

with the highest quality water. In wealthier, urban areas, some people do express choice through exit. That is, rather than rely on public water provision, they purchase bottled water, or have tanks of water delivered to their homes from private vendors. Arguably, such a pattern of exit relieves pressure on the state to provide clean water to these residents, rather than promoting improved service delivery. On the other hand, there is scope for Tanzanian citizens to play a role when it comes to monitoring the quality of service delivery in the water sector. However, getting them to play this role can be challenging, as I show below.

5.5.1 Mobile Phone Monitoring of Service Provision

Maji Matone was one of a small but growing number of "crowd-sourcing" initiatives encouraging citizens to voice their concerns, demand improved service delivery and report corruption using their mobile phones.[21] In 2011, I conducted an evaluation that focused on *Maji Matone*'s text-message based feedback mechanism, through which rural citizens were encouraged to report problems with access to clean water (Carlitz, 2012). Daraja, the NGO that implemented *Maji Matone* would then forward these messages to the responsible District Water Engineer and also publicize the problems of water access in local media.

Maji Matone was piloted in three Tanzanian districts: Mbozi (Mbeya region), Morogoro (Morogoro) and Njombe (Iringa). In each district, Daraja publicized the feedback mechanism for citizens to report problems with their local water points through a radio campaign and the distribution of flyers and posters. Citizens were supposed to send messages reporting problems with functionality and other challenges.

Between November 2010 and April 2011, Daraja received 67 messages from Mbozi, 52 messages from Morogoro, and 29 from Njombe for a total of 149 messages. Many of these messages were not written in the appropriate format, making it difficult for Daraja to take action in response to them. Hence, the pilot resulted in only 53 messages received and

[21]For an overview, see Grönlund et al. (2010). Similar initiatives are also discussed in Grossman, Humphreys and Sacramone-Lutz (2014) and Grossman, Humphreys and Sacramone-Lutz (2015).

forwarded to district water departments (compared to an initial target of 3,000).[22] Given that the three districts contain over one million people, of whom 55% are over the age of 15, this reflects a take-up rate of less than 0.008%.

How can we account for such low take-up? First, it is worth noting certain design flaws – namely, that the program was not sufficiently well-publicized, and that the messages were not subsidized. Rather, as outlined in program strategy documents, "in order to maximise the quality of information received, SMS messages will be charged at standard network rates. This will act as an accountability mechanism for the programme – our marketing and overall service needs to be good enough to persuade people to pay this cost" (Daraja, 2009, 14). It appears that citizens in the area did not deem *Maji Matone* to be worth the cost (if they had even heard of the program).

Confusion about government responsibility for water provision was also a part of the problem. In the survey I conducted as part of my evaluation of *Maji Matone*, I found that over half (51.5%) of all survey respondents said that if a water point is not functional, citizens should be responsible for making sure it functions again. The next most common response was technicians at 15.8%, followed by government at 13.3%.

In addition, though mobile phone ownership was sufficiently widespread, people's preferences for phone usage appeared to constrain uptake. My survey respondents overwhelmingly reported that they prefer calling to sending text messages. People gave various reasons for this preference, including problems with the cell phone network in their village, lack of familiarity with texting, and a preference for direct communication. Furthermore, the vast majority of text messages that respondents reported sending relate to private matters. This suggests that the mode of participation that *Maji Matone* promoted (sending an anonymous text message about public service delivery) may have seemed anti-social and unusual.

My findings for *Maji Matone* are not atypical. For instance, Grossman, Humphreys and Sacramone-Lutz (2014, 2015) document the experience of a text-message-based system that enabled voters to communicate directly with their Members of Parliament (MPs) in

[22]This target is from the programs strategy document; it is not clear how it was calculated.

Uganda. In a controlled, experimental pilot of the system, called uSpeak, take-up was about 5%. While this may seem low, the authors note is only slightly lower than the share of voters participating in party primaries in the United States. However, once the system was scaled up to the national level, take-up was considerably lower. During the 6-month study period, MPs in 186 'treatment' constituencies received a total of just 1,946 messages despite twice-daily radio ads and price subsidization throughout the country. The radio ads were played over an area where 10 million voters live, corresponding to a monthly uptake rate of about 1 in 30,000. The authors account for the low uptake in various ways. While design elements played a significant role, the low expectations of target users also severely restricted uptake. Close to 50% of respondents reported that they did not send a message because they believed their MP would not be responsive. These low expectations are grounded in reality – just 9 percent of uSpeak users report ever hearing back from their MP and in almost half of constituencies where the program was implemented, not a single uSpeak user received any response from their MP (Grossman, Humphreys and Sacramone-Lutz, 2015). This example illustrates the futility that targeted users of citizen monitoring programs often feel. Even if sending an SMS is free, why take the time and effort if you don't think it will have any impact?

5.5.2 Beyond Monitoring: Non-Electoral Citizen Action to Promote Improved Access to Clean Water

Beyond sending text messages as part of an NGO-sponsored initiative, do Tanzanian citizens take other non-electoral actions to express their discontent with the quality of water service provision? As a first cut at answering this question, I examine responses to the following question from the AIID survey:

> In the last 12 months have you taken any of the following actions, or have you heard about anybody in this community doing any of the following things?
>
> - Attend health, education, or water committee meeting?
>
> - Speak to health, education, or water committee member about health services outside of meetings?
>
> - Raise issues about clinic, school, or water services in a community meeting?

- Raise issues about health, water, or education with local officials outside a community meeting?

- Speak to a health worker, teacher, or water company employees about an issue?

- Discuss health, education, or water problems in a meeting of any group/organization you belong to?

- Monitor health issues (like drug stocks outs), education issues (like teacher attendance) or water issues (like water point functionality)?

- Send SMS about health, education, or water issues?

- Call radio program to talk about health, education, or water problems?

- Take any other action to improve health/education/water services

In 2011, 39% of all respondents reported taking one or more of these actions to improve service delivery. In 2015, the overall proportion of action-takers declined to 24%. This question is coded such that one can see whether action taken related to health, water, or education. Thus we see that 23% of respondents reported taking action to improve access to clean water in 2011; in 2015 the proportion had declined to 11%.

The survey also asked respondents to identify problems affecting their household water supply – e.g., distance from the water source, water point functionality, water quality, and the price being charged for water. After being asked to identify the main problem, respondents were then asked if they had taken any action to address it during the past year. In 2011, 17% of respondents reported taking action of this sort; in 2015, 12% reported taking such action.[23] These proportions are slightly different from the proportions of respondents who reported taking action to improve access to clean water, above. I expect that asking the question with regards to specific problems is more likely to reveal a truthful response, since it is anchored more concretely than the former mode of questioning. Such anchoring is similar to the "event history calendar" technique in survey design, which relates questions to memorable events in a respondent's life, and has been shown to improve recall accuracy (Belli, Shay and Stafford, 2001; Schaeffer and Presser, 2003).

What does "taking action" look like in this context? The most commonly reported "action" among my focus group participants was making financial contributions – either

[23]Note that this proportion refers to people who reported a problem with their water supply only. In 2011, 38% of respondents reported no problems with their water supply, as did 39% of respondents in 2015.

start-up funds for new infrastructure, or contributions to fund the repair of existing water points. A few mentioned forwarding their concerns to district officials and the village water committee – either by writing letters or through in-person meetings.

In one notable instance, I learned of a protest march led by women in Terrat ward in northern Arusha region that occurred in October 2012.[24] The women made the decision to protest after meeting to discuss the problems they were facing while collecting water, which included getting up in the middle of the night to begin their journey to the nearest water source. On the day of the protest, a reported 273 women walked over 25 kilometers to district headquarters with their demands. The protest ultimately led to funds being released to construct the promised water source. According to a male resident of the village, the protest made leaders wake up and do their work. Beyond generating greater responsiveness with respect to water provision, the protest also pushed the district to respond to other local needs, including road maintenance and health services.

The women of Terrat explained that they protested because their ward councillor had made a specific promise, which he then did not fulfill. Upon being elected, the councillor promised to bring water close to their village but two years onward he still had not done anything. The women said they had no fear about protesting due to magnitude of the problem they faced. However, they expressed no plans to protest again, explaining that even the little bit of water they got gave them some hope, and that now they expect their leaders to deal with future problems.

When I asked why the women of Terrat led a protest when so many others keep quiet, the Village Executive Officer pointed over the hills to a neighboring village that had significantly greater access to clean water. He explained that his community is extremely dry, and so people see that their problems are more severe than in other places. This suggests the importance of *relative deprivation* in motivating people to take action.

[24]I verified the details of the protest march with the participants, as well as representatives of a local NGO, HakiKazi, that helped to facilitate it, and village government officials. All interviews related to the protest event were conducted in October 2013 in Terrat ward.

Another reason why the women of Terrat were able to organize a successful demonstration stems from the training and support they received from the Arusha-based NGO HakiKazi Catalyst (HKC). In 2011, HKC conducted a participatory service delivery assessment survey on the water sector in the area, revealing the acute challenges facing semi-arid Terrat ward. In response, HKC began working with local communities to train both citizens and their leaders on issues of local democracy and governance, citizens' roles, rights, and responsibilities (Ngowi, 2012). HKC's interventions included the formation of community action groups Centres for Development Learning and Action (CEDLAs), facilitating the election of "community animators," volunteers who conduct outreach and share relevant information (Omondi, 2014). HKC's interventions instilled the idea that citizens have the right to public services, which served as a catalyst to action. Once the women were ready and wiling to take action, HKC staff and CEDLA animators helped them strategize about how to effectively present their demands.

The conversations I had in 14 other wards across Tanzania[25] suggest that the actions taken by the women of Terrat represent an exception to the rule. In many instances, people seemed fairly resigned to their fate, saying that they are waiting for their leaders to do something, or for a donor to come along and address their problems. Below, I discuss the lack of citizen action in greater detail, identifying the obstacles to citizen action as well as strategies for easing the constraints.

5.6 Constraints on Citizen Action to Promote Improved Access to Clean Water

In Section 5.4, I argue that a lack of clarity about government responsibility for water provision likely constrains the "long route" to accountability. In Section 5.5 I show how it constrains the short route as well. In this section I describe four other factors that likely limit the extent to which citizens take action to demand improved access to clean water: the

[25]See appendix to this chapter (Section 5.9) for a complete list.

traditional status of women, a limited sense of efficacy, weak expectations about collective action, and the costs associated with taking action. I conclude this section with a regression analysis that considers the relative importance of these different factors.

5.6.1 Gender

Gender represents an important dimension of active citizenship, one that is particularly salient in the context of my study, since women typically bear the responsibility for obtaining water in rural Tanzania (as in many other sub-Saharan African countries). Improvements to water supply therefore represent a positive externality (in terms of time savings and health benefits) that disproportionately affects women (Mason, Harris and Batley, 2013). Unsurprisingly, therefore, African women are significantly more likely to prioritize improving access to clean water as compared to African men (Gottlieb, Grossman and Robinson, 2015).[26] The gap is widest among women who are not engaged in monetized employment, i.e. those who are less independent.

However, women – in Tanzania and beyond – are rarely involved in decisions about how to site and mange water supplies. As a result, gender-related externalities are not captured and factored into costs and benefits of water supply decisions. Engrained social norms frequently prevent women from advocating individually or collectively for improved services, while other (adult, male) end-users may be insufficiently aware of the problem (Mason, Harris and Batley, 2013).

Moreover, there is considerable evidence that women tend to engage less in politics than men in sub-Saharan Africa. When it comes to various activities, including voting, contacting political officials, participating in demonstrations, attending campaign rallies, persuading others to vote, or working for a campaign, women report significantly lower participation rates (Bratton, 1999; Gottlieb, Grossman and Robinson, 2015; Gottlieb and Robinson, 2016). This discrepancy prevails in most countries around the world (Chhibber, 2003).

[26]Based on data from the fourth round (2008-2009) of the Afrobarometer survey, which covered 19 countries: Benin, Botswana, Burkina Faso, Ghana, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Nigeria, Senegal, South Africa, Tanzania, Uganda, Zambia, and Zimbabwe.

In sum, though women are the most affected by the lack of access to clean water, they are often the least likely to do something about it.

5.6.2 Expectations about Efficacy

One reason why women tend to participate in politics at a lower rate is they tend to have lower expectations about the efficaciousness of their actions. Political scientists have long recognized the importance of having a *sense of political efficacy*, which comprises at least two distinct components: "(1) internal efficacy, referring to beliefs about one's own competence to understand, and to participate effectively in, politics, and (2) external efficacy, referring to beliefs about the responsiveness of governmental authorities and institutions to citizen demands" (Niemi, Craig and Mattei, 1991, 1407–1408).

In the American context, Verba, Burns and Schlozman (1997) show that women are less politically interested, informed, and efficacious than men and that this gender gap has consequences for political participation. Similar trends have been reported across sub-Saharan Africa (Coffe and Bolzendahl, 2011). Beyond participation in formal politics, having a low sense of efficacy can constrain a broader set of actions that citizens might take to promote improved service delivery.

The AIID survey allows me to examine gender differences with regards to self-efficacy in Tanzania. I proxy for internal efficacy by examining responses to the question, "How much influence do you think someone like you can have over local government decisions?" and external efficacy by looking at the question, "If you have some complaint about local government services (such as health or education) and took that complaint to a local official, do you think that he or she would pay a lot of attention to what you say, some attention, very little attention, or none at all?" I find that on average, Tanzanian women express a lower sense of both internal and external efficacy than Tanzanian men.

A low sense of efficacy does not just constrain action by women. It also reduces the motivation for men to act. As noted above, a common response among my focus group discussion participants (both male and female) was that they are waiting for their leaders

to act on their behalf. This suggests they do not see taking action themselves as likely to promote change.

Such low expectations have been reported in similar contexts. For instance, a qualitative study of citizen engagement by parents to improve the quality of education in Kenya found that "feelings of efficacy and expectations of government responsiveness among parents are exceptionally low. Parents almost never believe that actions they might take on behalf of improved schooling will be successful" (Lieberman, Posner and Tsai, 2014*a*, ii).

5.6.3 Expectations about Collective Action

Up until now, I have focused primarily on individuals' decisions about taking action to improve service delivery. But in the Tanzanian context, as in much of sub-Saharan Africa, people are typically more accustomed to acting collectively. Not only is acting alone unlikely to have much of an impact, it can lead to ostracism and exclusion, particularly in more communal societies.

In general, citizens across Africa tend to prefer more communal modes of political participation. For instance, in Zambia, Bratton (1999) finds a high prevalence of "communing" behaviors when it comes to political participation, including discussing politics with others, attending community meetings, attending election rallies and promoting a party candidate. This echoes observations from other scholars of African politics, such as Ake (1993, 243), who notes that "Africa is still a communal society, and it is this communalism which defines the peoples' perception of self-interest, their freedom and their location in the social whole."

The barriers to collective action have been well documented. As Olson (1971, 2) states in his seminal text, "unless the number of individuals is quite small, or unless there is coercion or some other special device to make individuals act in their common interest, *rational, self-interested individuals will not act to achieve their common or group interests*" (emphasis original). One "special device" that can help to facilitate collective action is *common knowledge* – people will be more likely to act if they expect others to take action

as well.[27]

Expectations about collective action are particularly important with respect to voting when political parties engage in "contingent prize allocation" (Smith and Bueno De Mesquita, 2012) – conditioning the allocation of excludable, collective goods on high levels of support. Such a pattern of distribution is typical in hegemonic party regimes. When it comes to more direct collective action (participating in a protest or rally, e.g.) expectations about collective action are also critical (Joshi, 2014).

My fieldwork suggests that many Tanzanians have low expectations about collective action. For instance, a male focus group discussion participant in Ukerewe district explained his hesitation to take action as follows: *If you act as just one person, you won't get anywhere.*[28]

5.6.4 Costs of Taking Action

Beyond social norms and expectations, political participation – and civic engagement more broadly speaking – can be costly. Although voting is a relatively low-cost action, it still requires taking time to gain knowledge about the candidates, and register in advance. In the 1995 and 2000 elections, less than 65% of the voting-age population was registered, suggesting significant challenges to registration or a lack of awareness. Voter registration in Tanzania has improved since the initiation of a Permanent National Voter Register in 2005, boosting registration to over 90% in more recent elections (Taylor, 2015). However, some challenges remain. In 2005, residents of the islands in Bunda and Mwibara constituencies in Mara region had to cross Lake Victoria by boat in order to register, while residents of other constituencies such as Bukoba rural, Moshi rural, Vunjo, Rufiji, Chilonwa and Manyoni walked between 6 to 8 kilometers to the nearest registration centers (Babeiya, 2013). The act of voting can further entail taking a full day off of work, which can be very burdensome in a subsistence economy. In the 2010 elections, some would-be voters went home without

[27]Michael Chwe's work provides the most widely cited explanation of the importance of common knowledge in facilitating collective action. See, e.g., Chwe (1999, 2001).

[28]Focus group discussion conducted October 2013.

voting after finding that their polling stations had not opened on time (TEMCO, 2011).

Non-electoral civic action can be significantly more costly – for instance, participation in protests or political rallies may require transportation to an urban center and can also imply costs to one's personal reputation. These latter costs can be significant in a hegemonic party regime such as Tanzania. As noted in Chapter 2, the Tanzanian ruling party's use of repressive tactics is much more limited and covert than that of other African electoral authoritarian regimes; however, strategic crackdowns have served to send a powerful message that it is dangerous to question authority.

The extent to which fear constrains civic engagement in Tanzania is somewhat ironic given that the country's founding president Julius Nyerere saw political participation as a key component of his vision of "African socialism": "If the people are not involved in public ownership, and cannot control the policies followed, the public ownership can lead to fascism not socialism [...] socialism is only possible if the people as a whole are involved in the government of their political and economic affairs" (Nyerere, 1968, 309–10). However, the implementation of Nyerere's philosophy left much to be desired, and often served to constrain, rather than empower Tanzanian citizens (Mongula, 2008). During the period of one-party rule, CCM dominated associational life – trade unions, women's groups, and other associations all had to affiliate with the ruling party – and sharply curtailed autonomous mobilization (Tripp, 2000).

The legalization of multi-party politics in the early 1990s created an opening, with the delinking of trade unions and cooperatives from the ruling party. However, this did not mean the government was ready to be criticized. In 1995, around the time of national elections, the independent Tanzania National Women's Council was banned for being political and pro-opposition (Iheme, 2005). In 2002, the lead attorneys for the Lawyers' Environmental Action Team, an independent NGO, were charged with sedition for following up on human rights violations caused by mining companies (Lange, 2011). That same year, the government passed an NGO Act, which included compulsory registration backed by criminal sanctions, lack of appeal to the courts, alignment of NGO activities with government plans, and a prohibition of national networks and coalitions of NGOs (Freedom House, 2007). The Act,

which remains on the books, has been criticized for increasing government control over NGOs and restricting their operation (Wamucii, 2014).

Although the Tanzanian constitution guarantees freedoms of assembly and association, these rights are not always respected. Organizers of political events must obtain permission from the police, and anti-regime political demonstrations are actively discouraged. In addition, essential public service workers are barred from striking, and other workers are restricted by complex notification and mediation requirements. In July 2013, the national teachers union attempted to strike for better pay, but the action was declared illegal by the High Court since the union had not given the required 48-hour notice (Freedom House, 2013). Notably, in the multi-party era, human rights abuses have peaked during election years (Whitehead, 2009).

These restrictions have trickle-down effects. Interviews with rural citizens reveal that many people are afraid of the police, especially the Field Force Unit (riot police), who have a reputation for brutality (Kilaini, 2006). A study of a recent campaign to curtail illegal logging found passive acceptance of the practice give fears of intimidation and security threats. Community members feared that denouncing wrongdoing could lead to reprisals (Harris et al., 2011).

Such fears tend to be greater among the poor. For instance, Afrobarometer survey respondents in Benin, Lesotho, Mozambique, South Africa, Tanzania, Uganda, and Zimbabwe who report going without food many times (an indicator of poverty) are significantly more likely to report fear of punishment or reprisals if they complain about poor quality of government services or misuse of government funds (Devarajan, Khemani and Walton, 2011).[29]

5.6.5 Regression Analysis

How do the above-mentioned constraints compare when it comes to predicting the likelihood with which Tanzanian citizens take action to improve public service delivery in general, and to improve water provision in particular? In order to answer this question, I turn again to

[29] Analysis of 2008 round.

the AIID survey, estimating a series of logistic regressions of the following type:

$$Prob(Action_i = 1) = logit^{-1}(\alpha + \beta_1 Female_i + \beta_2 Efficacy_i + \beta_3 CollectiveAction_i + \beta_4 Information + \beta_5 Resources_i + \epsilon) \quad (5.2)$$

Here, $Action_i$ is a dummy variable indicating whether respondent i took action to improve service delivery in general, or to improve water service provision in particular, defined using responses to the AIID survey questions described in Section 5.5.2. $Female_i$ indicates whether the respondent is female. $Efficacy_i$ represents the respondent's sense of either internal and external efficacy, defined as in Section 5.6.2.

$CollectiveAction_i$ is a measure of expectations about collective action. A key determinant of expectations about collective action is the extent to which someone is embedded in a group with shared experiences and repertoires. In their landmark study of *Poor People's Movements* in 1930s and 1960s America, Piven and Cloward (1977, 19) observe that "those whose lives are rooted in some institutional context, who are in regular relationships with others in similar straits, who are best able to redefine their travails as the fault of their rulers and not of themselves are best able to join together in collective protest." To get at this, I construct a variable indicating whether the respondent is a member of a community group dealing with one or more of the following: the respondent's main economic activity; finance, credit or savings; health; education; water; sports; funerals; religion; and men's/women's issues.

The AIID survey also asks, "If some people in this area/village found out that members of the water committee were stealing money, which of the following sounds more likely to you? (1) People would be upset, but they would feel that they are not powerful enough to fix this problem. (2) People would be upset and they would take action to fix the problem." I code agreeing with option (2) as indicating higher expectations about collective action with respect to water provision. I also look at whether the respondent reports that his or her village has a water committee.

To get at the costs associated with taking action, I consider whether the respondent has

relevant *Information* and other *Resources* at his or her disposal, which can serve to reduce or offset costs. Information could be obtained by listening to the radio more frequently, so I include a variable which captures this, given scholarship showing that media exposure tends to promote political participation (Carlitz and Urpelainen, 2016; Dimitrova et al., 2014; Finkel, 1985; Kenski and Stroud, 2006; McLeod, Scheufele and Moy, 1999; Norris, 2000; Norris and Inglehart, 2009; Scheufele et al., 2004). Furthermore, the AIID survey also asked respondents whether they have received information about water point functionality, and whether they have ever seen a map that shows all the water points in this area, including those that are not currently working. I also control for whether the respondent resides in a rural area, and whether his or her dwelling has a metal roof, as a proxy for income. Finally, I control for the time the respondent reports taking to fetch water each day (a proxy for need), with the idea that if need is greater, the benefits of taking action should be as well.

The regressions pool responses from the 2011 and 2015 rounds of the survey, controlling for survey effects. While the panel design makes looking at changes possible, many of the factors I consider are time-invariant, or do not vary significantly over time.[30]

Table 5.3 depicts the results in terms of odds-ratios. The dependent variable in Model 1 is a dummy indicating the respondent took action to improve service delivery. The dependent variable in Model 2 is a dummy indicating the respondent took action to improve water provision, asked in an abstract manner. The dependent variable in Models 3 and 4 is an alternative measure of action to address the main problem affecting the respondent's water supply.

We see that in all instances, women are significantly less likely to take action then men. For every four men who would take any action to improve service delivery, only three women would do the same. When it comes to taking action to improve the main problem with a respondent's water supply, the odds that women will act are even lower.

[30]Concerns about survey implementation also motivated this specification. Of the 2,508 households included in the 2011 round, 1,750, or 69.8% of them were included in the follow-up survey round. Looking at baseline characteristics, the attrited households appear to be significantly different from those that stayed in the survey with respect to income, mobility, and rural status. Longitudinal analysis of the households that appear in both rounds is therefore unlikely to be representative of the Tanzanian population at large.

Table 5.3: Correlates of Action Taking (AIID Survey)
Results in Odds-Ratios

	(1) Any Action	(2) Water Action	(3) Water Action (Alt.)	(4) Water Action (Alt.)
Female	0.74***	0.80**	0.69***	0.70***
	(0.05)	(0.07)	(0.08)	(0.08)
External efficacy	1.02	1.06	1.09	1.11
	(0.04)	(0.06)	(0.09)	(0.09)
Internal efficacy	1.30***	1.27***	1.06	1.05
	(0.05)	(0.06)	(0.07)	(0.07)
Participated in community group	3.32***	2.47***	2.02***	2.05***
	(0.28)	(0.27)	(0.32)	(0.32)
Frequency of listening to radio	1.13***	1.04	1.13**	1.14**
	(0.03)	(0.04)	(0.06)	(0.06)
Roof of main house made of metal sheets	1.23*	1.09	1.41**	1.44**
	(0.14)	(0.12)	(0.25)	(0.25)
Rural	1.16	1.04	1.17	1.14
	(0.11)	(0.12)	(0.18)	(0.18)
Time to fetch water (minutes)		1.00**	1.00	1.00
		(0.00)	(0.00)	(0.00)
Expect others to act against water corruption		1.84***	1.85***	
		(0.19)	(0.27)	
Received information about water point functionality		2.57***	1.33**	
		(0.24)	(0.17)	
Village has water committee				1.35**
				(0.18)
Saw waterpoint map				1.85**
				(0.46)
Observations	4635	4318	2693	2693
Pseudo R^2	0.094	0.111	0.058	0.050

Exponentiated coefficients; Standard errors in parentheses
Standard errors clustered by enumeration area.
All models include survey round fixed effects.
The dependent variable in Model 1 is a dummy indicating the respondent took action to improve service delivery.
The dependent variable in Model 2 is a dummy indicating the respondent took action to improve water provision.
The dependent variable in Models 3 and 4 is an alternative measure of action to improve water provision.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Efficacy does not exert a consistent influence on the likelihood of taking action, though it appears internal efficacy (beliefs about one's own abilities) matters more than external efficacy (beliefs about the likely responsiveness of state institutions).

Expectations about collective action go a long way in helping to determine whether someone will take action or not. Respondents who participate in one or more community groups are two to three times more likely to take action than are their non-participant counterparts.[31] I note that over half of all respondents report membership in one or more community groups, with the most popular being groups dealing with funerals (burial societies) and religious groups, while a considerably smaller proportion report membership in groups dealing with specific aspects of service delivery (e.g. water, health, education). The experience of participating in a group appears to give people a framework for addressing issues beyond those that are the focus of the group.

Expectations about collective action that are specific to the water sector also matter. Expecting others to act when confronted with revelations of corruption related to the water committee, and the mere fact that the respondent knows the village has a water committee, are both significantly associated with an increased likelihood of taking action.

Finally, respondents who have more resources and information – i.e., those for whom taking action is less costly – are more likely to act. Those who live in houses with metal roofs (indicating higher incomes) and who listen to the radio more frequently have a higher likelihood of taking action. In addition, receiving specific information about the water supply appears to promote action-taking. I will return to these results below in my discussion of a proposed intervention to promote greater responsiveness with respect to water provision in Tanzania.

[31] This might also reflect a higher degree of "social capital," defined by Putnam (1995, 67) as "features of social organization such as networks, norms, and social trust that facilitate coordination and cooperation for mutual benefit." Scholars have noted a positive correlation between social capital and political participation in the United States and beyond (La Due Lake and Huckfeldt, 1998; Krishna, 2002).

5.7 Relaxing the Constraints

We may now return to the question that motivates this chapter: how and why have the citizens of Tanzania allowed their elected representatives to get away with the gross negligence that characterizes the country's water sector? The preceding discussion points to a number of factors that constrain citizens' abilities to sanction public officials – either at election time or through non-electoral means. These include: confusion about government responsibilities for water provision, gendered discrepancies with respect to the impact of the problem and the likelihood of doing something to address it, low expectations of self-efficacy and the likelihood that others will act, and finally, the costs associated with taking action. This suggests that if we were somehow able to relax these constraints, Tanzanians would become more engaged and critical, expressing dissent and demanding responses. Is this a realistic assumption? More importantly, would increased citizen engagement actually lead to improved service delivery?

In order to answer these questions, I take stock of the literature on initiatives intended to promote "social accountability," which is defined as "the ongoing engagement of collective actors in civil society to hold the state to account for failures to provide public goods" (Joshi and Houtzager, 2012, 150). These initiatives largely reflect efforts to promote the "short route" to accountability. I conclude by discussing suggestions for the design of a successful social accountability initiative for water provision in Tanzania.

5.7.1 Initiatives to Promote "Social Accountability"

Social accountability (SA) initiatives came into vogue around the same time as the publication of the 2004 *World Development Report*, amidst the realization that traditional mechanisms of accountability (i.e., elections) were failing to improve the delivery of public goods (Joshi and Houtzager, 2012). These failures were understood as resulting in part from information asymmetries between citizens and governments with respect to policy performance (Devarajan, Khemani and Walton, 2011). Without information about how their elected officials use public resources to craft and implement public policies, citizens are unable to

effectively sanction poor performance.

In response, the first generation of SA initiatives attempted to address these information asymmetries, relying on local dissemination of service delivery outcome data (e.g. report cards) as a means of engendering action by citizens that would in turn improve responsiveness by service providers. Although voter education initiatives have demonstrated some positive results in terms of undercutting clientelist politicies and coordinating citizen demand for quality public services (Aker, Collier and Vicente, 2010; Collier and Vicente, 2014; Gottlieb, 2016; Vicente and Wantchekon, 2009), the impact of information-based interventions targeting non-electoral action by citizens was fairly limited. This led many to conclude that information provision is typically insufficient to promote widespread citizen action (Bruns, Filmer and Patrinos, 2011; Fox, 2015; Joshi, 2014; Lieberman, Posner and Tsai, 2014*b*).

In their review of a failed initiative meant to promote action by parents to improve the quality of education in Kenya, Lieberman, Posner and Tsai (2014*b*) lay out a framework[32] that identifies the key conditions needed for information to have its desired effect on citizen action. The conditions are presented as a series of questions:

- *Does the citizen understand the information?*
- *Is the information new?*
- *Does the citizen now prioritize the issue area?*
- *Does the citizen now feel responsibility to act?*
- *Is the citizen now aware of what actions to take?*
- *Does the citizen now have skills for taking action?*
- *Does the citizen have a sense of efficacy?*
- *Does the citizen believe his or her individual actions will have impact?*
- *Does the citizen believe others will act?*

A "no" answer to one or more of these questions may preclude action. What's more, if the ultimate goal is improved service delivery, action by citizens will be insufficient unless it compels a response from state officials. As Fox (2015, 348) notes, "bottom-up monitoring

[32]See Figure 3 in article.

often lacks bite." That is, local oversight alone is typically insufficient to reduce corruption and promote responsiveness, absent official sanctioning mechanisms.

What goes into the decision calculus of state officials when it comes to responding to grievances aired by citizens? Joshi (2014) adapts and expands on the set of conditions outlined by Lieberman, Posner and Tsai (2014*b*) to identify a parallel set of conditions for state officials:

- *Do I think citizens have legitimate grievances?*
- *Do I hold responsibility for the particular public good?*
- *Am I likely to be officially sanctioned due to citizen action?*
- *Do I care about my reputation?*
- *Do I care about the service?*
- *Do I think I can do something about the situation?*
- *Do I have the capacity and resources to take action?*

This suggests that in order to be successful, SA initiatives must address both the constraints on citizen action, as well as those inhibiting the ability of state agencies and offices to respond. These constraints typically reflect not only the motivations and incentives facing state officials, but also the bureaucratic capacity of their offices. Fox (2015) finds support for this proposition in his review of recent SA initiatives, noting that those which are more "strategic" (deploying multiple tactics, encouraging enabling environments, and leveraging existing reforms) are more likely to achieve success than "tactical," bounded interventions that ignore context and politics. In light of this, he argues for the deployment of "sandwich strategies" – building coalitions of pro-accountability forces that bridge the state-society divide. As examples he cites Indonesia's PNPM rural village development program, which created enabling environments for community-level participatory budgeting and oversight, and the Indian state of Andhra Pradesh's incorporation of community public oversight hearings into the country's national rural right-to-employment law.

Promoting social accountability in this more comprehensive manner is costly, time-intensive, and difficult to evaluate in a rigorous manner, given all the moving parts. However,

given the stakes – children completing school without knowing how to read; babies dying of treatable, waterborne diseases – it is arguably an endeavor worth pursuing.

5.7.2 Promoting Accountable Water Provision in Tanzania

How can we apply these lessons to thinking about promoting accountable water provision in Tanzania? In this section, I lay out a series of propositions to inform the design of a successful social accountability initiative for the Tanzanian water sector. These reflect both the specific constraints facing citizen action with respect to water provision that I have identified in this chapter, as well as the broader lessons from the review of social accountability initiatives presented above.

5.7.2.1 Strategic Information Provision

The lack of government responsiveness for water provision is fairly obvious to the average citizen of Tanzania. Which public officials are responsible for this failure, how citizens may themselves contribute to it, and the extent to which positive improvements are possible is often less clear. This suggests a role for the strategic provision of information on the roles and responsibilities of public officials at all levels of government, along with further clarity about water users' own responsibilities.

Previous research on the link between information and citizen action suggests that information will be most effective when it is new and worth knowing, easy to understand, presents comparative rather than absolute information, and relates to inputs (e.g., the district's budget for repairs and new infrastructure) rather than simply focussing on outputs (functionality and coverage rates) (Joshi, 2014; Kosack and Fung, 2014; Lieberman, Posner and Tsai, 2014*b*). The regression reported in Table 5.3 suggests that even just providing information on outputs can spur action, too. Providing information about local government capacity and responsibility as well as how local politicians perform relative to others has also been shown to raise voter expectations of what local governments can and should do, leading to more sanctioning of poor performers and performance-based voting (Gottlieb, 2016). This

also gets at the importance of relative deprivation in motivating action

To whom should such information be provided? It has the potential to help all Tanzanians make more informed choices at the polls, encouraging voting along programmatic rather than clientelistic lines. But when it comes to spurring action in domains other than voting, information should be targeted at those citizens most likely to be able to act upon it. In this context, the citizens most likely to possess such a profile are the members of the community-owned water supply organization (COWSO). COWSO members should have greater expectations of collective action by the simple virtue of their being members of a group. Furthermore, if information is provided in a collective, rather than individualistic manner, it has the potential to create *common knowledge*, helping people coordinate to reach mutually beneficial outcomes.

Finally, information should be provided in a way that will boost people's sense of efficacy. This might include providing information on concrete strategies for using the information, or examples of how other COWSOs have successfully improved outcomes in their communities. Providing information as part of a more comprehensive, "sandwich strategy" type of intervention can also promote a sense of efficacy by demonstrating that responsible officials are prepared to play their parts as well.

5.7.2.2 Address Gendered Discrepancies

As noted above, a key challenge with respect to accountability for water provision in Tanzania (and much of sub-Saharan Africa) is the fact that the people who suffer most from the lack of access are also typically the least likely to speak up and do something about it, given long-standing gender norms and village-level power dynamics. Changing entrenched norms is beyond the scope of a time-bound intervention implemented by an NGO or the government of Tanzania. However, the ongoing process of registering and building the capacity of COWSOs represents an opportunity to intervene. At present, it is at the discretion of each community precisely how to organize and structure the COWSO. The National Water Policy states that, "a fair representation of women in village water-user entities will be encouraged" (United

Republic of Tanzania, 2002, Sec. 4.8). However, it seems likely that COWSOs will be male-dominated, as has been the tendency of other institutions for community management, such as school management committees (Masue, 2014; Nemes, 2013) unless explicit efforts are made in this regard. Revised guidelines in which COWSOs were given gender quotas could be a first step in this direction.

5.7.2.3 Consider the Costs

As noted above, taking action to promote improved service delivery can entail significant costs, particularly in terms of time (opportunity costs) and costs to one's personal reputation. Given the uncertain benefits that much citizen action entails, many people may reasonably decide that taking action is not a worthy endeavor. What could reduce the costs of taking action, and/or offset them? One possible strategy is providing financial incentives for COWSO members – particularly women – who may have to take time away from vital household activities to attend meetings and otherwise play their roles. Providing such incentives in an effective manner can be challenging, given the risk of attracting members who are only interested in the financial rewards of participation. The incentives could therefore be tied to COWSO performance as a means of getting around this. Also, local NGOs can play an important backstopping role to support citizen action, such as the women's protest march in Terrat described above. Finally, multi-pronged interventions that address government officials as well as citizens can make the benefits of participation more concrete and certain, helping to offset costs.

5.7.2.4 Motivate Local Officials

Finally, any attempt to promote social accountability in Tanzania's water sector must take on board the incentives and constraints facing local officials. It is highly likely that, just like the citizens who put them in office, district councillors and other local government officials are not fully aware of their responsibilities with respect to water provision, particularly when it comes to 'major' vs. 'minor' repairs. There is also a lack of clarity regarding the responsibilities of

the Prime Minister's Office - Rural Administration and Local Government (PMO-RALG), which has traditionally been the main oversight body governing district authorities, and the Ministry of Water (MoW), which houses the WSDP and sends WSDP funds down to the district level. It is also not clear how COWSOs fit into the local government structure. Hence, the strategic provision of information to local government officials as well as citizens could go a long way towards improved accountability.

District officials are also hamstrung by the unpredictability of central government budget disbursements. Prior to every annual planning session district councils are supposed to receive sectoral priorities and budget ceilings for the coming year from the central government. However, budget ceilings are often late, meaning that the district planning process begins before local officials know what the overall budget envelope will be. This often leads to unrealistic plans that cannot be fulfilled. In addition, sectoral guidelines can contradict needs as identified through the bottom-up planning process (Mollel, 2010). Most significantly, many local government officials that I spoke to complain that they typically do not receive the entire budget from the central government – disbursements are frequently delayed and often only partial. The fact that funds come late means local governments are often rushed to spend the money in their account before the end of a financial year, which can lead to weak implementation at the district level

As a means of addressing some of the constraints that local government officials face with respect to water provision, the UK's Department for International Development (DFID) plans to implement a results-based financing (RBF) scheme to improve access to clean water in Tanzania. RBF, also referred to as pay-for-performance, performance-based funding, and output-based aid, entails the transfer of money or material goods conditional on taking a measurable action or achieving a predetermined performance target (Oxman and Fretheim, 2009). To date, such schemes have primarily been implemented in the health sector – for examples, payments per child vaccinated above a given baseline, or payments to hospitals for delivering a specific health output – as part of foreign aid packages to low-income countries, or as government initiatives in OECD countries like the U.S. and the U.K. While there is emerging evidence that RBF schemes frequently deliver their intended results, it is frequently

difficult to say whether this is due to the results focus itself or whether it is due to the additional funding associated with it (Pearson, Johnson and Ellison, 2010).

The proposed RBF scheme in Tanzania will make approximately £67 million available to eligible districts (those with baseline improved water source coverage less than 35%). Districts will be provided with £50 for each water point that continues to be functional from the previous year and £1,500 for additional functioning water points above the previous year's level. The scheme intends to direct resources into maintenance support and shift incentives and behavior of district officials to be more supportive of operations and maintenance. There are concerns that the incentive funds may not reach the officials in charge of frontline activities and may not provide enough of an incentive to shift behaviors even if the funds are distributed as planned. Officials may also face significant constraints in implementing operations and maintenance activities that the additional resources do not overcome. In order to address these potential challenges, an ongoing impact evaluation of the proposed scheme is in its first phase, and aims at understanding and testing the implicit assumptions behind its theory of change (Impact Evaluation to Development Impact, 2016).

Coupling RBF with the strategic provision of information to local government officials represents a promising strategy for relaxing the constraints and shifting the incentives faced by local government officials in Tanzania when it comes to responding to citizens' needs for water provision, particularly if citizens become more empowered to voice those needs.

5.8 Conclusion

This chapter turns the main question motivating this dissertation upside down. Rather than asking why the government of Tanzania has failed to respond to its citizens' needs, I ask why these citizens have allowed such a lack of responsiveness to persist. I first put aside the possibility that Tanzanians simply don't care about improving access to clean water, or do not think improvements are something the government should address. Next, I examine the constraints that prevent people from taking action to sanction the failure of responsiveness – either at the ballot box or through non-electoral means. Chief among these is a lack of clarity

about government responsibility for water provision. Gender norms also preclude women from taking action in many cases – despite the fact that women bear the brunt of insufficient access. Additionally, having a low sense of efficacy, weak expectations of collective action, and the costs associated with taking action further preclude citizen engagement. Efforts to promote more responsive water provision in Tanzania (and similar contexts) should fully engage with these constraints – as well as the constraints facing the responsible government officials.

5.9 Appendix

Table 5.4 provides details of the focus group discussions and other interviews that I conducted in 15 rural wards across Tanzania.

Table 5.4: Fieldwork Inventory

Ward	District	Region	No. Focus Groups	Other Interviews	Dates
Dutumi	Kibaha	Coast	2 (one general; one with Village Water Committee (VWC))	Village Chairman (VC)	September 2013
Kwala	Kibaha	Coast	2 (one general; one with VWC)	District Executive Director; Assistant District Water Engineer; Ward Executive Officer; Ward Councillor (WC)	September 2013
Magindu	Kibaha	Coast	2 (one general; one with VWC, Village Executive Officer (VEO), and Village Health Officer)	WC; District Water Engineer (DWE)	September 2013
Bukongo	Ukerewe	Mwanza	2 (one with women; one with men)		October 2013
Ngoma	Ukerewe	Mwanza	2 (one with women; one with men)		October 2013
Nkilizya	Ukerewe	Mwanza	2 (one with women plus man who was de facto guide; one with men)	DWE; 4 WCs	October 2013
Iselamagazi	Shinyanga	Shinyanga	1 (mixed gender, included female Special Seats WC)	4 WCs	October 2013
Kasungamile	Sengerema	Mwanza	2 (one with women, including female VC; one with men)	DWE; 4 WCs; one former WC	October 2013
Katunguru	Sengerema	Mwanza	4 (2 with women; one with men; one mixed-gender group including VC)		October 2013

Fieldwork Inventory, continued

Ward	District	Region	No. Focus Groups	Other Interviews	Dates
Terrat	Arusha City Council*	Arusha	One mixed-gender group including local NGO representative and village leaders		October 2013
Kirongwe	Mwanga	Kilimanjaro	2 (one mixed-gender group including VC, female water board chair; one with all-male COWSO members)		November 2013
Lembeni	Mwanga	Kilimanjaro	One mixed-gender group including COWSO chairman, VEO, VC, other members of COWSO)	Community Development Officer; DWE; Water Technician; 5 WCs	November 2013
Endamarriek	Karatu	Arusha	2 (one mixed-gender group; one with women)	Water Board	December 2013
Kilimamoja	Karatu	Arusha	One mixed-gender group	WC; VC; VEO; 2 members of Water Users Association	December 2013
Rhotia	Karatu	Arusha	One mixed-gender group	DWE; 2 WCs; Water Board; District Community Development Officer	December 2013

* Although Arusha City Council is an urban district, Terrat is "peri-urban" and has more in common with rural than urban wards.

CHAPTER 6

The Tanzanian Water Sector in Context

6.1 Main Findings of the Dissertation

This dissertation is motivated by a striking disconnect: despite the fact that Tanzania's water budget increased four-fold over the past fifteen years, access to clean water has risen by just one percentage point – from 54.4% in 2000 to 55.6% in 2015.[1] The previous chapters account for this disconnect through a series of linked steps – first debunking explanations based on a superficial understanding of the case, then tracing the allocation of resources for water infrastructure from the central government down to the level of service provision.

I begin in Chapter 2 by attempting to explain the disconnect as a consequence of Tanzania's lack of democracy and the influence of foreign aid donors. I show that these two factors are insufficient to account for the government's failure to translate money into improved outcomes. While improving access to clean water has not been the primary focus of Tanzania's donors, they do not appear to be setting the country's policy agenda. Furthermore, the hegemonic party has at various times pursued populist policies – sometimes going against its donors' wishes – as a means of shoring up mass support. I present evidence that water has been at the top of the government's policy agenda, and has featured prominently among the promises of Tanzanian politicians. These observations motivate the subsequent empirical investigation into the politics of water provision.

Chapter 3 examines the distribution of money for water from the central government to Tanzania's local government authorities (LGAs), or districts. I find that the central

[1]Statistics from the World Health Organization/UNICEF Joint Monitoring Programme: `http://www.wssinfo.org/data-estimates/tables/`

government allocations to districts diverge considerably from the formula meant to guide their allocation, and that the deviations are in part a function of political favoritism. Districts demonstrating higher levels of support for the ruling party consistently receive more money.

Chapter 4 looks at what happens when money reaches the district level. I first note that many districts fail to achieve "value for money," though there is substantial variation in efficiency across districts, both in terms of water points built for money spent (what I term *spending efficiency*) and access improvements for money spent (*allocative efficiency*). Poverty and inequality account for some of this variation – with poorer and less equal districts exhibiting greater inefficiency.

Given that efficiency considerations do not appear to drive the majority of allocation decisions within districts, Chapter 4 also examines how local politics affects the placement of new water points. I find that the distribution of new water infrastructure within districts is skewed to favor communities with higher demonstrated levels of support for the ruling party, serving to compound the pattern of favoritism revealed in Chapter 3. In addition, within a given district, wealthier and better connected communities – those with the resources to more effectively express their demands – are significantly more likely to experience improvements in water point coverage. To sum up the findings of my two main empirical chapters: the disconnect between spending and outcomes results from a combination of capture and politicized misallocation, particularly at the local level. This reflects the fact that local politicians have considerable discretion, a consequence of decentralization reforms intended to boost responsiveness to local needs.

Finally, Chapter 5 provides a citizen-focused explanation for the Tanzanian government's lack of responsiveness with respect to water provision. I combine my data on water point construction with electoral returns and nationally representative panel survey data to show that while Tanzanians are deeply dissatisfied with the status quo when it comes to water provision, and that they see government as having the main responsibility to improve their situation, they largely fail to sanction politicians for poor performance – either at the ballot box or by taking more direct action. This reflects a variety of constraints, including gender norms, low expectations of individual and collective efficacy, and the costs associated with

taking action.

Looking at these findings together, three main features distinguish the case I have chosen: (1) hegemonic party politics, (2) the decentralized nature of rural water provision, and, (3) foreign aid intensity. The remainder of this concluding chapter examines these factors in greater detail, and looks beyond water provision in Tanzania to generate hypotheses about the consequences for public service delivery of varying such characteristics.

6.1.1 Hegemonic Party Politics

In Chapter 2, I argue that Tanzania's being a hegemonic party regime is insufficient to explain the disconnect between spending and outcomes that we observe. Even hegemonic parties have to respond to their citizens' needs. However, hegemonic parties tend to respond in different ways than do their democratic counterparts. Unlike political parties in fully consolidated democracies, hegemonic parties do not just want to win elections, they want to win by sizable margins of victory (Magaloni, 2006). Such a motivation has implications for the allocation of patronage and other targetable benefits. Hegemonic parties tend to invest in their 'core' constituencies, and also to reward high levels of turnout, whereas democratic parties tend to focus on highly competitive ('swing') constituencies, and pay less attention to turnout. These tendencies inform the hypotheses I test in Chapters 3 and 4, and help account for the pattern of politicized misallocation I find. I argue that Tanzania's ward councillors serve as local patrons, with blocs of supporters; the central government then rewards the councillors with continued access to resources for turning their supporters out to vote for the ruling party. Hence, we observe more water point construction in wards that turn out to vote at a higher rate. A similar logic prevails when it comes to allocating funds for water to districts. Given the fungibility of these funds, such a pattern of favoritism promotes "upward" accountability (of politicians to the party) rather than "downward" accountability (of politicians to voters).

Tanzanian citizens are trapped in this bad equilibrium given the lack of viable alternatives to the ruling CCM party, as seen in Chapter 5. The fact that changes in access to clean

water are unrelated to changes in support for the ruling party shows that citizens are not expressing their dissatisfaction with water provision by withholding support from the CCM. The hegemonic party regime's targeted use of repression also constraints non-electoral action by citizens to demand improved services.

6.1.2 Decentralized Provision

The results of Chapters 3 and 4 suggest that decentralization can help to account for the disconnect between spending and outcomes with respect to water provision in Tanzania. While in other cases inter-district inequities are offset by more responsive targeting within districts, in Tanzania local governments allocate resources in a manner that compounds misallocation by the center. This pattern is not an inevitable outcome of decentralization; it reflects the way in which reforms have proceeded in Tanzania. Whereas the guidelines for allocating money to the country's districts are clearly indicated by a formula, Tanzania's local officials have considerable discretion when it comes to distributing the resources they receive from the center. The fact that such discretion fails to promote responsiveness is perhaps not surprising. It is in keeping with Diaz-Cayeros, Estevez and Magaloni (2012)'s book-length study of anti-poverty initiatives in Mexico, which finds that social assistance programs are most likely to engender widespread poverty reduction when they are *not* discretionary. Ironically, however, the discretion of local officials is at the heart of many rationales in favor of decentralization. In theory, local politicians know more about their voters' needs, and are therefore better equipped to respond to them than are central government officials in a distant office in the capital city. Problems with this model arise when local politicians are more accountable to party leaders than to their constituents, and when voters are unable to sanction their elected officials' failure to respond. This observation suggests decentralization is likely to face particular challenges in hegemonic party regimes.

Beyond the devolution of resources and authority over allocations to local governments, decentralization reforms in Tanzania have also devolved responsibilities for operations and maintenance to water users. As explained in Chapter 1, this reflects the 'demand-responsive

approach' (DRA), whereby water users are supposed to demand, own, and maintain their water services and participate in their design. In practical terms, the DRA has resulted in mandatory cost-sharing in Tanzania and many other countries. Tanzanian beneficiary communities must open bank accounts and contribute a percentage of the total project cost before construction of a new water project can begin. This policy helps to account for the regressive pattern of infrastructure distribution I uncover within districts in Chapter 4 – the poorest communities cannot send the necessary signals in terms of their ability to finance operations and maintenance costs and therefore fail to receive new infrastructure.

6.1.3 Foreign Aid Intensity

Tanzania's water sector – and the country as a whole – is highly dependent on foreign aid. Chapter 2 argues that high levels of foreign aid do not automatically translate into donors having influence over policy implementation. However, the degree of foreign aid for water may help to explain the Tanzanian government's overall lack of responsiveness with respect to the sector, since foreign aid can reduce the ability of politicians to take credit for improved outcomes. In my fieldwork, I found that it was common for people to refer to new water infrastructure as part of a "World Bank project," whereas the provision of other public goods has been associated more explicitly with the ruling party. For instance, in 2006, the government embarked on a dramatic expansion of secondary school construction – action that was understood as acting on an electoral promise inscribed in the CCM Manifesto for the 2005 presidential elections (Languille, 2014). The association of water infrastructure with donors and of schools with the government may reflect differences in foreign aid intensity. Over the past decade, foreign donors have provided the overwhelming share of financial resources to the water sector, while their relative contributions to education have been considerably less. For instance, in 2010, foreign aid accounted for 80% of the water sector budget (Mosha and Kihunrwa, 2014), whereas donors provided just 13% of the the education development budget (funds used for the construction of schools, desks, teachers' houses, and school sanitation

infrastructure).[2]

6.2 Implications for Comparative Research

My observations about how hegemonic party politics, decentralization, and foreign aid affect service delivery are derived from a single case. In order to determine the overall and relative importance of these factors, we need to conduct comparative research, looking at countries with different political systems and at public goods distributed in a more centralized manner and/or funded by domestic, rather than foreign, sources of revenue. In what follows, I present hypotheses to explain how varying these factors should affect the efficiency of spending on water across countries, as well as account for divergent patterns of public goods distribution within Tanzania.

6.2.1 Spending Efficiency Across Countries

While access to clean water in Tanzania has stagnated over the past 15 years, many other countries in the region have registered significant improvements over the same period, as shown in Table 6.1.

Table 6.1: Percentage of Population with Access to Improved Water Source

Country	2000	2015	Progress towards MDG target
Kenya	51.8	63.2	Good progress
Malawi	62.5	90.2	Met target
Mozambique	41.1	51.1	Moderate progress
Tanzania	54.4	55.6	Limited or no progress
Uganda	56.4	79.0	Met target

Data from UNICEF and World Health Organization (2015)

These differences cannot be accounted for simply by looking at how much each country spends on improving access to clean water. Indeed, as noted in Chapter 1, Tanzania outpaces many of its neighbors when it comes to finance for water supply (African Ministers Council on Water, 2010). In general, scholars have failed to find an association between levels of

[2]Author's calculation based on figures in Appendix 17 of World Bank (2011).

spending and levels of access to water supply and sanitation (van Ginneken, Netterstrom and Bennett, 2011). This suggests significant variation in spending efficiency across countries. I hypothesize that differences in regime type, foreign aid dependence, and centralized vs. decentralized delivery can help to explain some of this variation.

First, we might expect countries characterized by democratic rule to exhibit greater spending efficiency, since there is more scope for the citizens of those countries to hold their leaders to account for how they spend public money; in countries where power and information are less widely distributed, accountability for public spending should be constrained as well. Indeed, the quality of governance has been shown to explain considerable variation in the efficacy of spending on health and public education (Rajkumar and Swaroop, 2008). This suggests:

Hypothesis 6.1. *Spells of democratic rule will be positively associated with greater efficiency of spending on water.*

Beyond regime type, the main source of water sector finance will likely affect outcomes as well. In countries where the sector is predominantly funded by foreign aid, governments may have less of an incentive to spend those funds efficiently compared to countries where water provision is funded by tax revenue, given that aid reduces opportunities for credit-claiming. Aid can also encourage rent-seeking at the expense of improving public service delivery (Brautigam and Knack, 2004). Hence:

Hypothesis 6.2. *Foreign aid intensity will be negatively associated with efficiency of spending on water.*

Finally, the manner in which finance for water is delivered *within* countries likely matters as well – specifically, the extent to which water provision has been decentralized. As I note above, decentralization often gives local politicians more discretion over allocation decisions. This can open the door for politicized misallocation – particularly when local politicians lack incentives to improve public services for a wide swatch of the population, as in hegemonic party regimes. Decentralization can also lower the level of public goods provision if

local politicians fail to account for spillovers that a centralized policy-maker would explicitly consider. Evidence of this latter phenomenon has been found in Uganda, where Akin, Hutchinson and Strumpf (2007) find that districts allocate fewer resources to public goods type activities (including primary health care and supplementary drugs) as they progress further into the decentralization process.

Hypothesis 6.3. *Countries in which water provision is centralized will demonstrate greater spending efficiency than those in which water provision has been decentralized. This tendency will be greater in hegemonic party and authoritarian regimes than in democracies.*

6.2.2 Subnational Variation in Public Goods Distribution

While the cross-country analysis proposed above should be revealing, such a strategy leaves itself open to omitted variable bias. Restricting the analysis to the distribution of different public goods within Tanzania would control for regime type (and a host of other unobserved characteristics that could affect outcomes) while still allowing foreign aid intensity and degree of decentralization to vary.

This type of analysis is important given that different patterns of distribution often exist for different public goods. For instance, in Chapter 2 I discuss how Tanzania has outpaced Uganda with respect to reducing child mortality. It is interesting to note that the two countries demonstrate an opposite trend when it comes to water provision. In 1990, 55% of Tanzanians had access to clean water – compared with 42% of Ugandans. By 2010 the picture was reversed: Only 53% of Tanzanians had access compared with 72% of Ugandans. Senegal represents another interesting case. On the one hand, the country has consistently outperformed its counterparts in sub-Saharan Africa with respect to electricity provision. On the other hand, it has made much less progress in terms of primary school enrollment.[3] In more detailed study, Kramon and Posner (2013) consider six African countries (Benin, Kenya, Malawi, Mali, Senegal, and Zambia) and show that, "the outcome one studies affects the answer one gets" when it comes to patterns of (ethnic) favoritism. Understanding

[3]All figures in this paragraph from the World Bank World Development Indicators.

what accounts for these different patterns represents a line of inquiry that has been largely unexplored by the literature to date.

Looking across different public goods in a particular country, I expect relative foreign aid intensity to hinder responsiveness given the potential for foreign aid to function like windfall revenue, and limit the ability of politicians to take credit for aid-funded projects. Harding and Stasavage (2014) provide compelling evidence of the ways in which credit-claiming can impact the distribution of public goods in African democracies. The authors conduct an empirical study showing that increased electoral competition in Africa has prompted governments to abolish school fees, but has had less of an impact on the provision of school supplies and school quality, precisely because executive actions on these issues are more difficult to monitor. The authors also analyze survey data from Kenya to show that observable policy changes influence voting behavior, but outcomes for which responsibility is unclear are less highly correlated with voting intentions. The potential for aid to blur lines of responsibility and diminish opportunities for credit-claiming suggests:

Hypothesis 6.4. *Lower levels of foreign aid to a given sector will be associated with more responsive (need-based) allocations.*

Beyond the degree to which politicians can claim credit for delivering different public services, differences in the *technology* of their delivery are also important. As Banerjee, Iyer and Somanathan (2008, 3150) note, "Even in the absence of political competition and rent-seeking by different communities, the efficient allocation of public goods requires the ability to compute optimal allocations and provide bureaucrats with the incentives to implement them." I argue that decentralization under hegemonic party rule creates incentives for local politicians to allocate resources in a manner that will promote their reelection, rather than benefit their neediest constituents. This suggests that politicized misallocation at the local level will characterize the distribution of decentralized public goods to a greater degree:

Hypothesis 6.5. *Local election outcomes will affect the distribution of centrally provided goods to a lesser extent than public goods that have been decentralized.*

The nature of decentralization also matters. The extent to which the end users are

responsible for contributing to a given public good should also affect patterns of distribution. Specifically:

Hypothesis 6.6. *Public goods involving mandated contributions will be distributed in a more regressive manner than those for which beneficiaries are not required to contribute.*

6.3 Conclusion

Thinking more deeply about how differences in political arrangements, funding mechanisms, and foreign aid intensity might affect the distribution of public goods is particularly important at the present moment. In September 2015, the 193 member countries of the United Nations adopted a set of Sustainable Development Goals (also known as the Global Goals) and corresponding targets to be achieved by 2030. As noted in Chapter 1, achieving these goals will require a substantial injection of resources from both foreign aid donors and domestic country governments. But progress with respect to meeting the various targets will be a function of more than just the amount of money that different countries are able to mobilize and spend. Differences in countries' political systems, funding sources, and the level of government at which decisions about public goods allocation are made will likely play an important role. Serious consideration of these factors should inform future studies of foreign aid effectiveness and distributive politics more broadly speaking.

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