Information and Motivation: Why Governments Respond to Watchdog Journalism

Dylan W. Groves

Governance and Local
Development Institute

UNIVERSITY OF
GOTHENBURG

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Dylan W. Groves [*]

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Abstract

I evaluate two explanations for why governments respond to journalism: journalism informs government officials about their constituents' preferences and journalism motivates officials with the threat of public exposure. I first draw on surveys of 4,200 citizens and 340 leaders across 109 Tanzanian villages to document whether leaders understand, share, and respond to their constituents' policy preferneces. I then examine the effect of two overlapping treatments, each designed to capture a mechanism of journalism's influence. In the "information" experiment, I randomly assigned leaders to receive information about their constituents' priorities. In the "motivation" experiment, I randomly assigned leaders to be contacted by journalists planning reports on a specific development issue in the leader's village. To evaluate outcomes, I developed a behavioral measure of the willingness of village leaders to lobby district council officials for development projects on behalf of their constituents. I find mixed evidence for the role of information, strong evidence for the role of motivation, and no evidence that the mechanisms reinforce one another. The effect is concentrated among elected officials rather than bureaucrats, but not in electorally competitive communities.

Keywords: Media; Accountability; Sub-Saharan Africa; Journalism

1 Introduction

Do governments respond to journalism because journalists inform government officials about their constituents' preferences or because journalists motivate government officials with the threat of public exposure? The celebrated newspaper publisher Narasimhan Ram distinguishes between "two faces" of journalism, one facilitating the flow of information between citizens and government ("credible-informational journalism") and the other directly pressuring governments to act ("adversarial journalism") (Ram, 1991). Despite a growing body of evidence that governments respond to investigative reporting (Banerjee et al., 2020; Groves, 2023a; Hamilton, 2018; Kruks-Wisner, 2022), few studies have rigorously evaluated the *mechanisms* of journalistic influence and their interaction.

This paper investigates the relationship between journalism and village government responsiveness in rural Tanzania. I first draw on surveys of 4,200 citizens and 340 village leaders across 109 villages to characterize three dimensions of responsiveness: whether village leaders *know* which policy issues matter to their constituents, whether they *prioritize* the same policy issues as their constituents, and whether they *act* to ensure the needs of their constituents are met. To measure leaders' willingness to act, I collaborated with a well-known non-governmental organization in Tanzania to provide village leaders the opportunity to lobby their district councils for budgetary support on behalf of specific development projects.

I show that less than half of village leaders know their constituents' top policy priorities, and I document a positive, but imperfect, correlation between village leader priorities and the priorities of citizens they represent. Moreover, I find that only a small fraction of leaders lobby district officials on behalf of their constituents' development priorities when given the opportunity to do so. I observe limited variation in government responsiveness by village leader position: elected village officials are not more likely than village bureaucrats to know about or share their constituents' priorities, and are *less* likely than bureaucrats to take costly actions to promote their constituents' interests.

I then report the results of two experiments, each designed to evaluate a plausible mechanism by which journalism influences village government responsiveness. In the information treatment, enumerators provided village leaders with credible information about their constituents' priorities. In the motivation treatment, journalists informed village leaders that the journalists were producing news stories about a pre-specified development issue in their village and the steps village leaders had taken to resolve the issue.[1]

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[1]I designed each treatment to focus on a specific mechanism. In the information treatment arm, trained enumerators delivered the information to avoid signalling the possibility of future media attention. In the motivation treatment arm, journalists made clear that they did not have any information about citizens' preferences in the village to avoid activating the information mechanism (see section 4 for more details).

I find that both the information and motivation treatments improve village government responsiveness, although the evidence is stronger for the effect of the motivation treatment. Village leaders who receive information about their constituents' preferences are somewhat more likely to prioritize issues that matter to their constituents (0.16 standard deviation increase, one-tailed p-value = 0.047) and are almost twice as likely to take advantage of an opportunity to lobby their district council for budgetary allocations towards their constituents' top development priority (6.4 percentage points, one-tailed p-value = 0.078). The motivation treatment more than doubled the probability that village leaders would lobby on behalf of their constituents' top development priority (7.3 percentage points, one-tailed p-value = 0.029). Both treatments are substantially more effective among elected officials than bureaucrats, but they are not more effective in electorally competitive communities.

While the information and motivation treatments both improve responsiveness independently, I observe no evidence that they are complimentary. On average, village leaders randomly assigned to the information treatment are somewhat less responsive to the motivation treatment, and vice versa, and the results are imprecisely estimated (p-value = 0.371). Journalism can improve village government responsiveness by informing and by motivating government officials, but these mechanisms do not appear to reinforce one another.

In the following section, I review the literature on information and motivation mechanisms linking journalism and local government responsiveness. I then introduce the study context, the intervention, and the research design before turning to the descriptive and experimental results. I conclude by discussing the implications of the research for the study of government responsiveness, journalism, and political accountability.

2 Theory

The extent to which political representatives understand, share, and respond to the will of their constituents is among the most fundamental questions in political science (Miller and Stokes, 1963), although a correlation between the citizens' preferences and the priorities and behaviors of their representatives need not imply a direct causal relationship between the two. A long line of research has focused on identifying institutions and interventions that tighten the link between what constituents need and what government representatives provide (Butler and Nickerson, 2011; Humphreys and Weinstein, 2012; Przeworski et al., 1999).

Journalism offers a promising and understudied line of research in this regard. A small group of studies suggest journalism can promote local government responsiveness (Banerjee et al., 2020; Groves, 2023a). However, the mechanisms of journalism's influence remain uncertain. This uncertainty is especially acute for the study of media in Sub-Saharan Africa, where the influence of journalism has received limited scholarly attention. In this section, I develop a theory of journalism's influence on village government responsiveness, outlining the role of information, motivation, and the possible interaction of the two.

Table 1: **Theoretical Prediction**

		Leader believes media attention is likely	
		No	**Yes**
Leader knows constituent	**Yes**	Intermediate Responsiveness	High Responsiveness
priorities	**No**	Low Responsiveness	Intermediate Responsiveness

2.1 Information Mechanism

Canonical theories of political representation hold that knowing what constituents want enables government officials to pursue responsive policies (Miller and Stokes, 1963).[2] However, a number of recent studies find that legislators regularly misjudge their constituents' priorities (Broockman and Skovron, 2018; Butler and Nickerson, 2011; Walgrave et al., 2023).

In theory, village government officials should be more knowledgeable about their constituents' priorities than their counterparts at the regional or national levels. Over the last three decades, many developing countries have decentralized service delivery under the assumption that local governments are more aware of, and therefore responsive to, the needs of their communities (Bardhan, 2002). In practice, however, local government officials also regularly misperceive the priorities of their citizens (Banerjee et al., 2020; Liaqat, 2020). Misperceptions may arise because local officials do not seek out local public opinion or because they only hear from a subset of politically engaged citizens.

One role for journalists, then, is to gather accurate information about what citizens want and share it with government officials. Historically, informing political elites about the citizen grievances was a central function of the news media (Pettegree, 2014). In post-colonial Tanzania, Julius Nyerere leaned heavily on journalists to investigate the needs of citizens and share them with the ruling party (Mwaffisi, interview). The "credible-informational" role of journalism rests on the assumption that, all else equal, village officials are motivated by electoral, social, or professional considerations to respond to their constituents' preferences. If journalists provide novel and credible information about citizens' needs, local leaders will update their governing priorities and behaviors to reflect the will of their constituents.

Hypothesis 1. *Providing village leaders with information about constituent priorities increases village leader responsiveness towards those priorities.*

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[2]Politicians may also respond to their constituents because their constituents select politicians who reflect their views, rather than politicians inferring their constituents' preferences and updating their behavior accordingly (Miller and Stokes, 1963)

2.2 Motivation Mechanism

However, government officials may fail to respond to their constituents' priorities - even when they are fully informed - in the absence of electoral, social, or professional incentives for responsiveness. Ram (1991) argues that, in these situations, journalists should move from a "credible-informational" to an "adversarial" role by pressuring government officials with the threat of publicly exposing their unresponsiveness (Besley and Burgess, 2002; Ferraz and Finan, 2008).

The prospect of journalistic revelations may motivate leaders to take action for three reasons. First, village leaders may fear electoral sanctions if their constituents learn about their failure to promote community interests (Besley and Burgess, 2002; Bobonis et al., 2016; Grossman and Michelitch, 2018). Similarly, village leaders may fear social sanctions from their community members if the community members learn about their unresponsiveness (Kruks-Wisner, 2022; Tsai, 2007). Finally, village leaders may fear professional repercussions if their superiors learn about their failure to take action to promote the long-term interests and popularity of the ruling party (Pande, 2020; Slough, 2020). Even when media reports do not reveal new *information* about the constituents' needs or the vilage leaders' actions, the reports might attract public attention to a specific issue area. Village leaders then have an incentive to respond to the issue areas where the attention of the public is most likely to be concentrated (McCombs and Shaw, 1972).

> **Hypothesis 2.** *Telling village leaders about future media reports on selected issue areas increases village leader responsiveness towards those issue areas.*

2.3 Interaction Effect

How do the information and motivation mechanisms of journalism's influence interact? Consider a village official who receives information about their constituents' priorities. On its own, this information increases the probability that the official will take action to respond to the issues their constituents prioritize because, all else equal, the official's electoral, social, and professional fortunes are improved when their constituents' needs are met. If the village leader then learns that the issue area that their constituents prioritize will become widely publicized, the leaders' incentive to act is magnified (Besley and Burgess, 2002). The prospect of media coverage means any improvement (or lack thereof) to the issue area will now be broadcast to the rest of the community, as well as the village leaders' superiors. In short, as the prospect of public attention towards an issue area increases, the effect of learning about constituents' dissatisfaction with that issue area will also increase.[3]

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[3] The same holds true in the opposite direction. Consider an official who knows that a certain issue area will soon receive public attention. If the leader believes that their constituents are relatively satisfied with the issue area, their response to the prospect of media attention is unlikely to be dramatic. However, if the leader then learns that their constituents are dissatisfied with the issue area, the prospect of future media attention is likely to generate a more intense response.

Hypothesis 3. *Village leaders will be more responsive to information about their constituents' priorities when they anticipate media attention.*

The effect of journalism may also be moderated by political context. If government officials respond to information about constituent priorities or the prospect of media reports because they fear the electoral penalties of inaction, we should expect the treatments to be especially effective among elected village officials and in electorally competitive wards and villages (Besley and Burgess, 2002).

Hypothesis 4a. *Elected village leaders will be more responsive to information about their constituents' priorities and the prospect of future media reports.*

Hypothesis 4b. *Village leaders in politically competitive areas will be more responsive to information about their constituents' priorities and the prospect of future media reports.*

3 Context

This study is set rural northeastern Tanzania. Rural Tanzania offers an apt context for the study of local media and village government responsiveness for three reasons. First, Tanzania has robust village-level governance institutions comprised of both elected representatives and appointed bureaucrats. Second, local service delivery in Tanzania is limited, leaving the door open for external interventions to improve service delivery. Finally, local media in Tanzania is limited but growing, so rural communities are familiar with journalism without having become saturated by it.

3.1 Local Government

This study is focused on responsiveness by village-level government officials. Village governments in Tanzania comprise a village chairperson (*mwenyikiti*), village councilmembers (*baraza la kijiji*), and village executive officers (VEOs) (Mhina, 2015). The village chairperson and village councilmembers are directly elected by the village assembly, which is itself made up of all villagers above the age of 18. The village chairperson is the "mayor" of the village and is responsible for organizing village meetings, making village-level policy, and communicating with the ward and district councils. Village councilmembers serve under village chairperson and usually focus on a specific issue area.

The village executive officer (VEO) is appointed by the district government and is often hired from outside the village. VEOs are, therefore, much less likely to have grown up in the village where they work. The VEO is responsible for maintaining records, assisting with policy implementation, and overseeing the budget. Elected village officials also refer to VEOs as "the eyes and ears of the ruling party" who maintain close communication

with district-level bureaucrats. Lange (2008) finds that elected village officials tend to be perceived as more legitimate than appointed village officials, with substantial variation across contexts.

3.2 Service Delivery

The Tanzanian government began formal implementation of a "decentralization by devolution" strategy, known as the Local Government Reform Program (LGRP), in 1999, although the roots of the policy extend as far back as 1994 (McLellan, 2021; Mdee and Mushi, 2021; Tidemand, 2015). The effort to "democratize" local governance and service delivery has a long history in Tanzania (Samoff, 1979) and is often driven by pressure from international donors hoping to shift power away from ruling parties and national governments. The centerpiece of the Local Government Report Program was an effort to transfer authority for implementing development programs from the central government to officials at the district and village levels.

In theory, decentralization would bring development decisions closer to affected communities, improving service delivery targeting, government responsiveness, and citizen participation. In practice, decentralization has been both less effective and less complete than originally planned (Lange, 2008; Mdee and Mushi, 2021; Tidemand, 2015). Decentralization lacked buy-in from citizens, government officials, and Tanzania's ruling party, so its implementation was often haphazard and poorly executed. Perhaps more importantly, shifting financial and administrative power away from the national government threatened a central pillar of CCM's strategy for maintaining political dominance by directed flow of government services (Tidemand, 2015). As a result, the Tanzanian government began a process of "re-centralization" in 2015, in an effort to re-assert primary control over the flow of financial resources.

Today, village government officials in Tanzania can influence the delivery of public goods and services in three ways. First, they organize collective action at the village level (e.g., requesting that villagers contribute labor and resources to development projects). Second, they allocate small village-level discretionary development budgets. However, the primary means through which village officials influence development outcomes is by identifying development priorities in their village and submitting requests for development projects from district councils and executive agencies, like the Rural Water and Sanitation Agency (RUWASA) and Tanzanian Urban and Rural Roads Agency (TARURA). Village officials meet with ward councils on a quarterly basis to communicate community priorities and make requests for development assistance. Village leaders also engage in extensive informal lobbying efforts to ensure that their community's needs receive attention (Mhina, 2015). In in-depth interviews, village government officials describe soliciting the their constituents' preferences and lobbying ward and district councils for development assistance as the most important part of their jobs. "Our budget is so small," said one village chairperson, "it is only the district [government] that can build a clinic."

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3.3   Local Media

3.4   Growth of Independent Mass Media

Like citizens of many post-colonial states, Tanzanians have witnessed a dramatic expansion of local and independent media over the last thirty years (Groves, 2023b; Sturmer, 1998). From independence until 1992, there were just two radio stations broadcasting in the entire country: the government-owned *Sauti ya Dar es Salaam* and *Sauti ya Injili*, which is operated by the Catholic Church. After political liberalization and the repeal of Tanzania's most onerous media restrictions in 1993, the number of independent radio stations climbed to three in 1995 and 33 in 2002 (Figure 1). Today, there are more than 200 radio stations (Groves, 2023c).

Figure 1: **Growth of Independent Radio Stations in Tanzania**
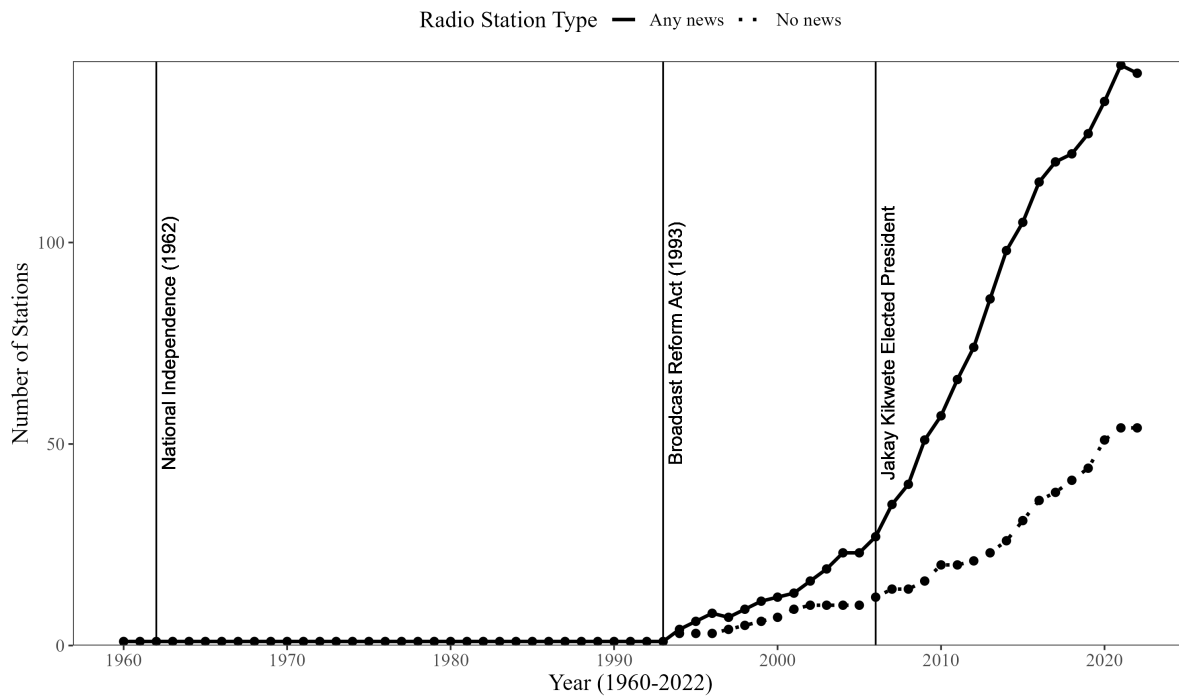
While many of Tanzania's newly minted media houses focus their reporting in urban centers like Mwanza and Dar es Salaam, about 70% of Tanzania's registered radio stations are based in regions that, prior to 2005, had never carried a regionally-focused news outlet. These local and independent radio stations are often owned by local business people and politicians (47%), religious organizations (21%), and community-based organizations (30%). While most privately-owned radio stations focus on music and entertainment, about one quarter focus on news, politics, and social issues, and almost all local radio stations broadcast daily local news coverage and employ teams of journalists (Katunzi and Spurk, 2019; Spurk and Dingerkus, 2017). While national and regional stations both faced significant obstacles to reporting on controversial cultural and electoral issues under John

Magufuli's Presidency (2015-2021) (Paget, 2020), regional news reports on local development issues remained common (Groves, 2023b).

Local news radio stations in rural regions are usually composed of between 5 and 20 staff members, including a station manager, an editor, and a mixture of staff and freelance reporters who also often serve as program hosts and DJs. Reporters who focus on local news coverage have limited budgets for travel and expenditure, and so regularly conduct investigations through telephone interviews with key informants and local political leaders. Journalists report on a wide variety of local news topics, but the most consistent themes are new development projects completed by the government (in part because government officials compensate journalists for these reports), cultural and business events (in part because NGOs and business leaders compensate journalists for these reports), and citizens aggrieved by service delivery failures. Investigations conducted by journalists in rural villages are not unheard of, but they are not widespread. In one recent survey of local government officials in rural Tanzania, about 30% indicated that a journalist had visited or reported on their village in the past year (Groves, 2023a). In comparison to other East African countries, Tanzanian journalists have less training and fewer resources (Katunzi and Spurk, 2019; Spurk and Katunzi, 2023). Nonetheless, local media investigations are a standard component of local radio programming in Tanzania.

4 Intervention

4.1 Information Treatment

In the "information" treatment, enumerators shared survey data about constituent priorities with village leaders. The data came from public opinion surveys of 4,200 citizens across 109 villages between 2021 and 2022. The surveys touched on wide range of social views and policy priorities (?).

In August 2021, enumerators called village leaders in both the treatment and control groups and offered to share some of the findings from surveys conducted in the leaders' village. Enumerators were able to reach all targeted village leaders for the follow-up survey. Enumerators then shared the demographic profile of the respondents, the percentage of respondents in the survey that owned a radio, and the percentage of respondents interested in politics.

Enumerators also shared information about constituent policy priorities with village leaders who were assigned to the information treatment condition. This section was skipped for leaders assigned to the control condition. In the original constituent surveys, enumerators asked citizens to rank community priorities, such as water, roads, education, healthcare, and electricity, from most to least important.[4] I calculated the average rank

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[4]Other options were also included in some of the surveys, but all options besides water, roads, education, healthcare, and electricity were removed.

of each issue within each village. In the information treatment, enumerators told village leaders,

Now I would like to talk about development issues in the village. We asked villagers in this village to say what their goals were for the village. This means that they listed what they thought were the biggest problems that they hoped local government could resolve in the coming year. First, what do you think was the issue citizens thought was MOST important?

After recording the leader's guess, enumerators continued:

Thank you. When we surveyed people in your village, we found that most people thought that [First Ranked] issue was the most important issue in the village. The second most important issue to them was [Second Ranked] issue. That means that the issue citizens in YOUR village MOST want local leaders to help solve is [First Ranked] problem first and [Second Ranked] problem second.

4.2   Motivation Treatment

I randomly assigned the motivation treatment at the village level to reduce the risk of spillovers between village leaders. I randomly assigned one-half of 109 villages to the motivation treatment. To implement the treatment, I collaborated with four local journalists based in northeastern Tanzania. The journalists called 3-4 leaders in each treatment village and informed the leaders about an upcoming news investigation of a specific service delivery issue (water, roads, electricity, health, or education) in the leaders' village. I selected top-ranked issue in the targeted village to be the focus on the journalists' investigation. However, journalists did not reveal any prior knowledge about service delivery issues in the village.

The journalists indicated the story would be broadcast on a popular regional radio station (*Tanga Kunani FM*) by the end of the year, and that they would follow up with all villages over the next few months to find out what actions village leaders had taken to improve water/education/health/roads in their community. The loose script the journalists and I developed was as follows:

"Hello, my name is (insert name), I am a journalist from Tanga Kunani FM. This year we are producing a large series on how communities are responding to [insert top-ranked issue in community] in this District. We are talking to leaders in many villages to understand how [issue] is affecting their village and what actions they are taking this year to solve the issue.

First, can you tell me about how problems with [issue] are affecting citizens in your village? Second, can you tell me some actions that you and other leaders in your village are planning to take to respond to [issue] this year?

We are going to follow up at the end of this year to put village stories on our radio program and website, so we hope that we can return and find out some of the actions that you have taken to respond to [issue] over the next few months. We will be very happy to include you as a positive story if actions are taken. If no actions are taken, we will report about the problems that are still happening in the village. Thank you very much for your time, and here is my number if you have any questions or concerns."

5 Research design

5.1 Site Selection

The study sites were 109 rural villages distributed across 4 districts in Tanzania's northeastern Tanga Region. The villages were originally selected for participation in studies presented in Green et al. (2023); ?); ?, Rahmani et al. (2023), and Montano et al. (2023). Villages were eligible for inclusion if they met the following conditions: they did not touch a main or secondary road, they were at least 5km from a major town, and they were at least 3km from any other selected village.

The resulting sample of 109 rural villages is well-suited for studying the influence of watchdog journalism on local government responsiveness. Because the villages are rural, they face a variety of clear development challenges and are less likely to be saturated by local news coverage. Because the villages are not proximate, it is unlikely that journalists contacting a village would influence the behavior of other village officials within the intervention period. Finally, average education, employment rates, and rates of political participation in rural Tanga are broadly representative of other rural communities in Tanzania (Green et al., 2023).

5.2 Respondent Sampling

The study sampled two categories of respondents: village constituents and village leaders. We employed a four-step strategy to identify village constituents. The research team began identifying the approximate village radius (200, 400, 600, or 800 meters) using satellite maps. The team then conducted a census of all households within the village radius as well as the age and gender of household members between 18 and 65. The census team then randomly assigned 20 households to the female respondent group, and 20 households to the male respondent group, and randomly selected one household member of the targeted gender. If an individual of the targeted gender was not available during the census phase, the household was dropped and a replacement household was selected. We sampled village leaders by selecting the village chairperson (*mwinyikiti*) and village executive officer (VEO) in each village. We then sampled up to three other village council members.

5.3 Randomization and Covariate Balance

The research design is described in Figure 2. I randomly assigned the information at the village leader level, with blocking by village. I randomly assigned the motivation treatment at the village level to avoid spillover risk.
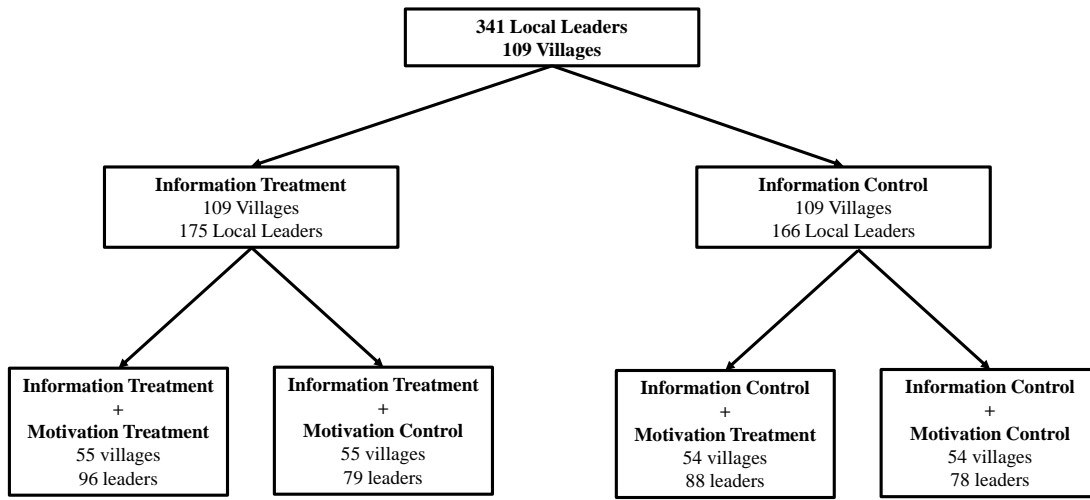
Figure 2: **Overview of Random Assignment**

Table 2 shows individual and village-level characteristics of the resulting sample. Leaders are generally middle-aged males. Like the constituents they represent, more than half of village leaders are Muslim (63%) and a plurality are from the Sambaa tribe (38%). A majority of village leaders have spent their life in the village they represent, although there are significant differences between elected and appointed leaders: on average, elected village chairpersons and councilmembers have lived in their village for 40 years, compared to only six years for appointed village executive officers.

Table 2 also reports the results of covariate balance tests across experimental conditions. Across both experiments, no variable is imbalanced at the 0.05 level and just three[5] are imbalanced at the 0.1 level, slightly fewer than we would expect to arise from chance alone.

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[5]Information experiment: villager preference for water. Motivation Experiment: leader religion and villager second preference for electricity.

Table 2: **Balance of Baseline Covariates Across Experimental Conditions**

	Information Experiment			Motivation Experiment			
	Treat	Control	*p*-value	Treat	Control	*p*-value	N
Variable	(N = 174)	(N = 166)		(N = 183)	(N = 157)		
	Leader Information						
Age	47.47	46.75	0.807	47.82	46.75	0.376	324
Female	0.23	0.23	0.422	0.20	0.23	0.511	323
Muslim	0.59	0.66	0.857	0.54	0.66	0.062	324
Tribe: Sambaa	0.41	0.36	0.383	0.42	0.36	0.439	340
Years in Village	32.27	33.10	0.846	31.15	33.10	0.235	324
Years in Position	5.80	6.03	0.681	5.36	6.03	0.219	324
Position: Village Chairperson	0.32	0.34	0.950	0.30	0.34	0.196	340
Position: Village Executive Officer	0.25	0.24	0.901	0.26	0.24	0.401	340
Position: Village Councilmember	0.43	0.41	0.960	0.45	0.41	1.000	340
	Village Preference Information						
Village First Preference: Education	0.25	0.31	0.801	0.21	0.31	0.420	340
Village First Preference: Electricity	0.16	0.10	0.907	0.20	0.10	0.196	340
Village First Preference: Health	0.10	0.12	0.967	0.08	0.12	0.295	340
Village First Preference: Roads	0.26	0.22	0.143	0.36	0.22	0.128	340
Village First Preference: Water	0.24	0.25	0.071	0.16	0.25	0.200	340
Village Second Preference: Education	0.33	0.34	0.688	0.30	0.34	0.449	340
Village Second Preference: Electricity	0.13	0.21	0.427	0.08	0.21	0.090	340
Village Second Preference: Health	0.17	0.17	0.586	0.16	0.17	0.937	340
Village Second Preference: Roads	0.22	0.17	0.715	0.28	0.17	0.122	340
Village Second Preference: Water	0.15	0.11	0.900	0.18	0.11	0.309	340

Note: Columns 2 and 4 report the treatment and control mean for the information experiment. Columns 4 and 5 report the treatment and control mean for the motivation experiment. Columns 3 and 6 report the *p*-values for a regression of the covariate on the information and motivation treatments, respectively.

5.4 Data Collection and Outcome Measures

Constituents' baseline political priorities were collected in December 2020-January 2021 and March-April 2022. Leader political priorities were collected in February-April 2021 and March-April 2022. The information treatment and short-term outcomes were conducted in the first two weeks of August 2022. The motivation treatment was implemented in mid-August 2022. Endline data was collected in the first week of September 2022.

5.4.1 Citizen Measures

Prior to the experiment, enumerators collected survey measurements of village leader and constituent policy priorities. Between 2019 and 2021, enumerators visited 109 villages in Tanzania's Tanga Region and asked randomly selected citizens a battery of questions about their social values and policy priorities. Enumerators targeted female respondents in 20 households and male respondents in the other 20 households. In a module embedded in a 50 minute survey, enumerators showed respondents cards with different village development priorities and asked them to rank the priorities from most to least important.

5.4.2 Leader Measures

Knowledge. I measured village leaders' *knowledge* of their constituents' priorities by asking leaders in the information treatment group to guess which issue was most prioritized by their constituents. Specifically, enumerators asked leader respondents, "Now I would like to talk about development issues in the village. We asked

citizens in this village to say what their priorities were for the village. This means they listed what they thought were the biggest problems that they hoped the local government could resolve in the coming year. First, what do you think was the issue citizens thought was MOST important?" Respondents chose one of the five major development priorities in Tanzania (education, electricity, health, transportation, and water/sanitation) or named another issue.

Prioritization. I measured village leader priorities at two time periods. As a baseline measurement of leader priorities, enumerators selected 2-3 village leaders in each village and conducted the same card sorting exercise as they conducted with citizens.

I also captured village leader priorities following the information treatment. Enumerators gave village leaders the opportunity to share the three issues that they believed were most important in their village. Enumerators said: "Now, think about your own views of what the most important problems are in your community. What are the three most important goals for your community in the coming year? What is the MOST important issue? What is the SECOND most important issue? What is the THIRD most important issue?" I coded the responses as 3 if the village leader ranked their constituents' top priority first, 2 if the village leader ranked their top priority second, and 1 if the village leader ranked their top priority third. I applied the same scoring system to constituents' second-ranked priority.

Behaviors. Finally, I collected a costly behavioral measure of village government responsiveness. One month after the information treatment and two weeks after the motivation treatment, an enumerator sent a message to every leader in the sample. The message asked leaders to share a voice or text message requesting budgetary support from district leaders for development projects in the leader's village. The text message read:

> "*Hello, this is [redacted] from [redacted]. We are collecting comments from village leaders about their goals for this years' Tanzanian budget. We will share these messages with district leaders to help them understand the needs of villages in their area. If you would like, please send a message or audio recording about your top priorities for development in your village this year. Send a (1) audio recording, (2) WhatsApp message, or (3) call this phone number: [redacted]*."

I waited two weeks for leaders to reply to the message and then coded the responses as follows. First, I coded an "any response" variable, which takes the value 1 if the leader sent any meaningful response and 0 otherwise. Second, I coded a "first priority" response which takes the value 1 if the leader sent a message that specifically referenced their constituents' top-ranked priority and 0 otherwise. Recall that the top priority among villagers was also the topic journalists emphasized in the motivation treatment.

5.5 Estimation

I used ordinary least squares to estimate the effect of the information and motivation treatments. Let Y_i denote the outcome for subject i, let $T1_i$ denote this subject's assigned information treatment status (1 if information treatment, 0 if information control), and $T2_i$ denote the subject's assigned motivation treatment status (1 if motivation treatment, 0 if motivation control). The regression model

$$Y_i = \beta T1_i + \gamma T2_i + \alpha(T1_i \times T2_i) + u_i$$

expresses the outcome as a linear function of the randomly assigned treatments, an interaction term, and an unobserved disturbance term u_i. The key parameters of interest are β (Hypothesis 1), γ (Hypothesis 2), and α (Hypothesis 3). Because assignment to the motivation treatment occurs at the village level, I report clustered standard errors for the primary specification, although results are almost identical without clustered standard errors. To account for differential probabilities of assignment to the motivation treatment, I use inverse-probability weighting in the primary specification, although results are unchanged by their inclusion (see Appendix B for details).[6]

6 Descriptive Results

I begin the discussion of results with an overview of the descriptive relationship between citizens' priorities and the knowledge, priorities, and behaviors of village leaders.

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[6]In keeping with the pre-analysis plan, I also report covariate-adjusted regression results in the Appendix. The LASSO procedure selects prognostic covariates from a set of variables collected during the baseline survey (these variables are listed in subsection 5.3.) The number of selected covariates ranges from 0 to 10 depending on the outcome, but estimates after adjustment are very similar to estimates without adjustment due to baseline group similarities.

Table 3: **Village Leader Responsiveness, Baseline**

| | | Leader Type | | |
	All	VC	VEO	VCM
Knowledge				
Leader correctly guesses top village priority (0-1)	0.38	0.43	0.46	0.29
Average villager ranking of leader guess (1-5)	3.87	3.93	4.05	3.68
Prioritization				
Leader assigns top priority same issue as villagers (0-1)	0.35	0.34	0.32	0.37
Correlation between leader and villager rankings (0-1)	0.37	0.47	0.31	0.29
Behavior				
Leader lobbies for development assistance (0-1)	0.05	0.04	0.13	0.03
Leader lobbies for villager top priority (0-1)	0.03	0.00	0.06	0.03

Note: VC is village chairperson (elected). VEO is village executive officer (appointed). VCM is village council-member (elected). Row 1 takes the value 1 if the leader guessed constituents' top priority, and 0 otherwise. Row 2 is the average priority ranking of the issue area that leaders guessed was their constituents' highest priority. Row 3 takes the value 1 if the leader's highest priority matches their constituents'. Row 4 is the distance between each leader's ranking of an issue and their constituents' ranking of an issue, averaged across all issues. Row 5 takes the value 1 if leaders responded to an opportunity to lobby their district council for development assistance, and 0 otherwise. Row 6 takes the value 1 if leaders responded to an opportunity to lobby their district council for development assistance by lobbying for their constituents' highest ranked priority issue.

I first consider whether village leaders know which policy issues their constituents care the most about. Enumerators asked 169 village leaders in the information treatment group to guess which policy issues their constituents considered most important.[7] Like their constituents, village leaders overwhelmingly focused on development issues such as water (34%), healthcare (30%), education (19%), transportation (12%) and electricity (4%). Table 3 shows that 38% of village leaders accurately predicted the their constituents' top priority. A village leader who randomly guessed among development priorities would have been correct just 20% of the time, not counting leaders who selected issues outside the five primary development categories. The average constituent ranking of the issue leaders believed was *most* important was 3.87; if leaders had randomly guessed their constituent's top priority, the average villager priority ranking would have been 3.05. Village chairpersons (43%) and village executive officers (46%) were more likely to accurately predict their constituents' top priority than village councilmembers (29%), although the differences fall short of conventional levels of statistical significance (*p*-value = 0.115). Demographic variables, such as age, gender, religion, and village leaders' tribe, are not correlated with leaders' knowledge of their constituents' priorities.

I next consider whether village leaders prioritize the same policy issues as their constituents. In the months preceding the information treatment, enumerators visited every village and asked village leaders to sort priority

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[7]Enumerators did not ask village leaders in the information control group to predict the priorities of their constituents in order to avoid priming control group leaders to think about constituent interests.

cards from most to least important. Enumerators made clear that leaders should sort according to their priorities as a leader, rather than their priorities as a private citizen or their beliefs about their constituents' priorities. Just as with citizen priorities, I ranked the issues from 5 (highest) to 1 (lowest), based on the average scores of all leaders in the village.

Figure 3 and Figure 4 show that the correlation between leaders' priorities in each village and their constituents'. The correlation is strong but far from exact. A perfect correlation of 1 would be graphically represented by a 45 degree line starting from the origin, such that the lowest-ranked constituent priority is also the lowest-ranked leader priority. The Pearson's correlation coefficient between villager and constituent priorities is 0.37. Leaders are most likely to match their constituents' priorities with respect to education (correlation = 0.51) and electricity (correlation = 0.54). In contrast, the correlation between leader and villager prioritization of roads/transportation is quite weak (correlation = 0.14).

I also find that the correlation between the priorities of leaders and their constituents is substantially stronger for village chairpersons (correlation = 0.47) than for village councilmembers (0.31) or village executive officers (correlation = 0.29). It appears that while local bureaucrats are just as knowledgeable about constituent priorities as elected village chairpersons, bureaucrats are less likely to share their constituents' priorities. Meanwhile, village councilmembers are both less knowledgeable about and less likely to prioritize the issues that matter most to citizens compared to village chairperson, perhaps reflecting their position's narrow focus on a specific development priority.

Figure 3: **Villager Versus Leader Priorities, Rank-ordered**
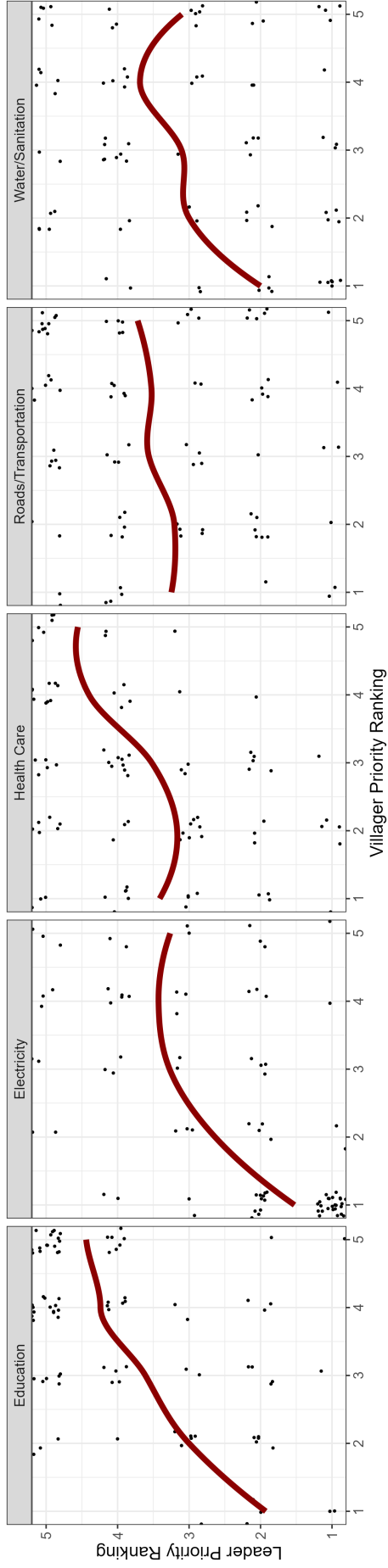
Each point represents one village. The x-axis represents the rank-order of the issue based on average villager prioritization in the village. The y-axis represents the rank-order of the issue based on average leader prioritization in the village.

Figure 4: **Villager Versus Leader Priorities, Average**
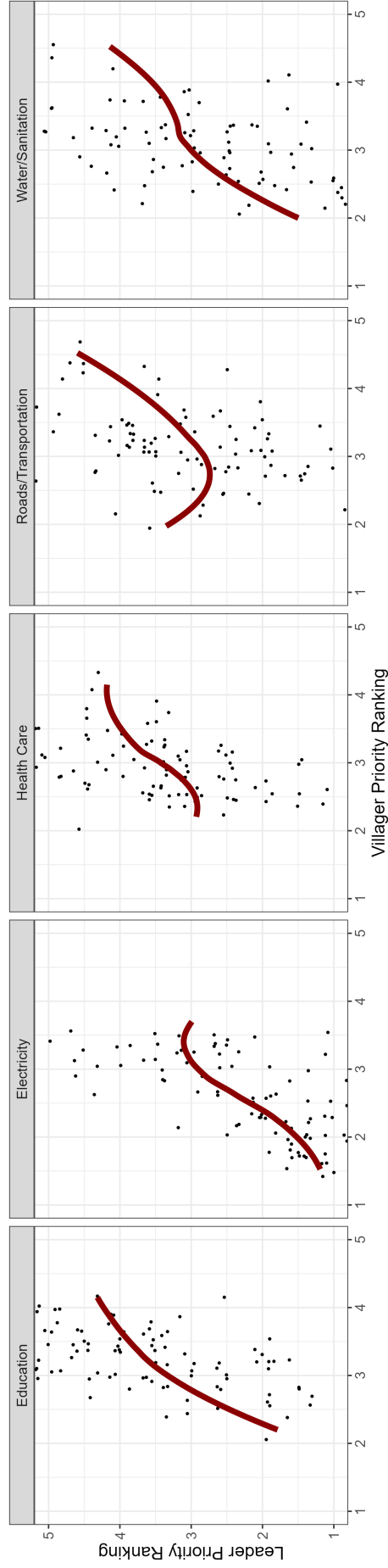
Each point represents one village. The x-axis represents the average villager prioritization of the issue. The y-axis represents the average leader prioritization of the issue in the village.

Finally, I evaluate whether village leaders take costly actions to respond to their constituents' priorities. One month after the delivery of the information treatment, a representative from a well-known non-governmental organization contacted each village leader and offered to include a message from the leaders in a formal report to district officials. The message was sent shortly before district councils met to develop formal budget requests to submit to parliament. The partner organizations sent messages to 340 village leaders across 109 villages. To respond to messages, village leaders needed take the time to develop and write the message and incur the standard cost for sending text or audio messages (typically 1,000 TZS. or 0.5 USD). Some representative short-form responses appear below:

> "Budget priorities in the island village of Muheza district are (1) Construction of 2 classrooms primary school (2) Construction of a village dispensary room. First finish the village office building and then we look forward to building a kindergarten class"

> "The main attention of the village of [redacted] is the original primary school for developing and reaching 7 rooms and one teacher's house and possibly adding 6 toilets for this budget season 2022 2023 we ask for cooperation thank you"

Overall, 5% of village leaders in the pure control condition took up the offer to lobby district council for budgetary support. Among village leaders who sent a response message, 68% requested assistance for their constituents' top-ranked priority. Village executive officers were much more likely to lobby district councils (13%) than village chairpersons (4%) or councilmembers (3%).

In sum, the descriptive results paint a picture of village leaders who are fairly knowledgeable about the priorities of their constituents, and share many of the same priorities, but are reticent to take costly and public steps to improve the chances that actions will be taken to further their constituents' priorities. Elected village officials (village chairpersons and councilmembers) are not necessarily more knowledgeable about or responsive to citizen priorities than village bureaucrats.

7   Experimental Results

The policy preferences of citizens and village leaders are correlated but far from identical. What interventions can tighten the link between constituents' needs and the priorities and behaviors of their village representatives? In this section, I report the results of two overlapping interventions, designed to test the ways that journalism improves the responsiveness of village officials. The first intervention directly *informed* politicians about their constituents' preferences. The second intervention used the prospect of local news reports to *motivate* politicians to respond to their constituents' needs. I begin by exploring the effect of information on village leaders' self-stated priorities. I then turn to the effect of both treatments on village leaders' behavior.

7.1 Information Treatment Influences Village Leader Prioritization

We begin our discussion of experimental results by considering whether providing village officials with accurate information about their constituents' priorities induces leaders to update their policy priorities. I did not measure the effect of the motivation treatment on leaders' self-reported priorities for theoretical and practical reasons. Theoretically, the motivation mechanism runs through leaders' beliefs about the consequences of public attention rather than their beliefs about what issues are most important for the village. Practically, one of the design's strengths is that village officials were not aware of the connection between the motivation treatment and the collection of outcome data; following the motivation treatment with a survey on the same topic would have compromised this feature of the design.

In the information intervention, enumerators provided village officials with accurate data about their constituents' top two policy preferences. Later in the same survey, enumerators asked leaders what they believed were the most important policy priorities for their village. The responses were open ended, so leaders could name any policy issue. Responses were scored between 0 (the leader did not list the constituent priority) and 3 (the leader ranked the constituent priority 1st).

In the control group, 37% of village leaders listed their constituents' top priority 1st (average ranking = 1.6 on a 0-3 scale), and 19% of village leaders listed their constituents' second-highest priority 1st (average ranking = 1.31). By way of comparison, the average ranking of typical development issues that were *not* among constituents' top two priorities was 0.72. These findings tell a similar story to the descriptive results presented in section 6. Village leaders' priorities correlate with those of their constituents, but the relationship is far from perfect.

Did leaders update their priorities in response to accurate information about their constituents' priorities? On average, leaders who were told about the their constituents' priorities ranked their constituents' top issue 0.21 points higher than leaders assigned to the control condition. The effect is small, amounting to about one-sixth of a control group standard deviation, and the one-tailed randomization inference p-value of 0.053 falls just short of statistical significance at conventional levels. The effect of the information treatment on the village leaders' ranking of their constituents' *second-highest* political priority is predictably smaller (coefficient = 0.072, p-value = 0.275). In keeping with the pre-analysis plan, I constructed an index by averaging across the first- and second-ranked constituency priorities. The treatment effect on this index outcome is 0.143 (one-fifth of a control group standard deviation) and the p-value is 0.047.

Recall that public opinion data was collected over two distinct survey periods, one a full year after the other. We can use this variation to assess whether village leaders are more responsive to more recent – and potentially more accurate – information about constituent preferences. The effect of the information treatment in villages

where public opinion data was gathered within the preceding six months was almost twice as large as the average treatment effect (coefficient = 0.30, p-value = 0.015). By contrast, the effect of the information treatment in villages where public opinion data was 1.5 years old was almost zero (coefficent = 0.03). When I interact the information treatment with a simple binary measure for whether public opinion data was collected in the previous six months, the interaction term is 0.26 (p-value = 0.06). This suggests village leaders place more weight on more recent information about their constituents' priorities. It also undermines the argument that the results are driven by desirability bias, which should not vary based on the timing of the original survey. However, this analysis was not included in the pre-analysis plan and therefore must be treated with appropriate caution.[8]

Table 4: **Effect of Information Treatment on Leader Priorities**

	Index	Ranking of X Villager Priority	
		1st	2nd
	(1)	(2)	(3)
Information Treatment	0.143	0.214	0.072
Standard Error	(0.085)	(0.132)	(0.121)
p-value	0.047	0.053	0.275
Hypothesis	+	+	+
Control Mean	1.45	1.60	1.31
Control Village SD	0.75	1.24	1.12
DV Range	[0-3]	[0-3]	[0-3]
Adj-R^2	0.01	0.00	-0.00
Observations	340	340	340

Note: Column 1 reports the results of an index that is the mean of the subsequent two measures. Column 2 reports the results of leaders' answers to the questions: "Now, think about your own views of what the most important problems are in your community. What are the three most important goals for your community in the coming year?...What is the MOST important issue?...What is the SECOND most important issue?...What is the THIRD most important issue?" The outcome variable takes the value 3 the villagers' top priority was the leader's most important issue, 2 if villagers' top priority was the leader's second most important issue, 1 if it was the leader's third most important issue, and 0 otherwise. Column 3 reports the results of the leader's answer to the same questions. This time, the answer was coded as 3 if the villager's second priority was the leader's top priority, 2 if it was the leader's second priority, 1 if it was the leader's third priority, and 0 otherwise.

7.2 Information and Motivation Treatments Increase Responsiveness

We now turn to our outcome of primary interest, village leader behavior. One month after delivering the information treatment and two weeks after delivering the motivation treatment, an NGO representative sent a message to village leaders asking them to call, text, or send an audio-recording about the development needs of their village. Their messages were included in a formal report delivered to the village leaders' district council

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[8]The importance of separating results by the timing of the original public opinion surveys was first raised by some village leaders, who told enumerators that they had already responded to the highest ranked constituent priorities in the interval between the public opinion survey and the delivery of the information treatment.

about district-level development priorities. I collected two measures of village leader behavior: whether leaders replied with a text or audio message advocating for development assistance, and whether leaders asked for help with the pre-specified development priority.

Table 5: **Village Leader Responsiveness**, by Treatment Group

	Any Message				Message About Top Constituent Priority		
		Motivation				**Motivation**	
		Control	Treatment			Control	Treatment
Information **Treatment**		11% (n=75)	16% (n=87)		*Information* **Treatment**	9% (n=75)	11% (n=87)
Control		5% (n=79)	15% (n=99)		**Control**	3% (n=79)	10% (n=99)

Note: "Any message sent" takes the value 1 if the village leader sent any message lobbying the district council for budgetary support and 0 otherwise.

Note: "Message about top priority" takes the value 1 if the village leader sent any message advocating for support for the community's top-rated priority and 0 otherwise.

Table 5 shows the means for the two primary behavioral outcomes for all treatment combinations, while Table 6 reports the results of the OLS regression of the responsiveness outcome on the information treatment, motivation treatment, and their interaction. As I discuss in section 6, few village leaders in the pure control condition sent a message of any kind (5%) or a message advocating for support for their constituents' top priority (3%). Unelected VEOs were more than three times as likely to send a message than village chairpersons and councilmembers.

How did the information and motivation treatments influence leader responsiveness (Hypothesis 1)? Village leaders who only received information about their constituents' priorities were 6.7 percentage points more likely to send a message of any kind to their district council and 6.4 percentage points more likely to send a message about their constituents' top priority issue (one-tailed p-value = 0.107 and 0.078, respectively). The results are substantively meaningful, doubling the proportion of village leaders who advocate for their citizen's development interests, but they fall short of statistical significance at conventional levels.

Turning to the motivation treatment (Hypothesis 3), village leaders who were contacted by journalists but did not receive information about the their constituents' priorities were 9.8 percentage points more likely to send a message lobbying for development assistance (one-tailed p-value = 0.025). The effect size is more than twice the control group mean and just less than half a control group standard deviation. Leaders in the motivation treatment were also 7.3 percentage points more likely to send messages targeting the issue that mattered most to their constituents (p-value = 0.029). In sum, the prospect of media coverage appears to increase the effort that village leaders expend to advocate for their constituents' interests.

By contrast, I observe no evidence of complimentarities between the information and motivation treatments

(Hypothesis 3). Instead, the coefficient for the interaction term is negative and imprecisely estimated for both outcomes (coefficients = -0.06 and -0.055 and p-values = 0.437 and 0.371, respectively). It appears that, while constituent information and the prospect of media attention each influence village leaders independently, they do not do so in synergy. Average government responsiveness is highest among village leaders who received both the information and motivation treatments (16% sent any message and 11% sent a message about the top priority of their constituents), but responsiveness is lower than we would expect with a simple additive effect.

Table 6: **Effect of Motivation and Information Treatments**, by Leader Type

	Any message				Message about top constituent priority			
	All	VC	VCM	VEO	All	VC	VCM	VEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Motivation Treatment	0.098	0.238	0.110	-0.107	0.073	0.186	0.056	-0.046
Standard Error	(0.049)	(0.099)	(0.061)	(0.110)	(0.038)	(0.077)	(0.051)	(0.097)
p-value	0.025	0.009	0.038	0.833	0.029	0.009	0.137	0.681
Hypothesis	+	+	+	+	+	+	+	+
Information Treatment	0.067	0.075	0.162	-0.110	0.064	0.114	0.088	-0.048
Standard Error	(0.054)	(0.074)	(0.086)	(0.109)	(0.045)	(0.063)	(0.064)	(0.096)
p-value	0.107	0.156	0.032	0.840	0.078	0.037	0.085	0.691
Hypothesis	+	+	+	+	+	+	+	+
Motivation × Information	-0.060	-0.114	-0.184	0.223	-0.055	-0.091	-0.100	0.076
Standard Error	(0.077)	(0.146)	(0.105)	(0.140)	(0.061)	(0.131)	(0.079)	(0.118)
p-value	0.437	0.437	0.083	0.116	0.371	0.493	0.211	0.517
Hypothesis	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-
Constant	0.06	0.04	0.03	0.15	0.03	-0.00	0.03	0.09
Adj-R^2	0.01	0.04	0.01	0.00	0.00	0.03	-0.01	-0.03
Observations	340	108	147	85	340	108	147	85
Control Mean	0.05	0.04	0.03	0.13	0.03	0.00	0.03	0.06
Control SD	0.22	0.20	0.17	0.34	0.16	0.00	0.17	0.25
DV Range	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]
Blocked FE	No	No	No	No	No	No	No	No
LASSO Covariates	No	No	No	No	No	No	No	No

Note: All = all leaders. VC = village chairperson (elected). VCM = village councilmember. VEO = village executive officer (appointed). Columns 1-4 report whether a leader sent a message advocating that the district allocate more funds for the leader's community. Columns 5-8 report whether the leader sent a message that specifically references their constituents' top priority (the topic mentioned by the journalist in the motivation treatment).

7.3 Heterogeneous Treatment Effects

Finally, I consider treatment effect heterogeneity along two dimensions. First, are *elected leaders* more responsive to the information and motivation treatments (Hypothesis 4a)? Second, are leaders in *more politically competitive communities* more responsive to the information and motivation treatments (Hypothesis 4b)?

Table 6 shows the primary treatment effects broken down by the position held by the village official. Elected officials (village chairpersons and councilmembers) appear particularly responsive to the information and motivation treatments. On the other hand, the estimated treatment effects among village executive officers are uniformly negative, albeit imprecisely estimated. Was this treatment effect heterogeneity statistically distinguishable from zero? Table 7 presents formal tests of the interaction between each treatment and a binary measure for whether the village leader holds an unelected position. The effect of the motivation treatment is substantially smaller among unelected officials than elected officials (-24.3 percentage points, p = 0.041). Unelected officials are also less responsive to the information treatment, although the effect is smaller and does not meet standard thresholds for statistical significance (-18.8 percentage points, p= 0.125)

While elected *officials* appear more responsive to the treatments, the same is evidently not true for officials in electorally competitive *constituencies*, measured by the vote share of the 2nd place candidate for ward councilor in Tanzania's most recently competitive local elections (Table 8). The interaction term points in the opposite of the predicted direction, and the interaction effects never approach statistical significance. As I show in the Appendix, the results are virtually identical when using alternative measures of electoral competitiveness and when the sample is limited to elected village officials.

On one hand, elected officials are more responsive to the prospect of local media coverage than unelected officials. On the other hand, officials in electorally competitive communities are *not* more responsive to the threat of local media coverage. How can we reconcile these two findings? One plausible explanation is that elected officials are more responsive to the prospect of local news coverage because they are more fearful of *social* than *electoral* sanctions. Tsai (2007) argues local government officials in China respond to community priorities to acquire moral and social esteem. This motivation is likely strongest when leaders originate from, and live in, the communities they serve. Because village executive officers in Tanzania are often rotated between villages, they are much less likely to originate from, and have deep ties to, the villages they represent. 81% of village chairpersons and 77% of village councilmembers in the Tanga sample lived in their village before they turned 18, compared to just 14% of village executive officers. As I show in Table A2, village leaders who were raised in their village are more responsive to the motivation treatment (interaction effect coefficient = 20 percentage points, p-value = 0.05). I observe similar effects when embeddedness is measured by the percentage of the leader's life spent

Table 7: **Heterogeneous Treatment Effects**, by Elected Official

	Any Message	Top Priority
	(1)	(2)
Motivation Treatment	0.158	0.111
Standard Error	(0.058)	(0.049)
p-value	0.003	0.012
Motivation × Unelected	-0.243	-0.133
Standard Error	(0.119)	(0.101)
p-value	0.041	0.187
Information Treatment	0.108	0.089
Standard Error	(0.059)	(0.050)
p-value	0.035	0.039
Information × Unelected	-0.188	-0.106
Standard Error	(0.122)	(0.104)
p-value	0.125	0.306
Motivation × Information	-0.148	-0.107
Standard Error	(0.081)	(0.069)
p-value	0.070	0.125
Motiv × Info × Unelected	0.369	0.174
Standard Error	(0.164)	(0.139)
p-value	0.025	0.212
Unelected Official	0.093	0.046
Standard Error	(0.091)	(0.077)
p-value	0.308	0.548
Adj-R^2	0.01	0.00
Observations	340	340
DV Mean	0.12	0.08
DV Range	[0-1]	[0-1]

Note: The dependent variable in Column 1 takes the value 1 if the village leader sent any message advocating for support from the district. The dependent variable in Column 2 reports whether a leader sent a recorded message asking the district office to support the issue most important to their constituents. "Unelected" takes the value 0 if the official is a village executive officer and the value 1 if the official is a village chairperson or councilmember.

Table 8: **Interaction Effects**, by Electoral Competitiveness

	Any Message	Top Priority
	(1)	(2)
Motivation Treatment	-0.093	0.090
Standard Error	(0.301)	(0.255)
p-value	0.378	0.361
Motivation × Competitiveness	0.276	-0.019
Standard Error	(0.439)	(0.371)
p-value	0.529	0.958
Information Treatment	0.238	0.273
Standard Error	(0.314)	(0.265)
p-value	0.224	0.152
Information × Competitiveness	-0.265	-0.317
Standard Error	(0.465)	(0.393)
p-value	0.569	0.421
Motivation × Information	-0.080	-0.259
Standard Error	(0.406)	(0.343)
p-value	0.844	0.450
Motiv × Info × Competitiveness	0.052	0.304
Standard Error	(0.586)	(0.496)
p-value	0.929	0.540
Ward Electoral Competitiveness	-0.069	-0.011
Standard Error	(0.352)	(0.298)
p-value	0.846	0.970
Adj-R^2	0.00	-0.00
Observations	340	340
DV Mean	0.12	0.08
DV Range	[0-1]	[0-1]

Note: The dependent variable in Column 1 takes the value 1 if the village leader sent any message advocating for support from the district. The dependent variable in Column 2 reports whether a leader sent a recorded message asking the district office to support the issue most important to their constituents. "Competitiveness" is a continuous variable running from 0 (second place candidate for 2016 ward councillor received 0 votes) to 0.49 (second place candidate for 2016 ward councillor received 49% of the vote).

in the village. In short, village leaders may feel compelled to respond to the prospect of local media coverage due to social, rather than electoral, considerations. This journalist's role is akin to Kruks-Wisner (2022)'s finding that citizen journalists in India strengthen networks of social, or horizontal, accountability between villagers and local leaders.

8   Conclusion

Local journalists perform two separate functions. First, they gather and share information about the needs and grievances of local communities. Second, they motivate government officials by directing public attention towards certain issues. Using evidence from two field experiments in rural Tanzania, this article demonstrates that these two mechanisms of journalistic influence are both operative, but finds no evidence that they are complimentary.

This paper also provides rich, descriptive evidence about the nature and extent of village government responsiveness. I show that village government officials in northeastern Tanzania know, share, and respond to many of their constituents' priorities, but fall far short of what we might expect from officials who live in the communities they represent. I also show that appointed government officials are no less knowledgeable about, or responsive to, their constituents' needs than elected officials, although they are less responsive to the prospect of local media attention.

This project offers a first step towards understanding the mechanisms of journalism's influence on government responsiveness. Future work would do well to explore the influence of journalists at different levels of government and on different outcomes. For example, future work might evaluate the role of media attention on parliamentary budget allocations, on the execution of planned development projects, and on the quality of front-line service delivery. This research also leaves open the question of *why* village government officials respond to the prospect of media attention, although I offer tentative evidence that mechanisms other than electoral accountability are operative. Future research should more explicitly theorize and test these mechanisms. Finally, future work should seek to understand the conditions under which local investigations of service delivery failures (and successes) are supplied by media markets in developing countries, and how the supply of local news is shaped by political and economic considerations.

I argue that the theory and findings of this paper are likely to apply to contexts where local government officials live and work in the communities they represent, where they are responsible for aggregating and communicating the citizens' preferences, and where journalism is common enough to be recognizable by local government officials. The growth of local and independent media markets and the trend towards decentralized service delivery in developing countries means that the range of cases to which this paper's findings apply is expanding.

These results indicate that governments, civil society, and international funders should nurture the growth of local media outlets alongside existing policies to decentralize responsibility for service delivery to ensure new local government authorities remain responsive to the citizens they represent.

In addition to its theories and findings, this project provides a template for design-based research journalism's influence based on collaborations with professional journalists (Groves, 2023a). Active collaborations with local journalists raise important ethical considerations but offer unique opportunities to understand the impact of journalism, the mechanisms of its influence, and the nature of government accountability.

References

Banerjee, A., Enevoldsen, N., Pande, R., and Walton, M. (2020). Public Information is an Incentive for Politicians: Experimental Evidence from Delhi Elections. *NBER Working Paper*, page w26925.

Bardhan, P. (2002). Decentralization of Governance and Development. *Journal of Economic Perspectives*, 16(4):185–205.

Besley, T. and Burgess, R. (2002). The Political Economy of Government Responsiveness: Theory and Evidence from India. *The Quarterly Journal of Economics*, 117(4):1415–1451.

Bobonis, G. J., Cámara Fuertes, L. R., and Schwabe, R. (2016). Monitoring Corruptible Politicians. *American Economic Review*, 106(8):2371–2405.

Broockman, D. E. and Skovron, C. (2018). Bias in Perceptions of Public Opinion among Political Elites. *American Political Science Review*, 112(3):542–563.

Butler, D. M. and Nickerson, D. W. (2011). Can Learning Constituency Opinion Affect How Legislators Vote? Results from a Field Experiment. *Quarterly Journal of Political Science*, 6(1):55–83.

Ferraz, C. and Finan, F. (2008). Exposing Corrupt Politicians: The Effects of Brazil's Publicly Released Audits on Electoral Outcomes. *The Quarterly Journal of Economics*, 123(2):703–745.

Green, D. P., Groves, D. W., Manda, C., Montano, B., and Rahmani, B. (2023). The Effects of Public Affairs Radio on Tanzanians' Knowledge about Politics: Evidence from a Planned Natural Experiment. *Working Paper*.

Grossman, G. and Michelitch, K. (2018). Information Dissemination, Competitive Pressure, and Politician Performance between Elections: A Field Experiment in Uganda. *American Political Science Review*, 112(2):280–301.

Groves, D. W. (2023a). Can Journalism Improve Government Responsiveness? Evidence from A Field Experiment in Tanzania. *Working Paper*.

Groves, D. W. (2023b). Essays on Media and Accountability. *Columbia University Dissertation*.

Groves, D. W. (2023c). The Supply of Local Journalism in Tanzania. *Working Paper*.

Hamilton, J. (2018). *Democracy's Detectives: The Economics of Investigative Journalism*. Harvard University Press, Cambridge, Massachusetts London, England, first harvard university press paperback edition edition.

Humphreys, M. and Weinstein, J. M. (2012). Policing Politicians: Citizen Empowerment and Political Accountability in Uganda Preliminary Analysis. *IGC Report*, page 54.

Katunzi, A. and Spurk, C. (2019). Yearbook on Media Quality in Tanzania 2018. Technical report, Spurk Media Consulting Ltd.

Kruks-Wisner, G. (2022). Social Brokerage: Accountability and the Social Life of Information. *Comparative Political Studies*, page 00104140221089644.

Lange, S. (2008). The Depoliticisation of Development and the Democratisation of Politics in Tanzania: Parallel Structures as Obstacles to Delivering Services to the Poor. *The Journal of Development Studies*, 44(8):1122–1144.

Liaqat, A. (2020). No Representation without Information: Politician Responsiveness to Citizen Preferences. *Unpublished Manuscript*, page 88.

McCombs, M. E. and Shaw, D. L. (1972). The Agenda-Setting Function of Mass Media. *The Public Opinion Quarterly*, 36(2):176–187.

McLellan, R. (2021). The Politics of Local Control in Electoral Autocracies. *Working Paper*.

Mdee, A. and Mushi, A. (2021). Untangling blame and responsibility for service delivery and local governance performance: Testing a grounded social accountability approach in Tanzania. *Local Government Studies*, 47(6):993–1013.

Mhina, C. E. (2015). An Examination of the Impact of Administrative Decentralisation on Participatory Local Government and Service Delivery in Tanzania.

Miller, W. E. and Stokes, D. E. (1963). Constituency Influence in Congress. *The American Political Science Review*, 57(1):45–56.

Montano, B., Barbareschi, S., Groves, D. W., Green, D. P., and Rahmani, B. (2023). A Radio Drama's Effects on Gender Based Violence Awareness and Responses: Experimental Evidence from Tanzania. *Working Paper*.

Paget, D. (2020). Again, making Tanzania great: Magufuli's restorationist developmental nationalism. *Democratization*, 27(7):1240–1260.

Pande, R. (2020). Can democracy work for the poor? *Science*, 369(6508):1188–1192.

Pettegree, A. (2014). *The Invention of News: How the World Came to Know About Itself.* Yale University Press, New Haven ; London, England, f first edition edition.

Przeworski, A., Stokes, S. C., and Manin, B., editors (1999). *Democracy, Accountability, and Representation.* Cambridge Studies in the Theory of Democracy. Cambridge University Press, Cambridge.

Rahmani, B., Groves, D. W., Green, D. P., and Montano, B. (2023). A Radio Drama's Effects on Environmental Protection: Experimental Evidence from Tanzania. *Working Paper*.

Ram, N. (1991). 6 An Independent Press and Anti-hunger Strategies: The Indian Experience. In Drèze, J. and Sen, A., editors, *The Political Economy of Hunger: Volume 1: Entitlement and Well-being*, page 0. Oxford University Press.

Samoff, J. (1979). The Bureaucracy and the Bourgeoisie: Decentralization and Class Structure in Tanzania. *Comparative Studies in Society and History*, 21(1):30–62.

Slough, T. (2020). Bureaucrats Driving Inequality in Access: Experimental Evidence from Colombia. *Unpublished Manuscript*, page 55.

Spurk, C. and Dingerkus, F. (2017). The need and the opportunities for sustainability – The case of local radio stations in Tanzania. *Journal of Media Business Studies*, 14(1):38–59.

Spurk, C. and Katunzi, A. (2023). The quality of radio journalism in Tanzania: Empowering citizens or at a crossroads? *Journalism*, page 14648849231214051.

Sturmer, M. (1998). *The Media History of Tanzania.* Ndanda Mission Press.

Tidemand, P. (2015). The Political Economy of Local Government Reforms in Tanzania. Technical report, Danish Institute for International Studies.

Tsai, L. L. (2007). Solidary Groups, Informal Accountability, and Local Public Goods Provision in Rural China. *The American Political Science Review*, 101(2):355–372.

Walgrave, S., Jansen, A., Sevenans, J., Soontjens, K., Pilet, J.-B., Brack, N., Varone, F., Helfer, L., Vliegenthart, R., van der Meer, T., Breunig, C., Bailer, S., Sheffer, L., and Loewen, P. J. (2023). Inaccurate Politicians: Elected Representatives' Estimations of Public Opinion in Four Countries. *The Journal of Politics*, 85(1):209–222.

Supplemental Materials for
Information and Motivation

Dylan W. Groves

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A Supplementary Tables

A.1 Heterogeneous Treatment Effects

Table A1: **Heterogeneous Treatment Effects**
by Leader Born in Village

	Any Message	Top Priority
	(1)	(2)
Motivation Treatment	-0.024	-0.012
Standard Error	(0.082)	(0.070)
p-value	0.384	0.431
Motivation × Born in village	0.206	0.153
Standard Error	(0.104)	(0.088)
p-value	0.050	0.084
Information Treatment	0.023	0.028
Standard Error	(0.087)	(0.073)
p-value	0.395	0.350
Information × Born in village	0.061	0.055
Standard Error	(0.108)	(0.091)
p-value	0.574	0.550
Motivation × Information	0.076	0.006
Standard Error	(0.116)	(0.098)
p-value	0.514	0.951
Motiv × Info × Born in village	-0.219	-0.120
Standard Error	(0.146)	(0.124)
p-value	0.136	0.333
Leader born in village	-0.038	-0.019
Standard Error	(0.078)	(0.066)
p-value	0.621	0.770
Adj-R^2	0.01	0.01
Observations	340	340
DV Mean	0.12	0.08
DV Range	[0-1]	[0-1]

Note: The dependent variable in Column 1 takes the value 1 if the village leader sent any message advocating for support from the district. The dependent variable in Column 2 report whether a leader sent a recorded message asking the district to support the issue most important to their constituents.

Table A2: **Heterogeneous Treatment Effects**
% Leader's Life Lived in Village (0-1)

	Any Message	Top Priority
	(1)	(2)
Motivation Treatment	-0.075	-0.070
Standard Error	(0.108)	(0.091)
p-value	0.245	0.223
Motivation × % life in village	0.280	0.234
Standard Error	(0.142)	(0.119)
p-value	0.049	0.050
Information Treatment	-0.038	-0.031
Standard Error	(0.116)	(0.098)
p-value	0.371	0.375
Information × % life in village	0.151	0.139
Standard Error	(0.149)	(0.125)
p-value	0.313	0.266
Motivation × Information	0.146	0.053
Standard Error	(0.151)	(0.127)
p-value	0.333	0.675
Motiv × Info × % life in village	-0.327	-0.195
Standard Error	(0.197)	(0.166)
p-value	0.097	0.239
% leader's life lived in village	-0.060	-0.073
Standard Error	(0.110)	(0.092)
p-value	0.583	0.430
Adj-R^2	0.02	0.02
Observations	324	324
DV Mean	0.12	0.08
DV Range	[0-1]	[0-1]

Note: The dependent variable in Column 1 takes the value 1 if the village leader sent any message advocating for support from the district. The dependent variable in Column 2 report whether a leader sent a recorded message asking the district to support the issue most important to their constituents.

B   Inverse Probability Weights

The randomization process gave villages with with more leaders a somewhat higher likelihood of be assigned to the motivation treatment. To account for differential probability of treatment assignment, I apply inverse probability weights for the primary estimation. The results are nearly identical when inverse probability weights are not included:

Table A3: **Effect of Motivation and Information Treatments**, by Leader Type

	Any message				Message about top constituent priority			
	All	VC	VCM	VEO	All	VC	VCM	VEO
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Motivation Treatment	0.096	0.221	0.111	-0.085	0.077	0.185	0.056	-0.022
Standard Error	(0.046)	(0.094)	(0.063)	(0.094)	(0.036)	(0.076)	(0.053)	(0.074)
p-value	0.020	0.010	0.041	0.816	0.017	0.008	0.147	0.619
Hypothesis	+	+	+	+	+	+	+	+
Information Treatment	0.063	0.069	0.145	-0.080	0.063	0.107	0.076	-0.017
Standard Error	(0.049)	(0.071)	(0.081)	(0.096)	(0.041)	(0.060)	(0.061)	(0.077)
p-value	0.102	0.167	0.039	0.795	0.062	0.037	0.109	0.587
Hypothesis	+	+	+	+	+	+	+	+
Motivation × Information	-0.052	-0.106	-0.175	0.221	-0.060	-0.107	-0.094	0.068
Standard Error	(0.069)	(0.138)	(0.099)	(0.134)	(0.056)	(0.123)	(0.077)	(0.107)
p-value	0.450	0.445	0.081	0.102	0.286	0.386	0.226	0.527
Hypothesis	+/-	+/-	+/-	+/-	+/-	+/-	+/-	+/-
Constant	0.05	0.04	0.03	0.13	0.03	-0.00	0.03	0.06
Adj-R^2	0.01	0.03	0.01	0.01	0.00	0.03	-0.01	-0.03
Observations	340	108	147	85	340	108	147	85
Control Mean	0.05	0.04	0.03	0.13	0.03	0.00	0.03	0.06
Control SD	0.28	0.26	0.29	0.27	0.23	0.23	0.24	0.23
DV Range	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]	[0-1]
IPW	No	No	No	No	No	No	No	No
LASSO Covariates	No	No	No	No	No	No	No	No

Note: All = all leaders. VC = Village chairperson (elected). VCM = village councilmember. VEO = Village Executive Officer (appointed). Columns 1-4 report whether a leader sent a message advocating that the district allocate more funds for the leader's community. Columns 5-8 report whether the leader sent a message that specifically references their constituents' top priority (the the topic mentioned by the journalist in the motivation treatment).

C Pre-Analysis Plan

Motivation and Information: Mechanisms of Media Influence on Local Government Responsiveness

I.   Purpose

The purpose of this project is to evaluate whether and why local political leaders respond to the preferences of their constituents. We are particularly interested in investigating two potential explanations of responsiveness: leaders receiving *information* about their constituents' preferences and leaders being *motivated* to respond to constituents' needs by the prospect of media reports.

This pre-analysis plan is submitted after the implementation of the treatment but before observing outcome measures.

II.   Context

The study originates from data collected from 40 randomly selected citizens (20 men and 20 women) in 118 villages and data from the village chairperson and 1-2 randomly selected village council members in 95 of the 118 villages.

In every citizen and leader survey, enumerators gave the respondent stack of cards with different village problems pictured and asked them to place them in order from most important problem in their community to least important problem in their community. In leader surveys, leaders were also given a hypothetical budget allocation of 10,00,000 TZS (4,000 USD) and asked how they would distribute the budget among the problems in their village.

The correlation between average citizen and average leader priorities are shown in the Figures below. Each dot represents one village. The y-axis is the average priority ranking of a particular issue by leaders in that village (5 = highest priority, 1 = lowest priority). The x-axis shows the average ranking of the same issue by 40 randomly selected citizens in the village. Leaders prioritized the same problems as their citizens on average, but the correlation was not perfect, suggesting substantial room for interventions to tighten the link between public and politician priorities.


Education   *Electricity*

Water   *Roads*
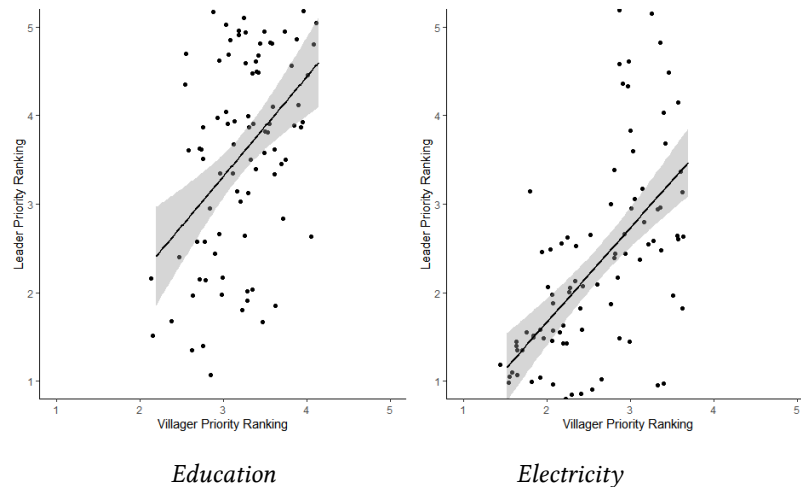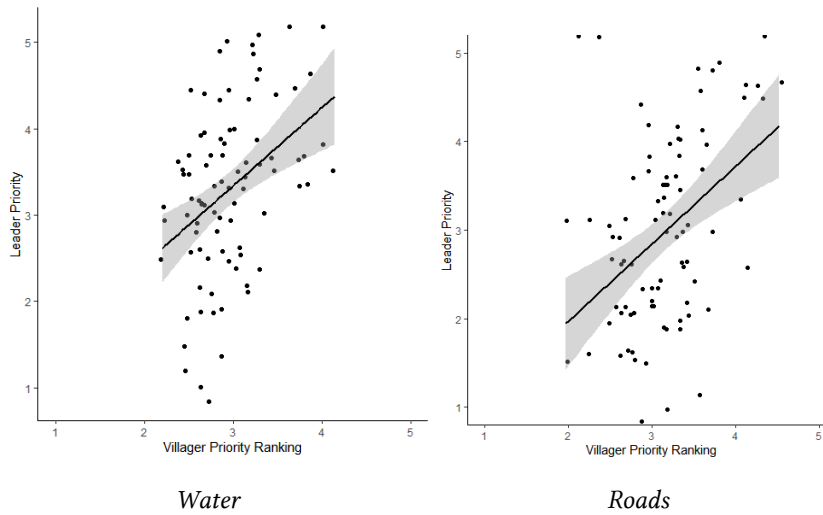
III.   Overview

I conduct two overlapping field experiments. In the first experiment, I randomly assigned ½ of all village leaders to receive accurate polling information about the development priorities of citizens in their village. I randomly assign the information treatment at the individual leader level.

In an overlapping experiment, we randomly assign a local news reporter to contact leaders in ½ of villages to conduct reports on actions that leaders are taking to respond to a development issue. I randomly assign the motivation treatment at the village level.
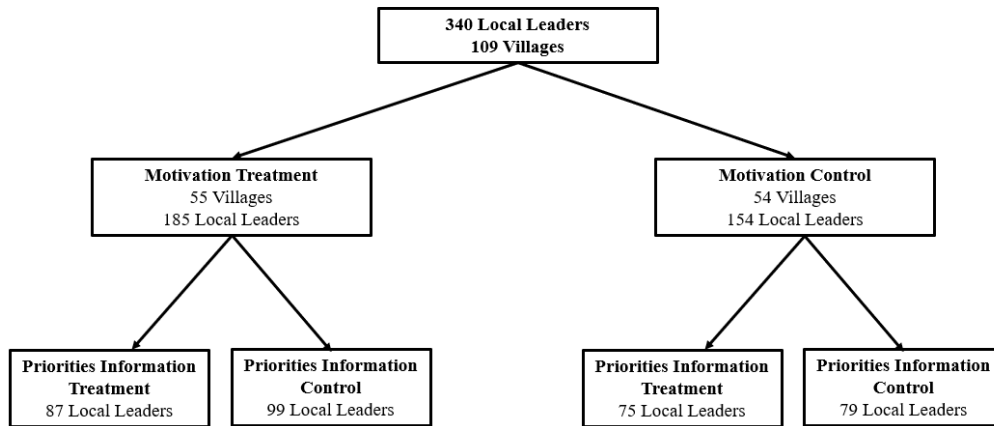
IV.   Information Treatment

The focus of the "information" experiment is on whether leaders update their social attitudes, priorities, and behavioral intentions in response to learning about the social attitudes and policy priorities of their constituents. To deliver information about constituent opinion, we draw on public opinion data collected from 4,400 citizens in 110 villages between 2020 and 2022. Enumerators collected information about a wide range of social views and policy priorities (see Green, Groves, and Manda 2020). The sampling and data collection process are described in Appendix XX.

The core of the information treatment was to share specific findings from these surveys with village leaders. Enumerators from Innovations for Poverty Action (IPA), the organization that conducted the original surveys, called leaders in both the treatment and control groups, and told the leaders that IPA wanted to follow up on the survey they recently conducted in their community. IPA enumerators then shared some basic findings from the survey, including the demographic profile of the respondents, the percentage of respondents in the survey that owned a radio, and the percentage of respondents that were interested in politics.

Political Attitudes

We randomly assigned 1/2 of village leaders to a political priorities information treatment condition. In the political priorities information treatment condition IPA enumerators told leaders about villagers' political priorities. In the original survey, enumerators asked citizens to rank order priorities such as water, roads, education, healthcare, and electricity, from most to least important.1 We calculated the average rank of each issue, then ranked the issues from most to least important on average. Enumerators told leaders in the political priorities information treatment:

> *How I would like to talk about development issues in the village. We asked villagers in this village to say what their goals were for the village. This means that they listed what they thought were the biggest problems that they hoped local government could resolve in the coming year. First, what do you think was the issue citizens thought was MOST important?*

After recording the leaders' guess, enumerators continued:

> *Thank you. When we surveyed people in your village, we found that most people thought that X issue was the most important issue in the village. The second most important issue to them was Y issue. That means that the issue citizens in YOUR village MOST want local leaders to help solve is X problem first and Y problem second.*

Social Attitudes

We assigned 1/3rd of village leaders to a social attitudes information treatment. IPA enumerators told leaders about the views that citizens in their village hold towards women's political participation. In the original survey, IPA enumerators asked citizens "do you agree or disagree with the following statement: there should be an equal number of male and female political leaders in Tanzania." In the social attitudes information treatment condition, enumerators told leaders:

> *"In our survey, we asked about people's views on issues in the community. The first question that we asked was about women participating in politics. We asked if they agreed with the statement: There should be an equal number of women political leaders and male political leaders?" Out of 40 people in your village, how many do you think said that women are just as good political leaders as men?"*

After recording the leaders' guess, enumerators continued:

> *"Thank you. When we surveyed 40 people in your village, we found that X out of 40, or Y percent, said that there should be an equal number of female political leaders as men. That means [most / about half / less than half] of the village think women are just as good leaders as men."*

V. Motivation Treatment

We randomly assigned leaders in 1/2 of villages to receive "motivation" treatment. The focus of the "motivation" treatment is on whether leaders increase their efforts to promote community development in response to the prospect of news coverage about development issues in their village. To create the expectation of negative news coverage, I collaborated with four independent journalists to contact leaders targeted villages and inform the leaders that the journalist was planning to produce a news report about the leaders' village,

with a focus on a specific service delivery issue (water, roads, electricity, health, or education). Journalists focused on the top ranked issue among citizens of the targeted community but did not inform local leaders that they had any unique knowledge about the service delivery problem in their area. Instead, journalists told leaders that they were planning to broadcast a report about the state of water/education/health/roads in a number of villages in Tanga Region,

The journalists indicated they would broadcast the story on a popular regional radio station *Tanga Kunani*, in the coming month, and that they would follow up with all villages in November to find out what actions local leaders had taken to improve water/education/health/roads outcomes in their community. The implication was that leaders would be celebrated if they took positive actions but somewhat embarrassed if they took no action and the problem remained unresolved. The script that I developed in collaboration with the team of journalists reads as follows:

> *"Hello, my name is (insert name), I am a journalist from Tanga Kunani FM. This year we are producing a large series on how communities are responding to (insert issue) in this District. We are talking to leaders in many villages to understand how (insert issue) is affecting their village and what actions they are taking this year to solve the issue.*
>
> *First, can you tell me about how problems with (insert issue) are affecting citizens in your village? Can you tell me some actions that you and other leaders in your village are planning to take to respond to (insert issue) this year?*
>
> *We are going to follow up at the end of this year to put village stories on our radio program and website, so we hope that we can return and find out some of the actions that you have taken to respond to (insert issue) over the next few months. We will be very happy to include you as a positive story if actions are taken. If no actions are taken, we will help spread the word about the problems that are still happening in the village. Thank you very much for your time, and here is my number if you have any questions or concerns."*

VI.   Outcome Measures

Social Attitudes

We measured the effect of learning about constituent's views towards women's participation in politics on two measures of leaders' own views about women in politics. To measure general attitudes, we asked leaders "Do you agree or disagree with the following statement: In general, women are equally good political leaders as men." If the leader agreed, we asked "Do you strongly agree, or just agree?" If leaders disagreed, we asked "Do you strongly disagree or just disagree?" We also sought to measure leaders' behavioral intentions.

We asked "Would you encourage your daughter or niece to run for political office, or would you say there are better things for them to do with their time?'" If the leader indicated that they would encourage their daughter or niece to run for public office, we asked "would you strongly encourage her, or just encourage her?" If the leader said they would not encourage their daughter or niece, we asked "would you strongly discourage her, or just discourage her?"

For all questions, answered were scored as 3 for strongly endorsing the progressive position, 2 for endorsing the progressive position, 1 for rejecting the progressive position, and 0 for strongly rejecting the progressive position.

Political Priorities

Turning to outcomes of the political priorities information treatment, we gave leaders the opportunity to share their own list of the three most important issues in the village. We said: "Now, think about your own views of what the most important problems are in your community. What are the three most important goals for your

community in the coming year? What is the MOST important issue? What is the SECOND most important issue? What is the THIRD most important issue?" For both the top villager priority and the second villager priority, we coded the response as 3 if the villager priority was ranked first by the leader, 2 if the villager priority was ranked second, 1 if it was ranked third, and 0 otherwise.

Finally, we measured whether learning about villager priorities affected a hypothetical budget allocation by the leader. We told leaders "Now, imagine that you had 10,000,000 TZS to spend on development projects in your village this year. I would like to know how much you would spend on each of the following items: health, education, water, roads, and electricity." We informed leaders than any money left over would be spent on leader salaries and office support. We recorded how much leaders chose to spend on each issue, and created a simple percentage outcome for the top villager priority and the second villager priority.

Behavioral Outcome

Finally, we collected a costly behavioral outcome measure. One month after the information treatment and approximately two weeks after the motivation treatment, a representative for Innovations for Poverty Action sent a message to every leader in the sample. The message asked leaders to share a voice or text message requesting budgetary support from the district for any development projects in the leaders' community. The text message read:

> *"Hello, this is IPA. We are collecting comments from village leaders about their goals for this years Tanzania budget. We will share these messages with District to show what actions leaders are taking to help their communities. If you would like, please send a message or audio recording about your top priorities for development in your village this year. Send a (1) audio recording, (2) WhatsApp message, or (3) call phone"*

We waited one week for leaders to reply to the message and then coded the responses as follows. First, we coded an "any response'" variable which takes the value 1 if the leader sent any meaningful response and 0 otherwise. Second, we coded a "first priority'" response which takes the value 1 if the leader sent a message that specifically referenced the top priority among villagers and 0 otherwise. Recall that the top priority among villagers was also the topic that journalists emphasized in the motivation treatment. Third, we coded a "second priority" response which takes the value 1 if the leader sent a message that referenced the second villager priority. The second highest priority among villagers was shared in the information treatment but not mentioned by journalists in the motivation treatment.

VII. Hypotheses

Priorities Information Treatment

- Increase village leader prioritization of their citizens' first and second-ranked priorities (within-survey)
- Increase village leader messages to District officials about citizens' top and second-ranked priorities (one-month after survey)
  - Effect will be strongest in electorally competitive villages

Motivation Treatment

- Increase village leader messages to District official advocating for budget support
  - Effect will be strongest in electorally competitive villages
- Increase village leader messages to District official advocating for citizens' top ranked priority
  - Effect will be strongest in electorally competitive villages

Interaction

- The effect of the motivation treatment will be strongest among village leaders who also receive the priorities treatment.

Social Values Information Treatment

- Increase village leader belief that there should be equal number of women as men in politics
- Increase village leader support for women's participation in politics

VIII. Estimation

Our main analysis will focus on the individuals who attend the village screenings. Unless otherwise specified, all hypotheses are one-tailed tests.

Primary Specification

For all analyses, we will estimate treatment effects using ordinary least squares regression, with fixed effects for block (ward). Additional covariates will be selected using the process outlined in Section 5.6.

Randomization Inference

For all specifications, we will calculate p-values using OLS with robust clustered standard errors (clustered at the level of randomized assignment) and randomization inference. We will calculate cluster-robust standard errors using the *hc3* option in STATA, but will not rely on these standard errors for inference.

Heterogeneous Treatment Effects

We will analyze heterogeneous treatment effects for given covariates by including an interaction with the treatment variable on the right-hand side of the regression.

IX. Covariates

We will include an indicator for block (ward) in all specifications.

We will use lasso regression to select the minimal number of covariates that best predict each outcome and include only these covariates in our estimation. We draw potential covariates from the individual-level covariates from the baseline survey (and a selected few from the follow-up survey that are implausibly affected by treatment). The lasso procedure that we plan to use features a generalized linear model with lasso penalization and is implemented using the lasso package in STATA. The loss function requires selecting a regularization parameter that determines the severity of the penalty for including extra covariates. Since this regularization parameter cannot be optimally chosen in advance, we will select it using 10-fold cross-validation. Specifically, for each outcome, we will choose the regularization parameter that minimizes the 10-fold cross-validation error averaged over 10 runs (since the folds are chosen at random). Only the covariates retained by the lasso will be included in the specification. This implies that for each outcome, a different number of covariates may be included on the right-hand side.

Each covariate will be recoded as missing when the respondent answers "Other (specify)", "Refuse to answer" or "Don't know". Moreover, when the covariate data has item-level missingness, we will input for that respondent the mean of their village.