Honor Among Chiefs: An Experiment on Monitoring and Diversion Among Traditional Leaders in Malawi

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Abstract

Traditional, hereditary chiefs are an integral part of the development infrastructure in many African countries, but there are few empirical studies examining how chiefs perform in this role and to whom they are accountable. To capture chiefs' behavior as agents of development and understand the accountability mechanisms they face, we conduct a field experiment on 200 Malawian village chiefs, documenting how they distribute a valuable development good - iron roofing sheets - as we sequentially add monitoring by donors, subjects, and the state. We find evidence that even in the absence of formal accountability institutions, monitoring alters chief behavior; diversion of the materials is highest in the absence of monitoring. However, the chief's principals have competing demands that counteract one another. We determine that while most of a chief's principals prefer allocations based on need, a subset of the chief's subjects - his relatives - prefer an allocation that benefits them. As the core of his social and economic networks, these principals are often able to override the demands of the chief's other principals. Altogether, diversion is minimized when chiefs are monitored by the donor, and only the donor. When chiefs are monitored by all their principals simultaneously, diversion is not significantly lower than under control, but dissatisfaction among subjects is greater. This study contributes to the literatures on chiefs and informal accountability, highlights the need to consider common agency when designing and analyzing development interventions, and provides guidance for development practitioners who rely on traditional chiefs as partners.

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1 Introduction

A rapidly growing literature on accountability structures assesses the effects of providing information about leaders’ performance to his principal. Theoretically, this literature assumes that information is a prerequisite for accountability mechanisms to function (Lindstedt and Naurin, 2010; Fox, 2007). Without information about agents’ actions, principals are unable to monitor agents and hold them accountable, leading to agency loss, the cost to the principal when the actions of the agents deviate from what the principal would most prefer (Kusek and Rist, 2004; Humphreys and Weinstein, 2012; Peisakhin and Pinto, 2010; Besley and Prat, 2006). Empirically, the literature shows that greater information among leaders’ principals is often, though not always, correlated with better outcomes (Peisakhin and Pinto, 2010; Winters and Weitz-Shapiro, 2013; Reinikka and Svensson, 2005a; Banerjee et al., 2011; Buntaine et al., 2017; Ferraz and Finan, 2008; Dunning et al., ming; Gibson et al., 2015; Temple, 2010; Montinola, 2010).

Though the theory is intuitive, the empirics are deceptively hard to interpret. In reality, information is rarely provided to only one of a leader’s principals. Any information disseminated through the media is available to anyone with access to media. Information provided to the public via community campaigns is accessible to local political elites, and, by extension, to any national elites with whom local elites are connected. Any study that involves dissemination of government audits necessarily combines government monitoring with public information. And of course, in many studies, leaders are also being monitored by the researchers and donor agencies that are sponsoring the intervention.

Simultaneous monitoring by multiple principals sews confusion about which principal is affecting leader decisions, potentially generating misleading inferences about to whom leaders are accountable. In particular, the effects of monitoring by states and donors may often be attributed to monitoring by the public. For example, Reinikka and Svensson (2005b)’s path-breaking study showed that Ugandan schools lost far less money to leakage when official government allocations were published in the news. Though often interpreted as evidence of improved accountability, nothing about their study can confirm that those diverting the funds were wary of electoral costs or social sanctions: instead, the publication of the allocations in government-controlled media may have been taken as signal that the central government was cracking down. In another widely cited study, Ferraz and Finan (2008) show that public release of audits before a Brazilian election reduced the vote share of corrupt leaders. In later work, however, they show it was legal consequences of the audits, not the electoral consequences, that caused leaders to curtail corruption (Avis et al., 2017).

Treating multiple principals will also complicate inference if and when the demands of those principals diverge. Existing theory on competing principals indicates that when agents attempt to reconcile the competing demands of their principals, the outcome will be sub-optimal for most, if not all, principals (Bernheim and Whinston, 1986; Dixit, 1997); the result cannot be taken as indicative of what any given principal desired. Where principals’ demands conflict, the result can also be paralysis, in which agents avoid alienating principals by declining to take any action at all. Monitoring by multiple principals should therefore sometimes fail to produce behavior change among agents, even where monitoring by a single
principal might have substantially affected the agents' actions.

Though the presence of multiple principals is often acknowledged, there is limited empirical work designed specifically to test the separate effects of monitoring by different principals, and fewer still explicitly address the consequences of common agency.\(^1\) In this study, we add to the literature by developing treatments that, while very similar to standard informational interventions, isolate the principal receiving information about the leader. We then sequentially add principals, to test the separate and combined effects of monitoring by donors, the public, and political superiors on the rate at which development resources are diverted from their intended purpose.

The leaders monitored in our study are traditional, hereditary chiefs in Malawi. As in many contemporary African states, Malawian chiefs are important actors in local development, allocating resources and mobilizing contributions to development projects. Like many chiefs, they also occupy a remarkably ill-defined position in the political system, and their principals are difficult to identify a priori. Unelected leaders who serve lifetime terms, Malawian chiefs are arguably agents of no one but themselves. On the other hand, as a formal part of the executive branch, they are also arguably agents of the state. Yet again, as deeply embedded stationary bandits, who are often seen as more legitimate than other government leaders, chiefs are also arguably agents of their subjects. Most likely, we argue, chiefs are common agents of the state, subjects, and, increasingly, donors, whose competing demands chiefs may struggle to reconcile.\(^2\)

We show that, left entirely unmonitored, a majority of chiefs asked to distribute valuable iron roofing sheets to a needy family failed to do so. When monitored only by the donor, chiefs complied with the donor's requests, significantly increasing the share of iron sheets going to needy households. Once we added monitoring by the chief's subjects, however, chiefs stopped allocating according to need, and instead diverted the sheets to a particular subset of their subjects: their relatives. Adding the state as a final monitor shifted allocations back toward needy households, but the shift was relatively small and not sufficient to counteract the apparent demands of chiefs' relatives. Altogether, when chiefs were monitored by all their principals simultaneously, they were not significantly less likely to engage in diversion than they were under the control. Moreover, full monitoring reduced welfare: subjects were significantly less satisfied with the chief's decisions under full monitoring than with outcomes under the control.

We draw several inferences from these results. First, chiefs have multiple principals and these principals are not necessarily in agreement about what they would like chiefs to do. Second, one group of principals, the chief's relatives, have particularly strong leverage over him; many chiefs still give sheets to their relatives even when all their other principals would prefer a different allocation. Finally, conflict among principals can explain the apparent null effects of full monitoring, and may even explain outcomes under control: unmonitored chiefs may have diverted the sheets not because they are corrupt, but because hiding the sheets was the best way to avoid conflict and dissatisfaction among their principals.

\(^1\)Notable exceptions are Olken (2007), Serra (2012) and Ottone et al. (2014), the latter two of which are lab experiments.

\(^2\)As with all studies attempting to determine causal relationships, this article develops a theory of Malawian chiefs that, we argue, may be generally applicable. We might especially expect generalizability in other stable but democratizing contexts with non-elected chiefs who often interact with donors as agents of development, and who are informally accountable to citizens and formally accountable to the state. However, it should be noted there was variation within our sample, and that our arguments and findings should not be treated as definitive evidence regarding the behavior of all chiefs, either within or outside Malawi.
Our study contributes to the chieftaincy literature by confirming existing arguments that chiefs occupy a place “betwixt and between”, struggling to reconcile the competing demands of the state and their subjects (van Nieuwaal, 1999; Hiemstra-van der Horst, 2011; Simelane, 2016; West and Kloeck-Jensen, 1999; Krämer, 2016), as well as the competing demands of their kin against their other principals (e.g., Bates (1974).) On the other hand, our findings challenge arguments that the state allows chiefs to predetermine (Mamdani, 1996), as well as arguments that subjects constrain chiefs to improve aggregate welfare (Baldwin, 2013); in our study, monitoring by chiefs’ subjects - and in particular his relatives - worsened outcomes. In general, our results suggest that previous literature may have erred in arguing that chiefs are agents of either the state or subjects, and in their assumptions about what each of these principals wants.

Our study contributes to the accountability literature by confirming the importance of informal accountability. Though they have no access to formal accountability mechanisms, and materially weaker sanctions than both donors and the state, the chiefs’ relatives appear to be his strongest principals, ensuring allocation to themselves even when all other principals would prefer a different outcome. We interpret this to mean that chiefs are particularly sensitive to sanctions from within their social networks, of which their relatives form the center. This finding confirms earlier work on the importance of informal accountability (Diaz-Cayeros et al., 2014; Tsai, 2007), and extends these findings to show that chiefs are more responsive to their social networks than to actors who can impose formal or material sanctions.

Finally, the study advances the development policy literature by demonstrating both that null monitoring effects do not mean that leaders are unaccountable to a given principal, and that more monitoring is not necessarily better. We show that even in something as straightforward as distribution of basic development resources, a leader’s principals may disagree about the desired outcome. “Improving” monitoring by including more principals may end up producing outcomes at odds with donors’ intentions, and with the preferences of actors donors care about. To ensure that outcomes meet their intentions, donors may wish to avoid promoting monitoring unconditionally.

2 Chiefs and Their Principals

Chiefs in general occupy a theoretically ambiguous place in modern political systems. Historically, most chiefs ruled by consent: they had neither the resources nor the technology to amass a monopoly on force, and subjects who did not find a chief’s leadership valuable could seek out the rule of a different chief, or simply refuse to comply (Mamdani, 1996; Herbst, 2000). To prevent defections, many chiefdoms developed institutions such as elder counsels or consensus decision-making to check the chief and validate his decisions.3 Colonization fundamentally shifted the nature of chieftaincy, particularly in British colonies. Chiefs were incorporated in to the colonial government, and though stripped of their indepen-

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3Of course there are exceptions to these generalities. Particularly at the intersection of continental trade routes, the were wealthy, centralized kingdoms that maintained standing security forces and territorial control. Some of these kingdoms still remain. For much of the continent, however, European state-like systems were entirely unfamiliar.
dence, were granted access to the force of the state. Many chiefs were successfully co-opted and used their new-found power to repress their subjects and advance the interest of the colonial government (e.g., Mamdani (1996)). Others, however, used their remaining moral authority to effectively organize their subjects and extract concessions from the regime (e.g., Michalopoulos and Papaioannou (2014)). Recognizing that empowered chiefs can both strengthen and threaten the government’s authority, modern African states tend to be ambivalent toward chiefs – in many countries, the chieftaincy was abolished and then reinstated – and their role is accordingly ambiguous (Englebert, 2002; Ntsebeza, 2004; Ribot et al., 2002; Simelane, 2016; Hiemstra-van der Horst, 2011; Turley et al., 2016). This is especially true in Malawi (Chiweza, 2007; Eggen, 2011a), where the chieftaincy has been depicted as “hybrid governance modes resulting from an indigenous adaptation of an existing hybrid institution to a modern environment” (Cammack et al., 2009, p. 36). In brief, who chiefs serve, and by doing what, is a matter of some debate in the literature, and is no more clear in Malawi in particular.

Hereditary chiefs are arguably agents of state. Though the state does not appoint chiefs, the scope of chiefs’ responsibilities, their access to resources, and their salary are decided by statutes or executive orders. In Malawi specifically, the Chiefs’ Act of 1967 allows for direct oversight of chiefs by the executive: the president’s office has the right to create, eliminate, or divide chiefdoms and to appoint or remove individual chiefs at the higher levels of the chiefly hierarchy, who can in turn remove individual lower-level chiefs. Chiefs must also work with other government officials to enact their governance agenda: the Local Government Act of 1998 devolves almost all local governance in Malawi to District Councils, which make decisions cooperatively, and which include elected officials, appointed officials, and chiefs. Of the seven chiefs we interviewed in the pre-study period, four reported that if they made a poor decision, they would be summoned to their senior chief or other official for sanctions up to and including being unseated. Accordingly, there is reason to believe that chiefs feel pressure to accommodation the state in order to maintain their position.

Chiefs are arguably agents of their subjects. Hereditary chiefs are not elected, but because many chiefs have lived among their subjects for their entire lives, they may be particularly vulnerable to social sanctions. More pragmatically, chiefs, especially lower-level chiefs, are stationary bandits who are economically dependent on their subjects. Chiefs’ salaries and allowances are generally not enough to live on; thus, most chiefs have another livelihood. In communities that are dependent on rain-fed subsistence agriculture, such as those in our sample in Malawi, the chief’s survival is as tenuous as anyone else’s (Swidler, 2013). Core to their survival is the ability to be agents of development for their communities (Swidler, 2013; Cammack et al., 2009; Delaplace, 2009), in particular to assist with a “decentralized identification process” to identify the recipients of development programs (Basurto et al., 2017).

Indeed, existing literature suggests that chiefs are generally perceived as more responsive than other local leaders, including elected leaders (Logan, 2008; Ubink, 2007; Pitcher, 2002), including in Malawi in

4Chiefs in Malawi are part of a seven-level hierarchy that culminates in a handful of paramount chiefs. At the lowest level, village headmen oversee about 100 households. Village headmen are immediately overseen by group village headmen (GVH). Above the GVH are several levels of Traditional Authorities (TAs), and then the Paramount Chiefs (PCs). Currently, there are 23,104 village headmen, 3,994 group village headmen, 264 traditional authorities, and 6 paramount chiefs in Malawi.

5The chiefs in our study are currently paid a monthly stipend of 2500 Malawi Kwacha, or $3.50.
particular (Swidler, 2013). Among the sample of chiefs used in this study, several chiefs indicated that their subjects can and do employ social sanctions, reporting that if they made a poor decision, their subjects would “come to the house” or “gang up” on them. For example, there have been instances of Chewa chiefs being accused of witchcraft and removed from office because they failed to allocate resources without favoritism (Mzamu, 2012). Therefore, there is also reason to believe that chiefs feel pressured to avoid alienating their subjects.

Increasingly, chiefs are arguably agents of international donors. Chiefs’ local knowledge and ability to mobilize (or demobilize) local labor makes chiefs potentially valuable development partners. Especially in Malawi, major international organizations have promoted chiefs as more legitimate and effective custodians of donor funds and materials (Eggen, 2011b; Swidler and Watkins, 2009; Hunter, 2002; Kreibich et al., 2017; Madziakapita, 2009; InterAide, Child Health Program, Central Region, Malawi, 2014; UNICEF and Government of Malawi, 2017; European Commission of Positive People, 2011; Funder et al., 2018).

Donors have no direct authority over chiefs and certainly can’t remove them. Their leverage comes from their ability to channel programs to communities that comply with program guidelines, and remove them from communities that do not (Swidler and Watkins, 2009). In pre-study interviews, every chief mentioned that a key challenge of their job was trying to meet the needs of the subjects with the resources they are provided by the state, suggesting that withdrawal of external funding is a potentially serious sanction. Chiefs may therefore prioritize meeting donor demands in order to ensure a continued flow of external funding into the community, and potentially, their own pockets.

Critically, if chiefs are agents to any of these actors, they are likely to be agents of all three: effective agency to any one of these actors requires effective agency to the others. In order to serve their subjects, chiefs must be able to access the resources provided by donors and the government. However, in order to deliver the local governance the state demands or to serve as effective partners to donor agencies, chiefs must be able to secure the voluntary cooperation of their subjects. Chiefs may have formal authority and access to resources, but generally are not granted a means of enforcement or coercion. Where chiefs fail to serve their subjects, and therefore where subjects refuse to follow the chief’s lead, chiefs lose their value to their other principals as well as to their subjects. In other words, chiefs are likely to be common agents. In other words, even where they do not wish to be, chiefs are likely to be common agents.

The literature on common agency does not yield a clear prediction of how chiefs will resolve any conflicting demands from state, subjects, and donors. Agents tend to prioritize those demands for which it is easiest to evaluate performance against the desired outcome (Dixit, 1997; Holmstrom and Milgrom, 1991; Giger and Klüver, 2016). Agents will also be more constrained by the demands of principals whose sanctions they can’t easily avoid, such as the party that nominates them (Carey, 2007) or those with whom they are socially connected (Tsai, 2007; Diaz-Cayeros et al., 2014). No one of chiefs’ principals meets

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6 As an example of the variation in informal accountability considerations chiefs manage, even within our small sample, Lhonwe chiefs’ knowledge of witchcraft is often considered a positive leadership attribute (Malawi Human Rights Commission, 2006).

7 Even control over land, usually noted as chief’s primary source of power, can be used to control the population only to the extent that chiefs can police boundaries and prevent trespass. Recent literature suggests chiefs have less control over land than has generally been assumed (Bennett et al., 2013).
both of criteria. Donors have the advantage of very clear demands, but (possible) withdrawal of (possible) future funding may not seem to be an inescapable sanction, particularly given the number of donor agencies operating in Malawi. The government has access to more threatening formal sanctions, and subjects have access to immediate informal sanctions, but both of these principals demand an array of outcomes, whose relative importance may be hard to discern and many of which (“development”, “order”) are hard to measure. Without a clearly stronger principal, chiefs simply may refuse to make a choice: multiple studies have found that elected leaders who face competing demands from government and constituents avoid articulating their policy stances (Brauninger and Giger, 2016; Nyhuis, 2014) and abstain from voting on the relevant legislation (Jones and Hwang, 2005; Rosas and Shomer, 2008). Chiefs may similarly find themselves avoiding decisive action that may alienate one or more principals.

Accordingly, while almost all existing literature on chiefs agrees that the interest of chiefs’ potential principals are often opposed to one another, it is divided on how chiefs reconcile those conflicts. One strand argues that chiefs are purely agents of the state, who deliver subjects to the regime exchange for personal benefit (Mamdani, 1996; de Kadt and Larreguy, 2015; Ntsebeza, 2008). Another literature argues that chiefs are agents of their subjects, and use their power to maximize local resources (Michalopoulos and Papaioannou, 2014; Baldwin, 2013). A third, large literature, however, argues that chiefs inhabit an ambiguous and tense position, cross-pressured by the demands of state, subjects and sometimes donors (von Trotha, 1996; van Nieuwaal, 1999). This literature, often relying on case comparisons, argues that chiefs’ responses will be diverse, and dependent on individual chiefs’ proclivities, resources and diplomatic skill.

We therefore seek to understand whether there are empirical regularities among Malawian chiefs: who are their principals and what do these principals demand, which principal(s) do chiefs prioritize, and how do they resolve any conflicts amongst principals?

3 Research Design

To identify the principals to whom chiefs are accountable, and how they resolve conflicts among multiple principals, we examined how resources were allocated by 200 Malawian village headmen8 under monitoring by between zero and three principals.9 Trained research assistants representing a partner international NGO (Tearfund) arrived at the chief’s residence with a set of corrugated iron sheets for distribution to a needy household.10 This pattern of interaction - donor representatives approach chiefs in person to kickstart a project in which the chief’s primary role will be to advise the distribution of a

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8 We were constrained to a sample of this size by our grant budget. Based on pre-treatment power analyses, we expected this sample to generate slightly less than 80% power to detect significant treatment effects.
9 Ethical review and approval for this research project was provided by [AUTHOR INSTITUTION] and the National Commission for Science and Technology in Malawi.
10 Tearfund is an international NGO based in the United Kingdom. They engage in a wide range of development-centric projects. Representatives from Tearfund Malawi were involved at all stages of the project, and a Tearfund manager sat in on the training for research assistants. None of the respondents in our study had heard of Tearfund, though the appearance of a new NGO in the community is not out of the ordinary.
donated development good - is highly common in Malawi (Hunter, 2002; Kreibich et al., 2017; Madzakapita, 2009; InterAide, Child Health Program, Central Region, Malawi, 2014; UNICEF and Government of Malawi, 2017; European Commission of Positive People, 2011).

The sheets were standard 8’ dimensions, and their only distinguishing feature was a white swirl spray-painted onto the sheets by project staff. We chose iron sheets because they are a valuable development good, providing an almost-raw material that can be used for roofing or for fashioning into tools, storage containers, or cooking pots. In our interviews with chiefs and subjects, as well as in our previous work with development organizations, this item was the most commonly requested. Communities in Malawi will often bear high organizational and labor costs to obtain iron sheets rather than other development goods (Symon, 2017). As a practical consideration, iron sheets are durable and not easily divided: they are far easier to track than other valuable inputs (i.e., fertilizer, cement, rice) that can be scattered, diluted, counterfeited or immediately consumed. These characteristics made it feasible for us to return to the communities between two and three weeks after the initial meeting to track the distribution of the iron sheets and identify the characteristics of the recipient household.

We selected village headmen because these local level chiefs are often what people imply when they refer to “chiefs.” They are also ideal for this type of experiment because they are by far the most numerous type of chief, and tend to interact with one another less often than higher-level chiefs do. Their superiors, whom we contacted as part of the study, are also numerous. Therefore, we could sample village headmen in a relatively small geographic area - holding many other characteristics constant - with less worry that treatments would spill over due to information-sharing among chiefs or their superiors. Specifically, only male village headmen were enrolled in our study. In the pre-study period, we were repeatedly told that female chiefs “do not steal.” We know of no systematic evidence on this claim. Nevertheless, multiple sources were confident that including female chiefs would substantially dampen our treatment effect, so, conscious of retaining as much statistical power as we could, we avoided sampling in matriarchal areas.

3.1 Treatments and Treatment Scripts

In every village, we met with the chief in his home to receive the sheets. The initial handover of sheets was unobtrusive. In only ten communities (5%) did respondents later tell us they had witnessed the sheets arriving. In most communities where the chief did not allocate or announce the sheets, respondents told us they didn’t know any sheets had been provided until we interviewed them.

Once chiefs received the sheets, they were given one of four messages representing control and three treatments. Under the control, chiefs were given the sheets and told to distribute them to a needy family. We did not say anything to these chiefs about whether they would be monitored, or how. In the treatments, we sequentially added messages about monitoring by donor, subjects and the chief’s political

We painted them both so that we could more easily trace them, and because we were asked to distinguish our project from a nationwide government-sponsored distribution of iron sheets occurring at the same time. White was chosen because it is one of only a few colors that is not associated with a political party.
superiors. See Table 1 for the text of the treatment messages about the monitoring types.

Donor monitoring was included in every treatment because donors are an implicit principal in every development project, regardless of which other principals are informed of the project. Donor monitoring took the form of a follow-up phone call in which we asked the chief to tell us the name of the person to whom he had given the sheets. This phone call occurred approximately one week after we first visited the village. This form of monitoring is relatively weak, but it signaled that we were organized and committed to following up, which not all agencies do (e.g., Hunter (2002)). More importantly, we wanted to isolate the effect of donor monitoring, and more thorough monitoring was not possible without drawing more attention to ourselves and thus alerting the chiefs’ subjects that something was happening in the village. The follow-up phone call, on the other hand, was executed from the capital city and could be as private as the chief wanted it to be.

In the second treatment, we added monitoring by the chief’s subjects. In this monitoring treatment, we returned to the site to find and photograph the sheets. In pre-study interviews, this treatment was understood by chiefs to mean that citizens would learn about the sheets. The interviewed chiefs’ perception of this treatment was correct; in addition to the stir caused by a team of outsiders walking through the village with a camera, confirming the location of the sheets and the status of the recipient household necessarily requires talking to village citizens. These discussions effectively notify the community that a valuable development good has been provided to the community, and that the chief was able to determine who received it. Further, in focus group discussions with citizens prior to the experiment, “providing development projects” or “bringing development” was mentioned in every single group as a primary role of the village headman, implies that this second treatment highlights a salient dimension of the chief’s performance. The treatment was discussed in the initial survey as well as reiterated in the phone call by project staff to the chief, in which we reminded the chiefs in this treatment group that we would be returning to their villages. Accordingly, these phone calls simultaneously conveyed that both our promise to monitor the chief and our promise to provide information to his subjects were credible.

In the final treatment, we added monitoring by the government, who is often a plausible principal even in studies that emphasize the effect of bottom-up monitoring. As the relevant government actors, we chose the Village Development Committee (VDC), of which the chief’s immediate superior (the group village headman) is a member, and the District Commissioner (DC), the highest level political appointee in the district. The pre-experiment in-depth interviews we conducted validated that these two higher-level government bodies hold the chiefs accountable; when asked about a time they were held accountable for their choices as chief, more than 70% of those interviewed provided a specific example involving either the DC or the VDC (or both). The accountability mechanisms cited included being accused of witchcraft, phone calls, shouting, and withholding development funds or materials.

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12 For each treatment, the chiefs were “treated” both via the message, which acted as a notification regarding the type(s) of monitoring they would experience, and by experiencing these type(s) of monitoring in reality. These two elements of the treatment — notification messages about future monitoring, and the monitoring experience — are bundled in our study, and we are unable to disentangle whether the monitoring notification or the monitoring experience drives our results.

13 Discussions with villagers would not have been necessary if, at the time of the site visit, the sheets were already installed, white spirals facing out, exactly where the chief said they would be. However, this did not happen in reality, so discussion with villagers was, in fact, part of this treatment in all cases.
To treat the chiefs with monitoring by their political superiors, we asked the chiefs to help fill out two letters at the time of the initial meeting – one to the VDC and one to the DC. The letters identified the recipient of the sheets, and were delivered to the VDCs and DCs at the end of the study.\(^{14,15}\) See Figure A1 in the appendix for an example letter.

This treatment was also reinforced by the phone call, which in this case included a reminder both that we would return to the site and that the letters would be sent to the chief’s superiors. Upon receiving the call, chiefs in this treatment now had three credible principals: the donors; his subjects; and the state.\(^{16}\)

### 3.2 Sample and Survey of Chiefs

We selected the 200 chiefs using random walk sampling, an approach commonly used to sample randomly in the absence of a defined sampling frame (Survey Research Center, 2016), particularly when sampling units that cover large geographic areas (e.g., villages) (UNICEF, 1995).\(^{17}\) Our particular random walk method aligns with approaches employed by prominent survey enterprises (Afrobarometer, 2014; Academy for Educational Development, 2009). First, we worked with those knowledgeable about the eight districts in which we were sampling to purposively choose five starting points (typically markets) in each district. From these starting points, research assistants randomly selected a direction by spinning a soda bottle. They then drove in that direction for at least five kilometers,\(^{18}\) at which point they stopped at the next village. They then proceeded to locate the village headman and initiate the research. A map of sampled chiefs appear in Figure 1.

Each selected chief, after agreeing to participate,\(^{19}\) took part in a 30-question survey about his personal characteristics and those of his village. Data from the pre-treatment survey indicates that the majority (69%) of chiefs in the sample were poor, earning less than MK40,000 ($55) per month. Ninety percent

\(^{14}\)While the effect of the letters on the VDCs and DCs is not the topic of the study, we have anecdotal evidence that these were read and taken seriously, as the research manager received several follow-up phone calls inquiring about the project. Further, we do not believe that the VDC and DC would be inclined to disregard the letter because of the small scale of the project; a pre-experiment interviewee recalled a study about being visited by the DC, area police, and Traditional Authority for supposedly misusing MK8,000 (approximately $11, and much less than the value of the iron sheets distributed in our study.

\(^{15}\)Delayed delivery of the letters helped to make the treatments conterminous, but also helped to prevent spillovers from chiefs under the same superiors. Superiors did not receive the letters until after outcomes were measured, so they did not know to warn or otherwise influence chiefs in the other treatment conditions.

\(^{16}\)The treatments clearly do not include all combinations of principals: there is no condition in which chiefs are monitored by donors and the state. The grant funder did not have resources for four sufficiently large treatment groups, and we had to make a choice. We selected the combinations we did because we were more concerned about the case in which top-down accountability is interpreted as bottom-up; we believe it is more likely that publicly released information will make its way to government principals, than that government information will make its way to the public. Therefore we wanted to be sure to test for bottom-up accountability without also triggering top-down monitoring.

\(^{17}\)Compared to other cluster random sampling approaches, the random walk method has been found to produce only negligible differences in estimations of outcomes (Milligan et al., 2004).

\(^{18}\)The five kilometer difference is short enough that the research assistants did not need to spend the majority of their time in the car, but far enough that subjects in treated villages would be unlikely to walk to control villages to chat about receiving iron sheets.

\(^{19}\)For the 100 chiefs assigned to control or donor monitoring, chiefs’ consent was not fully informed, because these chiefs were not told we would return to speak with their subjects and locate the sheets. This deception was necessary to allow us to observe how chiefs behave in the absence of monitoring by subjects. Chiefs, as a formal part of Malawi’s governance structure, are covered by the Malawian equivalent of the Freedom of Information Act, and anyone is allowed to request information on how they gather and spend revenue. Though chiefs may not have been expecting to be monitored, they do not have an expectation of privacy when carrying out the duties of their offices.
were small-scale farmers. Most (80%) had a primary school education or less, and a quarter were unable to sign their names on the consent form (these chiefs gave a thumbprint instead). The sample did contain a small group of elites: 33% of chiefs owned more than one plot of land, 25% owned more than one head of cattle, and 8% owned more than one house. Table A1 in the appendix shows that the composition of the sample is very similar across treatment conditions.

The final step of the pre-treatment survey was to ask chiefs to identify needy households. We asked the chief to name the two households in the community that were most in need of development materials, as well as up to two additional households that were particularly in need of roofing material. Chiefs were then read the appropriate treatment script, asked to decide on the one household to whom they would provide the sheets (this could have been one of the needy households mentioned earlier, or a different household), and left in possession of the sheets. All chiefs except those in the control received a follow-up phone call one week later.

### 3.3 Tracking the Sheets and Measuring Diversion

Regardless of the assigned treatment, we returned to every site two to three weeks later and conducted a post-treatment focus group with five community informants. The goal of the focus groups was to locate the sheets and obtain independent information about the characteristics of the recipient household. To ensure the focus group members would have the information we needed, research assistants recruited a diverse group of people, all regarded as involved in and well-informed about community affairs.\(^{20}\) To increase the chances that information would be unbiased, those related to the chief by blood or marriage, and those from any of the households the chief identified as needy (and about which we would be asking in the focus groups), were not recruited. Two-thirds of the participants (62%) were women and the average age was 34.

Nothing about Tearfund or the iron sheets was mentioned in recruiting respondents for the focus groups; respondents were told only that the research assistant, working on the implementation of a local development project, was gathering information about the communities included in the project.\(^{21}\) Once assembled at a site away from the chief’s residence, the respondents were asked to provide information about the characteristics of up to six households in the community. Though this was not explained to the respondents, the list of households included all those the chief mentioned as needy on the pre-treatment survey, as well as the household(s) to which he said he would give the sheets during the survey and/or during the follow-up phone call. Finally, the research assistant explained that Tearfund had previously been to the community and provided iron roofing sheets. He asked respondents where the sheets had gone; about the characteristics of the recipient household; whether it was among the five neediest households in the community, and why they thought the chief would have chosen that household. After concluding

\(^{20}\)To identify knowledgeable people, we relied to some extent on snowball sampling. Research assistants first requested to speak with the community member most aware of the activities of everyone in the community. Once located, he or she helped generate a list of other people informed about community business.

\(^{21}\)The research assistant who conducted the follow-up visit was not the same person as the research assistant who initially visited the community, and was also not driving the same vehicle.
the focus group, the research assistant went to the household named by the focus group respondents to find and photograph the sheets; if respondents did not know where the sheets were, the research assistant went back to the chief to get more information. All told, we were able to locate sheets in 93% of the villages.

As we hoped when recruiting respondents, members of the focus groups were very knowledgeable about their communities. In almost all communities, the focus groups were able to provide all of the requested information about every listed household; non-response on these indicators was less than 4%. Where sheets had been distributed to a beneficiary, respondents knew about it: many reported directly observing the chief giving the sheets to the beneficiary, and others said they had heard about the distribution through village gossip. Focus groups’ lack of knowledge was also a clear signal: in every case where respondents said they did not know anything about iron sheets, the sheets were either still with the chief, or we were unable to find them anywhere in the village.

Our primary outcome is “diversion,” which is a more neutral outcome than outright theft, but nonetheless an outcome that donors in Malawi wish to avoid (see, for example, Hunter (2002)). Defined as “deviations from allocations that target the needy,” this outcome has been previously studied among chiefs in Malawi by Basurto et al. (2017), who document and interpret diversion in the fertilizer subsidy program in Malawi but do not unpack variation in diversion rates. Further, allocating to the “needy” was identified by chiefs in our pre-experiment interviews as a primary criterion when allocating development projects within the community. As one chief said, “When I get things from government or [an] NGO, I give them based on their needs. Last month there was an organization that was distributing food and blankets. I only gave to those that didn’t have [these items].”

As specified in our pre-analysis plan, we coded sheets as “diverted” if they were not given to a household rated by the focus group as among the five neediest in the community; specifically this reflects diversion from the wishes of the donor (and, as we show later, the wishes of some, but not all, of the chief’s other principals). Diverted sheets included sheets that were allocated to a household, including the chief’s own household, that was not rated as needy, and sheets that were never allocated or could not be located.

Note that we did not necessarily code the sheets as diverted if we found them still in the chief’s possession. First, in some cases, the informants confirmed that the chief’s household was actually one of the neediest in the community. Second, some informants told us that their chief was holding the sheets on behalf of an appropriate recipient, such as when the recipient did not have a secure place to store the sheets until they were installed. In general, where there was any ambiguity about whether the sheets were diverted from their intended purpose, we coded the sheets as not diverted. All coding was completed on only the relevant data, sorted randomly, so that it would be entirely blind to treatment.

As a check on the focus group’s assessment of need, we also collected specific indicators of need for each household. These six indicators were identified as salient in our interviews with chiefs and donors, including our NGO partner Tearfund. They include whether the recipient household owns iron roofing, permanent brick walls, livestock, or a bicycle; is headed by an elderly person or a child; and cares for
orphans. These six binary need indicators were then added to become an index on a scale of 0 to 6, where higher scores indicate more need. These scales do not serve as our primary dependent variable, but we do use them as a robustness check to ensure the results are driven by systematic variation across communities in how “need” is defined or perceived.

4 Pre-registered Hypotheses

As noted in the theory section, there is not a clear theoretical prediction as to how chiefs should respond to monitoring by a given principal, or to a combination of principals, but we nevertheless wished to constrain ourselves with a pre-specified analysis plan. Therefore, we generated pre-specified hypotheses based on the intuitions of project staff and other Malawians knowledgeable about chieftaincy and governance in Malawi. Most of those we spoke to emphasized the importance of top-down sanctions, and told us that chiefs would be most responsive to senior chiefs and other political superiors, who would want the chiefs to give development resources to needy households. Our informants believed that subjects would also want resources distributed according to need, but that subjects had little direct leverage over chiefs and could only lobby chief’s superiors to sanction him. Our interlocutors were not at all convinced that chiefs would be responsive to donor monitoring. We therefore hypothesized there would be no effect on distribution from donor monitoring alone; a small reduction in diversion when monitoring by subjects was added; and the largest reduction in diversion when we also allowed monitoring by the state.

These hypotheses, critically, do not predict a problem with common agency: they assume that all principals would prefer that the chief give resources to needy households, and that combining principals would only strengthen the effect of monitoring on reducing diversion. This outcome would be consistent with existing lab findings that show that principals reinforce each other, and combining them simply increases the treatment effect (Serra, 2012; Ottone et al., 2014). As discussed at length above, however, this is not the only plausible assumption ex ante. Our method allows for a direct test of competing principals, and indeed, our results indicate that most, but not all, of a chiefs’ principals want resources allocated according to need, but that those who prefer alternative allocations have substantial leverage over chiefs.

5 Experimental Results

The results show that, left to their own devices, chiefs keep sheets for themselves, but that under monitoring, chiefs respond to, and attempt to reconcile, the demands of all three of their principals.

Figure 2 shows the mean rate of diversion, with 95% confidence intervals, under control and each of the three treatments. The results show that donor monitoring on its own significantly reduced diversion. In the control, 56% of chiefs diverted the sheets. Donor monitoring reduced diversion 20 percentage-points to 36%, an effect that is significant at standard levels comparing control and treatment in a t-test. (The
Figure shows that the confidence intervals on the treatment means overlap, but overlapping confidence intervals do not necessarily indicate that means are insignificantly different (Wolfe and Hanley, 2002; Figure 3, below, shows that the confidence interval on the treatment effect does not include zero.) Adding monitoring by subjects and the state did not further reduce diversion, and instead slightly increased it. Under monitoring by donors and subjects, 44% of chiefs diverted the sheets. Under monitoring by all three principals, 42% of chiefs diverted. The rates of diversion in the latter two treatments are statistically indistinguishable from control using a t-test.

Figure 3 plots the marginal effects of each treatment from a logit model that increases power by controlling for pre-treatment covariates specified in our pre-analysis plan. These include the number of years the chief has lived in the community, the number of years he has been chief, and his education, income, and employment status with the government.22 We also control for the research assistant who conducted the interview. The results of this analysis align with the analysis of the raw diversion rates, though with a stronger estimated effect of monitoring by all three principals. Figure 3 shows that donor monitoring on its own substantially reduced diversion, by 21 percentage points, an effect that is significantly different from zero at the 5% level. Monitoring by donors and subjects together reduced diversion by only 12 percentage points, which is 56% of the effect of donor monitoring alone and not significantly different from the diversion rate in the control group. Monitoring by all principals reduced diversion by 17 percentage points, which is 80% of the effect of donor monitoring alone, and represents a marginally statistically significant difference compared to the control group (p = 0.06).

Figure B1 in the appendix shows that the estimated effects are robust to an alternative measure of need. The dependent variable in the table is the 6-point constructed scale of objective need indicators, and does not take into account whether our informants rated the household as among the most needy in the village. The table shows that, as in Figure 3, donor monitoring alone significantly increases the poverty of the average recipient household, increasing the scale of need over 1 point from 1.8 under the control to 2.9 under donor monitoring. Treatment that includes monitoring by subjects or the state also increases need, but the size of the treatment effect is roughly half that of monitoring by the donor alone, and only marginally statistically significant.

These findings do not support our pre-specified hypotheses. Contrary to expectations, donor monitoring on its own clearly reduces diversion, despite the weakness of the treatment, and there is little evidence in these data that the state or subjects are more effective than donors at constraining diversion. Instead, monitoring protocols that include subjects and the state have a smaller and less significant effect than donor monitoring alone. As we show below, the results are consistent with the effects of common agency.

22One pre-specified control - an index of consumer goods - is not included because there was extensive item non-response. Missingness is not correlated with treatment.
Explaining the Outcome

Though the results above clearly refute our pre-registered hypotheses, their other implications are somewhat ambiguous because the treatment effects are not significantly different from one another. Statistically, we can’t rule out that all three monitoring treatments actually had the same effect, and the differences across treatments are due to chance variation.\(^{23}\) Substantively, however, these data suggest that adding principals actually reduces the effectiveness of monitoring, which implies that chiefs are responsive to competing principals whose demands over distribution counteract each other, weakening the overall effect of monitoring. If principals’ demands diverge, we can identify this by determining where, precisely, sheets are going under each of the three treatments. If treatments actually have the same effect, or the principals have the same demands, the composition of recipients should be the same across treatments. If principals have different demands, the composition should change as each new principal is added.

To detect competing principals, we coded qualitative data from the focus groups about who chiefs were prioritizing for distribution changes under each treatment (this analysis was not included in the pre-analysis plan). At the end of the focus groups, we asked respondents to explain why the chief had distributed the sheets in the way he had. The explanations for the chief’s choices fell into three primary categories:

1. The chief chose the recipient because they were needy;
2. The chief chose to recipient because they were his relative; or
3. The chief had not chosen any recipient and had kept, hidden, or disposed of the sheets.

We coded an explanation as based on need if respondents reported that the recipient was poor, elderly, sick, or in crisis. We coded the sheets as given to a relation if the focus groups mentioned that the recipient was the chief’s mother, brother, niece, wife, etc. In several cases there were multiple explanations – the recipient was both poor and the chief’s relative- but there was almost always one that was implied as the deciding factor. For example, a response “She is poor, but she got the sheets because she is a sister to the chief” was coded as going to a relative. “He is the chief’s nephew, but the house was just burned in a fire” was coded as need-based. Respondents provided a code-able explanation for 173 of 200 sheets.\(^{24}\) Because coding was subjective, we once again isolated and randomly sorted the relevant data so that coding would be blind to treatment.

The distribution of explanations, by treatment, are shown in Figure 4. The figure shows that under the control, 30% chiefs gave the sheets to someone needy, 62% of chiefs kept or hid the sheets, and only 9% of chiefs gave the sheet to a relative. Under donor monitoring, the rate at which chiefs kept the sheets de-

\(^{23}\)If monitoring by donors and monitoring by other principals have the same effect, it might mean either that chiefs are only responsive to donors, or that monitoring by any one principal is sufficient to drive diversion to its lowest level.

\(^{24}\)In most cases where there was no explanation, respondents had not known that sheets had been provided and were thus unable or unwilling to speculate about where they went or why. We drop these chiefs from the sample.
creased by 20 points to 42%, and the share of chiefs who selected based on need increased 19 points to 49%. The rate at which chiefs gave to their relatives stayed the same (10%). The changes indicate that under monitoring by donors, chiefs changed from accommodating their own preference (keeping the sheets) to accommodating the donor’s preference (allocating the sheets to a needy household). Chiefs show little inherent preference for their relatives, and do not increase allocation to relatives under monitoring by a principal who also has no such preference.

Once chiefs knew that their subjects would be able to monitor distribution, however, they strongly increased allocation to their relatives. Under monitoring by donor and subjects, the share of sheets subjects perceived as going to relatives more than tripled, to 36%, with the difference made up in a sharp, 30-point decrease in distribution to needy households (fewer than 15% of chiefs in this treatment allocated according to need). In sum, with added monitoring by subjects, chiefs changed their allocation away from both their own preferences and those of the donor, towards the (conflicting) preferences of their subjects.\textsuperscript{25}

With the addition of the state as the final monitor, chiefs stopped favoring their relatives quite so dramatically – 26% of chiefs in the full monitoring treatment condition were perceived as giving to relatives and 33% to needy recipients\textsuperscript{26} – but distribution to relatives is still more than twice as high as when bottom-up monitoring is not included in the treatment at all. Figure B2 in the appendix, which plots the share of beneficiaries in each treatment who were confirmed as blood relations to the chief, demonstrates that these results are not based in respondents’ systematic misperceptions of chiefs’ motivations: chiefs are more likely to give the sheets to a relative when they are monitored by subjects, even when using this alternative, more objective measure of kinship.

The results in Figure 4 imply that chiefs’ subjects both demand kin-distribution and have substantial influence over the chief: under monitoring by subjects, chiefs allocate sheets in a way that neither they or their other principals would prefer. Importantly, a preference for kin-distribution does not appear to be the preference of most of chiefs’ subjects either. We coded whether the explanation given by focus group respondents - none of whom were related to their chiefs - could be classified as complaints: the coding took a one if the respondents described the decision in overtly negative terms like “greedy,” “selfish,” or “biased,” or if they noted the existence of others in the village who were as or more deserving of assistance. Responses were coded as zero if the respondents gave a neutral or approving explanation (e.g., “he is really in need of sheets” or “there is no one else helping her”); non-response was coded as missing. The sample includes only those groups who had knowledge of the sheets, so that the number of complaints was not deflated by including those who did not complain simply because they did not know where sheets had gone. Figure 5 shows that the rate of complaints was by far the highest when chiefs gave the sheets to their relatives; chiefs who gave the sheets to relatives received eight times as many complaints as those who allocated based on need, and almost twice as many complaints as those who simply kept the sheets for themselves. Accordingly, complaints are more common when there is

\textsuperscript{25}\text{This result is consistent with Habyarimana et al. (2007), who show that Ugandan lab subjects who have no in-group bias nevertheless favor their ethnic kin when they can be observed.}

\textsuperscript{26}\text{The increase in allocations to needy households between treatments three and four is significant at the 10% level.}
monitoring by subjects, because under this treatment, chiefs are more likely to distribute the sheets to their relatives.

We conclude not only that chiefs have competing principals, but one of these principals is itself divided: chiefs’ subjects are divided into those who want him to distribute the sheets to his kin and those who oppose such distribution. Based on the results presented here, the former group has strong pull over the chief: full monitoring by donors, the state, and the chiefs’ other subjects was not enough to induce most chiefs to distribute the sheets to needy households rather than to their relatives. This is consistent with a model in which chiefs are most constrained by informal, social sanctions: the chief’s family, who form the core of his social and economic network, and whom he can least easily avoid, would be the subjects most able to leverage those sanctions. This implies that rather than (or in addition to) preventing theft, allowing leaders to be monitored by the social networks in which they are embedded can facilitate capture by those with the greatest connection to the leader. More importantly, and counterintuitively, allowing subjects to monitor distribution actually increased subjects’ dissatisfaction, relative to monitoring by the donor alone, or to leaving chiefs entirely unmonitored.

In other words, chiefs in our sample face pressure from their relatives to allocate resources in a way that will cause complaints from subjects and potentially sanctions from donors and superiors: chiefs may reasonably decide they are better off hiding resources from their relatives (and the rest of their subjects) unless the threat of monitoring forces them to act. We can therefore not assume that chiefs in the control kept the sheets because they hoped to enrich themselves at the expense of their subjects. They may instead have simply judged that allocating the sheets would cause more problems than it would solve. Appropriately interpreting diversion in transparency and monitoring interventions requires a better accounting of leaders’ response to competing principals.

7 Discussion and Conclusion

In this study, we considered how leaders are affected by monitoring in making decisions about community development projects. In a field experiment in Malawi, we provided iron sheets to village-level chiefs and exposed them to monitoring by donors, subjects, and superiors. We find that while monitoring by the donor significantly reduced diversion of the sheets to non-needy households, adding monitoring by chiefs’ subjects and superiors did not further reduce diversion. Instead, under monitoring by subjects – who include chiefs’ immediate families – chiefs were more likely to give sheets to their relatives instead of allocating based on need.27

The findings indicate that chiefs, despite inheriting lifetime offices, can be effectively constrained through informal channels. Straightforward and inexpensive monitoring by donors significantly increased the likelihood that chiefs would comply with the donors’ wishes and give the sheets to a needy household.27

27This finding aligns with Basurto et al. (2017), who also finds evidence of diversion among Malawian chiefs to needy relatives. However, unlike Basurto et al. (2017), we find limited evidence that this outcome is the chiefs’ preference, but is instead a result of increasing transparency to these relatives.
Increasing a subject’s ability to monitor similarly increased the likelihood that the chief would meet the demands of subjects, or at least, those subjects with the strongest access to informal sanctions (chiefs’ families). These results align broadly with a larger literature that suggests that unelected local leaders can be held accountable through informal mechanisms (Diaz-Cayeros et al., 2014; Tsai, 2007). Monitoring by donors and subjects, who have access only to informal sanctions, has stronger impacts than monitoring by political superiors, who alone among a chief’s principals have the formal power to unseat him.

However, the results also indicate that leaders’ sensitivity to social sanctions comes at a cost, in this case, by enabling those with the strongest social influence over the chief to capture resources, creating dissatisfaction among the excluded members of the population. These results add to a growing literature that finds that documenting community-level average outcomes can mask profound power imbalances, and thus determine what members of a population are ultimately able to secure the resources that donors intend to target to disadvantaged groups (e.g., Paler and Strauss-Kahn (2017)).

More generally, the study highlights the need to more carefully identify the full range of actors treated by a development interventions and their potentially divergent preferences over the outcome. Our results show that the multiple principals who are alerted in a typical monitoring intervention may not have the same goals. In keeping with existing theory on common agency, combining monitoring by multiple principals can actually reduce overall welfare, in this case by producing an outcome that is less satisfactory to donors, superiors, and most subjects. The accidental inclusion of other, more influential principals may explain why “bottom-up” monitoring appears to work in countries with relatively weak electoral accountability, while the irreconcilable demands of multiple principals may explain why some large-scale informational interventions have failed. Our study suggests that simple monitoring mechanisms managed and executed by donors may be sufficient to limit diversion and achieve desired development outcomes.
References


18


Wolfe, R. and Hanley, J. (2002). If we’re so different, why do we keep overlapping? when 1 plus 1 doesn’t make 2. CMAJ, (1).
### Tables and Figures

**Table 1: Treatments**

<table>
<thead>
<tr>
<th>Monitor(s)</th>
<th>Treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>No follow-up mentioned</td>
</tr>
<tr>
<td>Donor only</td>
<td>“We will contact you on the phone in a few weeks’ time to learn which household received the materials.”</td>
</tr>
<tr>
<td>Donor, subjects</td>
<td>“We will contact you on the phone in a few weeks’ time to learn which household received the materials. We will also conduct a site visit after the phone call to take photos of the recipient household for our report.”</td>
</tr>
<tr>
<td>Donor, subjects, superiors</td>
<td>“We will contact you on the phone in a few weeks’ time to learn which household received the materials. We will also conduct a site visit after the phone call to take photos of the recipient household for our report. Today, we will together prepare and send letters to your VDC and DC informing them which household in your community you designated to receive the materials.”</td>
</tr>
</tbody>
</table>
Figure 1: Sampled Chiefs

Note: Map shows locations of sampled villages/village chiefs.
Note: Figure plots raw rate of diversion, with 95% confidence intervals, when chiefs are monitored by donors, subjects and/or the state. Diversion is defined as any distribution not to one of community's five neediest families.
Figure 3: Effect of Monitoring on Diversion, Adjusted for Covariates

Note: Figure shows estimated effect of each monitoring treatment, with 95% confidence intervals, controlling for pre-treatment covariates including years of residence in the community, years as chief, education, income bracket, and employment with government. Model also includes enumerator fixed effects.
Figure 4: Reported Reason the Chief Selected the Recipient, by Assigned Monitor(s)

Note: The figure indicates how chiefs allocated sheets under each monitoring treatment. The choices are coded from responses given by community focus groups.
Figure 5: Share of Subjects Complaining, By Chief’s Choice and Monitor(s)

(a) By chief’s choice of recipient  
(b) By assigned monitor(s)

Note: The figures plots the share of focus groups complaining about how the chief distributed the sheets, over a) how the chief chose to allocate the sheets and b) the actors monitoring the chief. Complaints include overtly negative terms or provide names of other, more deserving recipients.
Appendices

A  Treatment and Assignment

Figure A1: Example Letter

DATE:  __________
FROM:  Development Partners and Chief __________
TO:  Village Development Committee
RE:  Development Project in __________ Village

Dear Chair Village Development Committee Overseeing __________ Village:

We write to inform you that Chief __________ has designated the __________ household to receive a set of 10 iron sheets. The materials are funded by and distributed in cooperation with a group of international donors, represented by the officer whose signature appears below.

Sincerely,

________________________
Donors Representative

Note: Figure shows the letter used in the third treatment, which provided chiefs’ political superiors with the ability to monitor the distribution of iron sheets.
### Table A1: Covariate Balance Across Treatments

<table>
<thead>
<tr>
<th>Covariate</th>
<th>Treatment Groups</th>
<th>Two-Way T-Tests of Means</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Lifelong Community Member</td>
<td>0.860</td>
<td>0.780</td>
<td>0.880</td>
</tr>
<tr>
<td>(0.050)</td>
<td>(0.059)</td>
<td>(0.046)</td>
<td>(0.057)</td>
</tr>
<tr>
<td>Chief Level</td>
<td>1.255</td>
<td>1.292</td>
<td>1.245</td>
</tr>
<tr>
<td>(0.066)</td>
<td>(0.066)</td>
<td>(0.062)</td>
<td>(0.066)</td>
</tr>
<tr>
<td>Education Bracket</td>
<td>1.220</td>
<td>1.174</td>
<td>1.208</td>
</tr>
<tr>
<td>(0.066)</td>
<td>(0.057)</td>
<td>(0.059)</td>
<td>(0.059)</td>
</tr>
<tr>
<td>Age</td>
<td>56.902</td>
<td>53.662</td>
<td>58.622</td>
</tr>
<tr>
<td>Supports DPP</td>
<td>0.360</td>
<td>0.240</td>
<td>0.300</td>
</tr>
<tr>
<td>(0.069)</td>
<td>(0.061)</td>
<td>(0.065)</td>
<td>(0.069)</td>
</tr>
<tr>
<td>Income</td>
<td>1.360</td>
<td>1.388</td>
<td>1.220</td>
</tr>
<tr>
<td>(0.080)</td>
<td>(0.076)</td>
<td>(0.059)</td>
<td>(0.086)</td>
</tr>
<tr>
<td>Years Chief</td>
<td>13.740</td>
<td>14.771</td>
<td>14.580</td>
</tr>
<tr>
<td>(1.887)</td>
<td>(1.957)</td>
<td>(1.559)</td>
<td>(1.533)</td>
</tr>
<tr>
<td>Work for Government</td>
<td>0.040</td>
<td>0.000</td>
<td>0.020</td>
</tr>
<tr>
<td>(0.028)</td>
<td>(0.000)</td>
<td>(0.020)</td>
<td>(0.000)</td>
</tr>
<tr>
<td>Traveled Outside Malawi</td>
<td>0.438</td>
<td>0.312</td>
<td>0.271</td>
</tr>
<tr>
<td>(0.072)</td>
<td>(0.068)</td>
<td>(0.065)</td>
<td>(0.070)</td>
</tr>
<tr>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
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</table>

Means reported for each covariate by treatment group with standard deviations in parentheses. Difference in means reported for each t-test with standard errors in parentheses. p-value from joint orthogonality test of treatment arms.
B Robustness Checks

Figure B1: Treatment Effect on Average Need of Recipient, by Monitoring Principal(s)

Note: Figure shows average need of recipient, by treatment, with 95% confidence intervals. Need is a six-point scale that includes whether the recipient household: owns iron roofing, permanent brick walls, livestock, or a bicycle; is headed by an elderly person or a child; and cares for orphans. Higher scores indicate more need. Scores are reported by community informants not from the recipient households.
Figure B2: Allocation to Recipient Related to Chief, by Monitoring Principal(s)

Note: Figure shows share of recipients who are related to the chief, by treatment. Relationships were reported by local informants not themselves related to the chief.