Chief for a Day: Elite Capture and Management Performance

in a Field Experiment in Sierra Leone

Maarten Voors,[1,2,*] Ty Turley,[3] Erwin Bulte,[1] Andreas Kontoleon,[2] and John A. List[4]

[1]: Development Economics Group, Wageningen University, Email: maarten.voors@wur.nl
(*corresponding author) and erwin.bulte@wur.nl

[2]: Department of Land Economy, University of Cambridge, Email: ak219@cam.ac.uk

[3]: Romney Institute of Public Management, Brigham Young University, Email: tyturley@gmail.com

[4]: Department of Economics, The University of Chicago, Email: jlist@uchicago.edu

Abstract: We use a field experiment in Sierra Leone to examine how the identity of the manager influences rent seeking and performance in participatory development projects. Specifically, we vary the composition of a committee responsible for implementing a development project—local elites or randomly selected villagers. The design is unique, in that it permits us to explore the effectiveness of two alternative local governance modalities and the extent of elite capture in community projects. We find little evidence that local elites capture project resources. We do observe they are better managers of development projects. Improved performance co-varies with a proxy for power of the local chief.

1. Introduction

While mismanagement and bad governance at the macro or state level is widely regarded as a leading explanation for African underdevelopment (e.g., Herbst 2000), little economic literature focuses on the role of management of development projects at the local level. This is unfortunate because the capacity of central states to intervene in local matters is often limited, and lower tiers of government—predominantly chiefs—have considerable autonomy in issues of economic importance. These include taxation, the allocation of resources (including land), and the operation of the front line of the judicial system (e.g., Mokuwa et al. 2011). The quality of local governance may affect investment behavior of villagers, and shape local development trajectories (Beekman et al. 2013, 2014). The scant evidence that exists to describe the quality of lower-tier management in Africa suggests chiefs are unaccountable "despots" (e.g., Mamdani 1996; Acemoglu et al. 2013). Indeed, colonial systems of indirect rule, where elites received formal authority from the colonial government, allowed chiefs to avoid accountability to their local constituencies (Boone 2003), facilitating the appropriation of communal resources. For analyses of the persistence of (*de facto*) elite power, via systems of clientelism or otherwise, refer to Acemoglu and Robinson (2008) or Anderson et al. (2015).

The issue of management at the local level has gained import in recent years because of the increasing popularity among donors and development agencies of so-called Participatory Development Projects (PDPs). PDPs include Community Driven Development (CDD) initiatives that encourage local responsibility for service delivery or resource management, as well as efforts to decentralize authority and resources to local formal and informal institutions, while at the same time improving the representativeness, inclusiveness, accountability and effectiveness of those institutions. The popularity of such efforts increased after donors learned that states often failed to provide the resources necessary for development (Bardhan 2002), and that aid sometimes vanished at high rates before reaching targeted recipients (Olken 2006; Reinikka and Svensson 2004). Participatory projects were also seen as creating more "sustainable" development as they were expected to empower local actors (Binswanger-Mkhize et

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al. 2009), and produce interventions that are better aligned with local priorities, ambitions, and constraints. In the last ten years, the World Bank alone has invested USD 85 billion in participatory approaches (Mansuri and Rao 2012). The World Bank wants to put "*poor people at the center of service provision: by enabling them to monitor and discipline service providers, by amplifying their voice in policy-making, and by strengthening the incentives for providers to serve the poor*" (World Bank 2004). Such efforts put tremendous resources in the hands of project managers often with limited experience. Managing large sums of money, with no formal training, scant accountability, and divergent constituencies is challenging. Oftentimes these initiatives explicitly empower social groups outside the traditional power structure as a way of limiting elite capture and increasing sustainability. This could potentially exacerbate management as experience may be lower than that of local elites.

While participatory development initially seemed to increase the efficacy of aid (e.g., Haddinott et al. 2001; Dongier et al. 2003), critics soon emerged (see, e.g., Mansuri and Rao 2004; Platteau 2004). A clear theoretical basis is absent for expecting more efficient and equitable outcomes (Abraham and Platteau 2002; Bardhan and Mookherjee 2000; 2005; 2006a). One prominent reason is the potentially predatory behavior of local elites, which may invite inefficiencies, inequitable distribution, and regressive instead of pro-poor targeting (Baird et al. 2013). Evidence is emerging on three potentially problematic dimensions of PDPs in particular: (i) the mechanism for project selection, (ii) leakage and elite capture, and (iii) leadership ability and the coordination of collective action to implement any particular project. An overarching concern is that local elites are able to "capture" participatory development interventions, and convert resources intended for communal development or set aside for disenfranchised social groups into private gains for themselves (Bardhan 2002; Guggerty and Kremer 2008).

This paper seeks to bridge the economic literatures on local level governance (including the role of chiefs) and the efficacy of participatory development interventions. We have two main objectives. First, to examine the extent of input diversion in the management of a participatory development intervention in Sierra Leone. Akin to the pioneering work of Beath et al. (2013b), we seek to compare

diversion of project resources by the elite versus that of a committee of villagers.[1] Second, we explore

whether alternative governance modalities—bypassing local elites—may be more effective in promoting

local development than channeling aid resources via the chief. We focus on project management rather

than project selection, complementing work by Olken (2010), Labonne and Chase (2009), and Beath et al.

(2013a).

As an auxiliary objective, we also probe whether the impact of PDPs varies systematically across

receiving villages. Specifically, we examine the hypothesis that chief power is a factor that explains

differences in project performance. Writing about efforts by NGOs to bypass public institutions, Uvin

(2008, p.117) writes "*parallel structures of decision-making and resource allocation are perceived as*

threatening by local (...) government: uncontrolled by them, in charge of major resources, duplicative of

public structures, they are typically resented, sabotaged, undermined…". If the traditional hierarchy feels

threatened by a new management regime, perhaps because it complicates the diversion of project

resources, then local elites may try to undermine the committee's efforts to manage the project, signaling

to villagers and NGOs that future projects should again be implemented via the elite (Labonte 2012).

More powerful local elites may be better able to successfully undermine PDP initiatives.

To explore these issues, we conducted a field experiment in rural Sierra Leone in which we

varied the management structure associated with a PDP. Specifically, in a random subsample of villages

the traditional elite, including the chief, were made responsible for project management. In other villages,

responsibility for project management was delegated to a committee of randomly selected villagers.

While our study design does not allow us to fully test the so-called "chief as a despot" thesis (see below),

a comparison of the performance of the PDP intervention across the two types of villages speaks to the

issue of how project governance and the identity of the manager affects both the performance of PDPs

and the diversion of project inputs. Our design is unique in that (unlike other studies) we allow the

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[1] For cross-country studies of (fiscal and political) decentralization and levels of corruption, refer to Fisman and Gatti (2002) and Fan et al. (2009).

selection of the committee to be free from the influence of local elites. This allows for a juxtaposition of the elite's management performance with a more neutral comparison group.

2. Theory: Participatory Development

Participatory development projects are now commonly implemented in countries that lack a stable central state government or adequate institutions capable of reaching communities in the "hinterland". PDPs have in common that they try to side-step central levels of government, but may diverge in the degree to which they involve local representatives of the state. While PDPs typically seek to make local governance more transparent, inclusive, and democratic, by empowering marginalized social groups, in practice they often rely on cooperation with village chiefs (which is not surprising, if the aim is to achieve "scale" with these sorts of interventions). Recent empirical evidence casts doubt on the ability of PDPs to promote sustainable and equitable development.

Two recent large-scale and rigorous evaluation studies, one conducted in Sierra Leone and the other in the Democratic Republic of Congo, have quantified the impact of community-driven development efforts on a range of indicators (Humphreys et al. 2015, Casey et al. 2012). In both studies, new institutions were created and supported at the local level—village councils through which considerable resources were channeled. Both studies report similar results: the interventions achieved little in terms of improved local governance, social cohesion, or welfare. Therefore, it seems difficult to create a set of effective parallel institutions in a context with pre-existing traditional hierarchies.

We identify several reasons why PDPs may fail to reach their stated objectives. Giving more control to communities over *project selection* potentially entails significant benefits. Locals have better information about their own needs and consequently selected projects may be better suited to local conditions. For example, some evidence suggests that communities can successfully identify the poor who most deserve to be program beneficiaries (Alatas et al. 2012; Galasso and Ravallion 2005). People also have the benefit of feeling empowered, which may be an end in-and-of-itself, even if indicators of program outcomes are unaffected (e.g., Beath et al. 2013b; Olken 2010; see Dal Bo et al. 2010 for

evidence from the lab). There are risks in allowing communities control over project selection, however. If there is disagreement on development priorities a voting mechanism may be used, leaving the potential for disenfranchisement among minority members of the community (Foster and Rosenzweig 2004). High-status people may force others to choose their preferred project at the expense of those most in need of the project.[2] Such problems may be particularly pressing in settings where leaders are not accountable to their constituency.

Problems associated with the *control of project resources* may also emerge. It is generally assumed that accountability increases when project management occurs locally, where the intended beneficiaries frequently interact with managers (e.g. Fisman and Gatti 2002). However, competence of managers also matters. Moreover, when responsibility for project implementation is given to the local community, resources are placed within the control of people who typically are severely resource constrained, facing the obvious utilitarian motive to divert some of these resources for private consumption or for investing in pre-existing patron-client networks (see Chhotray 2004; Platteau and Abraham 2010). While this can be counteracted somewhat with greater transparency (e.g., Ferraz et al. 2012; Reinikka and Svensson 2003) or accountability to outside authority (e.g., Olken 2007; Platteau and Gaspart 2003a; 2003b), elite capture in development projects remains a central concern in the literature (e.g., Burgess et al. 2012; Caridad Araujo et al. 2008; Das Gupta and Beard 2007; Fritzen 2007; Kundu 2011; and Takasaki 2011). Comparing embezzlement by customary leaders and elected councils, Beath et al. (2013b) obtain a nuanced set of results. While elected councils may improve the quality of local governance (presumably because of the selection of better candidates), overlapping mandates between newly created councils and customary leaders create a common pool problem that may foster rent seeking.

Finally, we can consider problems at the *implementation* stage of PDPs. Insofar as communities reap the full benefits of their success (and incur the cost of failures), PDPs may eliminate the divergent

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[2] A perhaps paternalistic concern is that communities may not know the best strategies for development, or lack self-control or political will to implement these. In such case, top-down project implementation could lead to greater gains in welfare.

incentives characteristic of complex principle-agent problems. However, transferring responsibility for project implementation to local communities introduces other risks and may, for example, aggravate problems of collective action. Perverse incentives to free ride on contributions of others exist in most societies. Community monitoring efforts might address this issue, but it is not always evident that people connected in social networks —playing a repeated game—are willing to punish each other. It is therefore not surprising that efforts to increase community monitoring have shown disappointing or mixed results (Banerjee et al. 2008; Bjorkman and Svensson 2009; Duflo et al. 2012, Olken 2007).

Below we compare the performance of chiefs and ordinary villagers in managing a community project. To guide our thinking, we developed a simple theoretical model where either a (selfish) chief or a committee of villagers is charged with the responsibility of managing a development project. The model is included in the on-line Appendix. Performance depends on the share of inputs diverted (corruption), costly managerial effort, and a manager-specific production function. Moreover, the chief can devote effort to sabotage the project in case a committee of villagers is selected to manage the project (to increase the likelihood that he will be selected in the future period). While the performance of the chief and committee depends on functional forms and cannot be ranked, the model produces the following testable predictions: more powerful chiefs will (i) divert more project resources and (ii) work harder to undermine the performance of the committee (sabotage). Our experiment allows us to both test the empirical matter of relative performance, as well as these model predictions.

3. The Study Region: Rural Sierra Leone

We conduct a field experiment in rural Sierra Leone to explore the impacts of alternative local management structures on the implementation of a PDP. The study country is particularly illustrative for such an investigation. Sierra Leone is recovering from a civil war that lasted for more than a decade. The timing of the war was associated with a large increase in aid flows that have remained high after the war ended in 2002. In 2011, Sierra Leone received aid worth USD 71 per capita, placing it sixty-sixth out of 138 recipient countries (CIA Factbook 2014). Notwithstanding this international support effort, Sierra

Leone continues to score low in terms of conventional development indicators. For example, its Human Development Index score places it 181st out of 186 countries (UNDP 2015), and life expectancy in Sierra Leone in 2013 is 57 years, 199th out of 223 countries (CIA Factbook 2014).

The field experiment takes place in villages in rural eastern Sierra Leone, governed by traditional institutions and dominated by local elites—a chief, a council of elders, a women's leader, a youth leader, a village imam, etc. Sierra Leone has been characterized as a ranked lineage society, where local elites (referred to as "Taa Gbakoi" in the local Mende language) control access to land, labor and marriage (Richards 2005). This hierarchical feature coupled with the polygamous nature of these societies is conducive to the clustering of power in the hands of a small number of ruling families. A recurring theme in the literature on Sierra Leone is that the exploitative behavior of local elites caused widespread grievances, especially among disenfranchised rural youths with little stake in development, possibly contributing to the start of the war (e.g., Richards 2005; Humphreys and Weinstein 2008; Mokuwa et al. 2011; Labonte 2012).[3]

Sierra Leone has a multi-layer chief system that runs in parallel to the formal state apparatus. The country consists of 149 chiefdoms, governed by a so-called paramount chief from a hereditary "ruling house." Only individuals from "established" families, recognized and appointed by the British colonial ruler in the late 19th century, are eligible to run for the chieftaincy even today. Acemoglu et al. (2013) use the number of ruling houses at the chiefdom level (i.e. the number of potential challengers for the chieftaincy) as a proxy for the power of the paramount chief. They hypothesize that a greater number of potential challengers will induce a chief to distribute chiefdom resources more widely to garner the support necessary to stay in office, diluting the concentration of power. Their main result is that more powerful chiefs provide fewer public goods, and have significantly worse development outcomes.

This finding supports the "chief as despot" perspective, and complements the dismal picture that other authors have painted of the undemocratic and grabbing nature of the public sector in Sierra Leone

[3] Note we do not explicitly study heterogeneous impacts of conflict on the success of the program as we did not collect data on conflict events as part of this study. Nearly all villages in the research area have been exposed to conflict. In a survey implemented the same area villages were asked about war exposure during the conflict 44%% of villages reported having been attacked at least once with an average 28 deaths (or about 7% of the population), see Grijspaarde et al (2013).

(e.g., Reno 1995).[4] In contrast, ethnic divisions do not appear to be a factor contributing to underdevelopment or under-provision of public goods (Glennerster et al. 2013).

Each chiefdom consists of sections, which in turn consist of villages. These villages are governed by a lower-tier chief, called the village or town chief. This village chief is the focus of our analysis, complementing the perspective on chiefdom-level governance in Acemoglu et al. (2013). Unlike the paramount chief, who is elected by a council, village chiefs are elected by taxpaying villagers, from a pool of native families. The village chief's main responsibilities include settling disputes, organizing public goods (e.g., farming on a communal plot or plantation, and promoting village cleanliness), and lobbying organizations that could be potential donors to bring resources into the village. The chief, perhaps together with supporting local elites, traditionally manage public good provision of the sort intended by donors who implement PDPs.

Village chiefs are accountable to their village. If a majority of the taxpaying population is unsatisfied with their chief, they can try to remove him through higher-up layers in the traditional leadership system (specifically, through the Section Chief and Chiefdom Committee—see Labonte 2012).[5] There are limits to the democratic nature of local governance, however. As with the election of paramount chiefs, not all villagers are eligible for the position of village chief. Candidates should be from a "chiefly family" (Labonte 2012), which in the context of Eastern Sierra Leone implies that only representatives of local landowning and tax-paying families can be considered. This excludes a significant fraction of the population (in our data the percentage of households that can 'produce' a chief varies from 13% to 100%). Non-natives, termed "strangers", normally cannot run for chief (but exceptions exist). Strangers are villagers who joined the community after the available land had been

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[4] The results of Acemoglu et al. (2013) extend beyond the finding that more powerful chiefs provide less public goods (presumably because of greater diversion of resources). Chiefs are also able to engineer or structure institutions and civil society at the local level to enhance and cement their grip on the lives of their underlings via patron-client networks.

[5] Villagers may also try to discipline their village chief through the organs of the "secret society" in the village. Secret societies are civic clubs that meet regularly in the (sacred) bush to discuss clan business, but details about such meetings are hardly available as members are bound by an oath of secrecy (e.g., Richards 1996). There are separate societies for females and males (*Poro*) and villagers may be initiated into the societies when they reach (young) adulthood. There is anecdotal evidence that sanctioning the chief for favoring one family or canonical clan over others may be negotiated in secret societies.

allocated to founding or ruling families. They are relegated to a dependent position in the community, and many have been in that position for several generations.

The divide between landowning families and strangers contributes to the feudal character of some of these communities (as described, for example, in Mokuwa et al. 2011). The share of strangers in local communities varies, but they represent the majority in some villages (in our data they represent between 0% and 55% of all households). Unfortunately, we lack data on the number of households that are of a chiefly family in their village for the full sample of villages included in our study. In what follows, we use variation in the number (share) of non-stranger, native families as a practical measure to identify an exogenous component of the power of village elites: in villages with more natives, *ceteris paribus*, the chief is more likely to be challenged (but see Besley and Kudamatsu 2007 and Svolik 2008 for richer treatments of leader turnover in autocratic contexts).[6] As a robustness analysis we rely on a subset of villages for which we do have data on households that are eligible to become chief (from data collected at baseline in 34 of the 56 villages). The two proxies of chief power, i.e., the number of non-stranger families and chiefly families, have a strong and positive correlation. Our empirical results are largely consistent using this alternative proxy (see Table A6a and A6b in the Appendix).

4. Data and Experimental Design

4.1 The Experiment

We report the results of a field experiment conducted in 56 rural villages surrounding the Gola Rainforest National Park (GRNP) in southeastern Sierra Leone. The GRNP is one of the largest and last remnants of the Upper Guinea forest in West Africa, and a global biodiversity hotspot. Local populations depend to a large extent on agriculture and forest-related goods and services. The GRNP is managed by a locally

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[6] Chief power depends on various factors, including the goodwill he has accumulated during his period in office. The level of competition for the position is one exogenous measure of power. Another is the extent to which the chief is "backed" by higher layers of the administrative system – for example via family relationships. Often villages share links with one or multiple of the ruling families at the Chiefdom level. We interviewed all ruling families mentioned in the Acemoglu et al (2014) data set for the six chiefdoms of our study region. We asked if they shared a family bond with any of the villages in our sample. We find that for two villages they state to hold a family relationship the village Chief directly, potentially providing such backing. Comparing the mean values in our outcome variables we find no clear difference with other villages in our sample.

established NGO, the Gola Rain Forest National Park Program. In exchange for restrictions on hunting, logging, and mining rights within park boundaries, community close to the GRNP boundary received a once-off transfer of on average 1.8 million Leones (or USD 437) worth of "livelihood support" to be invested in either a communal construction or agricultural project.[7] The villages eligible for the grant all lie within a one mile band around the forest edge. This implies that in some case the villages were very remote (comprising over a day's walk from a motorable road). Although the GRNP had been working in the area since 1990, this is the first time they had given grants directly to communities in participatory processes. Some villages, consisting of less than 30 households, received a smaller grant, so we control for the size of the grant in our empirical work below. The program implementation by GRNP Program then experimentally varied the local governance regime associated with the management of the grant.

We implemented our study from 2010-2012. During the first visit to each village (summer 2010), a community meeting was held in which members of our research team and representatives of the GRNP Program explained the grant. Village members then selected in an open discussion and voting process a project they wanted to implement. Nearly all villages (over 85% on average, see Table 1, Panel A) chose a construction project, such as a latrine, guesthouse, mosque or "barri" (i.e. community meeting space).[8] Importantly, this project selection village meeting occurred before we randomly determined who would steward the grant; thus, our analysis does *not* capture the impact of variations in how projects are selected because the selection mechanism and the management regime are orthogonal by design.[9]

Following the vote, the village was randomly assigned to one of two possible governance regimes for management and implementation. In our "committee" villages, we selected a three-member panel by drawing names of household heads out of a bag. While we allowed people to decline appointment as

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[7] Total grant value varied from $160 to $571 per village. GDP PC in Sierra Leone in 2011 stood at an average of $374 (World Bank 2013). This is likely much lower in rural areas (for example poverty headcount in Kenema district was 62% in 2011). The grant is valued at central market prices in Kenema. This implies that the total value of the project in each village is substantially higher as the NGO took care of the transportation costs, which constitute a significant amount in these remote areas.

[8] All construction projects place a similar demand on labor and other resources. Note also that none of these projects is overrepresented in either treatment arm. The remaining villages (8 out of 56) chose an agricultural or animal restocking project.

[9] When selecting the project, we assume villagers would have viewed the selection process as nothing other than a typical participatory consultation by the NGO, assuming that the chief would manage whatever project they selected. It is possible that, had some villages known the chief would not be managing the project, they would have selected a different project. We feel this is unlikely, however, as the set of possible projects is small and there seemed to be widespread consensus in village meetings on what the village needed.

committee members, no one did. We chose three committee members, rather than one member, to reduce variation in management ability across villages. We did not want the results of the experiment to be driven by the random selection of particularly weak managers in "committee" villages (e.g., "the village drunk" managing the project).

We realize random selection is an extreme form of purging elite involvement from project management, and do not necessarily propose this as a model for future development interventions (see Beath et al. (2013), and others, on experimental work involving the election of council members). Our design uses random selection of committee members because it was designed to limit, as much as possible, the ability of elites to capture the process. If villagers were asked to vote to choose project managers, they may have felt pressure to select the chief or his proxies (Uvin 2008). This would leave room for the chief to appropriate aid resources via his influence on these proxies. Hence, our experimental set-up intended to neutralize these effects.[10] We recognize that this design precludes villagers from choosing the most intrinsically motivated or most capable citizen candidates. In that sense, our assessment of the performance may provide a lower bound of what committees of villagers could accomplish.

Our control group consists of "chief" villages, wherein the chief, women's leader, and youth leader were responsible for project management. This 'co-opting' of village elites resembles the traditional way of handing over aid projects to villages, but we have chosen to delegate responsibility to three elite members, rather than to the chief alone, to ensure that the number of project managers would not be a confounding factor when identifying treatment effects. Note that a management council consisting of three members of the local elite, rather than just the chief, may introduce additional scrutiny and could invite "better behavior" by the chief. That is, perhaps the three elite members together behave more in accordance with community preferences than the chief alone would have done. While it is an open question to what extent the "elite council" represents an institution that disciplines the chief, we acknowledge that behavior of the elite in our experiment may be better than behavior of a single elite

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[10] At the same time, out design resonate with many real social contexts where societies are highly hierarchical and where the process of choosing a community committee would not be free from the influence of the local elites (for example, most of the people on Village Development Committees discussed in Casey et al (2012) are village elites). Here such influences are absent, generating a comparison group that was selected independently of the chief's preferences.

member as manager. In that sense, our data provide an upper bound of the quality of governance offered by (unconstrained) chiefs.[11]

Table 1 summarizes our experimental data, for the "chief" and "committee" villages separately. We report descriptive statistics as well as a test for the equality of means for a set of variables collected in our subsample of 34 baseline villages and for some time-invariant variables included in our full endline survey collected in 56 villages (Panel B and C). Randomization of the experimental design was successful: "chief" and "committee" villages are balanced across observable characteristics including the size of the grant, and the type of the project selected. Of course, we realize that for some variables the number of observations is small, so that the power of the associated t-test is low.

Comparing the chiefs and villager councils (Panel D and E) there are obvious differences. Specifically, elite managers are on average older and less likely to originate from a stranger family. Controlling for these differences does not affect our results.[12] Importantly, elite members are not different in other human capital variables. Such differences would have provided an alternative mechanism to explain our empirical results discussed below: differences in performance between the elite and villager committee would be explained by differences in managerial capacity rather than (abuse of) power and input diversion. While we lack detailed data on management ability (such as education, cognitive skills, etc.) for the full sample of villages, we do observe that chief and villager committees are similar along two important observables: gender and income (proxied by farmsize) – see Table 1 (Panel D). We also do not find significant differences when comparing single chiefs to ordinary villagers in the committee (Panel E). In addition, we do not find differences in age, gender and income between strangers and non-strangers in the committee (Panel F).

We have collected more detailed data to probe the robustness of this result. First, consider the cognitive ability of sub-samples of chiefs and villagers from 33 villages in the same research area (see

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[11] To probe the degree to which the interests of the members of the elite council were aligned, we collected the names of all council members. A simple comparison reveals that in about half of the councils (14/30) the chief shares the same last name with at least one of his fellow elite council members. While having the same family name does not necessarily indicate that elite members are family related, or that their interests are necessarily perfectly aligned, this is clearly a realistic possibility.
[12] See Appendix Table A4a and Table A4b. It is interesting to observe that "strangers" are not missing from the elite group altogether (see Table 1). While there are no stranger chiefs, strangers are included in the samples of women leaders and youth leaders.

Bulte et al 2015). For this sample we collected data on education levels (school years) and occupation ("are you a trader"). We also adminstered a simple seven questions math test, and implemented a "game of errors" (where respondents had to spot the 10 differences between two pictures). When comparing chiefs to random villagers for this sample, we again find no differences (results reported in Panel G). Another sub-sample of 41 villages from the current study appeared in a larger representative household survey implemented in 2010. When testing for differences in primary income earning activities (agriculture) and literacy between chiefs and random villagers for this sub-sample, we also find no significant differences (Panel H).[13] Finally, we considered another dataset on Sierra Leone to investigate differences in human capital between leaders and villagers. Using data from Casey et al. (2012) from 236 villages, we find no difference between chiefs and villagers in terms of education. The same is true when we compare the subsample of households that can stand for chief, and those that cannot. Taken together, we believe it is unlikely that differences in management capacity drive our results.

In both "committee" and "chief" villages, the management of project implementation involved ordering supplies, receiving and storing supplies, organizing construction efforts, and taking responsibility for maintenance of the project. Villagers, including project managers, knew that the NGO would return several more times to deliver requested materials. Although performance was monitored, managers also knew that there would be no consequence to them personally if the project failed, i.e. there was no sanctioning mechanism. Based on previous interactions with the NGO, villagers would not have expected much monitoring or accountability from the GRNP; this is perhaps born-out by the fact that many projects had not started several months after materials were delivered. Baseline data were collected during the first visit to the village. Due to logistical constraints we could only collect baseline data for a subsample of 34 communities (and 584 households).[14]

Between September 2010 and February 2011, GRNP delivered the materials for the community projects to the villages. After that, the research team visited the villages two more times. We collected

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[13] Observe that the random villagers included in this comparison are not necessarily the same individuals as the ones (randomly) selected to join the committee (though they are drawn from the same pool).

[14] During our baseline survey, we only collected data in smaller villages.

mid-line data during a visit in the Spring of 2011, and end-line data during a visit in October-November 2012. For both surveys, we interviewed 780 people from all 56 villages. In addition, we sent engineers to all villages to audit the community project. Engineers entered the village "blind," without reviewing details of what type of project the community had selected, or to what treatment type the village was randomly assigned. They located whatever evidence of a project they could find, if any, and estimated the value of inputs into the project: materials used, hours of labor required, and so on. They also assessed the quality of construction and maintenance.

After this assessment was done, auditors pulled out a summary sheet explaining what project the village should have completed and what materials were delivered to the village. As a second check, they attempted to locate or account for all the materials on the list. They explicitly investigated if project materials had been used for side projects or personal projects, and if so, they asked to see those as well.

4.2 Outcome Variables and Identification Strategy

We are interested in the effect of the identity of project managers on two groups of outcomes.[15] First, we examine whether elites are more prone to divert project inputs than the average villager. We construct a measure of diverted inputs by subtracting the engineer's estimate of the value of the constructed project from the total value of the grant (for a similar approach see Olken 2007). We also include measures of whether the auditor could find any materials in private side projects in other locations in the village.[16]

Second, we examine the relative effectiveness across the two groups, and ask whether elites or ordinary villagers are better able to implement and manage the project. This dimension of success captures the elites' managerial ability (i.e. capacity) and their incentives to manage, as well as their ability to command complementary inputs from villagers (i.e. authority). We have several indicators of success: we used engineers' assessments to establish whether the village had been able to start the project at the

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[15] Having multiple outcomes is convenient for broader interpretation of the received empirical results, but it does present certain statistical issues. Specifically, having multiple outcomes can lead to multiple hypothesis testing concerns. All of the results reported below are robust to corrections for multiple hypothesis testing using the approach of List et al. (2016).

[16] Another, more ambiguous, measure of input diversion may be the amount of cash requested by project managers, ostensibly to be used to pay for (skilled) labor. Project inputs came in the form of construction materials and tools delivered by GRNP Program, but managers could also ask for cash to pay for the use of labor. Anecdotal evidence suggests cash is particularly easy for managers to appropriate for themselves, but chiefs may also request different amounts of cash than villagers because they have different beliefs or expectations about the amount of skilled labor necessary to complete the project. As an extra test we examine whether chiefs ask for a larger share of the grant in the form of cash.

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time of the midline survey, whether the project had been completed during the end-line, and to obtain measures of construction quality and maintenance of the project. In addition, we recorded survey-based measures on the number of hours villagers reported working on the project and the overall satisfaction of villagers with the project ("*Did you benefit from the project?*" and "*Did the project make you better off?*"). As an auxiliary measure of success we explore whether attitudes towards forest conservation and the implementing NGO are affected by the management regime.

In addition to measuring average treatment effects, we also examine whether the performance of the two management regimes varies systematically across village types. Following Acemoglu et al. (2013), we test whether more powerful elites are more likely to grab a greater share of the project, allocate less effort to ensure successful completion of the project, and potentially sabotage project management when the committee is responsible for implementation. We have two proxies for the power of the chiefs. First, for the full sample of 56 villages we have a proxy for political competition. While we lack detailed information on the number of landowning and tax-paying families for our full sample of villages, we do know the number of stranger households in each community. In what follows, we treat the number of non-stranger households as a proxy for the potential number of challengers, or as a proxy for the dilution or concentration of power. We thus ask whether the relative performance of the project managers varies with the strength of local elites. Because some non-strangers do not own land, we likely overestimate the number of real challengers and underestimate the power of the local elites. However, this "bias" is not correlated with our randomly assigned management regime, so should not affect the direction of the comparative statics results. Second, for a smaller sample of 34 villages we have a more direct measure of chief power obtained from our baseline survey where we asked whether households were eligible to become village chief. When we use this proxy as a measure of chief power our results are qualitatively similar (reported in appendix Tables A6a and A6b).

To estimate average treatment effects, we regress the relevant outcome variable (Y_j) for village j on the binary treatment variable T_j (where $T=1$ indicates a "committee village"),:

$$Y_j = \alpha + \beta_T T_j + \varepsilon_j \tag{1}$$

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where ε_j is an error term and β_T is the coefficient of interest. In models based on household data (Y_{ij}) we

cluster standard errors at the village level. In a set of auxiliary regressions, we include a vector of

observable characteristics (X_j) plausibly correlated with our outcome variables: village size, distance to

chiefdom headquarter town, total grant size and NGO performance (i.e. did the NGO deliver the materials

on time)[17]:

$$Y_j = \alpha + \beta_T T_j + \beta_X X_j + \varepsilon_j \tag{2}$$

The "chief as despot" thesis suggests that elites grab more than ordinary villagers (i.e., $\beta_T<0$ in

models explaining diversion of inputs), and perhaps with elites performing more poorly in terms of

overall management ($\beta_T>0$ in models explaining project performance).[18] As mentioned, one alternative

explanation for $\beta_T>0$ in performance models is that the committee has less managerial capacity in

implementing the community project. However, when comparing chiefs and villagers (in Table 1) we do

not find any disparate observable characteristics in measures of education, wealth and cognitive function.

Taken together, there is no evidence that differences in management capacity drives our results.

To empirically investigate heterogeneous treatment effects, we include an interaction term

capturing the product of the treatment indicator and a variable capturing the power of the elites (P_j). In

particular we estimate:

$$Y_j = \alpha + \beta_T T_j + \beta_P P_j + \beta_I T_j P_j + \beta_X X_j + \varepsilon_j \, . \tag{3}$$

This specification enables us to further scrutinize the "chief as despot" hypothesis because we can now

explore whether more powerful elites are more corrupt and less likely to successfully implement the

project. This implies testing whether $\beta_P<0$ in models where the dependent variable Y_j captures inputs

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[17] Controls are added to increase precision in our estimates. We include distance to Chiefdom headquarter towns to capture remoteness and distance to main markets. Remote villages face higher transaction costs and hence the implicit value (and costs for exchanging) of the aid goods delivered to the community vary. We add village size to control for within village dynamics related to opportunities for free riding on the development project. We add grant size to control for slight variations in total grant size. Note none of these variables are correlated with treatment. We also include a control variable measuring NGO performance, measuring the timing of the supply of project inputs to the village, by the NGO. We found that the NGO was more likely to deliver materials on time in villages where chiefs managed the project (see Table 1, Panel A).

[18] In addition, another explanation is that there are differences in the opportunity costs of time between chiefs and villagers. Yet, even if communities in rural Sierra Leone are socially stratified, there are only small differences in material wealth. In fact, we do not document significant differences between members of the elite and committee – everybody is very poor and equally engaged in agriculture (see Table 1). Moreover, agricultural productivity is characterized by clear seasonal patterns, and while everybody is very busy when preparing a new farm for the next season or when harvesting the crops, there are also extended periods during which most villagers have ample time. Since we are assessing a two year time span from the delivery of the goods, we do not believe that lack of time constitutes a major constraint for most project managers.

diverted or project completion (and where P_j captures the number of households from non-stranger families[19]), and testing whether $\beta_P > 0$ in models where Y_j represents a measure of success (note that the number of native families, P, is inversely related to power of the elites).

Further, equation (3) enables us to examine whether powerful chiefs seek to undermine the workings of the committee, as suggested by Uvin (2008). Assuming power facilitates sabotage by the elite, we expect $\beta_I > 0$ in models explaining committee performance. As the number of potential political challengers increases, this effect should weaken and committees would perform better.

Our power proxy implies two potential confounds. First, and as discussed above, differences in human capital or management capacity between elites and non-elites might explain why performance in villages with many chiefly families (or few strangers) is different from performance in villages with few chiefly families. As committee members are randomly selected, the share of elites in the committee is increasing in the share of chiefly families in the village. The power of the chief could thus correlate with the level of human capital available in the committee. However, we find no evidence for differences in human capital between elites and non-elites, or between natives and strangers (Table 1). In addition, we control for differences in human capital (at the committee level, and interacted with treatment) in supplementary regressions and find that results on our core variables are qualitatively similar (see Tables A4). Second, the share of natives (strangers) may be correlated with social capital in the village. Perhaps people are more likely to be connected in kinship networks in villages with a high share of natives. Hence, villages with powerful elites (i.e. a smaller share of natives) could also have lower social capital, providing an alternative mechanism for any differences in project performance. We collected social capital data in a subsample of villages (41 out of 56) in a previous survey and again include this in our main regression. Our results maintain (see Tables A5).[20]

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[19] We focus on chiefly households rather than families as in some villages (and indeed: chiefdoms) there have been intense conflicts between family members from the same lineage.

[20] Unfortunately, we lack data on social capital for our full sample. We do have social capital is measured for a subsample of villages (41 out of 56) included in an earlier survey. There we asked a World Value Survey type questions (measuring social capital in family members, fellow villagers, and "strangers") and record the average responses on a five point scale. Specifically, we asked respondents four questions: *How much do you respect these co-villagers? How much do you trust co-villagers? If you were in trouble, would you go to co-villagers for help? How well do think co-villagers represent your interest?* We summed the answers across all categories and create a village level average.

5. Field Experimental Results

5.1 Average Treatment Effects

Our main results on aid capture are summarized in Table 2a. Panel A presents our results without controls (corresponding to equation (1) above) and Panel B adds the vector of controls (corresponding to equation (2)). To economize on space we only report the coefficients of interest, i.e. the coefficient associated with the chief treatment (β_T). For our three main proxies for input diversion, we find no evidence that more materials are missing in the chief groups: there is no difference in the audit value of the project minus the value of the grant between chief and committee villages.[21] Also, there is no evidence that project inputs showed up in irregular places (e.g., auditors did not find zinc sheets from the project on the roof of the chief's residence or in the possession of other village members). Conversely, the finding that input diversion does not increase in "committee" villages may reflect that mandates were unambiguously assigned, attenuating the types of potential common pool problems highlighted by Beath et al. (2013b).

In Table 2b we provide complementary results on project implementation. Chief villages are on average more likely to start with the project within a two-year period (column 1) and are also more likely to finish it in time (column 2). Note that even in Chief villages the project commencement and completion is far from complete: in 77% the project started, and it was successfully finished within the study period of two years in only about 53% of these villages. In comparison, the committee villagers did a lot worse: in committee villages 23%-30% less projects had been started or competed. This suggests that chiefs are better managers of this type of community projects. This is supported by midline data (see Appendix Table A2), when auditors were (22%) more likely to find evidence of a project in chief villages than in committee villages (p<0.05).

Columns (3)-(4) provide further evidence that chiefs are better managers than ordinary villagers. Specifically, in spite of the small size of our sample (and considerable measurement error, undoubtedly),

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[21] Note the coefficient is large and noisily estimated. On average in chief villages the grant value exceeds the audit value by $60. In committee villages this discrepancy is larger by about $63-$81 corresponding to the greater absence of projects in committee villages (Table 2b).

we find that projects in "chief" villages are better constructed and maintained (a 0.7 to 0.8 level difference on a five point scale), without people in the community reporting that they had to work more hours on the project (columns 5). Although individuals in the villages did not report that they were more or less satisfied with elites as managers (column 6) we do find that a larger share of the villagers believe they "benefitted from the project" and are "better off" as a result of the intervention (a 0.31-0.36 level increase on a five point scale, see columns 7 and 8). Apparently, it is not easy for development agencies to find alternative strategies to provide local goods.[22]

A final conclusion that may be gleaned from Table 2b is that it is difficult for NGOs to "buy" support for their work by implementing livelihood projects. The Gola Rainforest National Park Program runs this livelihood program explicitly to engender goodwill in the communities bordering the national park because they need people to cooperate with the conservation rules that govern the park. If attitudes towards the NGO were a function of the success of the project implementation, then (in light of the difference in performance between chief and committee villages) we would expect different levels of satisfaction across treatments. Instead, we cannot reject that satisfaction is the same across treatments. Columns (9) and (10) suggest the governance modality is negatively related to the attitudes of villagers towards either the implementing NGO or overarching conservation program. We have probe the robustness of this insight by using alternative proxies for the attitudes of villagers in forest edge communities, and find similar results (see Appendix Table A3).

One question that immediately arises is whether the chief and committee villages follow a different path to stewarding their projects. We find, on average, elite managers asked for more cash than committees of villagers. In our sample, managers in 23% of chief villages requested cash versus 8% of the committee villages, but this is only statistically significant at the p < 0.11 level. In addition, elite managers requested on average USD 18 for skilled labor, but committees requested only USD 3.44 (p=0.06). In percentage terms, elites ask on average 4% of project funds in the form of cash, while

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[22] In additional analysis we have regressed our measures of input diversion and project implementation on characteristics of the chief (his age, gender, and farm size). This did not produce meaningful correlations, so we conclude that development agencies cannot easily improve performance by simply picking chiefs with certain on observable characteristics.

committees take less than 1% (p=0.04). This difference in cash requests amounts to nearly USD 15, which is a sizable amount of cash in this part of rural Sierra Leone, but modest in light of the value of the total grant, close to 5%.[23]

5.2 Does the Chief's Power Matter?

We do not "experimentally vary" chief power across villages, so our ability to test hypotheses involving the (conditioning) effect of power on performance is limited. Moreover, as mentioned, we measure power with considerable noise. With these important qualifications in mind, we now probe the impact of chief power in Tables 3a and 3b.

We obtain mixed evidence for the hypothesis that chief power is correlated with input diversion. According to column (1) in Table 3a, on average committees divert more money than elites. While the extent of political competition does not affect diversion by the elite, it is correlated with "missing inputs" in committee villages. In committee villages with more powerful chiefs (i.e., those with less non-stranger or chiefly families that can provide countervailing power to the village chief), fewer inputs are missing (a one standard deviation increase in non-stranger families in committee villages decreases the gap between grant value and audit value by about $150). As the number of non-stranger families in the village increases, it is also true that the probability that a member of the committee is connected to one of the chiefly families increases, which would explain this pattern. This implies that committees of average villagers get stronger (i.e. more prone to the diversion of resources from the project) as the concentration of power in the village gets more diffuse, whereas chiefs may get weaker (i.e. less prone to the diversion of resources). We also find that, in chief villages, the presence of side projects or materials found in other locations is not associated with the power of the chief (column 2, Panel B and C).

Our results in Table 3b support the interpretation that committee performance is conditional on the power of the chief.[24] Specifically, committees perform *worse* on several key measures of success

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[23] In the end-line survey, we asked villagers about their opinion regarding the diversion of project resources by the chief. When asked what percentage of project resources chiefs are allowed to take for himself, on average subjects said 9.3 percent. Seventy-one percent of villagers also indicated that the chief should take some project resources for himself. If villagers perceive diversion as compensation for a valuable service, then perhaps it represents a fee, rather than theft. As mentioned above, differences in cash requests may also reflect diverging expectations with respect to labor requirements. For these reasons we prefer to use the more direct measurements of input diversion – the results on cash requests are reported in Appendix Table A1.

(completion, construction and maintenance, satisfaction) if the chief is more powerful in the village. For example, for each 30 additional non-stranger households (about 1 standard deviation) the probability that a project is completed in committee villages increases by 24%.

As mentioned, the share of non-strangers may be correlated with social and human capital variables, potentially biasing our results. In Appendix Tables A4 and A5, we control for differences in social capital (at the village level) and human capital (at the committee level), and find that results on our core variables are qualitatively similar. Also, in Appendix Table A6 we report similar results using an alternative power proxy for a smaller subsample of villages.[25]

The results presented are consistent with several hypotheses, including a "chief as saboteur" hypothesis. In this case, chiefs may actively seek to signal to our NGO that they should work through village elites the next time they dispense aid. The committee structure threatens the chief's future power or role as broker and liaison with the outside world, and more powerful chiefs are better able to undermine the committee's efforts. While we did not search for (direct) evidence on sabotage activities undertaken by the chief, it is possible that chiefs attempt to undermine the performance (and, hence, legitimacy) of the committee introduced in "their" village. This may be achieved, for example, by obstructing committee efforts to mobilize labor to implement the project (column 5). However, we hasten to add that our interpretation of these data is necessarily speculative, and should be tested more rigorously in future empirical work.

6. Conclusions and discussion

A growing literature in economics and political science points to weak governance as a major cause of (African) under-development, and argues that poor management is not restricted to "predatory" or

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[24] Note too that the effect of power on project performance is much weaker (possibly ambiguous) in case the chief is the project manager.
[25] In addition, we investigated another potential channel via which village chiefs may be less accountable. Disgruntled villagers seeking to remove their chief should file a complaint to the paramount or section chief. We conjecture that a paramount or district chief would be less inclined to remove a family member from power. Anticipating this response, unhappy villagers are presumably less likely to file a complaint in the first place. So if village chiefs have family members in "high places" we assume they are more powerful. To probe this conjecture, we compared the family names of our village chiefs to the names of the higher chiefs, and contacted all paramount chiefs to ask about family relationships. Unfortunately, only two of "our" village chiefs were family-related to a paramount chief, and only one of these two villages was assigned to the committee treatment (where we would expect "powerful chiefs" to sabotage the project). It is interesting to observe that the committee project in the village with the powerful chief (thus defined) was indeed an utter failure, and did not even start after two years.

incapable states. At the local level, leaders are often perceived to be either incapable or corrupt. One hypothesis explaining such patterns is that colonial systems of indirect rule severed ties of accountability between chiefs and villagers. The so-called "chief as despot" thesis has gained momentum, and has spurred a search for alternative governance modalities at the local level. The surge in funding for participatory development interventions that bypass both central and decentralized levels of government is a prominent manifestation of this ambition.

Rigorous statistical evidence on the management performance of local leadership in Africa is scarce, however. In what has been done, a mixed picture emerges. For example, while Acemoglu et al. (2013) find some support for the "chief as despot" thesis by considering public good provision at the level of paramount chiefs in Sierra Leone, a recent study by Humphreys et al. (2015) does not support the view of widespread diversion of aid money at the local level in the DRC.

While more powerful chiefs will be more corrupt by diverting more resources from the public good to their personal benefit, under-invest in management of the project, and seek to undermine the performance of managing committees, our empirical findings provide a more nuanced and mixed picture of the quality of local management in Africa. Our field experiment finds little evidence that local elites managing an aid project divert more resources than the average villager, or that more powerful chiefs divert more than less powerful ones. Moreover, the village elites are able to manage a development project better than a committee of randomly selected villagers (which is not surprising and should not be misconstrued as an argument in favor of customary leadership over democratically-elected councils, as our committees were not elected).[26] Projects managed by village elites are also more likely to start and be completed on time, are better constructed and maintained, and provide more (perceived) benefits for the villagers.[27] We note, that even in villages where elites managed the project, performance was relatively poor. In about 25% of villages, projects were never implemented.

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[26] As aforementioned, electing council members may enable villagers to select the "best candidates" from their midst, but also opens the door to elite capture if the elite is able to obtain sufficient support for its proxies.

[27] While villages selected projects before they knew who would manage the project, most villagers presumably believed the chief would implement the project. It is possible that villager committees have an advantage in managing different types of projects, in which case the

Three candidate explanations for differences in performance immediately leap to mind. Chiefs may (1) have superior abilities to implement and oversee a project (due to learning by doing, or because chiefs are selected based on characteristics correlated with management ability); (2) chiefs may be able to draw on complementary village resources by virtue of their formal authority; or (3) chiefs may have stronger (dynamic) incentives to successfully complete the project because they expect future benefits from successful project completion. We lack the data to uncover which mechanism explains why the chief tends to outperform the committee. However, we do observe that in our research area chiefs have similar characteristics as the villagers they govern, and that they are not significantly different in terms of for example income, age, or levels of education. Chiefs also perform no better at simple cognitive tests. We also show that chiefs can more effectively engage with the NGO (arguably a measure of ability or quality). According to our data, on average 23% of the chief villages received their first batch of materials late, compared to 58% of the committee villages (see Table 1). Future research should further probe the mechanism explaining differences in performance between chiefs and committees.

A fourth reason to explain the difference in performance between chiefs and committees: sabotage by the chief in case the committee is responsible for project management. Vested interests associated with pre-existing institutions (traditional agrarian hierarchies) may view the newly introduced management regime as a threat to their authority and position, and seek to undermine the legitimacy of such institutional innovations by sabotage. We hypothesize that more powerful chiefs are better able to do this, and may obstruct the functioning of the committee. We obtain some non-experimental data that are consonant with this hypothesis. We document that, across a range of relevant performance measures, committees score worse when the chief is more powerful when we use a measure of local political competition as a proxy for chief power.

Overall, our research implies a warning to policy makers and development practitioners seeking approaches to circumvent local elites or tie their hands to curtail rent capture. Consistent with recent

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discriminating alignment theory predicts that fully informed villages would have selected a different project had they known the identity of the project manager. If so, we underestimate the potential of committees to successfully manage certain projects.

evidence by Casey et al. (2012) and Humphreys et al. (2015), we find that creating viable parallel institutions for project implementation is challenging and that it is far from easy to provide viable alternative mechanisms to provide local public goods.[28] It is an open question whether equity gains of such approaches are dominated by efficiency losses, and it may be worthwhile to instead explore strategies that involve providing incentives to elites to facilitate project implementation. This may create a dilemma between short-term efficiency in project implementation versus long-term implications of imbalanced power relationships. Working via elites may cement their position of power within existing patron-client networks. A challenge for researchers interested in the management of development resources is to probe how communities can move from dependence on effective local elites to systems where projects are completed with high participation and performance.

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[28] In comparison, our study is similar in that it creates local committee that manage (block) grants with an emphasis on participation and management and but smaller in scale with fewer villages and a slightly lower amounts per household (on average).

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Table 1. Descriptive Statistics

Characteristic	Chief (SD)	Committee (SD)	Difference (p-value)	Obs households	Obs villages
Panel A: Community Project					
Construction project [b]	0.80	0.92	0.12		56
	(0.41)	(0.27)	(0.20)		
Construction of a mosque [c]	0.30	0.49	0.19		56
	(0.46)	(0.50)	(0.16)		
Construction of a town barri [b]	0.30	0.11	0.18		56
	(0.46)	(0.32)	(0.10)		
Construction of a guesthouse [b]	0.16	0.19	-0.03		56
	(0.37)	(040)	(0.80)		
Grant value (in USD) [b]	424.33	450.84	-26.51		56
	(134.66)	(134.61)	(0.47)		
NGO performance (1=materials late) [b]	0.23	0.58	0.34		56
	(0.43)	(0.50)	(0.08)		
Panel B: Respondent level					
Male (1=yes) [a]	0.83	0.81	0.02	584	34
	(0.38)	(0.39)	(0.69)		
Male (1=yes) [b]	0.69	0.70	-0.01	778	56
	(0.46)	(0.46)	(0.46)		
Age (years) [a]	42.69	43.94	-1.25	581	34
	(15.15)	(15.81)	(0.40)		
Age (years) [b]	43.09	42.06	1.03	779	56
	(15.80)	(14.80)	(0.46)		
Mende (1 = yes) [a]	0.87	0.88	0.02	567	34
	(0.34)	(0.32)	(0.78)		
Muslim (1 = yes) [a]	0.97	0.94	0.03	584	34
	(0.18)	(0.24)	(0.13)		
Family could have chief (1=yes) [a]	0.54	0.58	0.05	584	34
	(0.50)	(0.49)	(0.49)		
Stranger (1= yes) [b]	0.16	0.23	0.07	882	56
	(0.37)	(0.42)	(0.13)		
Farm size (acres) [b]	28.68	27.26	0.17	827	56
	(26.81)	(15.83)	(0.55)		
Panel C: Community level					
Number of "Chief Households" [a]	9.59	9.00	-0.59		34
	(4.13)	(5.02)	(0.71)		
Number of "Non-Stranger Households" [b]	30.65	32.54	-1.89		56
	(31.13)	(30.75)	(0.82)		
Village size (#households) [b]	36.35	40.1	-3.75		56
	(32.90)	(33.00)	(0.67)		
Distance to chiefdom headquarter town [b]	12.77	15.66	2.891		55
	(7.98)	(5.92)	(0.14)		
Social capital [0-16] [d]	15.09	14.91	0.17		41
	(0.88)	(1.02)	(0.57)		
Panel D: Chief Council vs Villager Council	*Chiefs council*	*Villagers council*			
Male (1=yes) [a]	0.72	0.75	-0.03	158	56
	(0.45)	(0.44)	(0.56)		
Age (years) [a]	47.76	41.50	6.26	159	56
	(16.09)	(14.05)	(0.01)		
Farm size (acres) [a]	32.44	27.72	4.71	150	56
	(51.96)	(14.93)	(0.47)		
Stranger (1=yes) [a]	0.10	0.20	-0.10	159	56
	(0.30)	(0.40)	(0.09)		

Table 1 (continued). Descriptive Statistics

Characteristic	Chief (SD)	Committee (SD)	Difference (p-value)	Obs households	Obs villages
Panel E: Chiefs vs Villager Council	*Chiefs in council*	*Villagers council*			
Male (1=yes) [a]	0.94	0.76	-0.18	133	56
	(0.23)	(0.43)	(0.00)		
Age (years) [a]	55.59	41.85	-13.74	133	56
	(16.42)	(14.10)	(0.00)		
Farm size (acres) [a]	36.69	27.95	-8.73	126	56
	(63.28)	(14.86)	(0.34)		
Stranger (1=yes) [a]	0.04	0.20	0.16	133	56
	(0.19)	(0.40)	(0.00)		
Panel F: Strangers vs Non Strangers in committee	*Non stranger*	*Stranger*			
Male [b]	0.74	0.80	-0.06	76	26
	(0.44)	(0.41)	(0.62)		
Age [b]	42.48	37.53	-0.06	76	26
	(15.11)	(7.70)	(0.62)		
Farm size [b]	28.09	26.18	-0.06	76	26
	(14.9)	(15.52)	(0.65)		
Panel G: Chiefs vs Villagers	*Chiefs*	*Villagers*			
Math score (# correct, 0 to 7) [c]	3.62	3.57	0.05	424	33
	(1.84)	(1.58)	(0.84)		
Errors game (# correct, 0 to 10) [c]	1.10	1.22	-0.12	407	33
	(0.71)	(0.65)	(0.20)		
School years (years) [c]	1.47	1.72	-0.25	379	25
	(3.42)	(3.52)	(0.60)		
Trader (1=yes) [c]	0.42	0.47	-0.05	553	25
	(0.50)	(0.50)	(0.42)		
Panel H: Chiefs vs Villagers	*Chiefs*	*Villagers*			
Primary income is from agriculture (1 = yes) [d]	0.91	0.92	0.01	216	41
	(0.28)	(0.27)	(0.87)		
Literacy in Arabic (1 = yes) [d]	0.28	0.20	-0.08	216	41
	(0.46)	(0.40)	(0.29)		
Any formal schooling (1=yes) [e]	0.32	0.26	-0.06	1986	236
	(0.47)	(0.44)	(0.27)		
Any formal schooling (1=yes) [e *]	0.27	0.26	0.01	1971	236
	(0.44)	(0.44)	(0.67)		

Standard errors clustered at village level for household level comparisons. Data sources: (a) Baseline survey data, 34 villages, (b) Endline data, 56 villages, (c) Data from Bulte et al (2015), 33 villages, (d) Household Survey 2010, 41 villages, overlapping with FEC sample (e) Casey et al replication files available through Harvard Dataverse (*) households that can stand for Chief vs households that cannot stand for Chief.

Table 2a. Project Outcomes, Aid diversion

	(1) Audit value of project minus grant value	(2) Presence of side projects	(3) Presence of project materials at other locations
Panel A: no controls			
Committee	-62.592	-0.065	0.043
	(104.178)	(0.073)	(0.118)
Obs.	56	52	53
Panel B: with controls			
Committee	-81.193	-0.066	0.002
	(107.374)	(0.079)	(0.113)
Obs.	56	52	53
Mean Chief group	-59.917	0.107	0.207
Scale	(-571.42, 1193.33)	[0,1]	[0,1]

OLS regressions. Robust standard errors in parentheses. Regressions in Panel B include controls: village size (normalized), distance to Chiefdom headquarters town and project grant value (USD) (except for column (1)) and NGO performance. * p < 0.10, ** p < 0.05, *** p < 0.01

Table 2b. Project Outcomes, Implementation

	(1) Project started end-line	(2) Project mostly complete end- line	(3) How well constructed is the project?	(4) How well maintained is the project?	(5) Hours reported worked on the project (ln)	(6) Satisfied with project management?	(7) Did you benefit from the project?	(8) Are you better off?	(9) Are you satisfied with the GRNP?	(10) Do you support conserving GRNP?
Panel A: no controls										
Committee	-0.228*	-0.226*	-0.836*	-0.715	0.098	-0.107	-0.363**	-0.309**	-0.337*	-0.240*
	(0.127)	(0.131)	(0.446)	(0.472)	(0.170)	(0.091)	(0.159)	(0.136)	(0.181)	(0.132)
Obs.	56	56	56	56	801	830	867	875	882	882
Panel B: with controls										
Committee	-0.301**	-0.276*	-0.940*	-1.062**	-0.0741	-0.0993	-0.452***	-0.366**	-0.126	-0.136
	(0.135)	(0.141)	(0.489)	(0.500)	(0.157)	(0.130)	(0.167)	(0.150)	(0.149)	(0.118)
Obs.	56	56	56	56	801	830	867	875	882	882
Mean Chief group	0.767	0.533	2.567	2.600	1.650	4.042	3.748	3.204	3.620	4.090
Scale	[0,1]	[0,1]	[1-5]	[1-5]	[0, 6.10)	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]

OLS regressions. Robust standard errors in parentheses, clustered at village level for column (5)-(10). Regressions in Panel B include controls: village size (normalized), distance to Chiefdom headquarters town and project grant value (USD) (except for column (1)) and NGO performance. * p < 0.10, ** p < 0.05, *** p < 0.01

Table 3a. Heterogeneity Chief Power, Aid diversion

	(1) Audit value of project minus grant value	(2) Presence of side projects	(3) Presence of project materials at other locations
Panel A: no controls			
Committee	-223.128*	-0.100	0.072
	(124.678)	(0.096)	(0.168)
Non-Stranger Households	-0.649	-0.001	-0.000
	(1.541)	(0.001)	(0.002)
Non-Stranger Households * Committee	4.971	0.001	-0.001
	(2.987)	(0.001)	(0.003)
Observations	56	52	53
Panel B: with controls			
Committee	-266.222**	-0.100	-0.005
	(117.773)	(0.108)	(0.151)
Non-Stranger Households	6.898	0.007*	-0.006
	(6.597)	(0.004)	(0.010)
Non-Stranger Households * Committee	5.604*	0.001	-0.000
	(3.057)	(0.001)	(0.003)
Observations	56	52	53
Mean Chief group	-59.917	0.107	0.207
Scale	(-571.42, 1193.33)	[0,1]	[0,1]

OLS regressions. Robust standard errors in parentheses. Regressions in Panel B includes village size, distance to Chiefdom headquarters town, project value (USD) and NGO performance (except for column (1)) * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table 3b. Heterogeneity Chief Power, Implementation

	(1) Project started end-line	(2) Project mostly complete end-line	(3) How well constructed is the project?	(4) How well maintained is the project?	(5) Hours reported worked on the project (ln)	(6) Satisfied with project management?	(7) Did you benefit from the project?	(8) Are you better off?	(9) Are you satisfied with the GRNP?	(10) Do you support conserving GRNP?
Panel A: no controls										
Committee	-0.495***	-0.224	-1.759***	-1.694**	-0.245	-0.300**	-0.364	-0.346*	-0.163	-0.175
	(0.174)	(0.183)	(0.601)	(0.654)	(0.163)	(0.130)	(0.230)	(0.198)	(0.267)	(0.177)
Non-Stranger Households	-0.002	0.002	-0.006	-0.008	0.006***	-0.001	0.001	0.004*	0.004*	0.001
	(0.003)	(0.002)	(0.009)	(0.010)	(0.002)	(0.001)	(0.002)	(0.002)	(0.002)	(0.002)
Non-Stranger Households * Committee	0.008*	-0.000	0.029**	0.031**	0.009	0.005**	-0.000	0.001	-0.005	-0.002
	(0.004)	(0.004)	(0.014)	(0.015)	(0.005)	(0.002)	(0.005)	(0.004)	(0.006)	(0.004)
Obs.	56	56	56	56	801	830	867	875	882	882
Panel: with controls										
Committee	-0.668***	-0.303	-2.105***	-2.446***	-0.492***	-0.338*	-0.495*	-0.416*	0.210	0.005
	(0.148)	(0.195)	(0.548)	(0.520)	(0.166)	(0.199)	(0.250)	(0.223)	(0.223)	(0.167)
Non-Stranger Households	0.010	-0.000	0.023	0.025	0.012	0.001	0.021**	0.010	0.013	0.016**
	(0.009)	(0.011)	(0.031)	(0.033)	(0.010)	(0.007)	(0.010)	(0.008)	(0.010)	(0.008)
Non-Stranger Households * Committee	0.011***	0.001	0.034***	0.041***	0.011**	0.006**	0.002	0.002	-0.008	-0.003
	(0.003)	(0.004)	(0.012)	(0.013)	(0.005)	(0.003)	(0.005)	(0.004)	(0.006)	(0.005)
Obs.	56	56	56	56	801	830	867	875	882	882
Mean Chief group	0.767	0.533	2.567	2.600	1.650	4.042	3.748	3.204	3.620	4.090
Scale	[0,1]	[0,1]	[1-5]	[1-5]	[0, 6.10]	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]

OLS regressions. Robust standard errors in parentheses, clustered at village level for Column (5)-(10). Regressions in Panel B include village size, distance to Chiefdom headquarters town and project value (USD) and NGO performance. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A1. Project Outcomes, Cash Requested

	(1) Percent of grant requested as cash
Panel A: no controls	
Committee	-2.744*
	(1.537)
Obs.	56
Panel B: with controls	
Committee	-4.438**
	(1.698)
Obs.	56
Mean Chief group	4.506
Scale	[0, 21.604)

OLS regressions. Robust standard errors in parentheses.
Regressions in Panel B include controls: village size
(normalized), distance to Chiefdom headquarter town and
project grant value (USD) (except for column (1)) and
NGO performance. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A2. Project Outcomes, Implementation Midline

	(1) Project started midline
Panel A: no controls	
Committee	-0.225**
	(0.105)
Observations	54
Panel B: with controls	
Committee	-0.353***
	(0.123)
Observations	54
Mean Chief group	0.947
Scale	[0,1]

Robust standard errors in parentheses, Regression includes village
size, distance to Chiefdom headquarter town and project value
(USD) and NGO performance.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A3. Project Outcomes, Implementation, Alternative Satisfaction Proxies

	(1) Have you benefitted from GFP?	(2) Are people who do illegal activities reported?	(3) Have you changed the way you farm?	(4) Is the forest healthier and stronger?	(5) Are you satisfied with organization by GFP?	(6) Are you satisfied with materials?	(7) Do you use and benefit project?	(8) Are you better off?
Panel A: no controls								
Committee	-0.239	-0.0128	-0.0400	-0.0758	-0.294***	-0.333**	-0.363**	-0.305**
	(0.175)	(0.124)	(0.0466)	(0.0694)	(0.0990)	(0.129)	(0.159)	(0.135)
Observations	880	780	876	837	878	863	867	875
Panel B: with controls								
Committee	-0.282*	0.093	-0.016	0.001	-0.311***	-0.330**	-0.458***	-0.361**
	(0.151)	(0.118)	(0.0495)	(0.063)	(0.093)	(0.126)	(0.167)	(0.149)
Observations	880	780	876	837	878	863	867	875
Mean Chief group	3.518	3.859	4.112	4.385	3.901	3.820	3.748	3.200
Scale	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]

Robust standard errors in parentheses, clustered at village level, Regression includes village size, distance to Chiefdom headquarter town and project value (USD) and NGO performance.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4a. Heterogeneity Chief Power, Aid diversion, Human Capital controls

	(1) Audit value of project minus grant value	(2) Presence of side projects	(3) Presence of project materials at other locations
Committee	-308.756	-1.311	0.532
	(824.028)	(0.800)	(1.108)
Non-Stranger Households	9.438	0.004	-0.010
	(7.605)	(0.004)	(0.012)
Non-Stranger Households * Committee	4.982	0.005	0.001
	(5.216)	(0.003)	(0.006)
Gender (% male)	-165.564	-0.049	0.287
	(337.082)	(0.230)	(0.378)
Committee * gender (% male)	448.361	-0.147	-0.990
	(468.584)	(0.268)	(0.603)
Average age	13.148	-0.016	-0.002
	(11.219)	(0.012)	(0.014)
Committee * (av) age	-10.973	0.023*	0.003
	(16.623)	(0.013)	(0.019)
Average farm size	-0.049	-0.001	-0.001
	(0.822)	(0.001)	(0.001)
Committee * (av) farm size	9.203	0.002	-0.000
	(6.211)	(0.002)	(0.011)
Stranger (%)	-155.756	-0.925	-0.424
	(521.926)	(0.577)	(0.569)
Committee * Stranger (%)	60.234	0.978	0.227
	(645.304)	(0.614)	(0.751)
Observations	56	52	53
Mean Chief group	-59.917	0.107	0.207
Scale	(-571.42, 1193.33)	[0,1]	[0,1]

OLS regressions. Robust standard errors in parentheses. Regression includes village size, distance to Chiefdom headquarter town, project value (USD) and NGO performance (except for column (1)) and chief/villager committee gender, age, income and stranger and interactions). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A4b. Heterogeneity Chief Power, Implementation, Human Capital controls

	(1) Project started end-line	(2) Project mostly complete end-line	(3) How well constructed is the project?	(4) How well maintained is the project?	(5) Hours reported worked on the project (ln)	(6) Satisfied with project management?	(7) Did you benefit from the project?	(8) Are you better off?	(9) Are you satisfied with the GRNP?	(10) Do you support conserving GRNP?
Committee	-1.809*	-2.060*	-4.702	-7.907**	0.019	1.016	-0.551	-0.734	0.684	-0.389
	(0.967)	(1.194)	(3.621)	(3.558)	(0.833)	(0.892)	(1.219)	(1.076)	(1.175)	(0.879)
Non-Stranger Households	0.012	0.004	0.036	0.038	0.018*	0.005	0.026***	0.014	0.009	0.015
	(0.011)	(0.013)	(0.037)	(0.038)	(0.009)	(0.007)	(0.010)	(0.009)	(0.011)	(0.009)
Non-Stranger Households * Committee	0.011**	0.004	0.034*	0.046**	0.008*	0.007*	0.002	0.005	-0.007	-0.001
	(0.005)	(0.006)	(0.020)	(0.021)	(0.004)	(0.004)	(0.006)	(0.005)	(0.007)	(0.005)
Gender (% male)	-0.510	-0.310	-1.294	-1.124	-0.034	-0.043	-0.139	-0.215	0.233	-0.252
	(0.378)	(0.466)	(1.472)	(1.417)	(0.317)	(0.353)	(0.512)	(0.495)	(0.369)	(0.344)
Committee * gender (% male)	0.899	0.726	2.946	3.005	1.122**	-0.539	0.083	-0.513	-0.952	-0.001
	(0.539)	(0.689)	(1.969)	(2.003)	(0.510)	(0.543)	(0.746)	(0.678)	(0.674)	(0.500)
Average age	-0.002	-0.003	0.018	-0.018	0.014	0.013	-0.002	-0.012	-0.009	-0.011
	(0.013)	(0.017)	(0.053)	(0.047)	(0.011)	(0.010)	(0.014)	(0.010)	(0.008)	(0.010)
Committee * (av) age	0.003	0.018	-0.009	0.041	-0.024	-0.023	-0.007	0.008	0.005	0.003
	(0.018)	(0.022)	(0.071)	(0.070)	(0.016)	(0.018)	(0.023)	(0.018)	(0.020)	(0.016)
Average farm size	-0.001	-0.003**	-0.001	0.000	0.000	0.001	0.002**	0.001	-0.001	-0.001
	(0.001)	(0.001)	(0.004)	(0.003)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
Committee * (av) farm size	0.011	0.008	0.030	0.038	-0.004	0.001	0.010	0.003	-0.003	0.003
	(0.009)	(0.008)	(0.032)	(0.033)	(0.007)	(0.008)	(0.011)	(0.011)	(0.013)	(0.007)
Stranger (%)	-0.294	0.133	-0.072	-0.904	0.087	0.033	0.020	0.247	-0.015	-0.602
	(0.504)	(0.875)	(2.448)	(2.291)	(0.370)	(0.370)	(0.538)	(0.575)	(0.696)	(0.513)
Committee * Stranger (%)	0.179	0.279	0.295	1.661	-0.093	0.258	0.187	0.411	-0.044	0.482
	(0.685)	(0.995)	(3.058)	(3.096)	(0.487)	(0.490)	(0.871)	(0.729)	(0.945)	(0.730)
Observations	56	56	56	56	801	830	867	875	882	882
Mean Chief group	0.767	0.533	2.567	2.600	1.650	4.042	3.748	3.204	3.620	4.090
Scale	[0,1]	[0,1]	[1-5]	[1-5]	[0, 6.10)	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]

OLS regressions. Robust standard errors in parentheses, clustered at village level for Column (5)-(10). Regression includes village size, distance to Chiefdom headquarter town, project value (USD) and NGO performance, and chief/villager committee gender, age, income and stranger and interactions. * p < 0.10, ** p < 0.05, *** p < 0.01

Table A5a. Heterogeneity Chief Power, Aid diversion. Social Capital

	(1) Audit value of project minus grant value	(2) Presence of side projects	(3) Presence of project materials at other locations
Committee	-1241.305	0.108	1.202
	(1021.352)	(1.010)	(1.157)
Non-Stranger Households	-2.260	0.014	0.004
	(11.619)	(0.011)	(0.019)
Non-Stranger Households * Committee	7.738	-0.001	0.002
	(5.059)	(0.002)	(0.007)
Social Capital (2010 Survey)	-11.875	0.111	0.130
	(106.394)	(0.096)	(0.102)
Committee * Social Capital	68.523	-0.005	-0.085
	(70.676)	(0.074)	(0.085)
Observations	41	37	38
Mean Chief group	-70.589	0.063	0.235
Scale	(-571.43, 1193.33)	[0,1]	[0,1]

OLS regressions. Robust standard errors in parentheses. Regression includes village size, distance to Chiefdom headquarter town, project value (USD) and NGO performance (except for column (1) and social capital and social capital * committee. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table A5b. Heterogeneity Chief Power, Implementation. Social Capital

	(1) Project started end-line	(2) Project mostly complete end-line	(3) How well constructed is the project?	(4) How well maintained is the project?	(5) Hours reported worked on the project (ln)	(6) Satisfied with project management?	(7) Did you benefit from the project?	(8) Are you better off?	(9) Are you satisfied with the GRNP?	(10) Do you support conserving GRNP?
Committee	-1.778	-0.466	-7.198	-5.225	-2.050*	-0.554	-1.485	-4.401***	-1.907	-0.635
	(1.134)	(1.797)	(5.088)	(5.374)	(1.063)	(0.656)	(1.398)	(1.471)	(1.344)	(1.324)
Number of Non-Stranger Households	-0.006	-0.021	-0.045	-0.037	-0.003	0.001	0.014	-0.002	0.014	0.018
	(0.017)	(0.020)	(0.059)	(0.060)	(0.015)	(0.009)	(0.020)	(0.013)	(0.015)	(0.014)
Non-Stranger Households * Committee	0.016**	0.005	0.050**	0.056**	0.012	0.004	0.001	0.008	-0.005	-0.002
	(0.006)	(0.008)	(0.024)	(0.022)	(0.008)	(0.004)	(0.008)	(0.005)	(0.009)	(0.008)
Social Capital (2010 Survey)	0.023	0.077	0.131	0.303	-0.079	0.021	0.005	-0.172	-0.057	-0.039
	(0.091)	(0.169)	(0.479)	(0.499)	(0.060)	(0.064)	(0.104)	(0.135)	(0.124)	(0.114)
Committee * Social Capital	0.072	0.012	0.345	0.191	0.099	0.015	0.073	0.275***	0.158	0.049
	(0.079)	(0.123)	(0.348)	(0.371)	(0.070)	(0.056)	(0.104)	(0.099)	(0.094)	(0.089)
Observations	41	41	41	41	595	621	651	651	658	658
Mean Chief group	0.722	0.500	2.444	2.389	1.600	4.060	3.758	3.113	3.457	4.018
Scale	[0,1]	[0,1]	[1-5]	[1-5]	[0, 6.10]	[1-5]	[1-5]	[1-5]	[1-5]	[1-5]

OLS regressions. Robust standard errors in parentheses, clustered at village level for Column (5)-(10). Regression includes village size, distance to Chiefdom headquarter town, project value (USD) and NGO performance, and social capital and social capital*committee. * p < 0.10, ** p < 0.05, *** p < 0.01

Table A6a. Heterogeneity Chief Power, Aid diversion. Alternative Chief Power Proxy (subsample)

	(1) Audit value of project minus grant value	(2) Presence of side projects	(3) Presence of project materials at other locations
Committee	-580.723* (287.949)	-0.258 (0.262)	0.234 (0.374)
Number of chief households in village	-31.526 (26.393)	0.019 (0.021)	-0.033 (0.030)
Chief households * Committee	23.105 (35.003)	0.010 (0.031)	-0.013 (0.031)
Obs.	34	31	34
Mean Chief group	97.031	0.200	0.059
Scale	(-571.42 -1193.33)	[0,1]	[0,1]

Robust standard errors in parentheses. Regression includes village size, distance to Chiefdom headquarter town and project value (USD) (except for column (1)) and NGO performance. * p < 0.10, ** p < 0.05, *** p < 0.01

Table A6b. Heterogeneity Chief Power, Implementation. Alternative Chief Power Proxy (subsample)

	(1) Project started end-line	(2) Project mostly complete end-line	(3) How well constructed is the project?	(4) How well maintained is the project?	(5) Hours reported worked on the project (ln)	(6) Satisfied with project management?	(7) Did you benefit from the project?	(8) Are you better off?	(9) Are you satisfied with the GRNP?	(10) Do you support conserving GRNP?
Committee	-1.155***	-1.392***	-4.606***	-4.612***	-0.110	-0.319	-0.464	-0.421	1.012***	0.498**
	(0.198)	(0.301)	(0.967)	(0.812)	(0.244)	(0.367)	(0.367)	(0.400)	(0.345)	(0.213)
Number of chief families in village	0.001	-0.052*	-0.090	0.015	0.066***	-0.010	0.085**	0.002	-0.002	-0.014
	(0.022)	(0.029)	(0.088)	(0.089)	(0.020)	(0.020)	(0.033)	(0.047)	(0.028)	(0.019)
Chief families * Committee	0.052**	0.095**	0.238*	0.195*	-0.019	-0.001	-0.029	-0.002	-0.096***	-0.046*
	(0.025)	(0.036)	(0.124)	(0.101)	(0.022)	(0.019)	(0.031)	(0.032)	(0.027)	(0.023)
Obs.	34	34	34	34	471	479	516	520	522	523
Mean Chief group	0.882	0.647	3.118	3.235	1.505	4.039	3.759	3.198	3.369	3.925
Scale	[0,1]	[0,1]	[0-5]	[0-5]	[0, 6.10)	[0-5]	[0-5]	[0-5]	[0-5]	[0-5]

Robust standard errors in parentheses, clustered at village level for Column (5)-(10). Regression includes village size, distance to Chiefdom headquarter town and project value (USD) and NGO performance. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

On-line Appendix: A simple model to motivate the empirics

To guide interpretation of our empirical results we now present a simple two-period model that highlights the key tradeoffs for the chief (as a manager, or otherwise). First, consider the case where the chief (or the elite, assuming away intra-elite coordination issues) is charged with the responsibility of managing a development project of size R. The chief has two choice variables: the share α of the project resources that will be diverted or grabbed for private gain, and the chief's managerial effort, e, to turn the project into a success. We assume the chief does not intrinsically care about the project, which is expected to yield a flow of benefits for the community at large (but the model is readily augmented to allow the valuation of project output by the chief). However, in case the project is a "success" we assume next period's power of the chief goes up, reflecting respect for his ability to accomplish important tasks for the village. The chief's problem reads as follows:

$$\text{Max } V = f(e) + \alpha R - c(e, \alpha; \tau) + p(e; E)\pi^*(\tau' \ (e)) + (1 - p(e))\hat{\pi}, \qquad (1)$$

where $f(e)$ denotes the gain from effort allocated to the chief's private business (farm work, else), which is negatively affected by more time spent on management of the community project (hence: $\frac{\partial f}{\partial e} < 0, \frac{\partial^2 f}{\partial e^2} < 0$), $c(e;\alpha,\tau)$ is a measure of potential opposition from disgruntled villagers in case not enough managerial effort is supplied (jeopardizing the success of the project), or when too much of the project resources are taken by the chief. We assume $\frac{\partial c}{\partial e} < 0$ and $\frac{\partial^2 c}{\partial e^2} > 0$, and also $\frac{\partial c}{\partial \alpha} > 0$ and $\frac{\partial^2 c}{\partial \alpha^2} > 0$. The parameter τ is a measure of the chief's power, so we assume $\frac{\partial c}{\partial \tau} < 0$, $\frac{\partial^2 c}{\partial e \partial \tau} > 0$ and $\frac{\partial^2 c}{\partial \alpha \partial \tau} < 0$, or that more powerful managers have less opposition to fear – at the margin – than weak chiefs from undersupplying effort or input grabbing. The parameter E is a measure of experience, of managerial ability with which project inputs can be converted into successful project output. We denote the probability that the chief is invited by an NGO to manage next period's development project with $p(e;E)$, where $\frac{\partial p}{\partial e} > 0$ and $\frac{\partial^2 p}{\partial e^2} < 0$. We thus

assume that more successful projects (implemented by hard-working and efficient managers) are likely to be followed by new projects. Finally, π^* denotes the (discounted) private payoffs in period 2 in case the chief assumes responsibility to manage the community project, and $\hat{\pi}$ denotes payoffs for the chief when the management responsibility, instead, is delegated to a committee of villagers. We assume the payoffs from being assigned as the manager are an (increasing) function of next period's power, τ', which in turn depends on current effort to turn the project into a success, i.e. $\frac{\partial \pi*}{\partial \tau'} > 0$ and $\frac{\partial \tau'}{\partial e} > 0$. The reason why next period's payoffs are increasing in next period's power is that enhanced power may facilitate the grabbing of project resources. Finally, we assume the scope for diverting project resources by the chief is higher when he is the manager: that is: $\pi^* > \hat{\pi}$.

The first order conditions for an optimal solution to the chief's problem are:

$$R - \frac{\partial c}{\partial \alpha} = 0, \text{ and} \tag{2}$$

$$\frac{\partial f}{\partial e} - \frac{\partial c}{\partial e} + \frac{\partial p}{\partial e}(\pi^* - \hat{\pi}) + p\frac{\partial \pi^*}{\partial \tau'}\frac{\partial \tau'}{\partial e} = 0, \tag{3}$$

where the final term on the LHS of (3) captures that extra effort in the first period to turn the project into a success is an investment for the chief that facilitates grabbing in the future. Taking a total differential of (2), we obtain

$$\frac{d\alpha}{d\tau} = \left(\frac{-\partial^2 c}{\partial \alpha \partial \tau}\right)/\left(\frac{\partial^2 c}{\partial \alpha^2}\right) > 0, \tag{4}$$

or, intuitively, that more powerful chiefs steal a greater fraction of the project inputs (the same logic explains why we assume that $\frac{\partial \pi*}{\partial \tau'} > 0$). The intuition for (4) is simply that powerful chiefs are to a greater extent insulated or protected from unhappy responses from their dissatisfied constituency. Similarly, taking the total differential of (3) and rewriting yields:

$$\frac{de}{d\tau} = \frac{\frac{\partial^2 c}{\partial e \partial \tau}}{\frac{\partial^2 f}{\partial e^2} - \frac{\partial^2 c}{\partial e^2} + \frac{\partial^2 p}{\partial e^2}(\pi^* - \hat{\pi}) + 2\frac{\partial p}{\partial e}\frac{\partial \pi^*}{\partial \tau'}\frac{\partial \tau'}{\partial e} + p\frac{\partial^2 \pi^*}{\partial \tau'^2}\left(\frac{\partial \tau'}{\partial e}\right)^2 + p\frac{\partial \pi^*}{\partial \tau'}\frac{\partial^2 \tau'}{\partial e^2}}. \tag{5}$$

The expression in (5) cannot, in general, be signed. That is, powerful chiefs may supply more or less effort to manage the project.

Next, consider the case where a council of villagers is charged with the responsibility of managing the community project. Performance by the committee is a function of committee effort q and management experience Q (where we may assume $Q<E$), and sabotage effort by the chief, s^* (see below). If committee members are randomly chosen by the NGO (and will be again in the future, so that current performance does not affect the likelihood of being elected as manager in the next period), then the committee should solve a simple static optimization problem:

$$\text{Max } W = f(q) + B(q; Q, s). \qquad (6)$$

where $f(q)$ represents the opportunity cost of management effort (foregone returns to working on the own farm), and $B(q;Q,s)$ capture project benefits for the villagers. From (6) follows $q^*=q(Q,s)$.

Turn to the chief's problem. Assume committee management restricts the chief's short-term scope for diverting project inputs – we consider for simplicity the extreme case where $\alpha=0$. Again, we denote by $p(\cdot)$ the probability that the chief is promoted to manager in the second period. If so, the chief can again grab project inputs ($\alpha>0$), so we again assume $\pi^* > \hat{\pi}$. We also assume the chief's probability of being invited to manage the future project is larger when the committee project fails in period 1. Denote by s any effort by the chief to sabotage, undermine, or derail the committee's project. He may achieve this, for example, by convincing fellow villagers not to work for the project, or by denying complementary resources under his control (including land). As before, we assume the villagers are unhappy about anti-social behavior of the chief, and that they are better able to express their unhappiness (at some cost $c(\cdot)$ to the chief) when the chief is not powerful. This results in the following maximization problem for the chief:

$$\text{Max } V = -c(s; \tau) + p(s)\pi^* + (1 - p(s))\hat{\pi}. \qquad (6)$$

The first-order solution reads as

$$-\frac{\partial c}{\partial s} + \frac{\partial p}{\partial s}(\pi^* - \hat{\pi}) = 0, \tag{7}$$

So that, from the total differential, it follows that:

$$\frac{ds}{d\tau} = \left(\frac{\partial^2 c}{\partial s \partial \tau}\right) \bigg/ \left(\frac{-\partial^2 c}{\partial e^2} + \frac{\partial^2 p}{\partial e^2}(\pi^* - \hat{\pi})\right) > 0. \tag{8}$$

In words: more powerful chiefs will behave worse, and try harder to sabotage the committee's project. The intuition, again, is that they are insulated from unhappy responses from disgruntled villagers. The theory thus predicts that, as chiefs are more powerful, the probability of project success unambiguously goes down when the committee is managing the project. The same is not true for cases where the chief is the manager (equation 5).

Note that our simple model does not produce an *ex ante* prediction of the expected performance of the chief versus the committee. This can be easily illustrated as follows. Assume that performance in case the chief is the manager is given by a function $Z^{chief} = Z(e^*, \alpha^*; \tau, E)$, where e^* and α^* follow from (2) and (3). Performance in case the committee manages the project is given by $Z^{committee} = Z(q^*; s^*, Q)$. It is immediately clear that $Z^{chief} - Z^{committee}$ cannot be signed: (i) effort levels and management experience are different across treatments, (ii) input diversion rates may be different, and (iii) sabotage will adversely affect performance in the committee case. The net effect will depend on specific functional forms.

To sum up, the model predicts that more powerful chiefs will (i) divert more project resources and (ii) work harder to undermine the performance of the committee. These unambiguous predictions speak to non-experimental outcomes. In contrast, we obtain an ambiguous prediction for the relative performance of the chief vis-à-vis the committee in our experiment. This comparison is complicated by various opposing effects, and ultimately an empirical matter.