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Direct democracy is designed to better align policy outcomes with citizen preferences. Using a randomized field experiment in 250 villages across Afghanistan, we compare outcomes of the selection of village-level development projects through secret-ballot referenda and through consultation meetings. We find that elites exert more influence over resource allocation decisions in consultation meetings as compared with referenda. Referenda also improve public satisfaction. The results indicate that the use of direct democracy in public resource allocation mitigates elite capture and results in more legitimate outcomes than those produced by less representative consultative processes.

I. Introduction

Directly democratic decision-making procedures are considered to reduce elite capture of public resources (Matusaka 2004, 2005) and have the potential to enhance the legitimacy of such allocation processes (Olken 2010; Lind and Tyler 1988). With decentralization efforts in developing countries being often undermined by public dissatisfaction arising from the diversion of public resources by incumbent elites (Bardhan 2002, Bardhan and Mookherjee 2006), direct democracy could serve as a means to improve the quality of local governance, enhance political accountability and limit elite capture.

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Our paper identifies the effect of direct democracy on resource allocation outcomes and public satisfaction using a field experiment conducted in 250 villages across Afghanistan. Half of the villages were randomly assigned to select local development projects by secret-ballot referenda, with the remainder assigned to select projects at village meetings convened by elected village development councils. The referendum procedure gave villagers the opportunity to vote for their preferred project, with funding allocated to projects with the most votes. The meeting procedure stipulated that proposed projects should be discussed at a public meeting convened by an elected village development council, with the council exercising the final decision on which projects are selected. Both procedures employed an identical agenda-setting method, whereby the elected village development council compiled the list of proposed projects after consultations with other villagers.

In order to isolate the effect of direct democracy on allocation outcomes and, specifically, on the ability of elites to impose their preferences, we compare allocation outcomes with the *ex-ante* preferences of three groups of villagers: male villagers; male elites; and female elites. We find that both male and female elites have significantly less influence over allocation outcomes when selection occurs through a referendum, as compared to consultation meetings. We also find that referenda increase villagers' satisfaction with local governance and the local economy. Accordingly, the results indicate that direct democracy limits elite capture of resource allocation and increases public satisfaction.

In principle, elite influence over the choice of projects is not necessarily related to outcomes that make ordinary villagers worse off. The difference in elite preferences versus those of the general public may reflect not only relative benefits derived by each group, but also an informational advantage of the elite in assessing which projects will bring more benefits to the village or which projects are more likely to be successfully implemented (Labonne & Chase 2009; Rao and Ibanez 2005; Owen and van Domelen 1998). Thus, in the presence of asymmetric information about project benefits, direct democracy may lead to welfare-inferior outcomes. The finding here that elite influence has a negative effect on villagers' perceptions of local governance is, however, not consistent with this benign interpretation of elite influence, but rather suggestive of elite capture. These results thereby suggest that principal-agent problems between the general population and their leaders prove to be more important than the issues of asymmetric information over projects, so that direct democracy leads to a welfare improvement for the general population.

Our study contributes to the literature on the effects of political decision rules, in general, and direct democracy, in particular. Works on direct democracy have examined its effect on the size of government (Matsusaka 1995, Funk and Gathmann 2011), political participation and redistributive spending (Hinnerich and Pettersson-Lidbom 2010), and happiness (Frey and Stutzer 2005). Using experimental variations similar to those employed in this study, Olken (2010) finds a strong positive effect of the use of direct democracy in Indonesia on villagers' satisfaction, but no effect on the choice of the general project itself, other than a relocation effect of women's projects towards poorer areas. Our results, however, show a much stronger effect of direct democracy, finding that it not only improves satisfaction, but also has a significant effect on allocation outcomes. This suggests that direct democracy helps to address principal-agent problems in the allocation of resources and prevent elite capture.

This paper is divided into six sections: Section II describes the setting of the experiment; Section III describes the design of the experiment, sample, and data collection; Section IV presents the methodology and results of the empirical analysis; Section V discusses the results; and Section VI concludes.

II. Setting

The field experiment described in this paper was undertaken in coordination with the National Solidarity Program (NSP), a nationwide community-driven development program executed by the Government of Afghanistan. The following sections provide further details on NSP (II.1) and structures for local governance and decision-making in rural Afghanistan (II.2).

II.1. National Solidarity Program

NSP was devised in 2002 by the Government of Afghanistan to deliver services and infrastructure to the rural population and build representative institutions for village governance. NSP has now been implemented in over 29,000 villages in all of Afghanistan's 34 provinces at a cost of over \$1.2 billion, making it the largest development program in Afghanistan. The program is structured around two interventions: (i) the creation of an elected Community Development Council (CDC); and (ii) the disbursement of block grants to CDCs for implementation of village projects. The program is executed by the Afghan Ministry of Rural Rehabilitation and Development, implemented by contracted NGOs, and funded by bilateral and multilateral donors.

In order to facilitate the creation of representative institutions for village governance, NSP mandates the creation of a gender-balanced CDC through a secret-ballot, universal suffrage election. Once CDCs are formed, NSP disburses block grants valued at \$200 per household – up to a village maximum of \$60,000 – to fund village projects² and requires communities to contribute no less than 10 percent of the total cost of the projects, which they largely do in the form of labor. Projects are selected by the CDC in consultation with the village community. Selected projects are ordinarily focused on either the construction or rehabilitation of infrastructure, such as drinking water facilities, irrigation canals, roads and bridges, or electrical generators; or the provision of human capital development, such as training and literacy courses.

The CDC is mandated to contain an equal number of male and female members, with the total size being roughly proportional to the number of families residing in the village. The average CDC size in the sample is 16 people. The primary task of CDCs is to design, select and implement NSP-funded projects, although there is evidence that CDCs assume some of the responsibilities accorded to customary traditional leaders, such as mediating conflicts, providing emergency assistance, and certifying documents (Beath, Christia and Enikolopov 2010). In general, there is a moderate degree of overlap between CDCs and customary leaders. Approximately 40 percent of CDC members and 70 percent of CDC heads were members of the pre-existing elite (Beath, Christia and Enikolopov 2012). People elected to CDCs, however, are on average younger and better educated than customary leaders.

NSP implementation in a single village generally takes around three years. Introducing NSP to villages and organizing CDC elections takes a few months. Following the creation of CDCs, an average of twelve months elapses before project implementation starts, as CDCs and villagers select and design projects (the stage of the process examined in this paper), receive funds, and, if necessary, procure contractors for project construction. Once construction commences, it takes up to nine months for projects to become operational, although the timeline varies significantly based on project type. Projects may be implemented simultaneously or sequentially; meaning that there is substantial variation between villages in the time it takes to complete program implementation.

NSP intends to provide repeater block grants to participating villages, although the villages receive no firm guarantees of when – or if – they will receive a second block grant. The process for conducting follow-up elections for the CDC is also uncertain. Per NSP rules, villages are supposed

² The average block grant in the villages included in the sample was roughly \$30,000.

to hold re-elections for CDC positions every four years, although as follow-up elections are not facilitated, it is unclear whether these occur. Given this and the general uncertainty, which accompanies government programs in Afghanistan, villagers most probably perceive NSP as a one-shot event, which limits the scope for log-rolling among local actors and does not provide strong reelection incentives to CDC members.

II.2. Local Governance and Public Decision-Making in Rural Afghanistan

The lack of state consolidation in Afghanistan and the country's recent history of violent conflict have resulted into a weak central government which has lacked the resources to exercise control in many parts of the Afghan countryside (Barfield, 1984). Rural communities have thus developed sophisticated – albeit informal – customary local governance structures and practices to administer justice, set community rules, and provide local public goods (Shahrani, 1998; Pain and Kantor, 2010). Although such structures and practices have been subjected to attempted reorganization and politicization by various regimes over the past few decades (Nojumi, Mazurana, and Stites, 2004; Rahmani, 2006), customary local governance structures and practices are generally considered to have endured and remain pre-eminent (Brick, 2008; Kakar, 2005).

The foundation of governance in rural Afghanistan is the local *jirga* or *shura*, a participatory council that has traditionally managed local public goods and adjudicated disputes (Nojumi, Mazurana and Stites 2004). Council members tend to be the elders of families in the village (Rahmani 2006), although membership is ordinarily not fixed. Councils generally convene when there is an issue to resolve and reach their decisions based on consensus (Boesen 2004). In addition to councils, villages ordinarily have a headman (termed a *malik*, *arbab*, or *qariyadar*) - usually a large landowner - who serves as liaison between the village and the central government (Kakar 2005). The local religious authority, the *mullah* is responsible for conducting rites and services and mediating disputes involving family or moral issues (Rahmani 2006). These bodies may differ in their power and representation, but they are still found today in virtually every village in rural Afghanistan. The accountability of these customary authorities varies with the degree to which villagers are economically dependent on these local elites (Pain and Kantor 2010).

A salient feature of the *jirga* and *shura* is the practice of decision-making by consensus or mutual consultation. The consensus-based principle is considered to increase acceptance of decisions, but can be compromised by the pronounced social inequality that exists in rural Afghanistan (Boesen,

2004), with decisions made by a narrow group of prominent tribal elders, rather than the entire assembly (Kakar, 2005). Despite the emphasis placed on inclusion, women usually do not participate in the *shura* or *jirga* and thus are excluded from local decision-making generally, per the principle of *pardab* which stipulates that women should be generally hidden from public observation - precludes female involvement in communal gatherings and thus from local governance. The operating assumption is that men can speak for the women in their family and that they, unlike women, have the judgment and requisite information to make decisions (Azarbaijani-Moghaddam, 2009).

Existing qualitative research on NSP is indecisive about the extent to which customary power-holders have captured CDCs, either through force or legitimate electoral processes, and whether the new institution mirrors existing customary structures or brings about changes in the identity of the village leadership. According to Barakat (2006), while some educated and articulate individuals get elected, traditional elites remain influential. Other researchers, however, observe that CDC members are younger and better educated than customary leaders, that clergymen are rarely elected to CDCs, and that NSP generally reduces the degree of influence of corrupt elites (Noelle-Karimi 2006, Barakat 2006).

III. Experimental Design

Our study is part of an impact evaluation of NSP that randomized assignment of not only project selection and prioritization procedures (hereafter, ‘allocation procedures’), as discussed in detail here, but also of the program itself (Beath, Christia, and Enikolopov 2010, 2011) along with CDC election procedures (Beath, Christia, and Enikolopov 2012). This section discusses the randomization of allocation procedures in the 250 treatment villages in the evaluation (III.1), while also detailing the sample for the study (III.2), and the phasing of the experiment and data collection (III.3).

III.1. Allocation Procedures

As noted above, after the election of the Community Development Council (hereafter, “development council”), villages select and prioritize projects to be funded by the NSP block grant. Villages in the sample were randomly assigned to one of two procedures for allocating resources:³

Referendum: All adult village residents - both men and women - are eligible to vote, by secret ballot, for the project that they prefer from a list of proposed projects. At least 50 percent of

³ A detailed guide on the procedures is available at <http://nsp-ic.org/sti/sti2e.doc>.

eligible voters in the village must vote in order for the referendum to be valid. Projects with the most votes are selected for implementation, with the number of selected projects determined by the size of funding available for the village. Selected projects are prioritized according to the number of votes received, so the sequence of implementation reflects the project's relative popularity.

Consultation Meeting: The development council convenes and moderates a meeting, open to all villagers - men and women - to discuss and select projects for funding. There is no specific requirement on the level of participation in order for the meeting to be valid. Informal points-of-procedure (such as a show-of-hands) may be employed during the meeting, but no formal vote takes place. Based on the outcome of the discussion but at its ultimate discretion, the development council selects and prioritizes projects for funding.⁴

Under both allocation procedures, the list of proposed projects is prepared using an identical agenda-setting procedure, whereby the development council compiles the list after consultation with the villagers. After the list of proposed projects was compiled villagers did not have the capacity to change the agenda irrespective of the method of project selection.⁵

After the list of proposed projects was compiled, projects were selected by referendum or consultation meeting. After the projects were selected, a decision was reached on which project was prioritized, i.e. to be implemented first. In the referendum setting, it was the project that received the most votes. In the consultation meeting setting, village elected elites decided which of the selected projects was implemented first.

Both referenda and consultation meetings are introduced into these communities as part of project selection for NSP and are followed through because of the promise of significant capital investments that are linked to these projects. Both procedures are distinct from customary local decision-making practices, with the referendum being the more novel of the two procedures. A particular difference under both procedures is the involvement of women in the decision-making process, which represents a sharp break from customary practice. Under both referenda and

⁴ This procedure is similar to the customary practice in rural Afghanistan of calling a *jirga* or *shura* to decide on important community matters.

⁵ Although the nature of the consultation meeting would have allowed villagers to suggest a change in the list of proposed projects, there is no indication in the monitoring data that this ever happened. However, as the method of project selection was known when the lists of proposed projects were prepared, village leaders may have strategically chosen proposed projects. Table A4 in the Online Appendix reports regressions of the effect of the procedure not only on the choice of projects *per se*, but also on the selection and prioritization of projects conditional on the set of proposed projects.

consultation meetings, women constitute half of the CDC and, in both cases, participation of female villagers in the allocation process is high (see Section IV.2 or more details).

III.2. Sample and Randomization

The randomization of allocation procedures occurred in 250 villages assigned to receive NSP, which formed the treatment group for the randomized impact evaluation of NSP (Beath, Christia, and Enikolopov 2011, 2012). The 250 villages are evenly split across ten districts in northern, northeastern, eastern, central, and western Afghanistan. Despite the necessary exclusion of southern areas from the sample due to security concerns, the 10 districts are broadly representative of Afghanistan's ethno-linguistic diversity, with five predominantly Tajik districts, four predominantly Pashtun districts, one predominantly Hazara district, and two districts with significant populations of Uzbek and Turkmen minorities (See Figure 1).

Data from the 2007–08 National Risk and Vulnerability Assessment (NRVA) provides for a comparison of the 250 treatment villages with a randomly-selected stratified sample of the population of rural Afghanistan. Although there are no significant differences in the age of respondents or in their income (see Table A1 in the Online Appendix), evaluation villages are more likely to be engaged in production activities related to agriculture, have slightly worse access to medical services and better access to electricity, although the magnitude of these differences is quite small. The differences are likely to be driven by the fact that the villages that are located closer to big cities and provincial centers received NSP between 2003 and 2007, i.e. before the start of the impact evaluation and, are thus, excluded from the analysis.

In addition to allocation procedures, the NSP impact evaluation also randomized CDC election method (Beath, Christia and Enikolopov 2012). To ensure random and independent assignment across both dimensions, villages were divided in quadruples using an optimal greedy matching algorithm (King et. al., 2007). Specifically, 25 treatment villages in each district were first paired to minimize differences in background characteristics⁶ within each pair (leaving one village unpaired) and then matched in pairs of pairs to form quadruples.⁷ Unpaired villages across districts were also grouped into two quadruples (leaving two villages unmatched). Each village within the quadruple

⁶ These characteristics include village size (based on data collected by Afghanistan's Central Statistics Office) and a set of geographic variables (distance to river, distance to major road, altitude, and average slope).

⁷ Pairs of pairs were formed by performing the same matching procedure treating each pair as a single village with background characteristics that equal the average of the respective characteristics for the two villages in a pair.

(and the two unmatched villages) was then randomly assigned one of four combinations of allocation procedures and CDC election procedures. This assignment procedure ensures that each village in the sample had an equal probability of being assigned to either procedure.

[TABLE 1 HERE]

The randomization resulted in a well-balanced set of villages between the two allocation procedures. Table 1 presents a comparison between the two groups of villages across various pre-intervention characteristics. The differences between the two groups never exceed 13 percent of the standard deviation. A comparison of means indicates that only for one out of eighteen indicators the difference is significant at the 10 percent level with a p-value of 0.096.

III.3. Phasing of Intervention and Data Collection

The baseline survey was administered in September 2007, prior to the assignment of allocation procedures. CDC elections occurred between October 2007 and May 2008 and resource allocation between November 2007 and August 2008.⁸ Both CDC elections and resource allocation were monitored, providing additional data on the respective processes. A follow-up survey was administered between June and October 2009 following the start of project implementation.

IV. Data

The outcomes of interest for the study, that assess different manifestations of elite capture of resources, are: (i) degree of alignment between resource allocation outcomes and elite and non-elite preferences; and (ii) villager satisfaction with local economic and governance outcomes. The former measure is constructed from data on the *ex-ante* preferences of different groups and the proposed, selected, and prioritized projects for each village, while the latter is compiled from follow-up survey data. The following sections provide further information on the sources of data on *ex-ante* project preferences (IV.1); allocation process (IV.2); allocation outcomes (IV.3); and on villagers' satisfaction (IV.4).

IV.1. *Ex-Ante* Project Preferences

Data on *ex-ante* preferences comes from the baseline survey. In each village, the survey was administered to three groups of villagers: (1) ten randomly selected male heads-of household; (2) a

⁸ In all villages, there was at least a month between CDC elections and project selection.

focus group of male village leaders; and (3) a focus group of leading village women. The male focus group was comprised of between six and nine of the most important male leaders in the village, ordinarily members of the male village *shura/jirga* (tribal council).⁹ The female focus group was comprised of six to nine senior village women who were considered influential by both men and women. These ended up being mostly the relatives (wives, daughters etc.) of male power holders in the village, with half of the respondents indicating that a member of their family is a member of the village *shura / jirga*.¹⁰ In total, over 7,000 respondents were surveyed (see Table 2).

[TABLE 2 HERE]

A question in all three survey instruments asked all respondents to indicate, from a list of fifteen potential projects, the project that they believed should be selected if the village was provided with a \$60,000 grant.¹¹ From this data, we construct village-level dummy variables indicating the project most frequently preferred by each of the three groups,¹² providing village-level measures of the preferences of male villagers, male elites, and female elites, respectively.

[TABLE 3 HERE]

Table 3 presents the preferences for the three groups of villagers. There is a noticeable difference in their preferences (the pairwise comparison of distributions is significant at the 1 percent level for all three comparisons). Drinking water projects are the first choice of male household respondents and female elites, while preferences of male elites are more evenly distributed across different projects. The correlation between preferences of different groups of voters within each village is not very high and does not exceed 0.30 (see Table A2 in the Online Appendix).

⁹ Where the village had a functional village council, enumerators were instructed to request the participation of all of the regular members of the body in the focus group. If no village council existed in the sample village, enumerators were instructed to convene a meeting of the village headman and other residents of the village that were identified as local power-holders by the villagers.

¹⁰ We did not administer the baseline survey to a random sample of female villagers due to financial and logistical constraints, so we do not have information on their preferences.

¹¹ Male and female focus group respondents were asked to identify one project from a list of 15 possible projects, while individual male household and female respondents were asked to select and prioritize three projects from the same group of 15. To ensure comparability, we focus on the project that was named as the most important in the household and individual surveys. Female respondents were asked the question twice in both the group setting and individually, but we use only information from the female individual questionnaire and check robustness against the female focus group responses.

¹² In the event of two or more projects having the same number of respondents preferring them and these numbers exceeding the number of respondents preferring other projects, the respective projects were all marked as the most preferred.

A comparison of villages assigned to different project selection procedures reveals no significant differences in projects most preferred by different groups of villagers at the village level. The distribution of preferences at the individual level is balanced across allocation procedures for male respondents (both elite and ordinary villagers). There was, however, a significant difference in female elite preferences, an imbalance for which we account by ensuring that our results are robust to controlling for the second and third most preferred projects.

IV.2. Resource Allocation Process

To obtain data on the resource allocation process, we monitored implementation of the procedures in 127 randomly selected villages (63 villages assigned to meetings and 64 villages assigned to referenda).¹³ Data was collected on the basis of both monitors' observations and from 1,238 interviews of male villagers conducted following their participation in the allocation process. For villages that held referenda we obtained data on voting in all villages, including the ones that were not monitored.

[TABLE 4 HERE]

On average, 12 CDC members and 143 villagers attended village meetings, which is about one-third of the adult population of villages on average. The monitoring data indicates that in meetings, council members dominated the discussion, with approximately half of council members expressing their opinion compared to only one-of-eight male villagers and one-of-twenty female villagers in attendance.

Participation in referenda was significantly higher, with the average of 251 villagers voting, which constitutes slightly more than 60 percent of the adult population on average. The requirement that the turnout reach 50 percent of the population was satisfied in all villages. Referenda were administered with a general high level of professionalism. 99 percent of monitored polling stations had lists of eligible voters and 97 percent checked names off a registration list. In 83 percent of villages, voters' privacy was assured. In every monitored referendum village, the selected projects were the ones receiving the most votes and only in one village did a monitor consider vote counting

¹³ Visits of monitors were unannounced and monitors were explicitly instructed not to interfere in the allocation process or try to affect the outcome in any way so as to provide an unbiased picture of the implementation of allocation procedures in the sample. Note, however, that these results cannot be generalized to all NSP villages in the country, as the implementing NGOs knew that the villages were included in the impact evaluation study, which could have affected the quality of their work.

process to be flawed. In 98 percent of monitored referenda, allocation results were announced immediately following vote counting.

Results of the post-process interviews indicate that the process enjoyed a high degree of legitimacy. Although 40 percent of respondents in both groups reported that some important projects had not been considered, almost all respondents expressed satisfaction with the process. 99 percent of respondents in referendum villages and 93 percent in meeting villages believed that the allocation results would determine which projects would be implemented.

IV.3. Resource Allocation Outcomes

Data on allocation outcomes includes information on the projects that were (i) proposed; (ii) selected; and (iii) prioritized. Data was provided by NGOs overseeing the allocation process for 235 out of the 250 villages in the sample.¹⁴ The data covers 1,567 proposed and 820 selected projects.

[TABLE 5 HERE]

Table 5 tabulates outcomes by procedure. Across the sample, a median of five projects were proposed, a median of three projects were selected, and a median of one project was prioritized. There are no statistically significant differences between villages assigned to different procedures in the number of proposed, selected, or prioritized projects.

Roads and bridges, irrigation, drinking water, and electricity were the most frequently proposed projects.¹⁵ Selected projects largely mirrored those of proposed projects, with roads and bridges being the most frequently selected, followed by drinking water, irrigation, and electricity. Electricity was the most frequently prioritized project.

There is no statistically significant effect of allocation procedure on the type of projects that are proposed or selected. However, villages that are assigned to select and prioritize projects by referenda are more likely to prioritize electricity projects (the difference is significant at the 1 percent level).

¹⁴ Of the 15 villages for which the data was not received, 7 villages did not comply with the assignment of NSP treatment, which was driven primarily by the confusion between villages with similarly sounding names. Violations were not correlated with the assigned decision making rules. For the remaining 8 villages, the NGO had not gathered the necessary information. In both cases attrition is not correlated with the assigned allocation procedure.

¹⁵ Schools and health facilities, despite being preferred by relatively large numbers of respondents across the ten sample districts, were very rarely proposed due to the requirement that such project types be coordinated through the respective government ministries.

IV.4. Villagers' Satisfaction

Information on villagers' satisfaction with local economic and governance outcomes comes from the survey, which was administered approximately a year after the start of project implementation. The survey was designed to be administered to the ten randomly-selected households surveyed at baseline, with separate questionnaires to both male household heads and a senior woman in the household. The data provide information on 2,367 male respondents and 2,144 female respondents (see Table 2).¹⁶

To measure villagers' satisfaction with local economic and governance outcomes, we use four perception-based binary indicators from male and female household surveys: (i) respondent disagrees with a recent decision or action of the village leadership; (ii) respondent attributes positive economic changes to actions of the village leadership; (iii) respondent is satisfied with the work of village leaders; and (iv) respondent perceives that the household is better off than it was last year.

We aggregate these measures into a summary measure by taking an equally weighted average of z-scores of the individual measures.¹⁷ For observations in which one or two out of the four indicators are missing, we calculate the average based on non-missing indicators. For observations with more than two indicators missing, the summary measure is missing.¹⁸

The information on satisfaction was collected at the time when 91 percent of NSP-funded projects had begun implementation, with 40 percent of those projects under implementation for 6 months or more and 19 percent of projects completed. At this point the villagers had therefore already observed whether the project was getting implemented, even if they were not already benefiting from it. Accordingly, the measures are likely to measure satisfaction with the allocation outcomes, rather than the allocation procedure *per se*.

¹⁶ Because of the deterioration of the security situation, we were not able to conduct surveys of male heads of household in 11 villages and of female heads of household in 33 villages. In both cases, there were no significant differences in attrition between villages with different procedures of project selection. Enumerators administering the male household questionnaire were instructed to locate and interview the same households and, whenever possible, the same villagers who participated in the baseline survey. Enumerators were able to successfully locate such respondents in 65 percent of households in which male respondents were interviewed during the baseline survey. The predominant reason for enumerators not being able to interview baseline respondents was that the person was away from home on the day that the survey team visited the village, as it was the time of harvest. Differences between villages with different procedures of project selection in individual-level attrition are not statistically significant. We also check that the effect on attrition of such characteristics of respondents as age, income, assets, size of household, education, and ethnicity are similar in villages with different project selection rules.

¹⁷ The first indicator is taken with a negative sign, so that for all indicators higher values are associated with better outcomes.

¹⁸ There are no significant differences in the number of missing observations across the two groups of villages.

V. Results

The following sections present the effects of variation in project allocation procedures on allocation outcomes (V.1) and villager satisfaction (V.2).

V.1. Effect on Proposal, Selection, and Prioritization Outcomes

To examine the effect of allocation procedures on outcomes of interest, we estimate the following OLS regression:

$$Y_j^{g,s} = \alpha + \beta \cdot Referendum_j + \delta_k + \varepsilon_j \quad (1)$$

where Y_j^g is the summary measure of the alignment of allocation outcomes at stage $s \in \{Proposal; Selection; Prioritization\}$ with the preferences of group $g \in \{Male Villagers; Male Elite; Females\}$ in village j . In particular, $Y_j^{g,s}$ is a dummy variable that equals one if the proposed, selected, or prioritized projects included the project that was preferred by the majority of respondents from group g and zero otherwise.¹⁹ $Referendum_j$ is a dummy variable that equals one if village j was assigned to allocate resources by referendum and zero otherwise, and δ_k is a quadruple fixed effect.²⁰ For each stage of the allocation process, three regressions for different groups of villagers are estimated jointly in a system of seemingly unrelated regressions to account for possible correlation of errors.

In the results reported in Table 6, the coefficients identify the relative effect of referenda on the alignment of proposed, selected, or prioritized projects with the preferences of each of the three groups of villagers. The difference between referendum and meeting villages in the alignment of male and female elite preferences with resource allocation outcomes is significant for prioritization, but not at the stage of proposal or selection. There is no significant difference between the two allocation procedures in the alignment of male villager preferences with resource allocation outcomes during proposal, selection, or prioritization.

[TABLE 6 HERE]

¹⁹ The outcome variables are defined only for 235 villages for which we have information on allocation outcomes. We check that the results are robust to assigning values of zero or one to outcomes in 15 villages for which the information is not available.

²⁰ We follow Bruhn and McKenzie (2009) in including quadruple fixed effects to account for quadruple-wise matching at the randomization stage (see Section III.2).

To check the robustness of the results to alternative measures of aggregating preferences, we use as alternative outcome variables, Y_j^g , the total share of respondents from group g that preferred projects that were proposed, selected, and prioritized. The results using these alternative measures are similar, although the difference in the alignment of male elite preferences with prioritization outcomes is reduced to the 10 percent level (see Table A3 in the Online Appendix).

The results are similar if we use a conditional logit model in which the unit of analysis is village-project type and which accounts for village fixed effects. The results in Table A4 in the Online Appendix indicate that there is no significant difference between the two procedures in the effect of male villager preferences on allocation outcomes at any stage. The alignment between male elite preferences and resource allocation is significantly lower in referendum villages for selection and prioritization, but not for proposal. The results at the selection stage however, become insignificant if we only examine the probability of proposed projects being selected. The alignment between female elite preferences and prioritization outcomes is significantly lower in referendum villages, but only if we look at the proposed projects.

V.2. Effect on Villagers' Satisfaction

To examine the effect of referenda on satisfaction with local economic and governance outcomes, we estimate the following OLS regression:

$$Y_{ij}^{FU} = \alpha + \beta \cdot Referendum_j + \delta_k + \varepsilon_{ij} \quad (2)$$

where Y_{ij}^{FU} is the summary measure of satisfaction for respondent i in village j ; $Referendum_j$ is a dummy variable that equals one if village j was assigned to allocate resources by referendum and zero otherwise, and δ_k is a quadruple fixed effect. Standard errors are clustered by village. We estimate the regression for the full sample of respondents, as well as for male and female household respondents separately.²¹

[TABLE 7 HERE]

Column (1) in Table 7 presents the aggregate results, which indicate that the level of satisfaction is significantly higher in referendum villages, with columns (2) and (3) showing that the effect holds for

²¹ Analogous results for each of the individual indicators used in the construction of the summary index are reported in Table A4 in the Online Appendix.

both male and female respondents. The results are robust to controlling for respondent characteristics, such as age, educational attainment, land ownership, literacy, and basic math ability.

VI. Discussion of Results

Theoretically, direct democracy can change the outcomes of allocation through three possible channels involving principal-agent problems, asymmetric information and issue bundling (Matsusaka, 2005). In the presence of principle-agent problems elected representatives may not always follow the preferences of the median voter (Kau and Rubin, 1979; Kalt and Zupan, 1984; Peltzman, 1984). Direct democracy moves the policy closer to the position of the median voter, although it does not generally result in a policy exactly at the median voter's ideal point (Romer and Rosenthal, 1979). In terms of asymmetric information direct democracy may lead to worse outcomes if ordinary voters do not have the expertise that is available to their representatives (Maskin and Tirole, 2004). Direct democracy also allows the "unbundling" of different issues and, in particular, it prevents logrolling (Matsusaka, 1995), which has ambiguous welfare effects (Buchanan and Tullock, 1962).

In the context of resource allocation in Afghan villages the principle-agent problems are likely to be the most important in determining the effect of direct democracy. Although council members are democratically elected, as noted in Section II.1 above, their reelection concerns are very weak, as there was no guarantee that new elections of the village councils would take place, which undermines their accountability. Conversely, asymmetric information about the projects is unlikely to be a major issue given the local nature of projects, the ability of the villagers to discuss proposed projects before selection, and the absence of distortions caused by special interest groups and mass media. Also, though log-rolling is an important consideration in traditional representative systems, allowing elites to deviate from median voter preferences, its role in this particular context where the interaction has a one-shot dimension with no guarantees of any future funding is likely to be limited.

The results of the study provide evidence that allocation procedures have a significant effect on the relative ability of elites and non-elites to influence allocation outcomes. Specifically, allocation decisions made through consultative procedures grant significant influence to elites, as compared to directly democratic procedures. The results further indicate that elite influence over allocation decisions lowers general satisfaction with the local leadership and worsens economic perceptions, indicating that elite influence is perceived by villagers as malevolent elite capture of resources that

reflects principal-agent problems rather than benevolent elite control that reflects asymmetric information regarding the projects.²²

The finding that consultative procedures grant elites greater influence over allocation decisions appears to result from the dominance of meetings by development council members. According to monitoring data collected during consultation meetings, development council members had more influence than other attendees in the selection of projects in 98 percent of meetings, and in 35 percent of meetings, council members fully determined the choice over the final project. This finding is consistent with Humphreys et al. (2006) who observe discussion leaders' preferences to be a significant determinant of the outcomes of deliberative meetings.

The influence of council members over allocation decisions does not necessarily imply greater elite influence, because we consider as elite those local leaders, who were identified as such before the start of the program. However, the preferences of the council are likely to be closely aligned with the preferences of the pre-existing elite, both because of the large overlap with pre-existing elites (see Section II.1) but also because village leaders are likely to have significant influence even over those members of the council, who were not members of the pre-existing elite themselves.

The finding that the process of direct democracy increases villagers' satisfaction is consistent with Olken (2010),²³ but the finding that allocation procedures affect allocation outcomes contrasts with the result of Olken (2010) that procedures do not affect the choice of general projects other than some limited effects on project location. The difference in results may be due to the difference in sample size between the two studies – 49 villages in Olken (2010) compared with 250 villages in this study. In addition, several differences in context may also explain the divergence of results.

First, Indonesian villages generally consist of several hamlets separated by as much as two kilometers, whereas Afghan villages generally consist of a single hamlet. As a result, project location is highly salient in the allocation process in Indonesian villages, but less important in Afghan villages.

²² Referenda increase villagers' satisfaction, even after controlling for the type of selected project. There is also evidence that satisfaction is affected by selection outcomes *per se*, with lower levels of satisfaction in instances where selected projects were preferred by elites and higher levels in cases where selected projects were preferred by villagers. The results thus indicate that direct democracy increases satisfaction both as a result of the process itself as well as by better aligning allocation outcomes with public preferences.

²³ Note, however, that our measures of satisfaction are different as Olken (2010) considers villagers' satisfaction with the project specifically, while we ask about satisfaction with the village elites more generally. We focus on people's satisfaction with their elites rather than with the project itself as our concern is with elite capture of resources and how people perceive their performance rather than with the project *per se*, which at the time of the survey, was under implementation but had not yet been fully completed.

In Afghanistan, project type is thus more likely to be the main source of disagreement between elites and villagers in the allocation process and is hence the dimension over which we observe impacts.²⁴ Second, Indonesian villages receive funding for general projects periodically, which allows for logrolling and inter-temporal trade between interest groups within a village and can in turn cause policy outcomes to diverge both from the preferences of both the median voter and the elite. In contrast, women's projects in Indonesia were a one-shot event, which is more comparable with the situation in Afghanistan. For projects in Afghanistan and for women's projects in Indonesia, there was thus limited scope for log-rolling, which made the unbundling effect of direct democracy less relevant. Finally, the study in Indonesia was conducted following reforms that attempted to increase the accountability of local leaders. These reforms could have reduced principal-agent problems and in turn reduced the ability of elites to realize their preferences, even in village meetings. This may explain the limited effect of direct democracy in the Indonesia case, whereas the contrasting results in Afghanistan indicate that principal-agent problems are more pronounced in villages there.

Overall, our findings provide evidence that direct democracy helps to ameliorate – if not solve - the principal-agent problems that lead to elite capture. There is also no evidence that direct democracy leads to inferior outcomes by preventing elites from exploiting informational advantage they may possess regarding the relative benefits of different projects. This in turn suggests that elites and ordinary villagers support different projects because of different underlying preferences, rather than different information, and in this case direct democracy is likely to improve the welfare of the general population (Matsusaka, 2005)

VII. Conclusion

This paper examines the effect of decision-making rules on resource allocation outcomes. Using data from 250 villages in Afghanistan, we compare allocation outcomes under direct democracy with outcomes under consultative procedures. Our findings indicate that direct democracy limits elite influence over policy outcomes, while consultative processes are susceptible to elite capture. Direct democracy also improves perceptions of local governance and economic welfare, which suggests that elite influence over the allocation of resources is contrary to the interests of the general

²⁴ This is confirmed by monitoring data, which indicate that only 19 percent of villagers consider location to be the most important consideration in project choice, as well as by the absence of a correlation between this share and the geographical size of the village, where the size of the village was measured as the mean distance from the households surveyed in the follow-up survey to the center of the village, where the center of the village was determined as the average of the coordinates of all the surveyed households in a village.

population and thereby reflects the elite capture caused by principal-agent problems, rather than more benign forms of elite influence that reflect asymmetric information regarding the benefits of the projects.

The findings of the study are especially noteworthy given the context in which they occurred. While direct democracy is almost unheard of in rural Afghanistan, the consultation meeting procedure employed by the experiment approximated the method by which public decisions are traditionally made, with a council of tribal elders and other local notables convening an open discussion among community members and with an explicit aim of reaching a decision by consensus. Such procedures command great legitimacy in Afghan society, and the finding that they proved susceptible to elite capture in the experiment thus suggests that direct democracy can serve a valuable role in improving the equity of public goods provision even in societies that lack democratic traditions.

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Figure 1. Ten Sample Districts



Table 1: Balance of Pre-Treatment Covariates

	Village Meeting	Referendum	Standardized Difference	F-statistic for testing equality of means	p-value for testing equality of means	Implied effect on outcome variable
Number of Households in Village	110.79	126.22	0.13	1.51	0.221	-0.0040
Size of Household of Respondents	9.73	9.85	0.02	0.10	0.754	0.0003
Age of Respondent	44.04	43.64	0.03	0.39	0.534	-0.0001
Respondent is Formally Educated	0.71	0.71	0.00	0.00	0.958	0.0002
Household is Food Secure	0.45	0.45	0.02	0.07	0.787	0.0010
Source of Drinking Water is Unprotected Spring	0.28	0.26	0.03	0.11	0.745	-0.0008
Respondent Has Access to Electricity	0.17	0.13	0.10	0.95	0.330	0.0054
Male Health Worker is Available	0.12	0.12	0.00	0.00	0.980	0.0000
Female Health Worker is Available	0.09	0.10	0.04	0.25	0.616	0.0018
Assets	0.01	-0.01	0.07	1.08	0.300	-0.0010
Total Food Expenditure in Past 30 Days (Afghanis)	3512.30	3611.80	0.05	0.38	0.537	-0.0015
Respondent Received Loan in Past Year	0.46	0.48	0.03	0.19	0.665	0.0003
Respondent Believes People Should Pay Taxes	0.37	0.43	0.13	2.79	0.096	-0.0056
Respondent Prefers Drinking Water Project	0.30	0.29	0.03	0.17	0.684	-0.0016
Respondent Prefers School Project	0.16	0.18	0.06	0.66	0.417	0.0004
Respondent Prefers Road or Bridge Project	0.13	0.14	0.04	0.41	0.524	-0.0020
Respondent Attended Meeting of Shura	0.32	0.32	0.02	0.04	0.837	0.0001
Female Respondent Owns Private Land	0.34	0.30	0.10	1.03	0.312	0.0007

Notes: Comparison of means accounts for clustering of errors at the village level. Implied effect on outcome measure is calculated by estimating the effect of each of the covariates on the measure of satisfaction (as described in section IV.4) using the sample of control villages, multiplying the coefficient by the difference in means between villages with two different methods of resource allocation and dividing by the standard deviation of the index in the sample of control villages

Table 2: Coverage and Composition of Surveys

	Baseline Survey (September 2008)	Follow-Up Survey (May -October 2009)
Male Household Questionnaire	2,387 respondents in 250 villages	2,367 respondents in 239 villages
Male Focus Group Questionnaire	1,999 respondents in 250 villages	1,848 respondents in 236 villages
Female Focus Group Questionnaire	1,812 respondents in 248 villages	1,364 respondents in 212
Female Household Questionnaire	Not Administered	2,144 respondents in 217 villages
Female Individual Questionnaire (administered to female focus group participants)	1,708 respondents in 248 villages	Not Administered

Table 3: Ex-Ante Most Preferred Projects

Panel A: Male Head of Household		Village Level		Individual Level	
Most Preferred Project is	Village Meeting	Referendum	Village Meeting	Referendum	
Drinking water	36.0%	40.8%	30.2%	28.9%	
Irrigation	17.6%	12.0%	12.6%	13.0%	
Electricity	6.4%	4.8%	6.2%	6.4%	
Roads and Bridges	18.4%	18.4%	16.9%	13.3%	
Schools	18.4%	23.2%	16.0%	18.4%	
Health facilities	16.0%	15.2%	13.0%	14.4%	
Livestock breeding	1.6%	0.0%	0.9%	1.3%	
Agriculture accessories	0.0%	0.0%	1.3%	1.1%	
Other	0.0%	1.6%	2.9%	3.2%	
p-Value for χ^2 Test		0.80		0.30	
Observations	125	125	1187	1182	
Panel B: Male Focus Group		Village Level		Individual Level	
Most Preferred Project is	Village Meeting	Referendum	Village Meeting	Referendum	
Drinking Water	27.6%	23.6%	16.0%	13.6%	
Irrigation	25.2%	29.3%	14.1%	16.7%	
Electricity	16.3%	19.5%	11.0%	12.1%	
Roads and Bridges	25.2%	21.1%	12.0%	11.4%	
Schools	25.2%	19.5%	13.0%	12.8%	
Health facilities	22.0%	24.4%	13.6%	13.0%	
Livestock breeding	5.7%	8.1%	3.4%	4.6%	
Agriculture accessories	4.1%	10.6%	4.1%	4.1%	
Other	16.3%	14.6%	12.9%	11.7%	
p-Value for χ^2 Test		0.49		0.53	
Observations	123	123	972	976	
Panel C: Female		Village Level		Individual Level	
Most Preferred Project is	Village Meeting	Referendum	Village Meeting	Referendum	
Drinking Water	54.0%	50.0%	44.2%	39.3%	
Irrigation	2.4%	5.6%	2.9%	3.9%	
Electricity	9.7%	5.6%	8.3%	5.5%	
Roads and Bridges	6.5%	8.9%	5.2%	7.8%	
Schools	17.7%	16.1%	13.7%	15.2%	
Health facilities	16.9%	19.4%	13.7%	16.5%	
Livestock breeding	0.0%	2.4%	0.7%	0.5%	
Agriculture accessories	0.0%	0.8%	0.4%	1.3%	
Other	8.1%	8.9%	11.1%	10.1%	
p-Value for χ^2 Test		0.69		0.01	
Observations	124	124	842	844	

Notes: Village-level results show the number of villages in which particular type of projects was preferred by the majority of respondents in a respective group of villagers. In village-level results in case of a tie all the projects with the maximum number of votes are considered as the most preferred, so the sum of percentages may exceed 100%. Individual-level results show the share of respondents in a respective group of villagers that prefer particular type of project.

Table 4: Participation by Decision-Making Procedure

	Villagers				Development Council Members		
	Obs.	Average Number	Average share of adults	Std. Dev.	Obs.	Mean	Std. Dev.
Village Meeting (monitored villages)							
Total	54	143	33%	119	56	15	9
Male	63	71	31%	61	63	7.1	2.8
Female	54	75	35%	61	55	7	3.8
Referendum (monitored villages)							
Total	116	251	61%	162			
Male	116	140	63%	102			
Female	97	133	69%	91			

Notes: The actual turnout is somewhat higher, as the adult population includes people over 15 years of age, whereas only people 18 and over are considered as eligible voters.

Table 5: Resource Allocation Outcomes

	Decision-Making Procedure	
	Village Meeting	Referendum
Proposal		
Median number per village	5	5
Type		
Drinking Water	19.7%	19.3%
Irrigation	21.0%	19.3%
Roads and Bridges	28.0%	28.3%
Electricity	17.1%	17.9%
Other	14.2%	15.4%
Observations	590	597
p-Value for χ^2 Test	0.40	
Selection		
Median number per village	3	3
Type		
Drinking Water	27.2%	23.6%
Irrigation	20.7%	18.4%
Roads and Bridges	28.5%	29.3%
Electricity	16.5%	20.2%
Other	7.0%	8.4%
Observations	309	331
p-Value for χ^2 Test	0.69	
Prioritization		
Median number per village	1	1
Type		
Drinking Water	29.9%	20.5%
Irrigation	25.6%	17.9%
Roads and Bridges	22.2%	20.5%
Electricity	18.8%	37.5%
Other	3.5%	3.6%
Observations	117	112
p-Value for χ^2 Test	0.06	

Table 6: Effect of Allocation Method on Allocation Outcomes.

Dependent Variable	Mean In Villages With Consultation Meeting	Referendum Effect	Standard Error	Obs.
At least One of the Proposed Projects Included the Project Most Preferred by				
(1) Male Villagers	0.64	0.048	[0.052]	235
(2) Male Elite	0.69	0.000	[0.054]	235
(3) Female Elite	0.59	0.021	[0.054]	235
At least One of the Selected Projects Included the Project Most Preferred by				
(4) Male Villagers	0.56	0.012	[0.053]	234
(5) Male Elite	0.54	-0.046	[0.057]	234
(6) Female Elite	0.46	-0.018	[0.054]	234
Prioritized Project Was the Project Most Preferred by				
(7) Male Villagers	0.33	-0.072	[0.052]	228
(8) Male Elite	0.37	-0.145***	[0.052]	228
(9) Female Elite	0.25	-0.113**	[0.045]	228

Notes: Each row corresponds to a separate regression in which a dummy outcome variable is regressed on the referendum dummy and set of quadruple fixed effects. Regressions (1)-(3), (4)-(6), and (7)-(9) are estimated jointly as three systems of seemingly unrelated regressions. *, **, and *** denote significance at 10%, 5%, and 1% levels.

Table 7: Effect of Allocation Method on Villagers' Attitudes

	(1)	(2)	(3)	(4)	(5)	(6)
	Index of Villagers Satisfaction		Index of Male Villagers Satisfaction		Index of Female Villagers Satisfaction	
Referendum	0.084***	0.081***	0.067**	0.064**	0.111***	0.112***
	[0.025]	[0.024]	[0.031]	[0.031]	[0.034]	[0.033]
Control variables	No	Yes	No	Yes	No	Yes
Observations	4,508	4,448	2,367	2,323	2,141	2,125
R-squared	0.07	0.08	0.12	0.13	0.08	0.10

Notes. All regressions include quadruple fixed effects. Controls include age, whether respondent had any formal education, whether respondent owns land, whether respondent was able to read a basic sentence, whether a respondent was able to perform basic calculation. Robust standard errors are clustered at the village level. *, **, and *** denote significance at 10%, 5%, and 1% levels.