

The Impact of Social Accountability on Service Delivery: Experimental Evidence from a Large-scale Community-driven Development Program in Uganda

Pre-analysis plan

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1. Introduction

This pre-analysis plan is for an experimental intervention designed to evaluate the impact of a social accountability program on service delivery in Uganda. A fast growing body of literature shows how corruption can undermine development by generating costs for society. Those costs can take different forms and range from an increase in bureaucratic hurdles to extract greater payments (Bertrand et al., 2007), to the creation of an unappealing economic environment for foreign investments (Woo, 2010) or a reduction of human capital stemming from bad-quality delivery of health or education services (Reinikka and Svensson, 2004, Bjorkman and Svensson, 2009). Not only does corruption represent an efficiency loss for society, but it also has a negative equity impact, affecting more severely those with less voice but with greater need for public services (Olken, 2006, Hunt, 2007).

The problem of corruption is especially prevalent in Uganda. Combined with high poverty in the north of the country and underinvestment into anti-corruption strategies, corruption in Uganda continues to be seen as a serious problem, both locally and internationally. Anecdotal evidence suggests that outright corruption and general mismanagement of public funds is leading to a significant reduction in the quality of service delivery, putting development goals in serious risk. It is important to understand the causes behind such phenomenon and, most importantly, how it can be reduced and prevented.

What the most successful and cost-effective approaches to reduce corruption are remains an open question. The 2004 World Development Report presents a simple framework that articulates the relationships between citizens or program beneficiaries, service providers and policymakers. Governance and anti-corruption interventions can take the (vertical) long-route from clients influencing policymakers (bottom-up) and policymakers influencing service providers (top-down), or the (horizontal) short-route with citizens and program beneficiaries directly influencing policymakers.

Most traditional governance and anti-corruption interventions take the long route towards accountability, for instance by conducting (top-down) audits of programs and officials. However, these can often be costly to implement and can themselves become subject to elite

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interference. Besides, auditing may prove relatively ineffective in weak institutional environments (Serra, 2008; Barr and Serra, 2010).

Recent research has suggested that using the (horizontal) short route for accountability and engaging local populations and promoting transparency on the performance of local leaders and service providers can improve public governance by increasing the demand for accountability and ultimately reducing corruption (Björkman and Svensson, 2009, Deininger and Mpuga, 2004, Banerjee et al., 2010, Banerjee et al., 2011, Djankov et al., 2010, Ferraz and Finan, 2008, Serra et al., 2011). However, social accountability can be less effective in the presence of elite capture, or in cases where the population is not able to fully affect service providers' incentives (Reinikka and Svensson, 2004; Björkman and Svensson, 2010, Barr and Zeitlin, 2011). Empirical evidence testing the relative effectiveness of social accountability design features in the context of large-scale national programs remains limited (Devarajan et al, 2011).

The second phase of the Northern Uganda Social Action Fund (NUSAF2) is a large-scale Community-Driven Development Program implemented by the Office of the Prime Minister in coordination with district and sub-county authorities. As part of the program, communities were invited to formulate projects and submit proposals to the government. Once projects were approved by the office of the prime minister, funds are managed directly by Community Project Management Committees and Community Procurement committees, which are in charge of delivering the selected projects. Community Social Accountability Committees are in charge of monitoring project progress and providing oversight within community. Sub-county and district authorities undertake monitoring and provide oversight in coordination with project staff.

A highly decentralized project such a NUSAF2 can create many governance challenges. One of the innovations of the NUSAF2 project is that it includes a Transparency, Accountability and Anti-Corruption (TAAC) Component. The objective of the TAAC component is to strengthen transparency, accountability and anti-corruption in Northern Uganda, using the project as an entry point to develop improved systems to be used by communities, local authorities and others with a mandate to promote improved governance in development. The TAAC component is implemented by local NGOs under the oversight of the Inspectorate of Government (IG) and consists of both preventive and punitive anti-corruption measures, and includes activities throughout the duration of the NUSAF2 program. The TAAC component is innovative as it mainstreams an anti-corruption prevention intervention in a Community Driven Development (CDD) project.

The research team is working with the IG of Uganda to evaluate the social accountability and community monitoring intervention. The impact evaluation assesses the relative effectiveness of a range of social accountability interventions being scaled up across the north of the country as part of the TAAC component. It provides a unique opportunity to assess how best to design social accountability interventions, in particular, the optimal intensity of such interventions and the role of incentives for communities to report fraud and deliver quality projects. The TAAC

impact evaluation will document which (if any) social accountability model is the most cost-effective way to reduce corruption. As such, the results will provide information to the IG on how best to expand and scale-up anti-corruption activities in other national programs. The impact evaluation of the TAAC component is unique given its focus on a large-scale government-led intervention implemented in collaboration with local NGOs throughout Northern Uganda.

A baseline survey of local officials was conducted in 2012. The program was completed in the middle of 2015, with endline data collection being conducted in two phases. The first phase is a set of sub-project assessments collected between December 2015 and February 2016. The second phase is an individual survey of participants and other community members, to be conducted in May to July 2016. The quantitative impact evaluation analysis is complemented by an implementation study implemented in a sub-sample of treatment project, as well as qualitative work.

This pre-analysis plan has been developed after the sub-project assessment data was collected, but before the researchers had access to both the sub-project assessment data and treatment status. The pre-analysis plan was developed after the initial data collection due to the complexity of the data. It was unclear how the index constructions that will be a critical part of this analysis would be constructed without seeing the data. The lack of access to treatment status was done to ensure this plan is not biased by a search for results.

2. Experimental Design and program description

The evaluation method is a large-sample, randomized control trial with a cross-cutting and stratified design, in which communities were randomly assigned to specific combinations of interventions.

In a random selection of communities, a social accountability and community monitoring intervention was introduced. The intervention included two treatment models: (1) the standard model in which communities were trained to monitor the implementation of their local development projects and address any issues with project implementers and government officials; and (2) the standard model with an additional intervention to increase the incentives for communities to report corruption and produce quality project outputs. By comparing these two intervention models against the control group, the causal impact of that additional intervention can be obtained. In addition, each intervention can also be compared against each other, allowing for an identification of the most effective and most cost effective intervention. The incentive program, while implemented well, is likely to be a low powered addition. In the case we cannot observe a statistical difference between these two interventions, we will pool both treatment arms into one treatment.

As mentioned above, the NUSAF2 project is a large-scale Community-Driven Development Program implemented by the Office of the Prime Minister in coordination with district and sub-

county authorities. As part of the program, communities are invited to formulate sub-projects and submit proposals to project offices. The submitted projects can fall under three categories: (i) public works, (ii) livelihood investment and (iii) infrastructure rehabilitation. As such, the social accountability and community monitoring interventions were implemented in different sub-project types. Table 1 provides the number of each sub-project type assigned to the control group, the standard modality and the added incentive modality. Randomization was done at the project level without stratification on project type of location.

The program design and number of types of programs per treatment arm are described in Table 1. Due to the range of project types and the difficulty of comparing outcomes for these different projects, we drop all projects in less than 20 communities from the final analysis.

Table 1: Sample projects by type and intervention

Project Type from survey, fully corrupted data from the sample.	Treatment Given			Total
	Control	SAC	SAC Plus	
Livestock	212	206	217	635
Enterprise	23	29	29	81
Borehole	5	3	6	14
Fencing	9	11	7	27
Roads	9	12	10	31
Tree Planting	27	29	18	74
Staff House	11	22	14	47
Dormitory	2	2	5	9
Classroom	2	2	3	7
OPD	3	4	4	11
Valley Tank	2	1	0	3
Valley Dam	1	0	0	1
Total	306	321	313	940

We next describe each individual component in detail.

Social Accountability and Community Monitoring - Standard model

In order to determine the effectiveness of community participation in the monitoring of projects, a random sample of projects received assistance in community monitoring through a Social Accountability and Community Monitoring intervention (SACM) delivered as part of the NUSAF2 TAAC component. The SACM intervention was implemented by NGOs contracted out by the IG and included thorough training on social accountability and community monitoring of NUSAF2 sub-projects, as well as follow-up visits by a 'Community Trainer' to provide on-going training and support for the communities to monitor implementation of NUSAF2 sub-projects.

Community assemblies were organized to discuss the principles of social accountability and community monitoring. As part of this mobilization phase, new representatives were elected by the whole community to joint strengthened social accountability committees. Members of the committees made a public pledge to participate in a training program, undertake monitoring of the project on behalf of the community, and report back to the community. The training provided background on social accountability and NUSAF2, taught participants community monitoring skills and provided tools to monitor NUSAF2 sub-projects. The training also provided hands-on skills in writing reports, providing feedback to the community, generating a community action plan and applying monitoring skills to projects other than NUSAF2 in the community.

Social Accountability and Community Monitoring - Increased incentives

In addition to receiving the standard model, a sub-set of communities were offered additional incentives for regular participation in training and reporting of their sub-project status to the IG. The NUSAF2 Operational Manual outlines that the SACs are expected to complete "participatory monitoring tools" to ensure active involvement of all stakeholders in monitoring of project activities and outputs secure commitment, and build the capacity of communities to be able to analyze, reflect, and take corrective action. It is expected that regular reporting will improve accountability and result in improved project outcomes. However, communities may lack so incentives to complete these reports. Through the 2010 Whistleblowers Protection Act, the IG system can provide a bonus of 5% of recovered costs to whistleblowers. However, this incentive for reporting faces long delays, is rarely given out, and few people know about it.

Communities in a selection of sub-counties that received the standard community monitoring model were provided additional incentives to carry out monthly reporting. The incentives were designed to include individual rewards as well as group rewards. For individual rewards, individuals who complete the preliminary training and participate in follow-up visits and monitoring received an official "Community Monitor" pin from the IG. This badge helped identify and legitimize them as someone who had been trained and had completed the community monitoring work. They also received a contact card with the IG contacts in case of any problems. As part of the group reward, communities that completed the entire training, support visits, and undertook the community monitoring resulting in the final report are

recognized by the IG for their hard work on local radio stations. Some communities or individuals may be invited to share experiences of community monitoring on the radio. The individual reward was designed to be based on attendance and participation in the training and follow-up visits. The group reward was designed based on timely production of monthly reports on their community monitoring findings.

In addition to the two intervention models, we will also observe the effect of the program conditional on the number and intensity of the social accountability and community training intervention.

Increased density of social accountability

Increasing social accountability in some communities may shift corruption to other communities without strengthened social accountability. It is therefore important to understand what is the optimal density of strengthened social accountability, and whether strengthened social accountability is required everywhere to be effective. The standard model of community participation presented above assumes that community voices can be heard by sub-county and district officials, even if a small selection of communities are empowered. There may though be a minimum of communities needed to be trained in order to give power to this voice. The randomization process of communities provided a range of number and percentage of projects per sub-county to be targeted for the programs. The value of a range of project density will allow the research team to identify the spillovers of social accountability on other project within the sub-county, and inform on the optimal intensity of social accountability required for grass-root monitoring to be effective.

3. Outcomes and indicators

The main data collections will be a sub-project assessment (audit), where the community project is observed by a team of enumerators, as well as an individual questionnaire that will capture the effects of the programs on community outcomes and produce information used in the heterogeneity analysis. The goal of the questionnaire is to gauge changes in civic participation and attitudes. The program is expected to change individual and community actions toward local leaders, which could translate into improved civic action and participation with local government. Individual data will allow for a test of these potential effects. The program could also have unintended side effects for communities that will be important to measure and understand. This includes potential increases in conflict from the oversight of projects and decreased trust within the communities. The individual questionnaires can thus capture both positive and negative changes in behavior. The individual data collection pre-analysis plan is forthcoming.

The goal of the TAAC training was to affect the quality of development sub-projects and general service delivery. Specifically, the main three research questions were as follows:

- Are the social accountability and community monitoring interventions effective in improving sub-project quality?
- What is the most cost-effective design of social accountability interventions?
- Does the density of social accountability matter, and are there geographical spill-overs?

We specify here the main outcomes that we are interested in, the intermediary outcomes (or main underlying mechanisms) that can lead to changes in final outcomes, as well as process indicators that capture core element of the implemented intervention. For each domain, we specify what variables will be included in individual indices to be constructed. Note that all indices are additive from the individual components. The analysis will test the robustness to index construction, in particular as it comes to dealing with missing values.

1. Primary outcome: project quality
 - a. Project quality index (see Table 2 for variables)
 - b. Project quality and quantity index (see Table 2 for variables)
 - c. Index of Project Implementation Quality (see Table 3 for variables)
 - d. Fully mismanaged projects indicator
2. Intermediary outcomes Domain 1: Procurement & Contracting
 - a. Index of challenges in procurement process (see Table 3 for variables)
 - b. Index of satisfaction with supplier (see Table 3 for variables)
 - c. Hired a contractor to implement project
 - d. Index of challenges in contracting process (see Table 3 for variables)
 - e. Index of Satisfaction with contractor (see Table 3 for variables)
3. Intermediary outcomes Domain 2: Monitoring/Information
 - a. Index for intensity of project community monitoring (see Table 3 for variables)
 - b. Index for intensity of Social Accountability committee (SAC) Project Monitoring (see Table 3 for variables)
4. Intermediary outcomes Domain 3: Interaction with local officials/technical staff
 - a. Payments made to district-level staff:
 - i. Payment was made to district official
 - ii. Payment was made to district technical staff
 - b. Index of satisfaction with NDO (see Table 3 for variables)
 - c. Index of satisfaction with district vet (see Table 3 for variables)
5. Process Indicators:
 - a. SAC composition:
 - i. Number of SAC members
 - ii. Average education level of SAC members
 - b. Training received:
 - i. SAC trained
 - ii. Community trained on procurement and contracting

- iii. Community trained on social accountability
- iv. Community sufficiently trained

For the primary outcomes, intermediary outcomes, and process indicators, the study will also analyze specific heterogeneities in program impacts. This includes the following:

1. Projects implemented in Karamoja. Due to different implementation modalities for the NUSAF2 projects in Karamoja region, as well as the specificities of that region, there may be differences in the effect in this area.
2. Project type. As there is a high number of livestock projects in the program, we will test the effect of the program on livestock projects versus all other projects.
3. Baseline perception of local levels of corruption. During the baseline, local officials were asked which areas they thought faced more corruption issues. We will interact the treatment variables with the perceived local level of corruption.

4. Empirical specification

We will use data from the audit and individual surveys to test the differential effects of each program on the outcomes presented in Section 3. We will run the following intention to treat (ITT) regression model:

$$Y_i = \alpha + \beta T + \gamma X_i + \delta R + \varepsilon_i \quad (1)$$

where i refers to an individual, Y is the outcome of interest, T is a set of dummy variables for which treatment a community belonged to³, X is a matrix of project controls (administrative data on project type, start date and budget)⁴, R is a set of region, district and sub-county dummies, and ε is the error term.

In addition to the main specification, we will also explore the effect of the density of treatment at the sub-county level using the following model:

$$Y_i = \alpha + \beta T + \mu T \times N^d + \theta N^d + \gamma X_i + \delta R + \varepsilon_i \quad (2)$$

where the interaction term N^d is the percent of projects that were treated in a given sub-county.

In addition to the outcomes in Equations 1 and 2, we will also explore the effect heterogeneities discussed in Section 3 using interactions with the treatment variable.

³ If we do not find a statistical difference between treatments we will pool the two treatment indicators into one treatment indicator.

⁴ Community controls will be used in robustness tests only.

Note that the level of analysis will vary depending on the variable of interest. For the primary outcome, project quality, we will use individual level data, with standard errors clustered at the community level⁵. All other analysis will be at the community level. As the quality variable will be created across different product types, we will normalize the indices within each project type to improve comparability.

In addition to the main outcomes we list in Section 3, we will also test treatment effects for each component of the individual indices. We will use multiple hypothesis corrections for outcomes within each of these indices.

⁵ Individual level refers to tests of effect using all of the data available. Five people were interviewed in each of the livestock projects. Data collection for all other projects was at the community level. Livestock variables will be weighted 1/5 as much as other variables to account for the extra data in communities.

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Table 2: Quality index by program type

Sub-Project Type	Quantity Indicator(s)		Quality Indicator(s)	
	Variable	Definition	Variable	Definition
Livestock	s02_livestock_received	Total number of animals the subproject received	s02_anl_age_rec	Age when animals were received (as recalled by beneficiaries).
			s02_age_an	Age of observed animals. Calculated by examining the animals teeth.
			s02_breed	The breed of the animal. Either local or crossed/improved/hybrid.
			s02_oxen_prod	Indicates that an oxen is ploughing
			s02_birth	Indicates that a female cow has given birth
			s02_bull_prod	Indicates that a breeding bull has bred
			s02_reprod_1	Cow is pregnant
			s02_reprod_gs_1	Goat is pregnant
			s02_prod_stat_1	Female animal is lactating
			s02_prod_stat_3	female animal is plough (for Karamoja)
			s02_weight	Weight of cow measured using a tape around the chest
			s02_weight_gs	Weight of goats measured using a tape around the chest.
			s02_skin_5	Indicates wounded skin
			s02_skin_6	Indicates scarred skin
			s02_skin_7	Indicates swollen skin
			s02_abnorm_1	Indicates abnormal discharges from the ears.
			s02_abnorm_2	Indicates abnormal discharges from the eyes.
			s02_abnorm_3	Indicates abnormal discharges from the mouth.
			s02_abnorm_4	Indicates abnormal discharges from the nostrils.
			s02_abnorm_5	Indicates abnormal discharges from the rectum.
			s02_abnorm_6	Indicates abnormal discharges from the vulva.
			s02_abnorm_7	Indicates abnormal discharges from the udder.
			s02_ill_1	Indicates swollen lymph nodes
			s02_ill_2	Indicates limping
			s02_ill_3	Indicates lameness
			s02_ill_4	Indicates fractures
			s02_ill_5	Indicates blindness
			s02_ill_6	Indicates bloating
			s02_ill_7	Indicates swollen joints
			s02_ill_8	Indicates diarrhoea
			s02_ill_9	Indicates slow dullness
			s02_ill_10	Indicates slow breathing
		s02_ill_11	Indicates rapid breathing	
		s02_ill_12	Indicates reduced appetite	
		s02_ill_13	Indicates coughing	
		s02_parasite	Indicates parasite infestation. We consider an animal ill if it is severely infested.	
		s02_temp	Indicates the temperament of the animals. We consider an animal ill if it has an aggressive or dull temperament.	
		s02_udder	Indicates inflamed udder.	
		s02_teats	Indicates issues with the teats. We consider an animal to be ill if the teats are not functional, small, missing, swollen or with soares	
		s02_testis	Indicates the state of the testis. We consider an animal to be ill if the testis are not functional, small or there is only one (uncastrated animals only).	
Staff House	s07_leng	Length of staff house	s07_qual_wall	Indicates walls are satisfactory.
	s07_width	Width of staff house	s07_qual_roof	Indicates roof is satisfactory.
	s07_heigh_gab	Height of front wall of staff house	s07_qual_wind	Indicates windows are satisfactory.
	s07_heigh_wall	Height of rear wall of staff house	s07_qual_door	Indicates doors are satisfactory.
			s07_qual_ceil	Indicates ceiling is satisfactory.
			s07_qual_floor	Indicates floor is satisfactory.
		s07_qual_paint	Indicates painting satisfactory.	
Enterprise	s03_members_n	Number of people currently engaged in the enterprise	s03_acc_mat	Current access to materials
			s03_acc_trans	Current access to transportation
			s03_acc_credit	Current access to credit
			s03_acc_skillab	Current access to skilled labour
			s03_acc_market	Current access to markets
		s03_succ_enter	How successful they feel their enterprise is.	
Fencing	s05_chainlink_len	Length of the fence.		
Roads	s06_road_end1latitude	geopoints for either end of the road and any corners. With this we can calculate the length of the road	s06_material	Material the road is made from.
	s06_road_end1longitude			
	s06_road_midlatitude_*			
	s06_road_midlongitude_*			
	s06_road_end2latitude			
	s06_road_end2longitude			
	s06_width*	Width of the road. (Measured in 3 places)		
Tree Planting	s08_land_size	Size of the land used.	s08_seed_cert	Indicates whether the seeds/seedlings bought were certified.
	s08_seedlings	Number of seedlings planted.		
	s08_seeds	Number of seeds planted.		

Table 3: Main Variables for Impact Analysis

A. Final Outcomes: Sub-Project Quality

i. Project implementation quality

Index of Project Implementation Quality

- Project was deemed useful
- Project was completed
- Project material/livestock met expectations
- Project material/livestock was deemed not very expensive

B. Intermediary outcomes Domain 1: Procurement & Contracting

i. Procurement of Material and Livestock

Index of Challenges in Procurement Process

- Only whole management committee was allowed to withdraw funds
- Only procurement committee was responsible to acquire material
- Did not take all steps to purchase material
- Process of purchasing sub-project material was deemed difficult

Index of Satisfaction with supplier

- Community was satisfied with supplier of material
- Community had good relationship with supplier of material

ii. Contracting

Hired a Contractor to Implement Project

Index of challenges in Contracting Process

- Did not advertise when searching for contractor
- Received less than 3 bids
- Did not show files on contracting process
- Did not take all steps in contracting process
- Did not develop an opinion on potential contractors
- Someone from outside the community was influential in choosing contractor
- No contract was written for contractor
- Community was not consulted by contractor during project
- Community opinion was not taken into account by contractor during project

Index of Satisfaction with contractor

- Satisfaction with contractor
- Community had good relationship with contractor

C. Intermediary outcomes Domain 2: Monitoring/Information

i. Subproject Monitoring index

Index for Intensity of Project Community Monitoring

- Compiled an Accountability Report
- Monitored project implementation
- Monitored selection of materials/livestock
- Monitoring report was written

ii. Social Accountability Committee Subproject Monitoring Index

Index for Intensity of Social Accountability Committee (SAC) Project Monitoring

- SAC compiled an Accountability Report
- SAC witnessed delivery of procured goods

- SAC monitored project implementation
- SAC monitored selection of materials/livestock
- SAC wrote monitoring report

D. Intermediary outcomes Domain 3: Interaction with local officials/technical staff

i. Payments made to district-level staff

- Payment was made to district official
- Payment was made to district technical staff

ii. Satisfaction with service delivery

Index of satisfaction with NDO

- Satisfaction with NDO Index
- Community had good relationship with NDO

Index of satisfaction with district vet

Satisfaction with district vet

- District vet provided animal treatment
- District vet followed-up after distribution
- District vet provided ear tags
- District vet provided training to community
- District vet provided animal selection
- District vet inspected the animals

E. Process Indicators:

i. SAC composition:

- Number of SAC members
- Average education level of SAC members

ii. Training received

- SAC was trained
 - Community trained on procurement and contracting procedures
 - Community trained on social accountability
 - Training usefulness
-