Rethinking Foreign Aid and Legitimacy: Views from Aid Recipients in Kenya

Supplementary Information

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## Contents

S1 Summary of Existing Studies

Table 1: Empirical studies on the effects of foreign aid on individual-level attitudes or behaviors

Paper	Context	Dependent variable	Measure	Explanatory variable	Findings
Sacks (2012)	SSA (obs)	Government legitimacy	Afrobarometer measure of belief in government's right to tax	Afrobarometer measure of belief about who provides goods and services	Belief that donors and non-state actors provide services positively related to willingness to pay taxes
Briggs (2015)	Ghana (obs)	Incumbent re-election	Incumbent re-election (electoral data)	Change in level of foreign assistance	Decline in foreign aid reduces probability of incumbent re-election. Case studies suggest aid allows politicians to provide public goods in electorally competitive areas.
Guiteras and Mobarak (2015)	Bangladesh (exp)	Perceptions of politician performance	Survey measured satisfaction with politician's performance and public goods provision and asked for number of times politician visited village	(1) Sanitation project (2) Information that politician had no role in sanitation project	Sanitation project increased time politicians spent in treated villages and improved perceptions of politician performance, but information treatment eliminated effect on perceptions.
Dietrich and Winters (2015)	India (survey exp)	Government legitimacy	Favorability of PM, parliament; perception of national and state government performance on HIV/AIDS	Information about HIV/AIDS project randomized attribution to foreign funder	Null results
Cruz and Schneider (2017)	Philippines (obs)	Incumbent re-election	Draws on electoral data and uses reported number of times that politician visited village from project data	World Bank CDD project (KALAHI) with minimal opportunity for politician capture	Quantitative: politicians spent more time in project areas and were more likely to win re-election; qualitative: politicians used billboards to claim credit for project they had no role in.
Baldwin and Winters (2019)	Uganda (survey exp)	Government legitimacy	Survey measures views of government performance, perceived ability to hold government accountable, willingness to financially support government	Information about project randomized attribution of funding and implementation	Only bypass aid reduces legitimacy
Blair and Roessler (2018)	Liberia (survey, survey exp, behavioral game)	Government legitimacy	Survey measures perceptions of government fairness and corruption, belief in government's right to tax; behavioral game measures willingness to pay taxes	Survey experiment randomized attribution of public services to Liberia, China, or US	Some positive correlation between baseline exposure to foreign aid and perceptions of government but not tax attitudes; no effect of vignettes on tax attitudes or behavioral tax compliance
Dietrich et al. (2018)	Bangladesh (survey exp)	Government legitimacy	Survey measures confidence in institutions and leaders, belief in government's right to tax, and perception of corruption	Informational video about project randomized attribution to USAID	Attribution to USAID improves confidence in local government, no effect on tax attitudes, reduces perception of corruption

Figure 1: Map of Siaya County
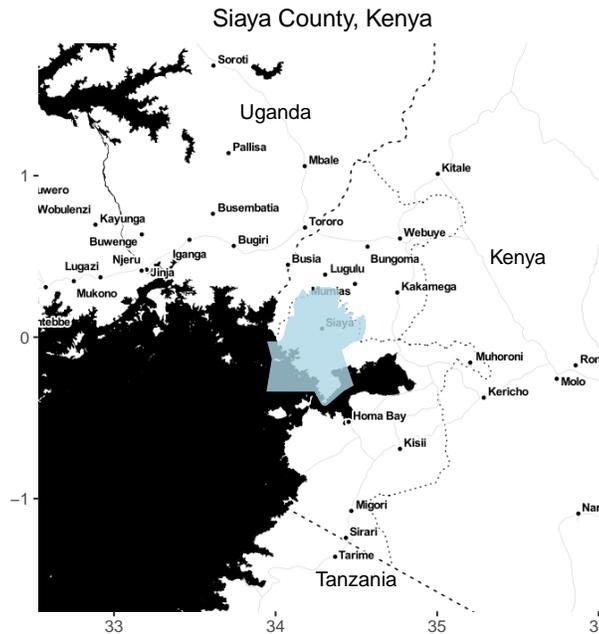
Note: Administrative boundaries of Siaya County featured in light blue.

S2 Interview and Survey Samples

The study takes place in Siaya County (Figure 1), one of 47 counties in Kenya. Siaya County was chosen for being an especially poor county in which foreign aid is abundant and salient. I conducted 30 in-depth exploratory interviews with individuals, local NGO leaders, and local politicians, and then subsequently fielded a survey to 198 individuals. In what follows, I describe the two samples in greater depth.

S2.1 Interviews

In order to learn about foreign aid and how it is perceived in western Kenya, I conducted 30 in-depth interviews in June and July 2015. The sample included leaders of NGOs (most of which are based in the nearby city of Kisumu), local politicians based in Siaya Town, and individuals recruited in market centers throughout the county of Siaya. Interviews with NGO leaders and politicians were conducted in English, while interviews with individuals were conducted in Luo with the help of a translator.

S2.2 Survey

I investigated issues that arose during interviews by subsequently fielding a survey to 198 individuals in October and November 2015. I randomly sampled individuals with probabilities proportional to population size in order to make the survey representative of Siaya County. However, for the

reasons outlined in the paper, representativeness is not a primary aim of the survey. The random sample within Siaya County serves mostly to demonstrate that the views expressed during the interviews extend beyond those individuals connected to market centers.

S2.2.1   Village Sampling

The structure of Kenyan administrative units is as follows:

County (Siaya) → Division → Location → Sublocation → Enumeration Area (roughly, village)

Within Siaya County, there are 7 Divisions: Boro, Karemo, Ugunja, Ukwala, Uranga, Wagai, Yala.

I obtained a dataset of Enumeration Areas from the 2009 Kenyan Census, available online from the Kenyan National Data Archive (KeNADA).[1] I merged this with data from the census on population by sublocation, the smallest unit for which population data is available.[2]

For the pilot survey, I chose to randomly draw 10 villages from Siaya County and then also select an adjacent village for inclusion in the study, resulting in 20 villages (10 village-pairs). I selected village-pairs instead of villages for logistical reasons, since my team did not have time to meet with 20 chiefs (or sub-chiefs) to obtain permission to work in their respective locations (or sub-locations). However, since our visit spanned two days, to minimize the risk of spillover, we relocated on the second day to an adjacent village (details on this selection procedure below).

While there are seven divisions in Siaya County, I omitted Yala County because its distance from Siaya Town made it prohibitive for my team. As a result, the sample is representative of only the six included divisions in Siaya County.

To represent diversity in Siaya County, I stratified the selection of EAs on division and on urban/rural. To stratify on division, I selected one EA from two less populous divisions (Boro and Uranga), and two EAs from the four most populous divisions in my study (Ukwala, Ugunja, Karemo, and Wagai). To stratify on urban/rural, I imposed a selection rule to ensure that I selected a number of rural EAs proportional to the overall ruralness of EAs in Siaya County. First, I took the average number of urban/rural EAs within each sublocation, counting peri-urban EAs as urban, and coded each sublocation as either urban or rural. Next, I summed the total population living in urban versus rural sublocations. About 90% of the population lived in rural sublocations. To achieve this, I sought to select nine rural villages and one urban village.

I selected my sample of ten villages with probabilities proportional to population. I did this hierarchically. To obtain the probability of a given EA_i's selection to represent its division, I used the following formula:

$$Prob(EA_i) = \frac{LocationPop_i}{DivisionPop_i} * \frac{SublocationPop_i}{LocationPop_i} * \frac{1}{NumEAsSublocation}$$

I constructed the random sampling function here to pull one village each from Boro and Uranga and two from each of the other divisions using the probability of EA selection created above. I then ran a check to see whether the ten resulting villages were nine rural and one urban. If this check did not hold, it sampled again until it produced a randomization that satisfies this condition.

To construct the village-pair, I followed this procedure: When my field staff met with the chief, they identified how many villages are within an EA. If there was just a single village in an EA, I

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[1]http://statistics.knbs.or.ke/nada/index.php/catalog/55

[2]https://www.opendata.go.ke/Population/Census-Volume-1-Question-1-Populat
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selected the other part of the village or the nearest village in a different EA as its pair. If there was more than one village in an EA, I randomly selected one of the other villages in that EA.

Given this sampling procedure, I conduct all analysis with village-pair fixed effects. Code for the selection of villages is available upon request.

S2.2.2 Household and Individual Sampling

Once enumerators arrived in a village, they would begin at the village elder's house and walk in opposite directions, making a map of all houses along the road for one kilometer. The enumerators referred to a pre-made sampling scheme which instructed them which houses to visit according to the total number of houses mapped.

Each survey was randomly assigned a gender. To select respondents, enumerators would ask for a list of all individuals within the household under 65 of the assigned gender. They would randomly select a card to select a respondent.

S2.2.3 Descriptive Statistics

Table 2 presents descriptive statistics from the sample and compares means to data on identical questions from the Afrobarometer, both for Siaya County only and for the country generally. The table supports the notion that the sample is representative of Siaya County based on available data. While my sample is slightly more educated than Afrobarometer's Siaya sample, the only marked difference between the two is the rating of living conditions. I believe the explanation for this lies in the fact that the Afrobarometer Siayans represented two enumeration areas – one urban and one rural, whereas mine represented 20 – 2 urban and 18 rural. The urban areas of Siaya tend to be wealthier than the poorer areas. My sample of villages is in fact more representative of the urban/rural balance in the population in Siaya County and I suggest that its data are more generalizable to Siaya respondents.

Table 2: Descriptive statistics

	Original sample			Afrobarometer sample	
	Mean	SD	N	Mean (Siaya only)	Mean (Kenya)
Female	0.51	0.50	198		
Age	45.84	14.99	197	47.52	36.08
Completed primary school (grade 8)	0.61	0.49	198	0.52	0.74
Completed secondary school (grade 12)	0.27	0.44	198	0.19	0.43
Completed college	0.07	0.26	198	0.00	0.04
Perceived relative living conditions (1-5)	2.44	0.81	115	2.92	2.77

Note: Perceived relative living conditions is a question asking, "In general, how do you rate your living conditions compared to those of other Kenyans?" Answers ranged from 1 (much worse) to 5 (much better).

S2.2.4 Survey Instrument

A complete version of the survey instrument is available online at the author's website.

Table 3: Determinants of inaccuracy in estimation of government income sources

	Dependent variable:
	Inaccuracy
Education	−0.407***
	(0.127)
Age	0.005
	(0.032)
Female	−0.169
	(0.843)
Observations	139
Note:	*p<0.1; **p<0.05; ***p<0.01

S3 Endorsement Experiment

I conducted a behavioral experiment by encouraging participants to contribute part of their sitting fee to charity, and for a randomly selected treatment group, attributing this encouragement to the government of Kenya. This experiment is modeled on Blair (2018). The average treatment effect of the attribution to the government measures its legitimacy to make this demand.

Individuals in the treatment group heard the following text:

> Thank you for your patience. The survey is now complete. You have earned a 100 KSh. sitting fee for participating in this survey. *[Hand the respondent 100 KSh.]* We are collecting donations for a fund that will go to anonymous residents in another community in Siaya County, and we would like to give you the opportunity at this time to donate some amount of your sitting fee to this fund. Before you make your decision, I want to advise you that **the government of Kenya instructs that** you should always contribute everything you can to the common good. Listen to these instructions **from the government of Kenya** and always contribute everything you can to the common good. The amount you choose to contribute is completely confidential. I will turn away now and let you place your donation inside this bag. When you are finished, please seal it and place it among the other contribution bags.

I obtained permission from local authorities to attribute the statement to the government of Kenya. Individuals in the control group heard the identical text without the attribution to the government of Kenya (bolded in the treatment text):

> Thank you for your patience. The survey is now complete. You have earned a 100 KSh. sitting fee for participating in this survey. *[Hand the respondent 100 KSh.]* We are collecting donations for a fund that will go to anonymous residents in another community in Siaya County, and we would like to give you the opportunity at this

time to donate some amount of your sitting fee to this fund. Before you make your decision, I want to advise you that you should always contribute everything you can to the common good. Listen to these instructions and always contribute everything you can to the common good. The amount you choose to contribute is completely confidential. I will turn away now and let you place your donation inside this bag. When you are finished, please seal it and place it among the other contribution bags.

Treatment was randomly assigned to the survey and blocked on gender and village-pair. The randomization protocol is available upon request.

Individuals received a clear bag containing 20 coins of 5 KSh. each, as well as an opaque fabric bag into which they could insert their contribution. They were then instructed to place their contribution bag into a collection of other bags. Enumerators began the day with four "false" contribution bags in the large collection so that the first respondent would see that her contribution was indistinguishable from the others in the pot. Each contribution bag had a unique identifier inside the bag that was used to match the contribution to the survey ID at the end of each day. Enumerators were therefore blinded to an individual's contribution.

In contrast to overall high levels of trust and willingness to pay taxes, Table 4 reports a negative treatment effect, suggesting average or low levels of overall government legitimacy. The government attribution lowered individual contributions by about five U.S. cents (about a quarter of a standard deviation). The result is weakly significant in the baseline specification (Model 1) but is shy of conventional levels when covariates and fixed effects are included (Models 2 and 3). Overall, this measures a lower level of government legitimacy than do the trust or tax attitudes measures, which are high, on average. This evidence is consistent with the idea that individuals' self-reported opinions are vulnerable to social desirability bias.

Could measuring legitimacy in this way reveal results more consistent with the legitimacy prediction? Although answering this question is beyond the scope of this paper and the power of this study, I analyzed the heterogeneous effects of the treatment for individuals who were and were not aware of foreign aid. This variable is a dummy variable, coded 1 if the individual listed foreign aid among the sources of government funding in an open-ended question occurring early in the survey before any priming was introduced. The legitimacy prediction is that individuals who are aware of foreign aid will think the government less legitimate than their less aware peers, while the empirical consensus is that these aid-aware individuals will think the government just as or more legitimate than their less aware peers. In this sample, the groups were not significantly different from one another, and if anything, the group of aid-aware individuals responded more positively to the government's endorsement (Models 4 and 5). These null findings are therefore more consistent with the empirical consensus than they are with the theoretical prediction, although they could also result from the limited power of this study and are therefore not conclusive. It remains a possibility that measurement error accounts for the gap between theory and evidence.

Table 4: Behavioral experimental measure of government legitimacy

	Contribution (0-20)				
	(1)	(2)	(3)	(4)	(5)
Treat: Government endorsement (0-1)	−0.90*	−0.83	−0.80	−1.13	−1.05
	(0.51)	(0.51)	(0.50)	(0.80)	(0.80)
Treat*Aware of foreign aid (0-1)				0.55	0.51
				(1.10)	(1.13)
Aware of foreign aid (0-1)				−1.15	−0.80
				(0.77)	(0.78)
Constant	7.48***	7.24***	6.16***	5.85***	4.47**
	(0.63)	(1.19)	(1.40)	(1.73)	(1.94)
Controls for order surveyed	✓	✓	✓	✓	✓
Controls for covariates	∅	✓	✓	✓	✓
Includes village fixed effects	∅	∅	✓	∅	✓
Observations	198	197	197	182	182
R^2	0.02	0.04	0.12	0.06	0.14

*p<0.1; **p<0.05; ***p<0.01

Note: Outcome units are the number of 5 KSh coins (about 5 US cents) an individual contributed. *Aware of foreign aid* is a dummy variable indicating whether individuals listed foreign aid among the sources of government funding in an open-ended question (without priming). I control for the order of the survey in case individuals are influenced by the number of contributions in the pot. Covariates include age, education, and gender. Source: Author's data.

Figure 2: Example of a real government request

Note: Future studies could randomize the attribution of this request to the Government of Kenya and measure whether the attribution increases rates of TB testing.

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