Can Development Aid Empower Women? Evidence from a Field Experiment in the Congo

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Abstract

Can development aid empower women? We randomly assigned 1,250 Congolese communities to a development program that distributed development funds and included women in project selection and implementation, with the goal of empowering women. In 2010 and 2011, we revisited 816 treatment and control communities to collect survey data. Furthermore, in 413 communities we implemented a \$1,000 unconditional cash transfer program to assess behavioral change. We find only weak evidence that the program influenced the role of women in the community and policy outcomes, and no evidence that the program had an impact on the role of women within the household or attitudes towards them.

Keywords: Aid, Women's Empowerment, Congo, Experiments

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1 Introduction

It is well-documented that there exists a strong, bidirectional relationship between economic development and women’s empowerment (see Duflo (2012) for an overview). Furthermore, a number of studies – many using the random allocation of political quotas in India – suggest that gender quotas can lead to changes in the type of public goods provided (Chattopadhyay and Duflo, 2004), the role of women in the community and attitudes towards them (Beaman et al., 2009; Bhavnani, 2009). International aid organizations have taken a cue from these findings and women’s roles and rights are now a central component to many development programs. In this study, we build on a field experiment implemented in 1,250 villages in the Democratic Republic of Congo (DRC) to answer whether a development aid program that mandates women’s community participation can empower women.

Beath et al. (2013) previously studied this question using a randomized field experiment in 500 villages in Afghanistan. The program had special provisions aimed at empowering women: the establishment of gender-balanced village development councils, equal participation of men and women in the elections for the council and the selection of development projects, as well as a requirement that at least one project is prioritized by women. The study found that the program increased female participation in village governance, community life, and economic activities, while also increasing support for female participation in village decision-making. The study found no impact on decision-making within the household nor on attitudes toward the role of women in society.

This study makes three contributions. The first contribution relates to measurement. To measure women’s empowerment, Beath et al. (2013) make use of direct questioning in surveys and focus groups. These strategies, however, are prone to social desirability bias, especially after activities have been undertaken to empower women and individuals know the ‘right’ answers. In response, in addition to survey data, this study builds on measures collected during the implementation of an independent, unconditional cash transfer program, which we carried out after the field experiment in previous treatment and control areas. Selected communities received \$1,000, which they could manage without conditions or oversight over a two month period. Comparing differences in implementation of these funds between treatment and control communities (e.g. did women take on leading roles in managing the \$1,000?), allows us to measure actual behavior related towards women’s role in the community.

Second, we contribute through replication. Similar to Afghanistan, Congo scores badly when it comes to the position of women, reflecting a culture of discrimination towards women and decades of poor governance and chronic conflict.¹ However, the Congo is different in important ways that possibly impact the effectiveness of these development initiatives. For example, although both programs required councils to be gender balanced, Afghan cultural

¹The DRC ranks 153 out of 159 in the UNDP’s 2015 gender inequality index. Afghanistan ranks 154.

norms prescribed that male and female members had to meet separately. In contrast, in Congo male and female committee members worked directly together. As such, this study makes an important contribution to generalizable knowledge by understanding the impact of a similar program in a different context.²

The third contribution relates to scope. Beath et al. (2013) focus on attitudes towards women and their role within the household and community. In this study we do the same, but also explore the impact on policy decisions. Chattopadhyay and Duflo (2004) show that efforts to improve women’s empowerment can affect the types of public goods provided. They find that leaders invest more in infrastructure that is directly relevant to the needs of their own gender: women choose more water-related projects. Our data allows us to test this claim in the Congo (i.e. were different \$1,000 projects selected?).

2 A Field Experiment in Congo

This study builds on “Tuungane”, a large development program that was implemented between 2007 and 2010 in 1,250 villages throughout Eastern Congo (Figure A.1 in the appendix).³ With an average of around 1,424 inhabitants per village, the program reached a beneficiary population of approximately 1.8 million people. The implementing agency undertook a number of activities. Local election teams were established and trained to mobilize and guide village populations to ensure a good understanding of the *Tuungane* program and the subsequent elections to create so-called Village Development Committees (“VDCs”). Next, these VDCs, in consultation with the population, decided how to allocate an envelope of \$3,000 for a maximum of two projects. The proposed project(s) was then voted on by the whole village. In the two years following project selection, VDCs were responsible for project implementation. The process went hand in hand with intensive training and monitoring by the implementing partner.

In total, *Tuungane* implemented 1,812 VDC projects at a value of \$3,707,624. Most popular were projects related to the education sector (49% of projects). The other sectors are: health (14%), transport (8%), water and sanitation (Watsan, 16%), agriculture (7%) and other (6%).⁴ The implementation of these projects took on average 530 days (sd=173) per village. Figure B.1 in the appendix illustrates the timing of implementation and data collection. Projects were largely implemented to plan; only 26 VDCs were excluded due to mismanagement. In addition, populations in treatment areas report high levels of exposure to project activities; *Tuungane* was

²See e.g. EGAP’s Metaketa initiative (<http://egap.org/metaketa>) for a more structured approach to accumulating knowledge by replication.

³In addition to women’s empowerment, another aim of the program was to improve good governance. [Redacted] shows that the program was unsuccessful in doing so. The impact of *Tuungane* on good governance was pre-registered: [Redacted]. The impact of the program on women empowerment was not.

⁴In total, 76% of VDCs implemented two projects. The second set of projects had a very similar distribution. In Appendix B we provide more information about the *Tuungane* projects.

known by name to almost two thirds of the population, among those 41% correctly mentioning the implementing partner and 30% report attending at least one meeting.⁵

A core element of *Tuungane* was a focus on women and their rights and roles in collective decision making. During informal focus group discussions prior to the elections, the local election teams, of which half of the members were women, discussed the roles of different VDC positions; the appropriate considerations for the VDC candidates; but also the importance of female inclusion in elections. Furthermore, a central component of the program was the institutional provision that VDCs would be gender balanced. Each of the 1,250 VDCs consisted of ten individuals: two presidents, two secretaries, two treasures, two mobilizers, and two inclusion officers. By design each VDC had one man and one women for each position, in order for women to take on meaningful leadership roles. In addition, upon creation of the VDC and before project choice, the committee was tasked with sensitizing populations on the importance of good leadership and the meaningful inclusion of women in project choice. Finally, VDC members participated in intensive training. Again, women’s rights and opportunities were a central component of this training.

In 2006, prior to the start of the program the subsequent year, villages were randomly assigned to *Tuungane* to assess the causal effect of the program. The process went as follows. All VDCs were aggregated into 560 village clusters. These clusters were in turn aggregated into 83 lottery bin areas. Next, 50% of the village clusters in each lottery bin were selected for treatment using public lotteries. In total, 280 village clusters (1,250 VDCs) were selected for treatment. The remaining village clusters were assigned to the control status. Appendix C shows that the randomization procedure was successful in ensuring statistical balance between the treatment and control group. This study’s empirical strategy is therefore straightforward. We compare mean outcomes in treatment and control communities, which provides unbiased estimates of the average treatment effect (Rubin, 1974).

3 Measuring Women’s Empowerment

Using surveys to measure women’s empowerment is difficult due to social desirability bias. Men in treatment communities may respond in the affirmative when asked about the importance of women’s participation, not because this is their actual belief, but instead because they know that this response will please outsiders.⁶ In response, for several outcomes, we exploit direct behavioral measures generated through an independent cash delivery project (“Recherche-Action

⁵For a complete overview of the VDC projects and program reception among populations, see [Redacted] and [Redacted].

⁶Also lab-in-the-field type measures face problems. They can suffer from an interpretation challenge: we might observe unbiased effects but those effects may be measured on a metric with no clear real-life interpretation.

sur les Projets d’Impact pour le Développement”, henceforth RAPID). Between 2010 and 2012, RAPID revisited 280 *Tuungane* treatment and 280 control villages and implemented an unconditional cash transfer program in which the villages received grants of \$1,000 to be used on projects that benefitted the village. Specifically, we randomly selected two villages in each of the 560 village clusters; one received the RAPID program, the other would only be surveyed. RAPID communities were left with minimal constraints in identifying and implementing these projects.⁷ We rolled out the RAPID project in four steps (Steps A to D) over the course of 2-3 months. During the RAPID project we collected measures related to actual behavior associated with women’s empowerment. After two months, we revisited all 560 RAPID communities (280 *Tuungane* treatment, 280 control) to 1) conduct an extensive audit, and 2) interview one randomly selected adult from five randomly selected households. In parallel, we visited an additional 560 communities that had not received RAPID (280 *Tuungane* treatment, 280 control), from where we only collected survey data. All instruments and protocols are publicly available online: [Redacted]. Key features of our measurement strategy are described in Appendix D.

The results in the next section do not build on information from all 560 villages (2,800 households) for the RAPID-based measures and 1,120 villages (5,600 households) for the survey-based measures. In total, we collected data in only 816 villages (413 received RAPID, 403 did not) from 4,029 households for a number of reasons.⁸ Political tensions in the run up to the 2011 elections led to the expulsion of our teams from Maniema province. Other reasons include the inaccessibility of some regions for safety and security reasons, as well as various failures in the field: loss, damage, or theft of PDAs; water damage to paper surveys; or enumerator error in the implementation of surveys or particular questions. We provide a detailed discussion in Appendix G and show how there is no relation between data loss and treatment status.

4 Results

We assess the impact of the program across four dimensions: 1) the role of women in the community, 2) the woman’s role inside the household, 3) project choice, and 4) attitudes towards women. Figure 1 presents results, where each dot is a point estimate and bars present 95% confidence intervals. All dependent variables are standardized. We report sample average treatment effects, ignoring minor differences in sampling individuals in differently sized households and differently sized villages within clusters. We use lottery bin fixed effects to control for average differences in observable or unobservable predictors across lottery bins, and cluster our standard errors at the randomization cluster level.

⁷The key constraints were that some uses were ruled out if they were likely to result in harm (such as the purchase of weapons) and that the grant had to be used within a two month period.

⁸Step A, B and D (those steps at which data used for this study were collected) were implemented in 457, 454, and 816 villages (413 RAPID, 403 survey-only), respectively.

Related to the role of women in the community, we explore three measures. First, during the initial RAPID visit (Step A) we asked the village chief to organize a village meeting to present the RAPID program. We required an attendance rate of at least 25% of the village. No compensation was provided for participation. On average, 130 adults participated in the meetings (from villages with an average size of 438 adult members). We recorded attendance rates by men and women and calculated the *share of women present*. Overall, attendance rates were higher among men than among women. Approximately 57% of attendees were male (see Appendix F for summary information on all measures used in this study). Second, during this meeting, communities discussed their preferences for a RAPID project. Our enumerators observed this discussion and recorded how many and which citizens were active in the conversation, coding in detail the number of interventions by gender. We calculated the *share of interventions by women*. An average meeting had around 19 interventions, each lasting around one minute (57 seconds). Of these interventions, 24% were made by women. Third, as part of RAPID, communities were asked to create a management committee. There was no constraint placed on the composition of these committees other than size (at least 2 members and no more than 8). About a week after the first visit, we returned to the village (Step B) and recorded the committee composition. The average size of the RAPID committee is 7.2 members. Many members come from the village elite; a randomly selected RAPID member is quite likely to be the village chief (8% chance), a religious leader (6%), a teacher (4%), or a member of an existing development committee (10%).⁹ We find that only 9% of the RAPID committee members had served as *Tuungane* VDC committee member. We calculated the *share of women that made up the RAPID committees*. While VDC committees had gender parity, subsequent RAPID committees consisted on average only out of 19% women. Figure 1's top left panel shows the results. The program had no impact on the attendance nor the participation of women in community meetings. We do find that, in *Tuungane* treatment communities, compared to control communities, women make up a larger share of the RAPID management committees. The program increases the share of women on the committee by 0.2 standard deviations ($p < 0.05$).¹⁰ This magnitude, however, is substantively small, corresponding to every 5th committee having one extra woman.

Did the program affect the position of women inside the household? We explore two outcomes. First, we asked our respondents to tell us about their previous day, hour-by-hour.¹¹ We find that cooking, collecting water and cleaning the house are chiefly female activities. In contrast, leisure is a male activity.¹² We combine these four activities into one measure of

⁹The probability that a random villager is the village chief, a religious leader or a teacher – assuming one per village – is only 1/438. The information about the RAPID committee members come from a survey with two randomly selected RAPID committee members during Step D.

¹⁰We obtain the same result when we control for committee size.

¹¹Figure H.1 in the appendix illustrates how the 'average' Congolese spend their day.

¹²On average, women spend one hour and 52 minutes per day cooking, while this is only 28 minutes for men.

time-use and test whether the program led to women decreasing time spent on cooking, water collection, house cleaning and increasing leisure time.¹³ Note that this survey-based measure is susceptible to social desirability bias. Second, we assess the level of reported *domestic violence*. Domestic violence is a sensitive topic, and asking about it directly in a survey is likely to lead to biased responses. In response, we conducted a list experiment. We proceeded as follows. All our respondents received a set of items and were then asked how many of them were relevant to their household. A randomly selected half of the respondents received the following four items: (A) Disagreement between members of the household, (B) Lack of food and nutrition, (C) Domestic violence, (D) Lack of access to potable water. Because of aggregation, the respondents in this group are assured that nobody will know their answer to the sensitive question. The other half of the respondents received the same items but with the sensitive item of interest (C) excluded. Domestic violence is a common phenomenon within Congolese households. On average, 24% of households experience domestic violence. In Figure 1 we report the interaction effect of the treatment and the incidence of domestic violence. That is, we estimate $Y_i = \beta_0 + \beta_1 S_i + \beta_2 T_i + \beta_3 S_i T_i$, where T_i is the treatment and S_i is a binary variable indicating whether or not the individual was assigned to the group of respondents that received the list with the sensitive item. We report β_3 . Figure 1's bottom left panel presents the results, where we separate our results by gender of the respondent. We find that the development program had no impact on the time allocation to daily activities nor on domestic violence, whether reported by women or men.

Next, we investigate what type of projects were undertaken with the \$1,000. We again separate the projects into six sectors: health (1% of RAPID projects), education (18%), transport (7%), water and sanitation (10%), agriculture (33%) and other (24%). We find that more than half of all RAPID projects chosen fall in the agriculture and other sectors. These sectors include projects like goat raising and the distribution of seeds and other goods (Appendix I). Given RAPID's short term period (two months) and small budget (\$1,000), a focus on these projects is not surprising. Figure 1's center panel shows that communities that have been part of the program chose significantly fewer health projects ($p < 0.05$). While in control communities health projects accounted for 11% of all RAPID projects, they only accounted for 5% in *Tuungane* areas. This decrease of six percentage points seems to be largely offset by Watsan projects, which increase from 7% to 11% of RAPID projects in program communities ($p = 0.1$).

Collecting water takes women around 42 minutes of their day, while men only spend two minutes per day on this activity. Women spend about 50 minutes on cleaning the house, while men spend only nine. While women have only around twelve minutes of leisure per day, men have an average of 52 minutes leisure. These differences by gender are statistically significant ($p < 0.01$).

¹³In order to generate a meaningful summary of multiple effects we follow the approach of Kling et al. (2007) and create a standardized index.

Figure 1: Results

Notes: Effect of development aid. Dependent variables are standardized. Bars are 95% confidence intervals. Regressions using lottery bin fixed effects. Standard errors clustered at the randomization cluster level.

Does this result occur because women in *Twungane* communities prefer Watsan projects and not health projects? Chattopadhyay and Duflo (2004), for example, find that leaders invest more in infrastructure that is directly relevant to the needs of their own gender. We can test this mechanisms directly. Before RAPID project selection (Step A) we asked five randomly selected men and women for their preferences of a \$1,000 project. Table J.1 in the appendix shows project preferences by gender across sectors. First, we find that individuals' preferences correspond well with actual projects implemented. Second, we find no evidence that our results can be explained by women's preference for Watsan projects. We also find no evidence that women's stated preferences translate into project choices at higher rates (relative to men's preferences) in treatment areas (Table J.2 in the appendix).

Lastly, we explore the impact of the development program on *attitudes towards women*. We asked our respondents to position themselves on four statements related to women's rights and roles: 1) Women should have the same rights as men; 2) If a man mistreats his wife she has a right to complain; 3) A woman should have the same opportunities as men to occupy socio-administrative positions in the village; 4) Women have knowledge to contribute and so should be eligible to serve as presidents of development committees in the village. We create a score that equals 1 (2) for those (strongly) agreeing with the statement, and -1 (-2) for those (strongly) disagreeing. Respondents may also register as indifferent (0). On average, Congolese tend to be positive towards the role of women in society, with the statements scoring 0.44, 0.61, 0.81, and 0.83, respectively.¹⁴ We also create a standardized index that combines these four

¹⁴Separating out by gender shows that men and women report very similar attitudes. Only on the second

outcomes. Note that this survey-based measure is susceptible to social desirability bias. By design this question was asked to an equal number of men and women, and we present results by gender. Figure 1’s right panel shows that there is no evidence that the program had an impact on attitudes towards women.

5 Conclusion

In countries with widespread gender discrimination, it has become popular to undertake development programs to empower women. Based on a randomized field experiment across 1,250 villages in the Democratic Republic of Congo, we find only weak evidence that development initiatives can empower women. In communities that received development aid, women were more likely to take on leadership roles in the management of subsequent development funds. The magnitude of this result, however, is small. We also do not find a similar impact on the attendance nor the participation of women in community meetings. The program led to differences in subsequent public goods provision: fewer health projects but more water-related projects were undertaken. These differences, however, do not map unto women’s preferences. Finally, we find no evidence of any improvement for women within the household nor in attitudes towards them.

While Congo is unique in many ways, many of the restrictions faced by Congolese women result from cultural norms that can also be found in other developing countries. This suggests that the results of this study may be applicable in other contexts. However, to know whether development aid can empower women, the effect of these programs should be tested in multiple contexts. This study takes a first step by replicating a development intervention in Congo that is very similar to one that was implemented in Afghanistan.

6 Acknowledgments

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statement are men more positive ($p < 0.01$).

References

- Beaman, L., Chattopadhyay, R., Duflo, E., Pande, R., and Topalova, P. (2009). Powerful Women: Does Exposure Reduce Bias? *Quarterly Journal of Economics*, 124(4):1497–1540.
- Beath, A., Christia, F., and Enikolopov, R. (2013). Empowering Women through Development Aid: Evidence from a Field Experiment in Afghanistan. *American Political Science Review*, 107(3):540–557.
- Bhavnani, R. R. (2009). Do Electoral Quotas Work after They are Withdrawn? Evidence from a Natural Experiment in India. *American Political Science Review*, 103(1):23–35.
- Chattopadhyay, R. and Duflo, E. (2004). Women as Policy Makers: Evidence from a Randomized Policy Experiment in India. *Econometrica*, 72(5):1409–1443.
- Duflo, E. (2012). Women Empowerment and Economic Development. *Journal of Economic Literature*, 50(4):1051–1079.
- Kling, J. R., Liebman, J. B., and Katz, L. F. (2007). Experimental Analysis of Neighborhood Effects. *Econometrica*, 75(1):83–119.
- Rubin, D. B. (1974). Estimating Causal Effects of Treatments in Randomized and Nonrandomized Studies. *Journal of Educational Psychology*, 66(5):688–701.

Online Appendix for:

Can Development Aid Empower Women?

Evidence from a Field Experiment in the Congo

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A Map of the Research Area

Figure A.1: Research Area

Notes: The maps display the location of the study. Figure A.1(a) highlights the provinces (from north to south) of Maniema, South Kivu, Tanganyika, and Haut Katanga. Figure A.1(b) plots the *Tuungane* treatment (black circles) and control (gray squares) villages. Figure A.1(c) plots the RAPID (black circles) and survey-only (gray squares) villages.

B *Tuungane* and Measurement

In total, Tuungane implemented 1,182 VDC projects. In the education sector, an estimated 420 school rooms were constructed, 1,348 renovated, and 11,795 school items (benches, tables, chairs) were purchased. Water and sanitation was the second most popular sector for projects, with a total of 325 projects carried out in this sector and 413 springs, 227 wells and pumps, 7 reservoirs and 150 latrines contributed. Also, 98 sanitation and drainage activities were undertaken and 11 kilometers of piping was installed. Related to the health sector, approximately 89 health facilities (health centers, health posts, or maternity clinics) were built, 72 rehabilitated, 101 health facilities were equipped (e.g. with medicines), and 4,901 mosquito nets were distributed. The transport sector saw a total of 149 projects. Projects in this sector were most often chosen by villages in South Kivu province. In total, 117 kilometers of road was constructed, 275 kilometers of road was rehabilitated, and 115 bridges and 28 markets were constructed. The agricultural sector was similarly popular, particularly in Katanga, with a total of 225 projects. 123 flour mills were installed, and 1,328 goats, 415 chickens and 424 rabbits were purchased. Also, 18,266 agricultural tools were distributed. Finally, other projects included the construction of other infrastructure such as meeting rooms and bus stops, and the distribution of blankets. See [Redacted] for a detailed discussion of all projects.

Figure B.1 gives an illustration of the timing of implementation of these projects across kingdoms, and the period when we collected our data.

Figure B.1: Timeline of Implementation

Notes: Thick black lines indicate length of the *Twungane* program (VDC phase) per kingdom. Thick red lines indicate the period of data collection per kingdom. Source: Author's drawing.

C Balance *Tuungane* Treatment and Control

The analyses in this paper rely on randomization, which guarantees that the treatment and control areas are similar in expectation. In practice, however, it is possible for them to differ simply by virtue of unlucky draws. To test this, we compare *Tuungane* treatment and control areas. Because we do not have baseline data for the villages, we make use of the data collected during the household survey (Step D). We limit ourselves to pre-treatment information and variables that do not change due to the treatment. We analyze the following variables. Distance from a set of (nearest) points of importance that are unlikely to change due to the program: mine, post office, and the kingdom headquarters. Distance data (measured in hours of walking) are based on individual responses, mean aggregated to the village level. Note that in a large number of villages, individuals do not know the distance to these locations, and thus we have fewer observations than the 816 visited villages. We also collect data on ethnic and religious composition of the village, measured as the probability that two individuals, selected at random from the village, will be of different ethnicities or religious groups. These data come from a chief survey that we conducted during Step D in RAPID and non-RAPID villages. In total, 773 of the 816 village chiefs could be interviewed. We also collected data about the characteristics of the previous chief: his year of birth, and whether he was democratically elected. Note that many chiefs responded with “Dont know”, resulting in considerably fewer than 773 observations for the balance test. We also collected data on the principal economic activities undertaken in the village (as a percentage of the village population). In addition, data was collected on the presence of infrastructure in the village in 2006: wells, schools, clinics, churches and meeting halls. We collected data from the chief on the number of IDPs, returned-IDPs, refugees and repatriated refugees that entered the village in 2006. Again, many chiefs responded with “Dont know”. Finally, at the individual level we analyze gender and age. We obtained information from the respondent about all the other individuals (both adults and children) in the household.

Table C.1 lists the mean and standard deviation for each variable for the *Tuungane* and control areas. We also test the difference between both, based on simple OLS regressions. The results suggest that there are no consistent differences across both groups, which is what is to be expected given the random assignment.

Table C.1: Balance

Variable	Q	<i>Tuungane</i>	Sd.	Control	Sd.	Diff.	(Se.)	N
Distance mine	QE13	21.01	42.45	25.08	59.73	-4.08	(3.86)	723
Distance police post	QE13	3.67	6.08	3.76	6.12	-0.10	(0.44)	777
Distance kingdom HQ	QE13	9.04	19.58	8.73	11.74	0.30	(1.16)	771
Ethnic heterogeneity	CQ13	0.32	0.27	0.33	0.28	-0.02	(0.02)	728
Religious heterogeneity	CQ14	0.52	0.19	0.52	0.20	0.00	(0.01)	724
Birthyear former chief	CQ45	1936.43	19.62	1938.53	21.13	-2.10	(2.19)	347
Former chief democratic	CQ48	0.16	0.37	0.17	0.38	-0.01	(0.03)	653
Share in agriculture	CQ15	71.17	20.50	71.61	20.49	-0.43	(1.52)	724
Share in herding	CQ15	9.43	10.47	9.29	9.52	0.13	(0.77)	669
Share in commerce	CQ15	3.80	8.67	3.98	7.40	-0.19	(0.62)	669
Share in fishing	CQ15	6.13	12.76	6.05	12.20	0.08	(0.96)	673
Share in industrial	CQ15	0.13	0.97	0.17	1.42	-0.04	(0.09)	665
Share in mining	CQ15	3.29	8.71	3.50	8.32	-0.20	(0.66)	667
Share in other	CQ15	4.44	8.04	4.21	7.90	0.22	(0.63)	646
Share in other services	CQ15	4.41	4.66	4.13	4.55	0.28	(0.36)	665
Wells in 2006	CQ23	0.91	1.83	1.40	3.29	-0.49**	(0.20)	705
Schools in 2006	CQ24	3.50	5.04	3.51	4.48	-0.01	(0.36)	713
Clinics in 2006	CQ25	0.32	0.84	0.29	0.51	0.03	(0.05)	718
Churches in 2006	CQ26	2.18	2.50	2.55	2.67	-0.37*	(0.19)	716
Halls in 2006	CQ27	0.04	0.30	0.04	0.21	0.01	(0.02)	709
IDPs in 2006	CQ136	2.80	12.64	4.86	20.07	-2.06	(1.47)	533
IDPs returned in 2006	CQ137	5.40	24.45	3.91	16.04	1.49	(1.80)	518
Refugees in 2006	CQ138	0.57	3.78	0.97	7.29	-0.41	(0.50)	557
Refugees repatriated in 2006	CQ139	0.76	12.13	0.25	3.21	0.52	(0.72)	575
Share of male respondents	QF7	0.50	0.50	0.50	0.50	0.00	(0.01)	23,567
Average age respondent	QF9	20.12	16.82	20.17	17.02	-0.06	(0.23)	22,536

Notes: Question number responds to survey. Tests of difference based on simple OLS regressions. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$ (two-tailed).

D Details Data Collection

A total of 1,120 villages were targeted for data collection. Of those, a randomly selected 560 received the RAPID project. The other 560 villages were visited in parallel during Step D. Table D.1 shows the key activities in the RAPID villages and the survey-only villages.

Table D.1: Details Data Collection

Step	Timing	560 RAPID villages	560 Survey-only villages
A	Day 1	Village meeting and surveys: <ul style="list-style-type: none"> • Initial meeting with the village chief to ask him/her to convene a public meeting. • The RAPID project is described in a public village meeting. Enumerators record attendance and discussion dynamics. • Surveys are conducted among 5 randomly selected households. By design half of the respondents are men, half are women. Preferences for \$1,000 project are recorded. 	
B	Day 7	Collection of forms: <ul style="list-style-type: none"> • Meeting with RAPID committee members only. • Enumerators record committee composition and project selection. 	
C	Day 10	Disbursement of funds: <ul style="list-style-type: none"> • \$1,000 are disbursed in private to a select group of members identified by the RAPID committee. 	
D	Day 70	Auditing and surveys: <ul style="list-style-type: none"> • Auditing is undertaken to track the use of all funds. • Surveys are conducted among 5 randomly selected households. Information on attitudes is collected. List experiment is conducted. 	Surveys: <ul style="list-style-type: none"> • Surveys are conducted among 5 randomly selected households. Information on attitudes and daily time-use is collected. List experiment is conducted.

Notes: Details Data Collection.

E Variable Description

Table E.1 gives a description of all variables used in this study. The table also presents the level at which the variable is measured, the question number in the household survey, the step at which the data was collected and the variable type.

Table E.1: Variable Description

Variable	Description	Level	Q	Step	Type
<i>Tuungane</i>	Participated in the <i>Tuungane</i> program.	Village	NA	NA	NA
Presence	Share of women present at village meeting.	Village	AM8-9	A	Observation
Discussion	Share of interventions by women during village meeting discussion.	Village	AD3	A	Observation
Committee	Share of women on the RAPID management committee.	Village	B13	B	Observation
Cooking	Hours spent on cooking the previous days.	Individual	UT1-24	D	Survey
Water	Hours spent on collecting water the previous days.	Individual	UT1-24	D	Survey
House	Hours spent on cleaning the house the previous days.	Individual	UT1-24	D	Survey
Leisure	Hours spent on leisure the previous days.	Individual	UT1-24	D	Survey
Violence	Share of households that experience domestic violence.	Individual	Q96,98	D	List experiment
Health	Share of RAPID projects undertaken in the health sector.	Village	B23	B	Observation
Education	Share of RAPID projects undertaken in the education sector.	Village	B23	B	Observation
Transport	Share of RAPID projects undertaken in the transport sector.	Village	B23	B	Observation
Watsan	Share of RAPID projects undertaken in the water and sanitation sector.	Village	B23	B	Observation
Agri.	Share of RAPID projects undertaken in the agriculture sector.	Village	B23	B	Observation
Other	Share of RAPID projects undertaken in other sectors.	Village	B23	B	Observation
Equality	Respondents position (-2 to 2) to the statement "Women should have the same rights as men".	Individual	QG8	D	Survey
Complain	"Respondents position (-2 to 2) to the statement ""If a man mistreats his wife she has a right to complain""."	Individual	QG9	D	Survey
Leader1	Respondents position (-2 to 2) to the statement "A woman should have the same opportunities as men to occupy socio-administrative positions in the village".	Individual	QG10	D	Survey
Leader2	Respondents position (-2 to 2) to the statement "Women have knowledge to contribute and so should be eligible to serve as presidents of development committees in the village".	Individual	QG11	D	Survey

Notes: Question number responds to survey. Data and instruments are available online: [Redacted].

F Summary Information

Table F.1 provides summary information for the variables used in this study, where we separate out men and women for those variables where that is relevant. The table also provides information by *Tuungane* treatment status. That is, whereas Figure 1 reports results based on standardized measures, results in Table F.1 are not standardized.

Table F.1: Summary Information

Variable	Obs.	Mean	Sd.	Min	Max	<i>Tuungane</i>	Sd.	Control	Sd.	Diff.	(Se.)
Presence	455	0.43	0.12	0	0.83	0.42	0.12	0.44	0.12	-0.02	(0.01)
Discussion	457	0.24	0.14	0	0.78	0.24	0.14	0.25	0.13	-0.01	(0.01)
Committee	452	0.19	0.16	0	0.75	0.20	0.16	0.17	0.16	0.03**	(0.01)
Cooking (women)	948	1.52	1.50	0	8	1.55	1.50	1.50	1.50	0.09	(0.07)
Cooking (men)	962	0.28	0.92	0	12	0.28	0.80	0.28	1.03	0.02	(0.05)
Water (women)	948	0.42	0.72	0	5	0.37	0.66	0.47	0.76	-0.06	(0.04)
Water (men)	962	0.02	0.18	0	2	0.03	0.22	0.01	0.14	0.02*	(0.01)
House (women)	948	0.50	0.88	0	7	0.51	0.89	0.49	0.87	0.04	(0.05)
House (men)	962	0.09	0.54	0	9	0.08	0.57	0.09	0.51	0.00	(0.04)
Leisure (women)	948	0.12	0.54	0	6	0.10	0.50	0.13	0.61	-0.02	(0.04)
Leisure (men)	962	0.52	1.27	0	10	0.52	1.27	0.53	1.28	0.01	(0.08)
Violence (women)	1,905	1.88	0.90	0	4	1.89	0.92	1.87	0.89	0.02	(0.04)
Violence (men)	1,943	1.87	0.90	0	4	1.89	0.88	1.84	0.91	0.06	(0.04)
Health	449	0.08	0.27	0	1	0.05	0.23	0.11	0.31	-0.06**	(0.03)
Education	449	0.17	0.38	0	1	0.17	0.38	0.17	0.38	0.00	(0.03)
Transport	449	0.08	0.26	0	1	0.09	0.29	0.06	0.24	0.03	(0.03)
Watsan	449	0.09	0.29	0	1	0.11	0.31	0.07	0.25	0.04*	(0.02)
Agri.	449	0.35	0.48	0	1	0.33	0.47	0.36	0.48	-0.03	(0.04)
Other	449	0.23	0.42	0	1	0.24	0.43	0.22	0.42	0.02	(0.04)
Equality (women)	1,848	0.38	1.35	-2	2	0.43	1.35	0.33	1.34	0.10	(0.07)
Equality (men)	1,911	0.41	1.36	-2	2	0.40	1.35	0.41	1.37	-0.02	(0.07)
Complain (women)	1,850	0.46	1.34	-2	2	0.42	1.37	0.50	1.32	-0.06	(0.05)
Complain (men)	1,900	0.63	1.27	-2	2	0.64	1.26	0.61	1.29	0.04	(0.05)
Leader1 (women)	1,852	0.74	1.19	-2	2	0.75	1.20	0.73	1.19	0.02	(0.06)
Leader1 (men)	1,907	0.76	1.17	-2	2	0.76	1.18	0.77	1.16	-0.01	(0.05)
Leader2 (women)	1,853	0.76	1.18	-2	2	0.77	1.19	0.76	1.17	0.01	(0.05)
Leader2 (men)	1,912	0.78	1.16	-2	2	0.79	1.16	0.77	1.17	0.02	(0.06)

Notes: Regressions using lottery bin fixed effects. Standard errors clustered at the village cluster level.

* $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$ (two-tailed).

G Attrition and Missing Responses

In this section we discuss attrition and missing data in more detail. We also show how both are unrelated to *Tuungane* treatment status. Table G.1 gives for each outcome variable an overview of the number of targeted observations, the number of observations actually used for analysis, and why the data are missing (because the village was not visited or for another reason). Furthermore, the table presents the number of missing observations by treatment, and the results from simple OLS regressions to test differences by treatment.

Table G.1: Overview Attrition and Missing Responses

Variable	Step	Target	Obs.	Village not visited	Other	Missing <i>Tuungane</i>	Missing Control	Beta	Se.
Presence	A	560	455	103	2	52	53	-0.002	0.017
Discussion	A	560	457	103	0	51	52	-0.002	0.017
Committee	B	560	452	106	2	53	55	-0.004	0.018
Cooking	D	2,800	1,911	785	104	462	427	0.025	0.018
Water	D	2,800	1,911	785	104	462	427	0.025	0.018
House	D	2,800	1,911	785	104	462	427	0.025	0.018
Leisure	D	2,800	1,911	785	104	462	427	0.025	0.018
Violence	D	5,600	3,848	1,515	237	886	866	0.007	0.012
Health	B	560	449	106	5	55	56	-0.002	0.018
Education	B	560	449	106	5	55	56	-0.002	0.018
Transport	B	560	449	106	5	55	56	-0.002	0.018
Watsan	B	560	449	106	5	55	56	-0.002	0.018
Agri.	B	560	449	106	5	55	56	-0.002	0.018
Other	B	560	449	106	5	55	56	-0.002	0.018
Equality	D	5,600	3,762	1,515	323	933	905	0.010	0.013
Complain	D	5,600	3,753	1,515	332	942	905	0.013	0.013
Leader1	D	5,600	3,762	1,515	323	930	908	0.008	0.013
Leader2	D	5,600	3,768	1,515	317	930	902	0.010	0.013

Notes: Table presents number of targeted observations, number of observations used for analyses, reasons why the data is missing, and difference between the number of observations across treatment condition. Tests of difference based on simple OLS regressions. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$ (two-tailed).

Step A was implemented in 457 of the 560 targeted villages. There are a number of reasons for this attrition – chief among them being data loss in one of the four provinces. Political tensions in Maniema in the run up to the 2011 elections led to the expulsion of our teams from the entire province. Attrition therefore took place above the lottery bin level (lottery bins most often directly correspond to kingdoms, the unit below the province), leading to near perfect parity in attrition between treated and control units. Other data loss occurred due to inaccessibility of communities for security and logistical reasons such as theft of tablets. Not visiting these villages makes up all the data loss for ‘Discussion’ and almost all for ‘Presence’ (the two additional units lost is due to enumerator recording error). Step B, during which

information was collected about committee composition and project choice, was implemented in 454 of the 560 targeted villages. Three additional villages became insecure between steps A and B. Not visiting these villages again accounts for almost all the attrition. Finally, Step D was implemented in 816 villages (413 RAPID, 403 not-RAPID). Data loss for domestic violence, attitudes and time-use (the latter was only collected in survey-only villages), is largely due to not being able to visit these villages. Remaining data missingness comes from respondents answering “I don’t know”, “I refuse to respond” or “Not applicable”.

Importantly, we find no evidence that the missing data is related to the *Tuungane* treatment status.

H Daily Time Allocation by Women and Men

Figure H.1: Time Allocation Women and Men

Notes: Based on UT1-24. ‘Sleep and personal care’ includes sleep, eating and drinking, grooming and rest. ‘Water’ refers to water collection. ‘Cleaning’ includes house cleaning, dishes, gardening and household management. ‘Field’ refers to work in the field for household consumption. ‘Service’ refers to helping others. ‘Education’ refers to being in class or doing homework. ‘Leisure’ includes talking and communicating with fellow villagers, sports, TV and bar. ‘Income-generating’ includes work related travel, search for work, domestic work for in another household, work in the village, work in the field, hunting and fishing, hired work for someone else, work for the state, other work. ‘Social’ refer to organizational, civic and religious activities, including: spiritual and religious activities, participation in a village meeting, public work for the village (e.g. route reparation), other volunteer activities. ‘Other’ includes being sick and travel not related to work.

I Overview RAPID Projects

Table I.1 gives an overview of all RAPID projects, and their coded sector. We follow our implementing partner in the sector types and what projects fall in what sector.

Table I.1: Overview RAPID Projects and Sector

Project	Frequency	Share	Categories
Health center / renovation	36	8.02	Health
School/ renovation	77	17.15	Education
Road	16	3.56	Transport
Bridge	3	0.67	Transport
Market	15	3.34	Transport
Wells (other water)	39	8.69	Watsan
Irrigation	1	0.22	Watsan
Goats raising	82	18.26	Agriculture
Cows raising	3	0.67	Agriculture
Poultry raising	11	2.45	Agriculture
Other raising	8	1.78	Agriculture
Distribution corn seeds	2	0.45	Agriculture
Mill/ renovation	38	8.46	Agriculture
Distribution soil nutritions	4	0.89	Agriculture
Distribution agriculture tools	1	0.22	Agriculture
Community field	7	1.56	Agriculture
Distribution peanuts seeds	1	0.22	Agriculture
Distribution bean seeds	1	0.22	Agriculture
Distribution medicines	1	0.22	Other
Other distribution	1	0.22	Other
Private project	1	0.22	Other
Baking bricks	12	2.67	Other
Social center/ renovation	1	0.22	Other
Other construction/ renovation	12	2.67	Other
Credit system	2	0.45	Other
Electricity	10	2.23	Other
Other	64	14.25	Other
Total	449	100	

Notes: Table presents RAPID projects and sector.

J RAPID Project Preference and Selection

Prior to RAPID project selection (Step A of the RAPID project as described in Table D.1), we asked five randomly selected individuals, half men and half women, about their preference for the RAPID project. Table J.1 shows the preference by gender across sectors. Table J.2 tests whether *Tuungane* influenced women’s ability to have their preferences translate into choices.

Note that the preferences for RAPID projects are post treatment to the *Tuungane* intervention. The mapping from the *Tuungane* program to RAPID project selection could pass through either changes in preferences or changes in the ability to have preferences translate into choices. Unpacking these channels requires a mediation analysis and stronger identification assumptions than we can justify here (see Imai et al. (2010)).

Table J.1 shows the preference by gender across sectors. Individuals’ preferences correspond well with actual projects implemented. However, we find no evidence that our results can be explained by women’s preference for Watsan projects.

Table J.1: RAPID Project Preferences

	Health	Education	Transport	Watsan	Agriculture	Other
Difference for women	0	-0.04***	-0.02**	0.02	0.02	0.02
(se)	(0.01)	(0.01)	(0.01)	(0.01)	(0.02)	(0.02)
Men	0.12	0.09	0.04	0.18	0.32	0.25
N	2,071	2,071	2,071	2,071	2,071	2,071

Notes: Differences in preferences by gender. Regressions using lottery bin fixed effects. Standard errors clustered at the village cluster level. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$ (two tailed).

Do women’s stated preferences translate into project choices at higher rates (relative to men’s preferences) in treatment areas? We compare the predictive power of stated preferred project by men and women (before project selection) to actual project realization. To operationalize the measure, we provide a 0/1 score to each individual, whereby if an individual’s ex-ante preferences coincide with the actual project realization in that individual’s village a score of 1 is assigned, and 0 otherwise.

Results are shown in Table J.2. The coarse measure groups projects by sector, coding whether the individual’s sector preference is the same as the sector of the actual RAPID project. The ‘Fine measure’ does the same but at the project level. The data suggest that the *Tuungane* treatment did not make women’s preferences more predictive of outcomes relative to men’s preferences.

Table J.2: Translation of Preferences to RAPID Project Selection

	Coarse measure	Fine measure
<i>Tuungane</i>	0.02	0.04
(se)	(0.04)	(0.03)
Female	-0.01	-0.02
(se)	(0.03)	(0.02)
Interaction	-0.02	-0.03
(se)	(0.04)	(0.03)
N	2,132	2,132

Notes: Effect of *Tuungane* on whether individual's ex ante project preferences correspond to RAPID project choice. Regressions using lottery bin fixed effects. Standard errors clustered at village cluster level. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$ (two tailed).

References

- Imai, K., Keele, L., and Tingley, D. (2010). A General Approach to Causal Mediation Analysis. *Psychological Methods*, 15(4):309–34.