

Can Externally Mandated Gender Requirements Empower Women? Negative Evidence from a Field Experiment in Congo

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Abstract

We use a field experiment implemented in 662 villages in the Democratic Republic of Congo to test whether gender quotas can empower women in traditional societies. As part of a development program introduced by an international organization, community management committees were created to oversee development expenditures. Half of these committees were required to have gender parity. We assess whether this requirement had an impact on committee decisions. Using an unconditional cash transfer program and survey data, we also assess downstream behavioral and attitudinal change. We find little evidence of women's empowerment and some evidence of adverse effects. We find no evidence that this null result is due to poor implementation (by the organization or communities), and mixed evidence that it is due to men and women having similar preferences. Our results are consistent with characterizations of traditional decision-making processes in which external institutional innovations place little constraint on traditional authorities.

Keywords: gender quotas; experimental methods; development aid; traditional societies; political attitudes and behavior

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1 Introduction

Over the last decades, there have been many legal reforms aimed at improving the position of women in the public sphere. Gender quotas are prominent among them. Indeed, half of the countries of the world now use some type of electoral quota for their parliament.¹ The core idea behind such quotas is to recruit women into positions of leadership and to ensure that women have influence over decision making processes, advancing both descriptive and substantive representation and possibly producing downstream effects on attitudes to women and their influence in other political fora. A considerable body of literature explores the impact of gender quotas, suggesting they can lead to changes in the type of public goods provided (Chattopadhyay and Duflo, 2004) and the role of women in the community and attitudes towards them (Beaman et al., 2012; Bhavnani, 2009). To date, the literature has largely focused on the impact of legal reforms — reserved seats, legal candidate quotas, and political party quotas — implemented by governments. Optimism around the impact of gender quotas has also shaped development practices, even if there is little evidence to support the claim that these institutional innovations produce similar effects through external imposition (Mansuri and Rao, 2013). In this study we explore whether the imposition of gender quotas by external development actors improved the role of women in small rural communities in the Democratic Republic of Congo (DRC).

There are a number of reasons to focus on the impact of the institutional innovations implemented by development agencies. First, in many developing countries — especially in those where issues related to women’s empowerment are most pertinent — the reach of the government is limited and legal reforms often have little impact on individuals’ daily lives. In these regions, non-state actors are often responsible for the provision of public goods. While governments can institute legal reforms to existing institutions, these non-state actors cannot. At best they can create new, parallel institutions — for example a committee that manages the implementation of a development project. Second, current research has focused on institutional reforms that are broadly consistent with the structure of existing institutions, such as reservations, given an already functioning electoral system. When quotas are introduced into traditional societies, however, they are often done through novel institutional mechanisms that are weak and may impose little constraint on actual decision making.² Last, women’s empowerment in the developing world is a prominent goal for many foreign aid donors, and as a result women’s roles and rights are now a central component to many development programs, whether or not there is demand for such a

¹Source: <http://www.quotaproject.org/>.

²See Murphy (1990) for a classic account of how “backstage” decision making process can diverge from what seems apparent given “frontstage” institutional structures.

focus from the societies they serve.³

To assess the impact of gender quotas in traditional societies we build on a field experiment that was implemented between 2007 and 2010 in 662 communities in the Democratic Republic of Congo (DRC). As part of a larger development program, communities participated in elections to select management committees, which were responsible for overseeing a development project of \$3,000 in their community. By default, the program was implemented with gender parity: the ten-member strong committees were required to contain five men and five women. In 2006, prior to the start of the program the subsequent year, the implementing organization lifted this gender parity requirement for a randomly selected 325 communities. These communities were free to choose the committee's gender composition. The random allocation of gender parity allows us to assess the causal impact of placing women in leadership positions.

Measuring outcomes related to women's empowerment is difficult due to social desirability biases. To overcome this problem, we exploit an independent, unconditional cash transfer intervention implemented by local universities in both parity and non-parity areas after the field experiment. Selected communities received \$1,000, which they could manage without conditions or oversight over a two month period. Comparing differences in implementation of this program between parity and non-parity communities (Were different projects selected? Did women take leading roles in managing the \$1,000?), allows us to measure decisions on public goods provision and actual behavior related to women's role in their community.

Across a range of measure we find little or no evidence that placing women in leadership positions has an effect on attitudes or behavior. The intervention did not lead to clear changes in the type of public goods provided and there is no evidence of effects on downstream decision-making either. There is also no evidence that the treatment led to changed attitudes towards women about their role in the community, and we find no evidence that women became more involved in community decision-making. Further investigation suggests that it is unlikely that these null results are due to bad implementation, or to the possibility that men and women have similar preferences. We also find little evidence that the impact of gender parity depends on individual or community context.

The positive evidence related to gender quotas to date is largely drawn from cases where these innovations were introduced by governments using legal reforms to existing institutions. In traditional societies, however, these innovations have to be exported through novel institutional mechanisms. The evidence from Congo suggests that these new institutions might impose little constraint on actual decision making in the communities. More

³We acknowledge that national level quota adoption can sometimes also result from international pressures (Bush, 2011).

broadly, our null findings highlight the challenge of drawing inferences across cases on the effects of institutional fixes for gender inequality.

In the next section we introduce previous work related to gender quotas. Section 3 anchors this study in the Congolese context, describing both the position of women and and pre-existing decision making structures. Section 4 discusses the field experiment and measurement strategy. Section 5 presents the results. We discuss our results in Section 6, and conclude in Section 7.

2 Previous Work on Women in Leadership Positions

Existing research examines both the direct and the downstream effects of women’s quotas. A first literature looks at how placing women in leadership positions affects policy choices and outcomes, possibly resulting from differences in underlying policy preferences (see for example Inglehart and Norris (2000); Edlund and Pande (2002); Paxton et al. (2007)). Chattopadhyay and Duflo (2004) compare reserved and unreserved village councils in India’s West Bengal and Rajasthan, and find that having women in leadership positions leads to more investment in public goods in sectors in which women have expressed a preference and less in those that are more closely linked to men’s concerns. In contrast, Ban and Rao (2008) explore data from Andhra Pradesh, Karnataka, Kerala, and Tamil Nadu and find no evidence that women politicians make decisions that are more in line with the needs of women. Other researchers have focused on policy outcomes. Pathak and Macours (2013) find that reservation policies in India resulted in better learning outcomes of young children.⁴ Iyer et al. (2012) find that mandated political representation leads to an increase in the documented number of crimes against women (a result due to higher reporting rather than an increase in the actual incidence of crime). From this literature we see evidence for the hypothesis that *women in leadership positions have a direct effect on the type of public goods provided*, and assess whether this holds also for the introduction of institutional reform in rural Congo.

A second literature examines downstream effects on political outcomes and attitudes regarding women and their role in the community. Beaman et al. (2012) find that prior exposure to a female village council leader leads to electoral gains for women. They suggest that reservations work because it improves perceptions of female leader effectiveness and weakens stereotypes about gender roles in the public and domestic spheres. Similarly, Bhavnani (2009) shows that the probability of a woman winning office is five times higher where the constituency was reserved for women in the previous election. He shows that

⁴Clots-Figueras (2012) does not leverage India’s policy experiment but uses variation in female political representation due to electoral outcomes. She finds that more female representation leads to higher primary educational attainment in urban areas.

reservations introduce into politics women who are able to win elections after reservations lapse and increase the willingness of parties to grant women tickets. Exploiting a natural experiment in Sweden, O'Brien and Rickne (2016) find that quotas have a positive impact on women's selection (but not reappointment) to top political posts.⁵ Related to Africa, Clayton (2014) exploits a subnational randomized policy experiment in Lesotho with single-member districts reserved for female community councilors, and finds that electoral gender quotas have a negative impact on the political engagement of female citizens. She argues that this result stems from female citizens' suspicion of affirmative action measures for women in politics rather than an overall rejection of female representation. Barnes and Burchard (2012), in contrast, use data from twenty sub-Saharan African countries and show that increased representation of women in parliament is positively related to women's political engagement. Following this literature we examine the hypothesis that *placing women in leadership positions strengthens their role in the community more broadly*.

The current literature has thus focused largely on the impact of internally generated reforms to existing institutions. Our study investigates how superficially similar external development interventions can improve the position of women. We know of only one other paper with a similar focus to ours. Beath et al. (2013) examine the effect of a development program in Afghanistan that mandated women's community participation.⁶ The program had positive effects on the acceptance of female participation in local governance, and their engagement in income-generating activities, but it did not affect women's roles in household decision-making or attitudes towards the general role of women in the community. Our study diverges in two ways. First, the development program under study in Beath et al. (2013) was a compound intervention that included both the creation of the elected gender balanced local councils and the allocation of funds. Cleanly disentangling the effects of placing women in leadership positions from a resource-effect requires independent variation in the institutions and the fund allocations, as was done in Congo. Second, direct questioning in focus groups or surveys (as did Beath et al. (2013)) to measure the rights and role of women is prone to social desirability bias. This study builds on a unconditional transfer program that took place after the field experiment in order to obtain information about actual behavior related to women empowerment.

⁵In fact, Besley et al. (2015) show how this imposed quota increased the competence of the political class in Sweden by reducing the share of mediocre men.

⁶The program components were the establishment of a gender-balanced village development council, mandated involvement of women in council elections and in the selection of village development projects, as well as the implementation of at least one project that should specifically benefit women.

3 Context

3.1 Women in the Congo

Congo scores badly when it comes to the status of women, possibly reflecting the continued importance of traditional structures and decades of poor governance and chronic conflict. Despite diversity in their beliefs and practices, all ethnic groups in Congo share underlying gender inequality (CEDAW, 2011). Congolese law reflects these inequalities. By law, the man is the head of the family, and the woman manages the household.⁷ Women face restrictions on their freedom of movement and access to public spaces. By law, married women are obliged to live in a residence of their husband's choosing, and cannot apply for a passport without their husband's consent.⁸ The position of women has worsened due to conflict, which has engulfed the country over the last two decades.⁹ Violence is often specifically targeted towards women as a tactic of war to destroy community and family bonds.¹⁰ Overall, Congo ranks 176 out of 188 in the UNDP's 2014 gender inequality index — an index based on indicators related to reproductive health, empowerment and economic status.

The Congolese government has enacted a set of institutional reforms intended to address these inequalities. In the 2006 Constitution women enjoy the same rights as men to vote in and stand for election to political office. Women have the right to equal representation in national, provincial and local institutions, with the Congolese government ensuring the implementation of gender parity in these institutions.¹¹ Furthermore, political parties' lists are obliged to have equal representation of men and women.¹² Despite these efforts, women currently occupy only 8.2% of the seats in parliament. One explanation is that the reach of the Congolese government is limited. Throughout large parts of the country, the Congolese government has little impact on individuals' lives. For example, citizen's

⁷Article 444 and 445 of the Family Code (CEDAW, 2004).

⁸Article 165 of the Family Code (CEDAW, 2004).

⁹This study's research area — South Kivu, Maniema, Haut Katanga and Tanganyika — was home to the start of the First and Second Congolese Wars (1996-1997 and 1998-2003). The latter, with the direct involvement of eight African nations and 25 armed groups, has been the deadliest war in modern African history (IRC, 2007). Despite the formal end to the war in July 2003, much of the program area continues to experience conflict.

¹⁰According to the Congolese Minister for Gender, Family, and Children, more than one million women and girls (of a total population of 70 million) have been victim of sexual violence (HRW, 2009). Recent studies show that these numbers are likely to be an understatement, with some estimating that an average of 121 per 1000 women of reproductive age have been raped in their lifetime (Peterman et al., 2011). Particularly noteworthy is that most (sexual) violence against women takes place within the household, with an estimated 221 per 1000 women experiencing intimate partner sexual violence (Peterman et al., 2011). This result is in line with international research indicating that intimate partner sexual violence is the most pervasive form of violence against women (e.g. Heise et al. (2002)).

¹¹Article 14 of the 2006 Constitution, as amended in 2011.

¹²Article 13(3) of the 2006 Electoral Law as amended in 2011.

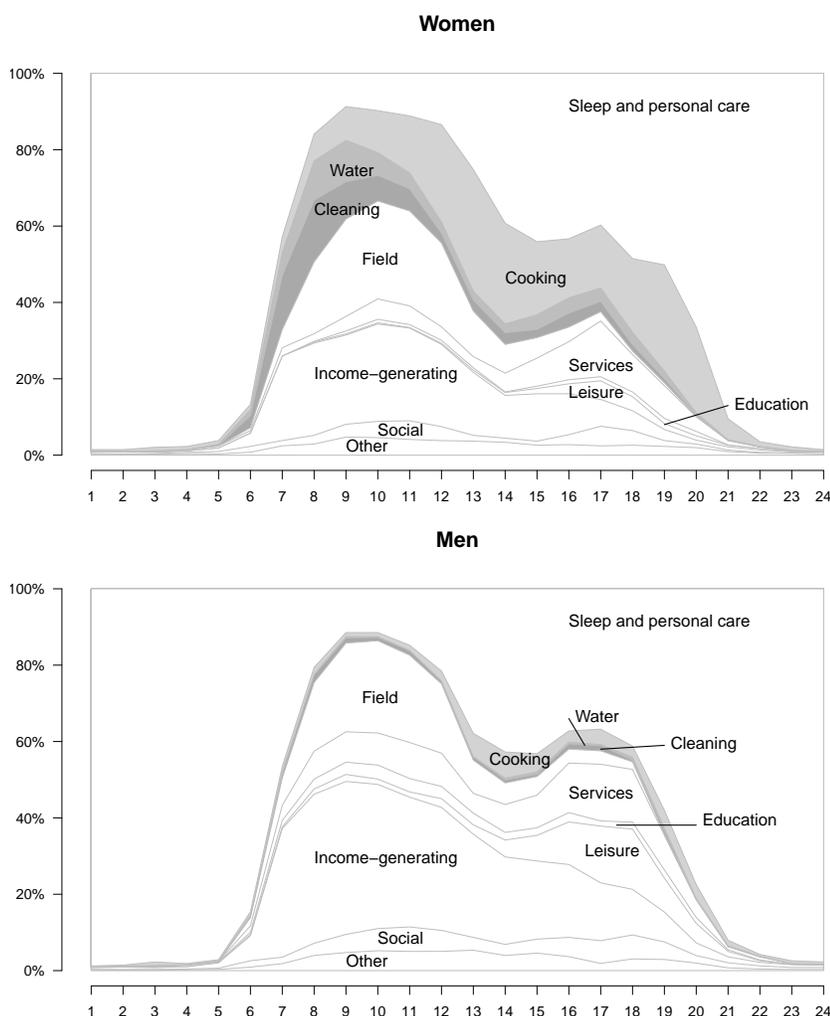
knowledge about the national government is low. Our data (described in greater detail below) shows how only 26% of Congolese are able to name the country’s ruling party, and only 17% know the name of the country’s prime minister. Also the presence of the government is limited. Only around 2% of village development projects are initiated by the Congolese government. In contrast, in large parts of Congo non-state actors play a more important role in the daily lives of Congolese citizens — their presence in many cases being a direct consequence of government weakness. Foreign development actors and the Catholic Church are most prominent among them (Titeca and de Herdt (2011); Seay (2013)). For example, our data suggests that 56% of village development projects in Eastern Congo were initiated by NGOs. These stylized facts suggest that in Congo, as in many traditional societies, external actors may be better placed to improve the role of women. In the next section we set out our design to measure the impact of a development program that aimed to do so.

Our data confirms the precarious position of women in the Congo. We gathered information on the position of men and women in the household. We asked our respondents (by design half men, half women) to describe their previous day, hour-by-hour. Figure 1 illustrates how the ‘typical’ rural Congolese citizens spend their day. We find that cooking, collecting water and cleaning the house are almost exclusively female activities. On average, women spend one and a half hours per day cooking, while this is only 15 minutes for men. Collecting water takes women around 25 minutes of their day, while men only spend on average 1 minute per day on this activity. Women spend about 30 minutes on cleaning the house, while this is five minutes for men. In contrast, leisure is a male activity. While women have only around six minutes leisure per day, on average, men have an average of 30 minutes leisure.¹³

We also gathered data on attitudes towards the role of women from five respondents in all villages surveyed. Each respondent was asked to position themselves relative to two statements on four topics: 1) A: “In the DRC women should have the same rights as men” and B: “According to Congolese custom, women have always been subject to men and they should remain so” (Equality of rights); 2) A: “If a man mistreats his wife she has a right to complain” and B: “According to Congolese custom, women should not complain even if mistreated by their husbands” (Right to complain); 3) A: “Women should have the same opportunities as men to occupy socio-administrative positions in the village” and B: “Men are better leaders and should occupy these positions” (Leadership 1); 4) A: “Women have knowledge to contribute and so should be eligible to serve as presidents of development committees in the village” and B: “Only men should serve as presidents of development committees” (Leadership 2). We asked each respondent whether they “strongly agreed”

¹³These differences between men and women are statistically significant ($p < 0.001$).

Figure 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’ refers 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.

or “agreed with” the empowering statement (A) or its alternative (B).¹⁴ Respondents could also register to be indifferent. We create a score ranging from 2 for those strongly agreeing with the empowering position and -2 for those strongly agreeing with the opposite position, with zero for those that are indifferent between the two statements. By design this question was asked of an equal number of men and women. We find that around one-quarter of respondents disagree or disagree strongly with the empowering statement. More surprisingly, the reported views of men and women are nearly identical on these items. Overall this baseline data is consistent with the claim that there are important gender inequalities, but it does not suggest disagreement between men and women on gender roles in Congolese society.

3.2 The Institutional Context at the Community Level

The village chief is the most important decision maker at the local level in Congolese villages. The chief is responsible for land allocation, resolving disputes, public goods provision, and other issues related to the community.¹⁵ Few chiefs are removed from power, with most giving up office only at death or after falling ill.¹⁶ Even still, our data documents considerable variation in institutional context in Eastern Congo. The most common form of assuming power is through inheritance, with around 41% of chiefs inheriting their position. Others are chosen by the king (19%), by village elders (11%), by political or traditional leadership (5%). A smaller set are selected by village elections (20%), or through village plebiscites (4%). We also find considerable variation in how long a chief has been in power, and in the stability of systems for assuming power. The average chief has been in power for around 13 years (mean=12.83, sd=12.05), with about half of chiefs having obtained their position in the last 10 years. Strikingly, we also find that 41% of current village chiefs have been placed into office in a different way than their predecessor, with the most common transition being from appointment by traditional chiefs to inheritance from the former chief.¹⁷

Our data confirms the claim that chiefs enjoy popular legitimacy when it comes to

¹⁴In order to avoid ordering effects, we randomly assigned half of all respondents to start with A statements, while the other half started with B statements.

¹⁵There are at least two reasons why chiefs play such a key role. First, the chief controls within village resources such as land (e.g. Vlassenroot and Huggins (2005) for the DRC). Second, chiefs enjoy popular legitimacy, giving the chief a moral claim to his position. That traditional leaders play a central role to community life is the case in much of the developing world (e.g. Acemoglu et al. (2014), Logan (2013)).

¹⁶Asking the current village chief about why the previous chief left office we find that natural death and illness accounted for 51% and 11%, respectively, of cases. Only in 10% (7%) of cases were they moved by superiors (their inhabitants). Few lost their office for other reasons: migration (4%), death because of by violence (2%), abdication (2%), or other (12%).

¹⁷Note that this data was collected by chiefs and may suffer from some reporting bias, as witnessed in the absence of any chiefs claiming to have come to power by force.

village governance. To assess legitimacy we gave each respondent a hypothetical scenario in which the village received funds, and asked who *should have* most influence on beneficiary selection. A (bare) majority of respondents stated that this should be the village chief; other often-mentioned actors largely come from within the village: villagers (23%), village wise men (8%), religious leaders (10%), and youth associations (1%). Few respondents mentioned women associations (1%), chiefdom leader (1%), or the Congolese government (2%), and 5% of respondents are of the opinion that nobody should have most influence. We find very similar results when we ask our respondents about who should decide on the allocation of these development funds across different projects.¹⁸ Finally, we also ask respondents who they thought would manage an external grant of \$1,000 best for the welfare of the village. A full 40% of respondents mention the village chief. Others mention NGOs (9%) and the village development committee (49%), with almost nobody responding the national government (0.35%) or the provincial government (0.72%).

Overall, the data suggests a setting in which a largely male institution — less than 2.5% of chiefs are women — control decision making, but do so with broad support from communities.

4 A Field Experiment in Eastern Congo

4.1 The Intervention: A Management Committee with Gender Parity

This study draws on variation produced by a large scale development program, “*Tuungane*,” which was implemented in 1,250 villages throughout Eastern Congo. With an average of around 1,424 inhabitants per village the program reached a beneficiary population of approximately 1.8 million people.¹⁹ The program was implemented in about four years, with the phase we study in this paper finished after around two years.²⁰ During this two-year period 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 form so-called Village Development Committees (“VDCs”). Each of the 1,250 VDCs consisted of ten individuals: two presidents, two secretaries, two treasurers, two mobilizers, and two inclusion officers. Next, VDCs, in consultation with the population, decided how to allocate an envelope of \$3,000 for a maximum of two projects. *Tuungane* implemented a

¹⁸Specifically: villagers (31%), village chief (41%), village wise men (9%), religious leaders (10%), youth associations (1%), women associations (1%), chiefdom leader (1%), a state representative (2%), none (4%).

¹⁹The program’s budget was £30m (USD \$46m), which includes the cost of the larger infrastructure projects that is not part of this study.

²⁰See Figure 2 in the appendix for an illustration of the timing of implementation across provinces, and the period when we collected our data.

total of 1,812 VDC projects at a value of \$3,707,624.²¹ 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, which included a number of activities: convene community meetings, mobilize community participation, manage project funds, and report to the community about funds management and project implementation.²² The process went hand in hand with intensive trainings and monitoring by the implementing partner.²³

4.2 Identifying the Impact of Gender Quotas

In 2006, prior to the start of the program the subsequent year, the research team worked together with the implementing partner to structure *Tuungane* as a randomized intervention, including a variation in design that was introduced in order to assess the impact of women in leadership positions. By default, the program was implemented with gender parity: the ten-member strong VDC committees were required to contain five men and five women (one man and one women for each position). A key element of the research design was that this gender parity requirement was lifted for a random subset of VDCs. The 1,250 *Tuungane* villages were grouped into 280 village clusters, which were grouped into 83 “lottery bins” (blocks). From the lottery bins in South Kivu, Maniema and Haut Katanga, 149 village clusters were (nonrandomly) sampled to enter a “parity lottery.” These clusters were themselves divided into blocks and half of each block was randomly selected to have the gender parity requirement lifted.²⁴ A total of 74 clusters (and thus all the VDCs in those clusters) were randomly selected to have the mandated gender parity lifted; within these 325 villages (VDCs) were free to choose the gender composition of their *Tuungane* management committee. In contrast, a total of 337 VDCs (75 CDCs) were required to

²¹The majority of projects took place in the education sector. The 813 education projects included building 420 school rooms, renovating another 1,348, and the purchase of 11,795 school furnishing items (benches, tables, chairs, etc.). A total of 325 projects took place in the water and sanitation (Watsan) sector, which led to the construction of 413 springs, 227 wells and pumps, and 150 latrines. Livelihood projects were also popular. A total of 225 such project took place, constructing 28 markets, purchasing 1,328 goats, 415 chickens, 18,266 agricultural tools (spades, hoes, mattocks, rakes, etc.), and 12,765 kilograms of seeds. A total of 223 projects took place in the health sector: 89 health posts or maternity clinics were constructed, 72 were rehabilitated, and 101 health facilities were equipped. 149 projects took place in the transport sector, mainly to construct and improve roads. Finally, *Tuungane* implemented 77 ‘other’ projects, which included the construction of a morgue, the installation of electricity lines, the distribution of 1,599 blankets, and the acquisition of a field for pygmies. Source: IRC (2012).

²²Decisions within the VDC committee were decided by majority vote, and had to be validated by a general assembly of the community. In the case of conflict, the issue would be brought to the “Advisory Board”, which is composed of influential community members including the village chief. If a VDC member had to be replaced, a community-wide election was held to choose an individual with the same gender. VDC members were not compensated.

²³Trainings focused on a number of topics: the roles and responsibilities of VDC members, leadership and good governance, gender and vulnerability, the “Do No Harm” principle, and financial management.

²⁴At times a block had an odd number of village clusters. In these cases we randomly assigned $\frac{n+1}{2}$ or $\frac{n-1}{2}$ village clusters from that bin to the lottery.

have gender parity.

The creation of a parity treatment and control group, which share the same characteristics in expectation before the onset of the program, allows us to investigate the causal impact of having women in leadership positions.²⁵ This study’s empirical strategy is therefore straightforward. In the next section we compare mean outcomes in parity and non-parity communities that participated in the parity lottery, which provides unbiased estimates of the average treatment effect (Rubin, 1974). For efficiency reasons we report sample average treatment effects, ignoring small differences in sampling of individuals in different sized households to the survey and in sampling different sizes village within clusters. We use block fixed effects to control for average differences across blocks (assignment propensities were the same in each block), and cluster our standard errors at the village cluster level.

4.3 Measuring Women’s Empowerment

A difficulty with measuring possible sensitive social outcomes — such as the role of women — is that responses may reflect different types of desirability biases. Respondents may provide answers to survey questions that reflect what they believe researchers want to hear. Lab-in-the-field type measures can also 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. In response, this study exploits direct behavioral measures generated through an independent cash delivery project (“Recherche-Action sur les Projets d’Impact pour le Développement”, henceforth RAPID). Between 2010 and 2012, RAPID visited one village in each *Twungane* village clusters and implemented an unconditional cash transfer program in which the villages received grants of \$1,000 to be used on projects that benefit the village. Communities were able to identify and implement projects subject to minimal constraints.²⁶ Importantly, the unconditional cash transfer left communities free to decide who should manage the funds and how decisions should be made. We rolled the RAPID project out in four steps (A-D) over the course of 2-3 months. The key features are described in Table 1, including the data that we collected during project implementation.

The RAPID project allows us to measure actual behavior related to women’s empowerment. For example, there was no constraint placed on the composition of the RAPID committee other than the size (at least 2 members and no more than 8). An examination

²⁵The appendix shows evidence that the randomization procedure was successful in ensuring statistical balance between the treatment and control group.

²⁶The key constraints were that some uses were ruled out if these were likely to result in harm (such as the purchase of weapons) and the grant had to be spent out within a two month period — in order to be able to assess the use of funds in a timely manner.

Table 1: The RAPID Behavioral Measure

Step	Description	Features
	Team schedules village meeting and conducts surveys	Initial meeting with the village chief to ask him to convene a public meeting. Survey conducted among 5 randomly selected households. By design, half of the respondents are men, half are women.
A	Village meeting and additional surveys	The RAPID project is described in a public village meeting. Surveys are conducted with selected groups of those present during the meeting.
B	Collection of forms	Meeting with RAPID committee members only. Measures are taken of the village’s decisions regarding how to use funding and who is entrusted to manage it.
C	Disbursement of funds by IRC and CARE	\$1,000 are disbursed in private to a select group of members identified by the RAPID committee.
	Auditing	Auditing is undertaken to track the use of all funds.
D	Follow-up surveys	Surveys are conducted among 10 randomly selected households (5 are those surveyed during Step A). By design half of the respondents are men, half are women. Also surveys conducted with two <i>Tuuungane</i> VDC members.

Notes: Key features of the \$1,000 unconditional cash transfer program.

of the composition of RAPID committees (data collected during Step B) thus provides an opportunity to assess whether having had women in leadership positions during *Tuuungane* lasted over time. We will discuss our outcome measures in detail in the next section.

4.4 Data collection

We aimed to implement RAPID in one (randomly selected) community per village cluster. From the 149 village clusters that entered the parity lottery, we were able to implement Step A-C in 105 villages (54 parity, 51 control), and Step D in 103 villages (52 parity, 51 control). The most important reason for attrition was data loss in one of the three provinces taking part in the gender parity lotteries. Political tensions in Maniema in the run up to the 2011 elections led to the expulsion of our teams from the entire province. Other reasons were the inaccessibility of some regions for security reasons.

In parallel to Step D, we visited a second (randomly selected) community in each of the 149 community clusters. In these communities, which did not receive RAPID, we only conducted the household survey among five randomly selected households (half men, half women). We were able to collect information in 97 communities (50 parity, 47 control). In Section 5.3 we build on data from both sets of villages.

Given the reasons for data loss we do not believe there is a relation between attrition

and parity treatment status and we find no evidence that attrition is correlated with parity status — indeed since attrition primarily took place at the block level or above there is near perfect parity in attrition between treated and untreated units.

4.5 Manipulation check

Before moving to the results, we verify that the gender parity variation was actually implemented. In parity areas, VDCs were required to contain five female members. Project records contain information on the number of women on committees in all areas. Based on these data, all parity VDCs complied with this requirement. In contrast, we find significantly fewer women on VDC committees in areas where gender parity was not mandated. In those areas, communities voted, on average, only 3.1 women to the management committee. Regressing the number of women VDC members on the parity requirement (among those communities that partook in the parity lottery), we find that the difference is statistically significant ($p < 0.001$).²⁷ We now explore if the gender parity treatment had an impact on women’s empowerment.

5 Results

We explore the impact of women in leadership positions on three outcomes. First, project selection for the *Tuungane* program. Second, the downstream effects on project selection for the RAPID program and the position of women in the community. And, finally, the downstream effects on attitudes.

5.1 Project Selection

We first assess whether gender parity has an impact on project selection for *Tuungane*. Effects on *Tuungane* project selection effects are the direct effects posited by the current literature. These are assessed using program data for all areas that participated in the parity lottery.

The communities taking part in these interventions implemented a wide variety of projects.²⁸ Table 2 shows that for the *Tuungane* program, projects related to education

²⁷We also find that project records deviate in small ways from the research team’s data in their record of treatment status. The project reports parity treatment assignment in 16% of cases that the research team records as assigned to control, and records an assignment to the non-parity condition to 12.5% of cases that the research team data records as assigned to parity. This discrepancy could reflect errors in record keeping or in the conveying of instructions. We address it here by reporting intention to treat effects in the main text, and local average treatment effects in the appendix (Section C), which produces largely similar results.

²⁸A number of VDCs implemented more than one *Tuungane* project. At times also in different sectors. The dependent variable is the share of projects selected by a VDC in a sector.

Table 2: Effect of Parity Requirement

	<i>Tuungane</i> project choice				
	Health	Education	Transport	Watsan	Agriculture
Parity Effect	0.028	0	0.026	-0.059	0.022
(se)	(0.024)	(0.033)	(0.021)	(0.025)**	(0.015)
Control	0.124	0.513	0.066	0.182	0.047
N	654	654	654	654	654

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Based on implementing partner’s project data and includes villages that were and were not surveyed by the research teams. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

are particularly popular, accounting for more than half of all projects. Water and sanitation (Watsan) and health projects account for around 18% and 12% of all projects, respectively. Agriculture and transport projects are the least popular.²⁹ Overall, we find largely similar patterns in areas with and without gender parity. The dominant project type, education, is selected with similar frequency in all areas. There is some evidence that having women on the *Tuungane* VDC committee leads to a drop in the selection of water and sanitation projects, though we note that this is just one of five analyses and not indicative of strong differences in project choices. Note that this finding is different from the result found in Chattopadhyay and Duflo (2004) where women’s leadership was associated with a greater investment in Watsan (a sector favored by women in that study). As shown below (Section 6.2), a reduction in Watsan projects is not reflective of women valuing this sector less.

5.2 Downstream Behavioral Effects

The downstream effects on RAPID project selection are perhaps more important than the direct effects on project choice. Whereas the *Tuungane* projects were implemented with guidance from the implementing partner — which might have affected the projects selected³⁰ — communities were entirely free to choose a RAPID project, which was subsequently implemented with minimal oversight. Moreover, RAPID took place after the *Tuungane* program, which makes it possible to investigate whether impacts of women in leadership positions last over time. Table 3 shows that project choice for RAPID is quite

²⁹The project shares do not sum to one because of an ‘Other’ category (5% of projects).

³⁰Anecdotal evidence suggests that implementing agents at times nudged communities towards certain types of projects. See also Humphreys et al. (2006) who find strong influence of discussion leaders in free deliberations.

different than choices under *Tuongane*, with 30% of all RAPID projects chosen falling in the agriculture sector. This sector includes projects like goat raising and the distribution of seeds and other goods.³¹ Given RAPID’s shorter term period (two months compared to two years for *Tuongane*) and smaller budget (\$1,000 instead of *Tuongane*’s \$3,000), a focus on projects in this sector is not surprising.

Table 3 shows that also RAPID project selection is largely similar in areas with and without gender parity. There is very weak evidence for greater investment in transport but no differences in investments in Watsan.

Table 3: Downstream Effects on Outcomes

	RAPID project choice					
	Health	Education	Transport	Watsan	Agriculture	Private
Parity Effect	-0.115	-0.064	0.134	-0.001	-0.009	-0.028
(se)	(0.069)	(0.079)	(0.077)*	(0.094)	(0.11)	(0.029)
Control	0.15	0.15	0.05	0.175	0.3	0.05
N	85	85	85	85	85	85

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Includes only villages where RAPID implemented. Based on question B23. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

We also examine three finer-grained behavioral measures on inputs to community decision making. First, during Step A, we recorded the number of people that attended the initial meeting to learn about the RAPID project. For the project we asked for an attendance rates of 25% or more. No compensation was provided for participation. We recorded attendance rates by men and women. Second, during this initial RAPID 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 and age category of the speaker, the length of the interventions, as well as to whom the interventions were directed. 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). Insofar as women in leadership positions affects the role of women inside the community, we can reasonably expect women to be present and participate more in the discussions about RAPID and to take on leadership roles during

³¹The category ‘Private’ includes (family or individual) projects, the distribution of money, credit systems and other distribution. The project shares do not sum to one because of an ‘Other’ category (5% of projects).

the RAPID program.

Table 4: Downstream Effects on Inputs

	Share of women among those that...		
	were present	spoke	were on committee
Parity Effect	-0.007	-0.006	0.015
(se)	(0.026)	(0.031)	(0.035)
Control	0.439	0.267	0.220
N	104	105	105

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Based on questions: AM8, AD1, and B13. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

The results are given in Table 4. We find that in areas without gender parity around 44% of those present during the Step A meeting are women. In parity communities, on average, 43% of participants were women in the public meeting. The difference is very small and not statistically significant. We also find no evidence of impact when it comes to participation during these meetings. On average, 27% of all interventions were made by women, with marginally fewer interventions in parity communities. Moving to the RAPID committee composition, we find that there is a strong tendency towards male domination of committees: the average size of the RAPID committee is 7.6 members, of which only 1.7 members are women (or 22%). In fact, of 105 RAPID committees for which we have treatment only 12 had gender parity in the RAPID committee and exactly half of these had been in the *Tuongane* gender parity treatment, and half in control. The rest of the RAPID committees had more men than women.³² Table 4 shows that the share of women on the RAPID committee in parity and non-parity communities is largely the same. In summary, we find no evidence that having had women in leadership positions during the *Tuongane* program led to a change in the role of women in the community.

5.3 Attitudes Towards the Role of Women in the Community

Finally, we assess whether having had women in leadership positions has an impact on attitudes towards women. Even if there are no substantial effects on decision making, women’s participation in decision making could still affect attitudes through demonstration effects. Table 5 reports the estimated effects of the parity treatment on the reported

³²The breakdown is as follows: 0 women members = 16%, 1 = 30%, 2 = 28%, 3 = 18%, 4 = 8%.

responses of five randomly sampled subjects to the attitudinal questions described in section 3.1 in 219 randomly sampled villages.³³ We present the impact of gender parity on each statement individually, and for a combined measure at the end.³⁴ The table shows average values for those communities that did not have the parity requirement, and the effect of mandating gender parity. We find no evidence that attitudes are different in areas with gender parity compared to those where villages were free to choose the gender composition of their VDC committee. Indeed in three of four measures, as well as the overall index, the effects point negative.

Table 5: Downstream Effects on Attitudes

	Same rights as men	Complain if mistreated	Socio-admin positions	Eligible for president	Index
Parity Effect	0.053	-0.069	-0.071	-0.103	-0.063
(se)	(0.125)	(0.088)	(0.095)	(0.084)	(0.08)
Control	0.255	0.518	0.793	0.825	0
N	912	904	916	919	930

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Based on questions QG8 - QG11. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

6 Discussion

Our study finds no evidence that placing women in leadership positions in development projects had an impact either on decision making or processes and attitudes. In this section, we explore further what might explain this null result, examining two possibilities. First, the project can simply be a ‘bad case’ — whether because the context or implementation made it unlikely to produce effects. Second, effects can be weak simply because men and

³³Surveys were implemented in villages that had the RAPID intervention as well as villages in the same clusters that did not.

³⁴We add the latter because it may be that all individual measures trend positive, but none is individually statistically significant. In such a case it is possible that effects are jointly significant across the family of measures. Conversely, it may be that by chance a measure is significant in a family while most are not, or even trend in the wrong direction. In such a case it is possible that there are no significant effects across the family of measures. In order to generate a meaningful summary of multiple effects within each family we follow the approach of Kling et al. (2007) and create a standardized index that we indicate with ‘Index’ in Table 5. The measure is created as follows. First, we redefine each of the variables of interest in a family, so that higher values for each variable imply positive effects. Second, we rescale each of the redefined variables using the (weighted) mean and standard deviation of the control group units. The index is then the standardized average of the redefined rescaled variables.

women have similar preferences.

The impact of institutional innovations may also depend on specific features of traditional societies in which they are introduced. Ashraf et al. (2015), for example, show how in response to a large development program in Indonesia, only those ethnic groups that traditionally engage in bride price payments at marriage increased female enrollment. In Section E (Tables 16-17), we explore whether the intervention works across a wide set of individual and community characteristics, including a set of indicators related to the strength and stability of chiefly authority. We find little evidence that the impact of the gender parity intervention depends on individual or community contexts.

6.1 A Bad Case?

A possible explanation for our null result is that this was simply a weak intervention and not typical of the kind that is expected to generate strong effects. One piece of evidence that speaks against this possibility comes from a survey implemented prior to launching our endline data collection. The survey asked project implementers (12 respondents) as well as a (convenience) sample of seven researchers working in Eastern Congo and Rwanda whether it was ‘very unlikely’, ‘unlikely’, ‘likely’ or ‘very likely’ that in parity zones, compared to non-parity zones, there would be a greater propensity of women to take on leadership roles. While 42% of implementers thought this unlikely, 50% thought this likely and 8% very likely. Among researchers 57% thought this unlikely, while 29% thought this likely and even 14% very likely. These beliefs reflect moderate ex ante confidence in the gender parity requirement.

Another possibility is that the intervention, while ex ante promising, was subverted in practice by communities. In response to the gender parity requirement, village elites might have selected women that they expected would be weak in their leadership role. We can explore this possibility by comparing characteristics of women that make up the *Tuungane* VDC committees in parity and non-parity areas. During Step D (Table 1), in addition to the household surveys, we also conducted interviews with two members of the *Tuungane* VDC committee: one man and one woman. Comparing their characteristics with those of ten randomly selected individuals from the community (five men and five women), allows us to answer what individual characteristics determine VDC membership. If this type of selection is taking place we may expect that in non-parity communities a woman’s level of education is an important determinant for VDC membership, while in parity communities it is not.

Table 6 presents the results from regressing a woman’s VDC membership on a set of individual characteristics that we think are important for taking on a leadership position: a) whether the woman is the head of the household, b) wealth (as measured by whether the

Table 6: Women’s Membership in *Tuungane* VDC Committee

	Beta	(se)
Head of Household	-0.089	(0.262)
Wealth	-0.145	(0.233)
Age (in years)	0.285***	(0.050)
Age ² (in years)	-0.003***	(0.001)
Born in the village	0.425**	(0.185)
Education (in years)	0.209***	(0.047)
Parity	0.230	(0.308)
Parity * Education (in years)	-0.066	(0.062)

Notes: Determinants of membership to *Tuungane* VDC committee. Data reported for VDCs that participated in the parity lottery, and women only. N=393. Based on questions: QF3, QF8, QF13, QE2, QF9, SP1. Data reported for VDCs that participated in the parity lottery. Probit regression where the dependent variable is a woman’s CDV membership, evaluated at the mean of the independent variables. We report sample average treatment effects. Standard errors clustered at village level. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

household’s roof is made of metal), c) the woman’s age (and a squared term), d) whether the woman is born in the village, and years of education. To test the claim whether in parity communities a woman’s level of education is a less important determinant for VDC membership than in non-parity areas, we interact the latter with the gender parity status of the village. The magnitudes presented are marginal effects from a probit regression, evaluated at the mean of the independent variables. We find that education and age are important correlates of VDC membership. While Table 6 suggests that education is a less strong predictor of women’s committee membership in parity areas, this difference is not statistically significant.

6.2 Differences in Preferences by Gender?

A second possibility that could explain the null result is that parity institutions might have weak effects because gender groups share common preferences for project priorities. Insofar as men and women have similar preferences we would expect null results on both inputs and outputs to public goods provision.³⁵ Prior to RAPID project selection (Step A of the

³⁵Using data from 19 African countries, Gottlieb et al. (2016) find that, on average, gender differences in preferences are quite small. However, there is significant heterogeneity across both policy domains and countries. The authors propose a theoretical framework to differentiate policy domains: those domains that relate to “favorable gender gaps” (divergent preferences that reflect the growing economic and social independence of women) and “unfavorable gender gap” (divergent preferences that reflect the fact that women are constrained by gender roles rather than liberated from them). The authors find that greater

RAPID project as described in Table 1), we asked five randomly selected individuals, half men and half women, about their preference for the RAPID project.

Table 7 shows the preference by gender across sectors. We find that, in the aggregate, individuals’ preferences correspond well with actual projects implemented (see Table 3): with projects in the agriculture sector being the most popular (again accounting for around 30% of projects). Table 7 also shows that there are some differences between men and women, although the magnitudes are not very large. Men have a somewhat stronger preference for agricultural projects, while women have a stronger preference for health projects and private projects. For women, Watsan and agriculture are equally popular, whereas for men agriculture dominates. In magnitudes, however, Table 3 suggests no shift between Watsan and agriculture, and it shows a reduction in health projects in parity areas (though recall that the estimated effects of parity on project choice are not significant).

Table 7: Preferences by Gender

	Health	Edu.	Transport	Watsan	Agric.	Private
Difference for women	0.05	-0.028	-0.018	0.023	-0.061	0.051
(se)	(0.027)	(0.018)	(0.02)	(0.028)	(0.036)	(0.022)**
Men	0.071	0.059	0.067	0.209	0.293	0.054
N	476	476	476	476	476	476

Notes: Differences in preferences for women. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Items from survey questions AV14 * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

The interpretation of Table 7 is complicated since the preferences for RAPID projects are themselves post treatment to the parity intervention. The mapping from parity 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)). We can partly unpack these effects in two ways.

First, we can assess whether women’s stated preferences translate into project choices at higher rates (relative to men’s preferences) in parity areas. This analysis is shown in supplementary material (Table 13), which suggests that the parity condition, if anything makes women’s preferences (albeit post-treatment preferences) less predictive of outcomes relative to men’s.

Second, we can examine the effects of the parity intervention on project preferences for independence of women increases women’s prioritization of the economy relative to men’s (a favorable gender gap) and decreases women’s prioritization of water relative to men’s (an unfavorable gender gap).

men and for women (which is identified) as well as the differences in preferences between men and women in parity and non parity areas (which is not). Note that changes in preferences could arise for multiple reasons, including direct effects as well as indirect effects due to changing priorities resulting from past project choices. These breakdowns of Table 7 are provided in Tables 14 and 15 (Section D). The analysis suggests that parity sharpened differences in preferences between men and women — with men favoring health projects less, and women favoring agricultural projects less. The reduced selection of health projects in parity areas is reflective of the shift in men’s preferences and so does not lend support to the idea that parity results in women’s views having greater weight in community decision making.

In summary, the evidence does suggest that there are differences in preferences along gender lines and that some of these are possibly increased by the parity intervention. There is no evidence however that the intervention, led to greater reflection of women’s preferences in actual project selection; if anything we see the opposite.

7 Conclusion

Optimism that institutional innovations can be used to strengthen the position of women has shaped development thinking and the design of development programs. In this paper we study the impact of one particularly popular innovation (gender parity), which was implemented through a development program in the Democratic Republic of Congo. In each participating community, the program formed a management committee to oversee the implementation of projects with an envelope of \$3,000. A total of 662 communities entered a lottery: 337 communities were assigned to obligatory gender parity of the management committee, 325 communities were free to choose the committee’s gender composition. By having women take on leadership roles it was expected that the program would lead to changes in the type of public goods provided and have further downstream effects on the role of women in communities, and attitudes towards them. The random allocation of gender parity allows us to evaluate these claims.

We find no evidence that placing women in leadership positions has an effect on women’s empowerment.³⁶ The treatment did not yield evidence of improved attitudes towards women about their role in the community, or evidence that women became more involved in community decision-making. The types of public goods produced were largely unaffected, and what changes we see reflect changes in the priorities of men in these communities.

We probe possible reasons for these null results. Although power is a common concern with null results, many of the weak effects we see here are precisely estimated and a number

³⁶Humphreys et al. (2016) finds little impact of the overall *Tuongane* project on other outcomes.

of the larger effects trend in the wrong direction. More positively, we find no evidence that these results are due to bad implementation or that the gender parity condition was undermined by communities selecting underqualified women to serve in mandated positions, and mixed evidence that it is due to men and women having preferences that are too similar.

We suggest two other possibilities that might explain our null findings. Both suggest caution in the hasty importation of innovations to new contexts. First, our study focused on changes in committee composition from male dominated to parity structures. This is akin to the forms of representation that are often adopted by development agencies. However, it is possible that parity is not enough to effect change. In Duflo (2012) the reservation system ensured that women were chiefs in selected areas and not simply represented on committees and boards. Other studies suggest important differences in behavior when groups are composed entirely of women rather than being mixed, as was the case in the parity areas (see for example Greig and Bohnet (2009)).

A second possibility is simply that in this context the outcomes of interest are not susceptible to changes from interventions of this form. Existing gender relations can be resilient, and more fundamental change may require changes to fundamentals such as women's level of education. In the absence of changes to underlying power positions, the formal rules imposed by external groups may be of little consequence. This view resonates with our finding in Section 6.1 as well as a qualitative study of the *Twungane* program (IRC (2014)), which found that illiteracy and a lack of education are some of the key barriers to active participation in community decision-making by women. If this is the right explanation it highlights an important challenge from drawing inferences across cases on program effects. It is possible that the positive evidence for gender quotas is drawn from cases in which societies were receptive to these innovations in the first place. When such innovations are exported to other contexts however there is no guarantee of a similar reception.

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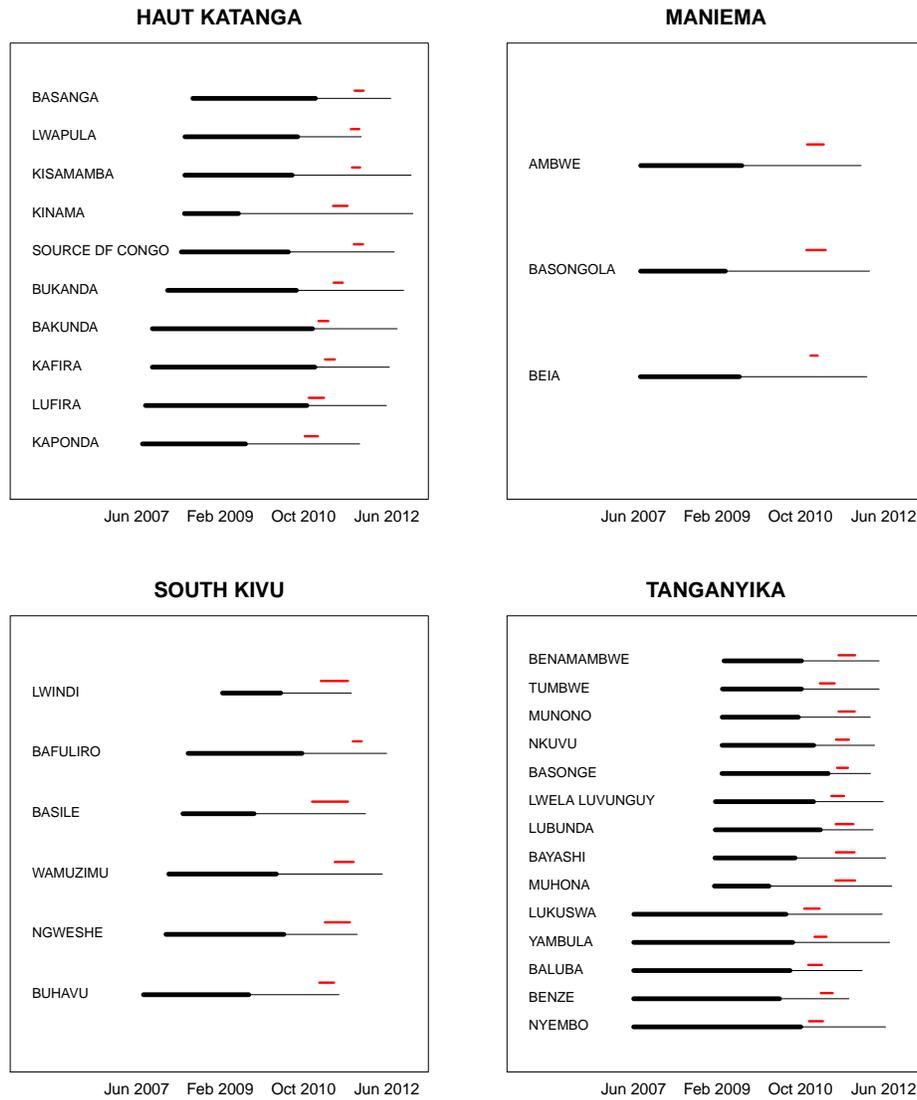
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A Timing of Intervention and Measurement

Figure 2: Timeline of Implementation



Notes: Thin black lines indicate length of the *Tuungane* program per chiefdom. Thick line indicates the first (VDC) phase, which is the one we study here. Shorter, red lines indicate the period of measurement (RAPID) in that chiefdom. Source: Authors' drawing.

B Balance

The analyzes in this paper rely on randomization, which guarantees that the parity and non-parity 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 the different treatment conditions. Because we do not have baseline data for the villages, we make use of the data collected in 2012. We limit ourselves to pre-treatment information and variables that do not change due to the treatment. We analyze the following variables at the village level: distance to the chiefdom capital, presence of infrastructure (specifically: wells, schools, clinics, churches and meeting halls) in 2006, in-migration in 2006 (IDPs, returned-IDPs, refugees and repatriated refugees) and the number of village committees in 2006. At the individual level we analyze gender and age.

Table 8 lists the average for each variable for the parity and the non-parity areas that were part of the parity lottery, and the difference between both. We find that there are no strong differences across the two groups, which is consistent with what is to be expected given the random assignment.

Table 8: Balance

Variable	Parity (sd)	Not-parity (sd)	Diff(P-NP) (se)
Distance (N=193)	8.68 (8.62)	10.02 (11.19)	-1.34 (1.43)
Infrastructure in 2006 (N=165)	5.81 (6.01)	5.70 (5.22)	0.11 (0.88)
In-migration in 2006 (N=110)	5.08 (11.69)	8.16 (25.49)	-3.08 (3.85)
Comittees in 2006 (N=173)	0.54 (0.90)	0.41 (0.73)	0.13 (0.13)
Gender ratio (N=1785)	0.55 (0.50)	0.56 (0.50)	0 (0.02)
Age (N=1708)	39.86 (13.84)	40.22 (13.87)	-0.36 (0.67)

Notes: Based upon the following measures: QE13, CQ23-27, CQ136-139, Q53-62, QF7, QF9. Data reported for VDCs that participated in the parity lottery. Results based on simple OLS regressions. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

C Local Average Treatment Effects

The main text reports intention to treat effects. In this section we present local average treatment effects. Tables 9 to 12 show that we have largely similar results as in the main text.

Table 9: Effect of Parity Requirement - LATE

<i>Twungane</i> project choice					
	Health	Education	Transport	Watsan	Agriculture
Parity Effect	0	0.07**	0.02	-0.09***	0
(se)	(0.02)	(0.03)	(0.02)	(0.02)	(0.02)
Control	0.132	0.482	0.07	0.196	0.057
N	654	654	654	654	654

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Based on implementing partner's project data and includes villages that were and were not surveyed by the research teams. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

Table 10: Downstream Effects on Outcomes - LATE

RAPID project choice						
	Health	Education	Transport	Watsan	Agriculture	Private
Parity Effect	-0.06	0.03	-0.05	-0.04	0.11	-0.03
(se)	(0.07)	(0.08)	(0.08)	(0.09)	(0.11)	(0.03)
Control	0.128	0.103	0.128	0.179	0.256	0.051
N	85	85	85	85	85	85

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Includes only villages where RAPID implemented. Based on question B23. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

Table 11: Downstream Effects on Inputs - LATE

	Share of women among those that...		
	were present	spoke	were on committee
Parity Effect	-0.02	0.05	0.01
(se)	(0.03)	(0.03)	(0.04)
Control	0.44	0.26	0.22
N	104	105	105

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Based on questions: AM8, AD1, and B13. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

Table 12: Downstream Effects on Attitudes - LATE

	Same rights as men	Complain if mistreated	Socio-admin positions	Eligible for president	Index
Parity Effect	-0.1	-0.06	-0.02	-0.05	-0.07
(se)	(0.12)	(0.09)	(0.09)	(0.08)	(0.08)
Control	0.26	0.5	0.77	0.79	0
N	912	904	916	919	930

Notes: Effect of parity requirement. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Based on questions: QG8 - QG11. $*p \leq 0.10$, $**p \leq 0.05$, $***p \leq 0.01$.

D Additional Tables on RAPID Project Preferences

Table 13: Translation of male and female ex ante preferences to RAPID project choice

	Preferences realized	
	Coarse measure	Fine measure
Parity Condition	-0.083	0.026
(se)	(0.076)	(0.069)
Male	-0.069	0.014
(se)	(0.049)	(0.043)
Interaction	0.152	0.001
(se)	(0.073)**	(0.067)
N	444	444

Notes: Effect of parity requirement on whether individual's ex ante project correspond to RAPID project choice. The 'fine measure' is a disaggregation of project sector. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Includes only villages where RAPID implemented. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

Table 14: Preferences of Women and Men, by Parity Status

	Health	Education	Transport	Watsan	Agric.	Private
Difference for women (NP)	0.002	-0.002	-0.012	0.027	0.009	0.072
(se)	(0.036)	(0.023)	(0.023)	(0.039)	(0.046)	(0.033)**
N	248	248	248	248	248	248
Difference for women (P)	0.103	-0.058	-0.036	0.035	-0.138	0.045
(se)	(0.039)**	(0.024)**	(0.035)	(0.047)	(0.06)**	(0.032)
N	228	228	228	228	228	228

Notes: Differences in preferences for women. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Items from survey questions AV14 * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

Table 15: Parity Effect on Project Preferences, by Gender

	Health	Education	Transport	Watsan	Agric.	Private
Parity effect for women	-0.013	-0.046	0.059	0.088	-0.189	-0.019
(se)	(0.052)	(0.026)	(0.033)	(0.054)	(0.053)**	(0.053)
N	238	238	238	238	238	238
Parity effect for men	-0.101	0.022	0.055	0.093	-0.047	-0.006
(se)	(0.03)**	(0.031)	(0.04)	(0.062)	(0.06)	(0.027)
N	238	238	238	238	238	238

Notes: Differences in preferences in parity areas for men and women. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. Items from survey questions AV14 * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

E Heterogeneity of Impact

Our results may mask positive effects for population sub-groups. In particular, it is plausible that gender parity only works for certain individuals, or only in certain communities. Based on indicators that are pre-treatment or do not change due to the treatment, this section will explore heterogeneity of impact by context.

In this section, we regress the outcome of interest on the parity treatment variable, the subgroup indicator and their interaction. Tables 16-17 present the results, where we show only the magnitudes and standard errors for the interaction.

E.1 Appendix: Heterogeneity of Impact by Individual Characteristics

Our measures related to attitudes towards women empowerment are collected at the individual level, which allows us to explore the impact of heterogeneity by individual characteristics. VDC committee members, compared to other villagers, were more intensely exposed to efforts by our implementing partner to increase awareness of women empowerment. Among others, as part of the *Tuwungane* program committee members received trainings related to gender and the role of women in the community. In addition to ten randomly selected individuals from each community, we also interview two members of the VDC committee. Table 16 shows that we do not find that the gender parity treatment had an impact on VDC committee members. Although all coefficients trend positive, none of them are statistically significant.

Because of his important role in the community we explore whether gender parity had an impact on the attitudes of the village chief, compared to other villagers. To do so, in addition to the household surveys, we also conducted an interview with the village chief in each community we visit. The second column of Table 16 shows that the coefficient are all positive, with one statistically significant ($p < 0.05$). The index is positive, and also significant ($p < 0.05$).

Next, we separate out our analysis by gender. By design, half our data is from men, and half from women. Although this study does not find an impact of gender parity on the full population, our results can mask results for women only. Women that took on positions in the VDC committee, might have functioned as role models for other women.³⁷ Table 16 shows that this is not the case. Although all coefficients trend positive, they are not statistically significant.

Finally, we may expect that female VDC members act as role models particularly to younger cohorts of women. Similar to Clayton (2014) we define a young women to be those

³⁷On the other hand, we might expect a different impact of gender parity for men (Murray (2014)). Forcing women into leadership roles, might lead to a backlash effect with men's attitudes about women empowerment changing for the worse.

women below the age of 25. There does not appear to be a strong positive impact of gender parity on these women, compared to other villagers, either.

Table 16: Heterogeneity of Impact by Individual Characteristics

Subgroup → Outcome ↓	VDC Member	Village Chief	Women	Young Women
Same rights as men (se)	-0.01 (0.23)	0.39 (0.24)	0.16 (0.18)	0.45** (0.21)
Complain if mistreated (se)	0.18 (0.20)	0.25 (0.23)	0.1 (0.16)	0.05 (0.20)
Socio-admin positions (se)	0.21 (0.16)	0.16 (0.19)	0.13 (0.16)	0.3 (0.18)
Eligible for president (se)	0.17 (0.16)	0.42** (0.19)	0.12 (0.16)	-0.03 (0.18)
Index (se)	0.16 (0.16)	0.38** (0.18)	0.18 (0.13)	0.24 (0.14)

Notes: Effect of parity requirement by individual characteristics. Reported results are the interaction term only. Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at village level. Based on questions: QG8-11 (outcome data); and Q11 and QF9 (for subgroups). * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.

E.2 Heterogeneity of Impact by Community Characteristics

In this section we explore our results by community characteristics. Table 17 presents the results where we again only show the magnitudes and standard errors for the interactions. We look at six subgroups: region, existence of a women committee, existence of any committee, previous conflict, ethnic heterogeneity, and three indicators of what we will term institutional opportunity.

We first separates our data by region. Our data was largely collected in two provinces: South Kivu and Haut Katanga.³⁸ We find no evidence that gender parity had an impact on attitudes when we separate our data by region. We do find that in South Kivu, compared to Haut Katanga, gender parity led to fewer *Tuungane* agriculture projects and more RAPID health projects.

Congolese often organize in different associations at the community level. There are associations for education-related affairs, health-related affairs, etc.³⁹ We find that 16% of

³⁸Tanganyika did not have a parity lottery, and, as described in the main text, data collection efforts had to be abandoned in Maniema.

³⁹The leaders of the committees are on the whole democratically elected (96%).

villages have a women’s association.⁴⁰ Given this study’s interest in women empowerment we explore whether the parity treatment had a different impact in communities where women associations existed before the onset of *Tuungane*. the second column in Table 17 shows that we do not find strong impacts.

We also explore whether the parity treatment had a different impact in communities that had *any* committee at the onset of *Tuungane*.⁴¹ We find that gender parity led to fewer RAPID Watsan projects in communities that had already previous experience before the start of *Tuungane*.

Conflict might be an important subgroup to look at. Tripp (2015), for example, shows that post-conflict countries have significantly higher rates of women’s political representation in legislatures and government in part due to gender disruptions that occur during war. To measure conflict in the community before the onset of *Tuungane*, we sum the number of villagers that left the village as internally displaced individuals in 2005 to 2007. We find that in areas with conflict, gender parity leads to more *Tuungane* education projects and fewer agriculture projects, and more RAPID agriculture projects.

We might also expect a differential impact of gender parity depending on whether a village is ethnically heterogeneous or not. We collect data on all ethnic groups in each village as part of the chief survey, and construct an ethno-linguistic fractionalization index for each village. Table 17 does not show strong results.

Finally, as we have discussed in detail in Section 3.2, much power lies with the chief in Congo. There is however considerable variation in the sources of chiefly authority both over space and over time. Plausibly the scope for norm change depends on the stability of traditional structures, or the existence of what could be termed *institutional opportunity*. We seek to understand whether this is the case by sub-setting the dataset into different groups and analyze whether there are differences in the impact of parity between these groups. We use three indicators as a measure of institutional stability. The first — “Chief Years” — is a variable that counts the number of years that the current chief has been in power at the date of the survey. The second — “Chief Enter” — is a binary measure indicating whether the current chief came to power through inheritance or through some other mechanism. Finally, we construct a binary measure — “Chief Stability” — that indicates whether the current chief has reached office in a similar fashion than his predecessor. The last three columns of Table 17 show that also here do find little evidence that institutional opportunity affects the effects of the institutional intervention.

⁴⁰On average, these women associations exist since five years (mean=5.07, sd=5.12), with 63% of them having been created in the previous four years.

⁴¹We ask about the presence of any of the following committees: water and drainage, road, health, education, agriculture, security, women, church, development, and other. We also ask when the committee came into existence.

Table 17: Heterogeneity of Impact by Community Characteristics

Subgroup → Outcome ↓	South Kivu	Women Committee	Any Committee	Conflict	Ethnic Het.	Chief Years	Chief Enter	Chief Stability
Effect of Parity Requirement (<i>TUUNGANE</i>)								
Health	-0.19	-0.15	-0.18	-0.39	0.46	0.01	-0.19	0.29
(se)	(0.14)	(0.16)	(0.22)	(0.34)	(0.35)	(0.01)	(0.25)	(0.19)
Education	0.25	0.26	0.17	0.32*	-0.60	-0.01	-0.03	-0.41*
(se)	(0.16)	(0.29)	(0.17)	(0.18)	(0.39)	(0.01)	(0.21)	(0.22)
Transport	0.12	0.15	-0.06	0.17	0.06	0.01	0.26*	0.16
(se)	(0.14)	(0.24)	(0.13)	(0.22)	(0.20)	(0.01)	(0.15)	(0.15)
Watsan	0.01	-0.29	0.03	0.18	0.02	-0.01	-0.32	-0.31*
(se)	(0.12)	(0.22)	(0.16)	(0.16)	(0.27)	(0.01)	(0.20)	(0.19)
Agriculture	-0.24**	-0.08	-0.05	-0.31*	0.20	0.00	0.14	0.16
(se)	(0.11)	(0.14)	(0.08)	(0.17)	(0.20)	(0.01)	(0.21)	(0.12)
Downstream Effects on Outcomes (RAPID)								
Health	0.28**	0.21	0.09	0.16	-0.16	-0.01**	0.20	-0.14
(se)	(0.13)	(0.14)	(0.15)	(0.14)	(0.28)	(0.01)	(0.23)	(0.18)
Education	0.09	0.11	0.06	-0.55	-0.25	0.01	0.29	0.13
(se)	(0.11)	(0.12)	(0.30)	(0.45)	(0.45)	(0.01)	(0.29)	(0.23)
Transport	-0.04	-0.04	0.07	-0.07	0.62*	0.00	0.18	-0.21
(se)	(0.13)	(0.19)	(0.17)	(0.31)	(0.36)	(0.00)	(0.22)	(0.16)
Watsan	-0.15	-0.46*	-0.48**	0.02	-0.37	0.00	-0.16	0.24
(se)	(0.15)	(0.24)	(0.22)	(0.25)	(0.53)	(0.01)	(0.23)	(0.23)
Agriculture	0.03	0.09	0.30	0.97**	0.13	0.00	-0.54**	0.16
(se)	(0.26)	(0.43)	(0.26)	(0.39)	(0.59)	(0.01)	(0.27)	(0.24)
Private	0.04	-0.06	0.17	-0.28	0.16	0.00	-0.03	0.09
(se)	(0.04)	(0.08)	(0.11)	(0.25)	(0.17)	(0.00)	(0.04)	(0.13)
Downstream Effects on Inputs								
Presence	-0.04	-0.16**	-0.01	0.09	0.19	0.00	-0.01	-0.05
(se)	(0.05)	(0.07)	(0.07)	(0.11)	(0.11)	(0.00)	(0.08)	(0.07)
Participation	0.07	-0.09	-0.01	0.09	0.03	0.00	0.01	0.04
(se)	(0.06)	(0.10)	(0.09)	(0.13)	(0.16)	(0.00)	(0.10)	(0.09)
Composition	-0.02	0.03	0.01	0.07	0.06	0.00	-0.08	-0.08
(se)	(0.07)	(0.11)	(0.09)	(0.11)	(0.15)	(0.00)	(0.09)	(0.09)
Downstream Effects on Attitudes								
Attitudes (MFI)	0.01	0.13	0.09	0.10	-0.52	0.01	-0.02	-0.11
(se)	(0.16)	(0.22)	(0.18)	(0.23)	(0.34)	(0.01)	(0.18)	(0.20)

Notes: Effect of parity requirement by community characteristics. Reported results are the interaction term only. Based upon the following measures: QG8-11, AM8, AD1 and B13, B23, and based on implementing partner's project data (outcome data); and Q53-62, CQ136, CQ13, CQ48, and CQ53-54 (for subgroups). Data reported for VDCs that participated in the parity lottery. We report sample average treatment effects. Regressions using lottery bin fixed effects. Standard errors clustered at CDC level. * $p \leq 0.10$, ** $p \leq 0.05$, *** $p \leq 0.01$.