Can Role Models and Skills Training Increase Women's Voice in Village Governance? Experimental Evidence from Odisha, India*

Katrina Kosec† Jordan Kyle‡ Sudha Narayanan§ Kalyani Raghunathan¶ Soumyajit Ray‖

August 31, 2024

Abstract

We explore the impacts of exposing women to role models and offering them skills training on their aspirations and demands for assets within India's Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), the largest public works program in the world. In a field experiment across 94 villages and with close to 2,600 women, we find that role models alone have limited impact, but when combined with a brief skills training, there are strong positive impacts on women's aspirations and asset demands. However, women were more likely to use the role model combined with skills training to participate in community-decision-making and demand assets in villages already open to broad participation in community decision-making rather than those dominated by local elites. Our results suggest that offering women a light-touch training in "mapping" their individual and community needs for public works, in framing their demands and articulating them in public can generate significant benefits for their voice and agency in village decision-making—particularly in highly democratic contexts.

*We are very grateful to Naureen Karachiwalla for valuable contributions to this project. Pabitra Chowdhury provided research assistance. We thank CORD-Libtech for providing data for sampling. This work was undertaken as part of the CGIAR Research Initiatives on Gender Equality and National Policies and Strategies as well as the Gender Impact Platform. We would like to thank all funders who supported this research through their contributions to the CGIAR Trust Fund: https://www.cgiar.org/funders/. This study received ethical approval from the International Food Policy Research Institute (IFPRI)'s Institutional Review Board on December 18, 2022, prior to the start of the baseline survey. An amendment was made to add information on the planned interventions; this was approved on October 31, 2023, prior to the roll-out of the interventions. Local ethical approval was obtained from the Academy of Management Sciences, Lucknow, Uttar Pradesh. The study was pre-registered on the AEA RCT registry (RCT ID AEARCTR-0012350) and a pre-analysis plan (PAP) uploaded on April 19, 2024, before the endline data had been received by the research team. The analysis described in this paper follows that PAP. Where we deviate from the PAP to engage in more exploratory analysis we state so clearly.

†Senior Research Fellow, Poverty, Gender, and Inclusion Unit, IFPRI, K.Kosec@cgiar.org

‡Research Fellow, Poverty, Gender, and Inclusion Unit, IFPRI, j.kyle@cgiar.org

§Senior Research Fellow, Development Strategies and Governance Unit, IFPRI, s.narayanan@cgiar.org

¶Research Fellow, Poverty, Gender, and Inclusion Unit, IFPRI, k.raghunathan@cgiar.org

‖Senior Research Analyst, Nutrition, Diets and Health Unit, IFPRI, s.ray@cgiar.org

1 Introduction

In contrast to top-down and technocratic approaches in which decisions about whom to target with government programs and what to provide are made centrally, community-based approaches are increasingly emphasized as a means of utilizing local informational advantages, democratizing decision-making, strengthening citizen's rights, and improving program functioning. Yet, a key concern with transferring decision-making to the local level is that the outcomes of participatory processes are shaped by local norms, culture, politics, and social and economic inequalities, which can vary widely across space and exclude many groups from decision-making (Bardhan and Mookherjee, 2000; Dasgupta and Beard, 2007; Mansuri and Rao, 2013). Women in particular are often underrepresented in local governance, raising concerns that decentralization could disproportionately benefit men in contexts where women face higher barriers to contacting local officials (Kosec, Song and Zhao, 2021). Additionally, local decisions are often taken by small groups of powerful local elite, making community-based approaches potentially subject to both entrenched social and gender norms and to elite capture (Bardhan and Mookherjee, 2000).

This paper experimentally assesses the prospects for increasing women's voice and agency in community decision-making through exposure to role models and skills training. It does so in the eastern state of Odisha in India and in the context of the Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) public works program, which entails a decentralized planning process to build assets that explicitly solicits citizen input on what to build and where. In this setting, there are large gender disparities in claiming public resources and in speaking up in community meetings (Kosec et al., 2024; Kruks-Wisner, 2018; Sanyal and Rao, 2019), and elite capture of local planning processes is prevalent (Himanshu, Mukhopadhyay and Sharan, 2015; Panda, 2015; Jeong, Shenoy and Zimmermann, 2023). MGNREGA provided 2.4 billion person-days of work in 2023-24 and received an allocation of INR 860 billion (over 10.4 billion USD) in the 2024-25 budget, making it the world's largest public works program (Kosec et al., 2024). Rolled out in rural areas in three phases between 2006 and 2008, the MGNREGA entitles each rural household to a minimum of 100 days of manual labor at stipulated wages based on work performed and linked to minimum wages. In addition, the Act provides beneficiaries the *opportunity* to select assets—at an individual, group or community level—to which workers

will contribute labor. The participatory local process through which assets are selected is the central focus of this paper, and is similar to many types of participation in local governance, such as selecting and building projects through community-driven development programs, engaging in participatory budgeting processes, supporting targeting processes for social protection programs, and participating on local school monitoring committees—all of which are in theory open fora, but in practice require individuals to attend meetings and express their preferences actively in a public setting.

The MGNREGA program's participatory process to select assets faces several challenges: in order to demand assets from the program, citizens have to take affirmative actions to submit their asset suggestions and "demand" assets, like contacting a local official, speaking up at a community meeting, and filing paperwork in concert with local functionaries. Taking these actions requires knowledge of program rules and processes, political and social networks, and comfort in and ability to speak up in public spaces. It can also require *aspirations* to achieve something through the participatory process, like obtaining a specific asset to improve one's livelihood. In many contexts, including in India, research finds that women are less likely than men to contact local officials or participate in community meetings (Kosec, Kyle and Takeshima, 2023) and less likely to be knowledgeable about programs (Bleck and Michelitch, 2018). The result can be that participatory approaches ultimately support status quo economic and social relations, which are inequitable for women (Cornwall, 2003). Can role models and training overcome this structural barriers?

To answer this question, we conducted a randomized controlled trial in 94 *gram panchayats* (GPs) or villages in four districts of the coastal state of Odisha. In each village, 15 women who had previously requested work through MGNREGA were randomly selected to be part of the study. Each woman was invited to bring three to five adult friends with her to participate in the intervention, at least one of whom had also requested work through MGNREGA. Together, this group of target women and friends comprises nearly 8,000 women. As part of the intervention, all study arms received an information leaflet describing the types of assets that can be demanded in MGNREGA, who can demand them, and when and how demands can be placed. The women in the placebo arm watched a 15-minute fictional romantic comedy that promoted the use of toilets and discussed it with their group members in the presence of a trained facilitator. In

the first treatment arm (T1), the trained facilitator had women watch and discuss a 15-minute video showcasing the stories of women from nearby communities who had successfully demanded assets under the program, including how they successfully obtained assets and how those assets had benefitted them.[1] Compared to the placebo arm, this treatment allows us to assess if role models are sufficient to raise women's aspirations to influence assets built. Women in the second treatment arm (T2) received the same video treatment as T1, but in addition, participated in a 1.5 hour participatory skills training module. In this training module, women conducted a social mapping exercise with their friends to help identify assets to meet individual or community needs, practiced framing their demands for these assets, and participated in a role play exercise to practice articulating their demands to family members and to local authorities. Importantly, women in all three study arms were recruited using an identical script that indicated the same time commitment of "a couple of hours", ensuring that we did not select into T2 only those women who could spare the extra time needed for the training. Providing information across all treatment arms allows us to net out the effect of role models and the skills training from the effects of increased information on program rules. Similarly, gathering the placebo arm women and their friends to watch and discuss a video unrelated to our intervention allows us to net out the effects of gathering socially with friends.

While T1 was designed primarily to impact women's *aspirations* to demand assets, T2 was designed to increase both women's aspirations and, additionally, their *abilities* to do so. Together, these treatments address important policy questions on whether participation in community decision-making can be induced without changing the underlying norms, culture, politics, or social and economic inequalities that shape local decision-making.

We find that the role model video alone (T1, referred to below as the "role model" treatment) has little impact relative to the placebo arm on either women's aspirations or their behaviors. However, combining the role model video with the practical skills training significantly increases both. Relative to the placebo, women in T2 (also referred to below as the "role model + training" treatment) are significantly more likely to aspire to request an asset

[1]MGNREGA maintains a list of pre-approved assets which can be built through the program (currently 262 are pre-approved). While the program allows both individual assets—privately owned and constructed on private land—and community assets—which span both public goods like rural roads and "club goods" for specific groups—the film primarily covered individual assets.

and to identify closely with hypothetical women who exhibit voice and agency in the MGNREGA asset demand process. They are also significantly more likely to have requested an asset individually or as a group, or to have any member of their household request an asset in the months between the training and our endline survey. While both the target women and their friends were more likely to request assets, target women were significantly more likely to take additional actions like meeting with a MGNREGA functionary and speaking up at community meetings. Interestingly, T2 activates exactly the pathways we were targeting: relative to the placebo, women who received the role model + training treatment were rated more highly both by the enumerators and by their friends on their ability to articulate demands, and also scored higher on a self-reported self-efficacy scale. This suggests that simply providing an inspirational role model treatment is not enough to affect either aspirations or behaviors, but when paired with participatory practical training on converting aspirations into tangible demands, can have significant positive impacts.

We then investigate the role of several factors that could serve to attenuate or strengthen these impacts, such as the respondent's membership in a women's self-help group (SHG),[2] whether they were actively involved in the MGNREGA program prior to the interventions, their age, and their perception of the extent to which elite groups dominate village affairs, a significant barrier to citizens' participation in the context of the MGNREGA. In many localities, local elite may put up significant roadblocks against broadening claim-making and participation in community decision-making if they obtain rents from distributing MGNREGA resources to traditional recipients. While the other three factors do not seem to play a strong moderating role, We find that women are more likely to put the skills training in practice to demand assets and speak up in participatory planning processes in villages where local affairs are not perceived to be dominated by a small group of local elite.

This paper builds on several strands of the literature. First, in the long history of public works programs, there has been limited research on what works to ensure women's voices are included, or how any such efforts ultimately affect welfare outcomes for women. The MGNREGA is no different. The Act has received much attention for its scale and its role as a safety net for workers (Imbert and Papp, 2015; Klonner and Oldiges, 2014; Zimmermann, 2024), including

[2]An SHG is a microfinance group comprising 10-20 women living in close proximity to one another.

during the COVID-19 pandemic (Narayanan, Oldiges and Saha, 2022; Afridi, Mahajan and Sangwan, 2022). But while there has been some research on the effectiveness of different assets constructed under the program (Aggarwal, Gupta and Kumar, 2012; Muralidharan, Niehaus and Sukhtankar, 2023; Narayanan, 2016; Ranaware et al., 2015) and on the effect of the program on women workers (Pankaj and Tankha, 2010), evidence on how assets are selected and by whom is scarce. Thus, the question of what works to include women in decision-making is largely open.

Second, our paper adds to literature on decentralized participatory local governance. Village-level *gram sabha* meetings[3], where (at least on paper) decisions about MGNREGA assets are to be discussed, comprise "the largest deliberative institution in human history" (Sanyal and Rao, 2019). Finding effective ways to promote women's engagement in these settings has implications for social programs beyond MGNREGA and for other local policymaking. Whether and how participation can be induced in these local decision-making fora by marginalized voices is a significant policy question (Mansuri and Rao, 2013; Palaniswamy, Parthasarathy and Rao, 2019).

Despite the growing use of community-driven approaches for development projects and the importance of these local institutions, there is limited evidence on effective ways to increase the role of marginalized groups in owning the process of demanding assets under public works programming or in community-driven development processes more broadly. The current literature has focused largely on the effects of implementing gender quotas in development programming and local governance (Beath, Fotini and Enikolopov, 2013; Van der Windt, Humphreys and de la Sierra, 2018; Beaman et al., 2009). Beath, Fotini and Enikolopov (2013) find that these provisions increase women's economic activities, but do not find an effect on women's decision-making power in the household or on gender norms. Van der Windt, Humphreys and de la Sierra (2018) do not find an effect of mandating gender parity in decision-making for a community-driven development project on women's empowerment or on policy decisions. In contrast, Beaman et al. (2009) find that reserving seats for women reduces bias against women candidates in future elections; improving perceptions of female leader effectiveness and

[3] *Gram sabhas* are open assemblies which are constitutionally-mandated, have authority to discuss and intervene in issues like selecting beneficiaries of public programs and selecting public goods, and are open to all citizens to bring up a range of concerns about village development and community needs.

weakening stereotypes about gender roles in the public and domestic spheres. Our study contributes by investigating bottom-up approaches to encourage and capacitate women to influence governance—specifically, to bring their demands into the MGNREGA asset selection process—without altering the decision-making institutions. This is important for contexts like India which have already reformed institutions to increase women's representation in local governance yet still see gender gaps in women's participation.

Finally, our paper speaks to a literature on what works to increase women's aspirations and the relevance of context for translating aspirations into actions. A rising trend in development initiatives is to focus on nurturing individuals' aspirations, or goals. These efforts are often based on the idea that a lack of aspirations plays a role in perpetuating poverty, and that even small-scale interventions can effectively boost aspirations (Appadurai, 2004; Duflo et al., 2013; Genicot and Ray, 2017; Lybbert and Wydick, 2018; Macours, Premand and Vakis, 2014; Ray, 2006). Individuals with high aspirations often exhibit a forward-looking and entrepreneurial mindset; they are more inclined to save, adopt new technologies with significant potential, run small businesses, and invest in their children's education (Bernard et al., 2019; Janzen, Magnan and Thompson, 2017; Kosec and Khan, 2016; Dalton, Ghosal and Mani, 2015; Bernard et al., 2014). Such individuals also tend to exhibit greater levels of civic engagement (Kosec and Mo, 2017). As a result, individuals with higher aspirations tend to have higher incomes (Zax and Rees, 2002) and are more likely to hold white-collar jobs and be community leaders (Wydick, Glewwe and Rutledge, 2013).[4]

Development interventions shown to raise aspirations include international child sponsorship (Wydick, Glewwe and Rutledge, 2013), exposing individuals to role models (Beaman et al., 2012; Bernard et al., 2014; Bernard, Taffesse and Dercon, 2015; Riley and McGuire, 2017), introducing well-paid job opportunities (Jensen, 2012), providing aid after natural disasters (Kosec and Mo, 2017), teaching life skills (Leight et al., 2019), giving bicycles to girls (Prakash and Ghosh, 2020), facilitating business counseling with peers (Field et al., 2016), providing information about labor market opportunities (Jensen, 2012), and increasing interactions with female peers (Dasgupta, Maitra and Pal, 2015; Field et al., 2016).[5] Most of the impact evaluations of

[4]At the same time, unmet aspirations can lead to frustration that inhibits forward-looking investments (Genicot and Ray, 2017; Janzen et al., 2017) or reduces trust in government (Healy et al., 2017).

[5]In contrast, Edmonds and Leight (2019) find that exposure to a life skills training and mentoring program did

these interventions, however, have been restricted to analysis of aspirations in the economic or educational domains alone. We analyze whether exposing women to relatable female role models combined with practical skills training can raise aspirations related to participating in public-sector decision-making specifically—an under-studied domain in the aspirations literature. We further consider both aspirations and behavioral outcomes in tandem.

2 Experimental context and design

2.1 Demanding assets under the MGNREGA

In addition to providing work on demand and building durable assets to support sustainable rural livelihoods, the MGNREGA is noteworthy in its emphasis on a democratic, bottom-up process of decision-making around the assets to be constructed. The Act enshrines workers' right to participate in the village- or revenue-village-level meetings (the *gram sabha* and *palli sabha*, respectively) and decide the works to be taken up in their village (the *Gram Panchayat* (GP)) and their order of priority. Currently, the MGNREGA Guidelines (see Master Circular 2021-22) specify that each GP begin a consultative process with a village townhall meeting on October 2 each year, where the planning process at the village level is launched via a discussion. Between then and November 30, a special village townhall meeting is to be convened to approve the village level action plan.[6]

Once these village-wide demands are captured, they are conveyed up the echelons of local administration for technical estimates of the labor budget and overall costs based on a blueprint of the work, and subsequent approval by the block, district, and state administrations. The approval process is to be completed by February of the following year, and the approved shelf of works sent back to the GP or the village administration by the end of March, ahead of the new fiscal year. The Gram Rozgar Sewak (GRS) is the relevant MGNREGA worker at the GP level who coordinates these activities and interfaces with politically-elected representatives—notably the GP members and the *sarpanch* (elected head of the village).

Despite the detailed guidance on how to foster grassroots participation and how to conduct

not raise adolescent girls' aspirations around further educational attainment.

[6]While this is the typical timeline, village meetings in Odisha in 2023 were delayed until late November/early December due to a *sarpanch* strike.

the planning process, this aspect has been one of the weaker links in MGNREGA functioning. Existing field surveys note that a third of the beneficiaries of assets report playing no role in deciding which works to undertake, and close to half felt that works were decided without the involvement of the village townhalls (Ranaware et al., 2015). The participation of women is likely to be even more limited. It is unclear how successful recent efforts to revive and streamline local participation in planning the shelf of works have been.[7]

2.2 Sample

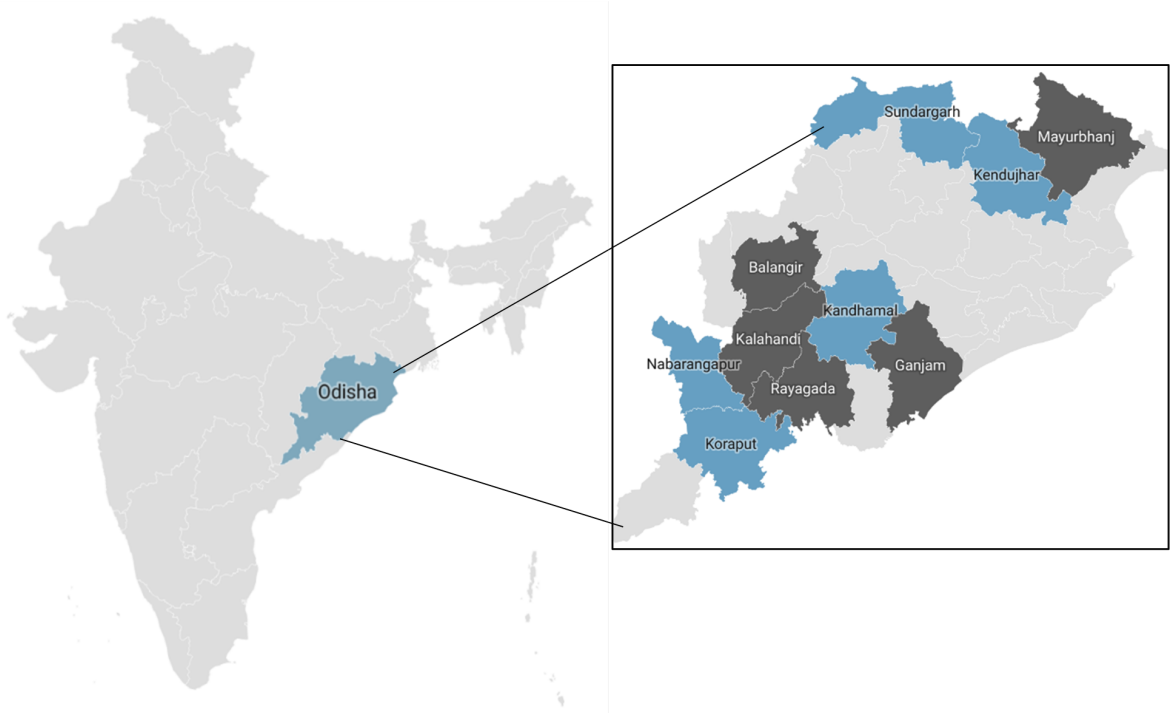
Our study was conducted in select districts of Odisha, a coastal state in the eastern part of India. Odisha is neither a star performer nor a laggard in MGNREGA indicators, and has moderate levels of state implementation capacity, high rates of seasonal out-migration, and a relatively high proportion of MGNREGA workers who are women (48.8 percent) or from marginalized caste and tribe groups (45.67 percent Scheduled Tribe or Scheduled Caste). What sets Odisha apart and makes it a particularly interesting case to study is that the state has implemented several progressive livelihood interventions and innovative policies in the areas of agriculture, social protection, and climate resilience, with an explicit focus on women. These include fledgling efforts to involve women's SHGs in the management and use of assets created under the MGNREGA and the convergence of different government schemes to enable better use of MGNREGA assets. Thus, while there are significant gaps in the participatory planning process, there is also policy interest in making improvements, especially for women.

We initially selected five study districts within Odisha. These five districts—Bolangir, Ganjam, Kalahandi, Mayurbhanj and Rayagada (Figure 1)—were selected based upon their proven participation in building MGNREGA assets[8] and in consultation with the State Government. We selected districts with higher scales of asset construction in the recent past to ensure that the intervention would take place in an area with some demand for the program and for asset construction as well as some implementation capacity. During our baseline survey in Ganjam, we faced refusals from the local officials in a large number of GPs. Thus, we conducted the

[7]This is a longstanding concern, ever since the 73rd Constitutional Amendment Act formally recognized the village level bodies as a tier of governance in India (Banerjee, 2013).

[8]We used the MGNREGA MIS schedule for the period 2017-18 to 2021-22 to determine recent participation by district in MGNREGA asset construction in agriculture and natural resource management.

Figure 1: Map of India with Odisha State



Notes: Map of India with an inset map of Odisha, baseline study districts indicated in grey. The district map of Odisha is taken from *https://d-maps.com*.

experiment within the remaining four study districts.

Within the study districts, we aimed to identify women living in households targeted by MGNREGA. To select women to be targeted by the intervention, we implemented the following sampling strategy:

1. For the universe of GPs in the study districts, we obtained the total number of active MGNREGA job cards in the last complete year for which data were available (i.e., 2021-22). An active job card indicates that (1) a household is enrolled in MGNREGA and that (2) the household that possesses the job card has worked on the MGNREGA at least once in the preceding three years.

2. We randomly selected 50 GPs per district from the full universe of GPs, with probability of selection proportional to the number of active 2021-22 job cards in that GP.

3. Within each of these 250 GPs, we selected 15 households at random from among the list of registered job card holders, obtained from the MGNREGA MIS. Within each household, the targeted women for our intervention was the female respondent who had worked the

greatest number of days on MGNREGA over the last five years. Where there was more than one such woman within the selected household, we selected the youngest. If no woman in the household had worked on the program over this period, we selected the spouse of the male household member who had worked the greatest number of days.

We conducted a baseline survey aiming to contact the 3,000 primary female respondents so identified in May-June 2023, and were able to interview 2,982 of them across 200 GPs.[9]

2.3 Experimental design

Due to budget constraints, we aimed to implement our treatments across 94 of the 200 GPs included in the baseline survey for the study districts. We selected these 94 GPs in consultation with our implementation partner in order to minimize travel time and costs. We did not exclude remote GPs from the study; rather, we prioritized dropping those GPs from our sample which would require excessive travel time to reach a single sampled GP. which helped substantially with the cost effectiveness of the project.

Within each GP, we included within the study all 15 women from baseline, referred to as the "target" women. These areas have high rates of seasonal migration, and small share of women from the baseline survey could not be found when our implementing partner returned for the intervention. Overall, we were able to locate at least 13 of the 15 women in 90 of the 94 GPs and in no GP did the number of target women fall below 10.

When arriving in a study GP, a trained facilitator from our implementation partner would aim to locate all 15 target women from the baseline survey and invite them to participate in our study.Each of the 15 target women was asked to gather 3–5 other women who they rely on for help and advice and/or who they consider as friends. They were asked to choose friends who were long-term residents of the village, to increase the chances of locating these friends at endline, and to avoid bringing family members. They were informed that it would be ideal if the invited friends were MGNREGA job card holders, but that at least one friend must be. Our motivation for including friends of the target women was based on the findings by Field et al. (2016), where receiving training along with friends was deemed more effective than being

[9]We additionally interviewed 444 women in Ganjam district before deciding to drop this district from our study after 20 GP-level survey refusals.

trained individually. It also mimics trainings typically offered to women by the Government of Odisha. We also hoped that the company of friends during the training would ensure that the women immediately had a good rapport with each other and felt more at ease than they might have among strangers.

All target women were told that they would be able to invite these friends to watch a movie together and then talk about it afterwards. Facilitators estimated that this would take around 45 minutes, or the time it takes to have a cup of tea with a friend. All target women were additionally informed that some women would be chosen by lottery to attend a bonus training, which would be participatory and teach valuable skills. This bonus training, the facilitator informed them, could make the full time commitment a couple of hours. We asked the target women to identify a time when they and their selected friends would be available for a couple of hours.

Upon gathering, an enumerator took attendance and implemented a 5-minute questionnaire with the first of the friends to arrive who was a MGNREGA job card holder, asking pre-treatment questions on our primary outcome variables and a small number of background characteristics. We did this to enable us to control for some baseline characteristics of women for whom we did not have a full baseline survey, as we planned to include one friend of each target woman in the endline survey to test effects of the training on a larger overall sample of the women trained.

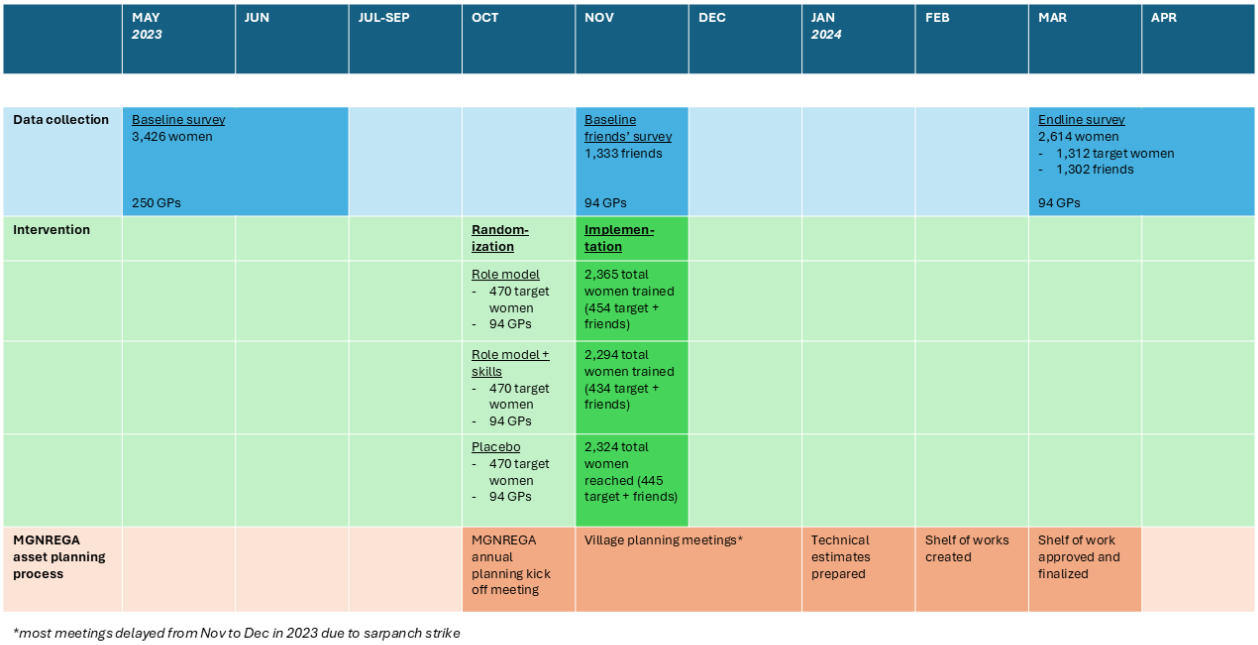
Stratifying by GP, we randomly assigned target women to the three different treatment groups, resulting in roughly 5 women per GP in each treatment arm.[10] Stratifying treatment assignment by GP ensures balance on GP characteristics. Figure 2 provides an overall timeline of the project, overlaid with the MGNREGA asset selection timeline described above to fix ideas.

Details of each treatment are as follows:

Placebo: One third of the women were randomly assigned to a placebo group. Upon gathering, the first exercise conducted by facilitators in *all* treatment arms, including in the placebo group, was to distribute a leaflet (Kosec et al., 2023*a*) providing information on allowable assets within MGNREGA, the timing of key planning meetings for asset selection, and information on key

[10]We used STATA's *randtreat* command and handled misfits globally.

Figure 2: Project Timeline and MGNREGA Planning Process



Notes: This figure provides a stylized diagram of the project timeline.

local officials charged with implementing MGNREGA. Leaflets were printed on high quality cardstock with images to illustrate key points, to increase the odds that the leaflets would be kept and used. The facilitator read out and discussed the leaflet with each group. By providing this information to all study groups, we ensure that it is not just information on how to participate that is driving our results.[11]

After receiving the informational leaflet, women in the placbo arm watched a 15-minute video unrelated to our outcomes.[12] Thus, if just the act of pausing a normally very busy day to watch any film with friends lifts a women's spirits, changes her attitudes, or affects her social

[11] We caveat that both treatment groups naturally provided greater information and transparency over both formal and informal processes through which MGNREGA assets are selected: by watching women in the film who have been successful within the MGNREGA program in the state of Odisha at obtaining assets, participants acquire information about which types of assets can be obtained through the program and how the decision-making process around asset selection works. Thus, observed effects of the treatments could be attributable to greater information about the program in general rather than by enhanced aspirations and skills. Nonetheless, our provision of an informational leaflet to *all* study arms helps minimize (to the extent possible) the likely role information is playing in driving the effects of the treatments.

[12] The placebo video was a fictional romantic comedy promoting the use of toilets.

networks, we are able to net this effect out when making inferences about the effects of the treatment arms.

Role model: One third of the target women were randomly assigned to the role model treatment. In this treatment arm, after receiving the informational leaflet, the women screened a 15-minute inspirational video about how women in Odisha have successfully participated in MGNREGA asset selection. The video, available here and produced for this project, featured four women from similar communities in the study districts who had been successful in demanding assets under the program and was screened by a trained facilitator using a portable pico projector. The facilitator paused the video at two pre-identified points to initiate a discussion with the participants. Facilitators were instructed to try to encourage discussion from all participants in the training as equally as possible and to redirect conversation if it veered off topic.

In addition to ideas that women raised organically while watching the film, in all trainings, facilitators guided a discussion on what barriers the role models depicted in the film faced in obtaining their assets and how they overcame those barriers. Women were encouraged to discuss whether they had ever faced any of the same barriers and to brainstorm what specific barriers they think they would face if they were to request MGNREGA assets, like the women in the film. Women were also encouraged to discuss potential strategies to overcome those barriers. After this discussion, women randomly assigned to the role model treatment were given tea and snacks and released from the training.

Role model + training: One third of the target women were randomly assgned to the role model + training treatment. In this arm, after receiving the information leaflet and watching and discussing the role model video, facilitators additionally implemented a skills training course. This enables us to test whether role model interventions must be accompanied by skills training to have the intended impacts. Women assigned to T2 received T1 exactly as above, but additionally, participated in a new skills training curriculum called *Planning for Voice* (Kosec et al., 2023*b*,*c*). We developed this curriculum in consultations with our implementation partner and a local NGO with expertise in women's empowerment within Odisha. In designing this custom curriculum, we aimed to meet three key goals: (1) that the training provide practical, hands-on experience with envisioning MGNREGA assets that might benefit women's land,

livelihoods, and/or communities; (2) that the training provide practice articulating demands for those assets; and (3) that the content be conscise enough that women with high caregiving loads could reasonably fully engage and participate (approximately 1.5 additional hours beyond the role model video and discussion).

The training had three components. First, women engaged in a social mapping exercise, where the facilitator helped them to draw the land surrounding their home with its key features like roads or paths, irrigation-related infrastructure, wells and ponds, and cultivated and fallow land. Women were instructed to focus on a small geographic area surrounding their homes and not on the village as a whole. The objective of the exercise was to help think about gaps that might exist, which MGNREGA assets might be useful and where they should be constructed. Second, the training briefly introduced women to the idea of setting specific, measurable, actionable, relevant and time-bound (SMART) goals in relation to participating in the MGNREGA asset selection process. For example, rather than a goal to have an asset someday, a SMART goal would lay out when they might demand the asset, who they would approach to do so, and who else (like their husbands, other household members, SHGs, and/or neighbors) they might discuss their ideas with. Third, the training concluded by asking women to "role play" the process of requesting an asset. While one women practiced playing herself, other women in the training took on other relevant roles, like the woman's husband, her friends, and the village *sarpanch*. The women playing the different roles were asked to think about how the person they were playing might respond to the woman's request and then the group worked together to strategize how the woman herself could anticipate this response and increase her odds of success (e.g. bringing friends with her to make the request). Rather than suggesting any one strategy, facilitators guided women in playing the roles and asked key questions.

2.4 Endline survey

We conducted our endline survey approximately five months after the intervention, in March-April 2024, when the planning process for the shelf of works of 2024-25 had formally ended. Our sample included the 1,324 target women from baseline with whom we conducted the interventions, as well as the friend they invited who received the pre-treatment survey, for a total of 2,648 target respondents. The endline survey collected data on women's aspirations regarding

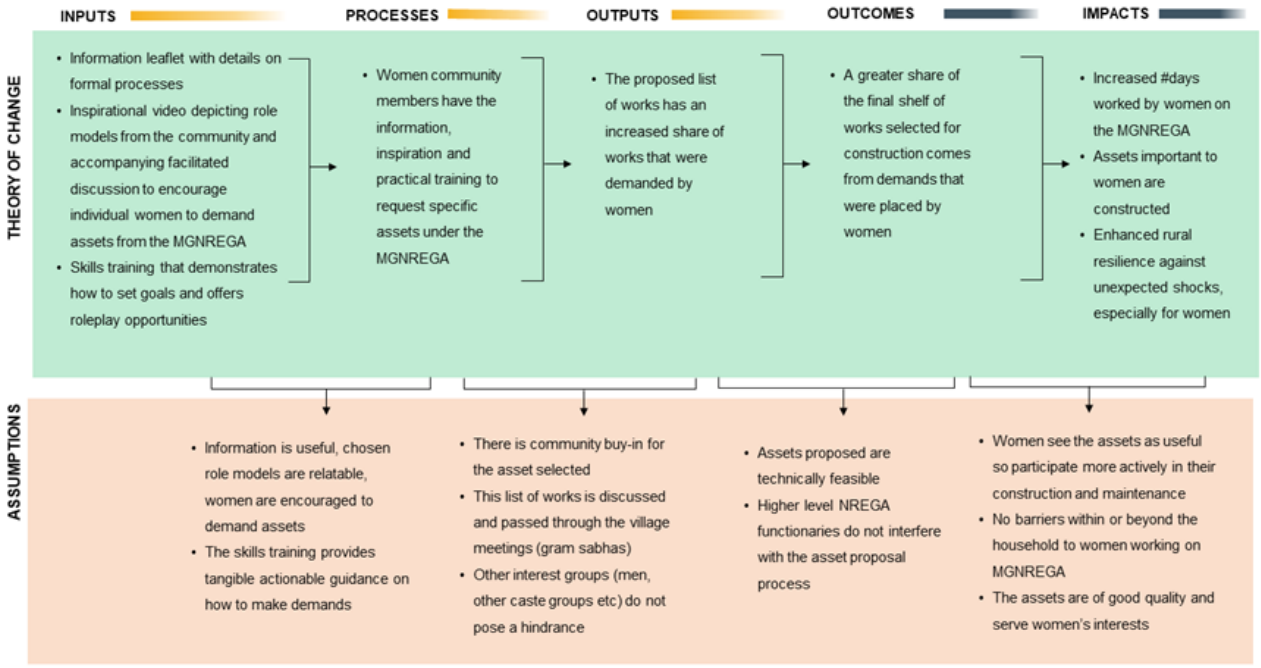
MGNREGA assets, their plans and behaviors around demanding assets, knowledge of the asset process and both self-reported and external evaluations of confidence in and ability to speak out in public or articulate asset demands, among other information. Some of these outcomes were measured identically in our baseline survey—allowing us to utilize two rounds of data, at least when analyzing only target women (for whom we have a baseline survey)—while others were unique to endline.

3 Conceptual Framework and Theory of Change

Figure 3 depicts a simplified theory of change for how improvements in women's voice and agency can improve rural livelihoods and resilience to shocks on account of assets constructed under MGNREGA. Selected role models were chosen to be relatable in addition to inspiring, while the skills training provides tangible, actionable guidance on how to make demands. Our theory of change asserts that, combined with basic information on how to participate in MGNREGA asset selection, these inputs would lead to women requesting specific assets that benefit them or their families. Provided that there is community buy-in for the assets being demanded and that no other interest groups pose a hindrance, these assets should be agreed upon by the *gram sabha*. This would then result in a greater share of the proposed list of works being those demanded by trained women.

As discussed above, the proposed list of works sent up to MGNREGA functionaries is not necessarily the same as the shelf of works that is ultimately approved. If the works proposed are deemed suitable (i.e., technically feasible) by higher-level MGNREGA functionaries, and these functionaries do not interfere with this process, the shelf of works should also have a greater representation of works demanded by women. Finally, under the assumption that women wish to participate in the construction and maintenance of these assets as they are perceived to be useful and that no other barriers within or beyond the household prevent them from doing so, greater representation of women's interests should encourage greater participation of women in MGNREGA (and in other spheres of the community), an increase in the construction of assets geared towards women's interests, and enhanced rural resilience—especially for women. This study aims to measure the interim components of the theory of change connecting the inputs from the proposed interventions to impacts on women's well-being, testing whether the

Figure 3: Stylized theory of change for how improving women's voice and agency can improve rural livelihoods, resilience to shocks, and asset quality under MGNREGA



Source: Authors.

proposed interventions are effective at increasing women's aspirations and their practical skills needed to increase the share of the proposed list of works demanded by women.

4 Empirical strategy

Our three primary research questions can be posed as follows:

1. Relative to the placebo, is exposing rural women beneficiaries to female role models from within their communities (T1) sufficient to influence women's aspirations, voice, and agency within the context of MGNREGA program asset selection?

2. Relative to the placebo, does exposing rural women beneficiaries to female role models from within their communities coupled with providing them with skills training (T2) improve their aspirations, voice, and agency within the context of the MGNREGA program?

We hypothesize that role models alone (T1) would likely be insufficient to raise aspirations and

change behavior, and thus our central interest is in analysis of the impacts of T2. However, we include our T1 study arm in order to ensure it is not merely role models that explain the impacts of our training treatment (present only in T2).

In terms of timeline, our qualitative study was conducted in February-March 2023, and the baseline quantitative survey in May-June 2023. We rolled out our interventions starting November 2, 2023 and ended on December 8, 2023. Endline data collection began in the last week of March 2024 and concluded in April 2024.

4.1 Primary outcomes

We consider the effects of the two treatments on two broad categories of primary outcomes: women's aspirations within the MGNREGA asset selection process as well as women's behaviors related to exercising voice and agency in the context of MGNREGA. We measure women's aspirations using five primary outcomes, each of which is only available at endline:

- Aspires to request an MGNREGA asset in coming year: An indicator for the respondent indicating that they are likely to request an asset within the next year, either by themselves or as part of a group. A response of "unable to say" is coded as 0.

- Aspires to make improvements to land or acquire assets: An index combining an indicator for the respondent saying they are very likely to pursue improvements to their land, home or assets in the next year, an indicator for the respondent having identified a specific time period for doing so, and an indicator for the respondent having a clear idea of what improvements she would like to make. We include this since our treatments could raise women's aspirations about making improvements to their land or acquiring assets in a more generalized way regardless of whether they want to do so via the MGNREGA process. For each item in this index, "unable to say" and "don't know" are coded as 0.

- Has a plan to proactively request a MGNREGA asset: An additive index on the extent to which a respondent has a concrete plan to request an asset, composed of the respondent knowing: who they plan to approach about the request, when they plan to approach them, and thetype of asset they will request. For each item in this index, "unable to say" and "don't know" are coded as missing.

- Identifies with a hypothetical woman who has voice and agency in MGNREGA asset selection: An indicator variable for the woman saying that she is either 'somewhat like' or 'just like' a hypothetical woman in a vignette who exercised voice and agency within the MGNREGA process. "Unable to say" is coded as 0.[13]

- Aspires to influence community decision-making around MGNREGA asset selection: A variable that captures the extent to which the respondent aspires to influence the community MGNREGA decision-making process, measured on a scale of 1-10 using a picture of a 10-rung ladder.

Related to women's behaviors, we have six primary outcomes. These are specific actions a woman may have undertaken to increase her chances of getting an asset built, and all reflect her exercising voice and agency within the asset selection process. These are:

- Met and discussed MGNREGA assets with an SHG since the intervention: Respondent reports that individual or group-level demands for MGNREGA assets were discussed in SHG meetings the respondent attended since she participated in the intervention, i.e. since November 2023. This is missing if the respondent is not a member of an SHG.

- Met and discussed any issue with an MGNREGA functionary since the intervention: An indicator for the respondent meeting and discussing any issue with an MGNREGA functionary like the GRS, Technical Assistant or Panchayat Executive Officer since the intervention.

- Any household member requested an asset since the intervention: An indicator for anyone from the household (including the respondent) having proactively requested an asset under the MGNREGA program since the intervention. Only available at endline.

- Proactively requested MGNREGA asset since the intervention: An indicator for the female respondent having proactively requested an asset since the intervention, either individually or as part of a group. Only available at endline.

[13]The statement was phrased as follows: "Neha attended a training on MGNREGA because she wanted to learn more about the MGNREGA. She found the video and discussion interesting. She convinced her family members and members of her SHG to support her application in the upcoming *palli sabha* meeting. How similar to Neha do you think you are?", with responses of "I am just like her", "I am somewhat like her", "I am not much like her", "I am not at all like her" and "Unable to say".

- Attended ward or *palli sabha* meetings to discuss MGNREGA since the intervention: An indicator for the respondent having attended a ward meeting or the *palli sabha* to discuss the list of MGNREGA works since the intervention. Only available at endline.

- Spoke at *palli sabha* meeting since the intervention: An indicator for the respondent having spoken at the most recent *palli sabha* meeting attended since the intervention, coded as 0 if she did not attend any.

Our primary outcomes of interest therefore both pertain to action taken in the period since our intervention as well as aspirations for the following year.

4.2 Secondary outcomes

We have several secondary outcomes that can be grouped into outcome families. The first family of seven indicators captures the pathways through which women might achieve improvements in the primary outcomes; these relate to information and skills (five indicators) and to social support and gender norms (two indicators).

- MGNREGA asset knowledge score: a combination of four questions testing respondent knowledge of eligibility criteria for MGNREGA assets, normalized to a 100-point scale.[14]

- Comfort with speaking in public: The number of situations (out of seven total) where the respondent reports being either very or fairly comfortable speaking up in public.[15]

- Enumerator's score of respondent's ability to demand assets: The enumerator's score of a 'public speaking exercise' within the endline survey, wherein respondents were asked to imagine that they were requesting an MGNREGA asset and to articulate their demand. Available only at endline.

[14]These questions ask about eligibility criteria for receiving assets, restrictions on which wards or groups can receive community assets, who can submit ideas for assets to be constructed under the program and who to approach to demand an asset.

[15]These situations include contributing to community infrastructure decisions, voicing opinions in community meetings to leaders, addressing public service challenges with frontline workers, advocating for fair wages in public works, publicly protesting the behavior of authorities or elected officials, publicly protesting socially unacceptable behavior, and demanding access to entitlements in govt schemes.

- Friend's assessment of improvements in the respondent since the intervention: An additive index of the assessment of the respondent's friend on the extent to which the respondent benefited from the training in terms of knowledge of MGNREGA guidelines, awareness of how women have obtained assets, ability to identify asset ideas, and ability to express demands for assets in front of community leaders. Measured on a scale of 0-4. Available only at endline.

- Discussed MGNREGA asset ideas with others since the intervention: An index combining an indicator for the respondent having discussed the intervention and their plans to act upon it with the friends who accompanied them, an indicator for having discussed MGNREGA assets with their husband or other household members since training, and an indicator for having discussed MGNREGA asset ideas with anyone outside the household. Measured on a scale of 0-3. In all cases, "don't know" is coded as 0. Available only at endline.

- Self-efficacy: the number of statements (out of four total) where the respondent indicates a high degree of self-efficacy by either agreeing or strongly agreeing with the statement—reverse-coded as appropriate so that higher numbers indicate greater self-efficacy.[16]

- Index of agreement with gender-progressive statements: the number of statements (out of eight total) where the respondent agreed with the more gender-progressive interpretation of the statement, reverse-coded as appropriate.[17]

The next set of three outcomes relate to potential unintended consequences of our treatments. For example, if the treatments raise women's expectations about their ability to secure assets through the MGNREGA process when in fact only a limited number of projects can be supported each cycle or the process is still dominated by local elites, the treatment may lead to a discouragement effect, affecting women's satisfaction with the MGNREGA process or their

[16]These statements pertain to certainty in accomplishing difficult tasks, achieving pre-set goals, overcoming many challenges and ability to do most tasks well relative to others.

[17]The statements include "Male gram saathis are more capable of understanding and completing their tasks than female gram saathis", "It is better for the development of the village if important development decisions are taken by the men.", "Women should be free to leave the house unaccompanied by men.", "Within the household, men should take women's preferences into account when making decisions about agriculture or livelihoods.", "Women should not speak out in public." and so on.

feeling that the selection process is fair. Alternatively, if the treatments make women feel like they are encouraged to participate in MGNREGA asset selection, they may perceive the program to be more open to citizens and less elite dominated, and may even have higher levels of trust. These effects could go in either direction, but even if the treatments do not increase perceptions of fairness or reduce the perception that local institutions are dominated by elites, an absence of potential unintended consequences is useful from a policy perspective. Therefore we test this family of secondary outcomes, with the understanding that our treatments did not directly aim to change these.

- Believes that people like them have a voice in the MGNREGA process: This is an additive index created from an indicator for the respondent believing the selection process is fair, an indicator the respondent believing that people like them are encouraged to submit asset ideas in their village, a variable indicating the extent to which they feel that people like them have an influence over the asset selection process in their village (coded to be between 0 and 1), and a variable indicating the extent to which they feel that people like them have a chance to meet their aspirations under the MGNREGA asset selection process (re-coded to be between 0 and 1). Available only at endline.
- Perceives that village affairs are decided on democratically: The respondent's perception that the affairs of the panchayat are not dominated by a small group of elites.
- Number of local officials the respondent trusts: An additive index of trust in officials involved in the MGNREGA asset selection process: the gram saathi or mate, Gram Rozgar Sewak, Panchayat executive officer, *sarpanch*, and ward members. Measured on a scale of 0-5.

The final set of secondary outcomes are "spillover" indicators—i.e., indicators that are not directly related to our intervention, but might plausibly change as a result of it. These are intended to capture downstream benefits for women's political participation, knowledge, beliefs, and empowerment. They include:

- MGNREGA work knowledge score: A combination of seven sub-indicators testing respondent knowledge of eligibility criteria and processes involved with working under the MGNREGA, normalized to a 100-point scale. Our assumption is that this knowledge

score is likely to be higher at baseline than the asset knowledge score since work is the primary form of engagement with the MGNREGA program, but that it should not be affected by the treatment.[18]

- Received entitlements from other programs: An index combining indicators for any member of the household having received benefits from other national or state-level government programs such as in-kind food aid, pensions, or health insurance. Measured on a scale of 0-13.

4.3 Ex-ante power calculations

We used our baseline data to estimate the ex-ante minimum detectable difference for the primary and key secondary outcomes that we collected at baseline: MGNREGA assets were discussed at SHG meetings, met and discussed any issue with an MGNREGA functionary; the respondent proactively requested an asset, the respondent participated in a *palli sabha* where MGNREGA works were discussed, the MGNREGA asset knowledge score, the score on comfort in public speaking, the score on self-efficacy, and the score on gender perceptions.

We used STATA's inbuilt routines *power twoproportions* for binary and *power twomeans* for continuous outcomes. Assuming a sample size of 1400 with 933 women in each arm, cluster size 1, a 2:1 ratio of treatment to placebo, significance level (alpha) of 0.05, and power 0.8, we are able to detect a change of 25.3-58.8 percent of the placebo arm mean for the binary primary outcomes and 0.16 standard deviations (SD) in the continuous secondary outcomes. With power 0.9, we are able to detect a change of 29.4-68.7 percent of the placebo arm mean for the binary primary outcomes and 0.18 SD in the continuous secondary outcomes. Other parameters unchanged, assuming a sample size of 2800, a cluster size of 2 and with power 0.9 we are able to detect a change of 28-77 percent of the placebo arm mean for the binary primary outcomes and 0.13-0.18 SD in the continuous secondary outcomes.

[18] These questions ask about eligibility criteria for working on an MGNREGA worksite, number of days households are entitled to, how to apply for work, the provision of unemployment benefits, the prevailing wage rate, whether men and women receive the same wage, and the period of time within which payment must be made for work done.

4.4 Econometric specification

We analyze outcomes, Y_{igt}, using an ANCOVA specification, as follows:

$$Y_{igt} = \beta_0 + \beta_1 T1_{ig} + \beta_2 T2_{ig} + \beta_3 Y_{ig,t-1} + \delta_g + F_{ig} + X_{igt} + \epsilon_{ig} \quad (1)$$

where i indexes women, g indexes GPs, and t indexes time (t-1 is pre-treatment, t is endline). $T1$ is an indicator for assignment to the role model treatment. Of central interest to us is $T2$—an indicator for assignment to the role model + training treatment. The effects of each treatment are relative to the placebo arm. F is an indicator for being a friend of the target woman, as opposed to the target woman herself. X_{igt} is a vector of control variables. As we stratify on GP, we include GP fixed effects.

Our main specification includes all women (target women plus friends), as we pre-specified, and we cluster standard errors at the level of the target woman-friend pair given treatment was assigned at this level. Secondary specifications include only target women or only friends. We also estimate a specification that interacts the treatment indicators with the indicator F to test if we can reject the null hypothesis that the effects of our treatment on outcomes of interest are the same for target women and their friends.

We lack baseline data for some of our outcomes for all women, and for other outcomes, we have baseline data only for target women but not friends of target women. Where we have a baseline value of an outcome, we control for it.

In our primary specification, our vector of control variables X_{igt} includes only strata fixed effects. However, to increase precision we also estimate specifications which include a vector of the pre-treatment values of several control variables. These include the respondent's age, marital status, a vector of occupation dummies, household head caste dummies, household head religion dummies, an indicator for someone in the household having migrated in the year prior to the baseline survey, and the number of acres of agricultural land owned.

4.5 Heterogeneous treatment effects

We estimate heterogeneous treatment effects for the set of primary outcomes only (both aspirations and behaviors) along four dimensions: First, we examine heterogeneity by respondent membership in an SHG. We expect SHG members to have substantially more social capital

compared to non-members, and further anticipate that this pre-existing social capital will be a complement to (rather than a substitute for) the information and skills provided by our treatments. Further, as mentioned earlier, the Odisha state government has been investing in forming SHGs, training their members and granting SHGs a role in managing and using MGNREGA assets.

Second, we analyze our treatments' effects by the baseline level of engagement with the MGNREGA program, measured by the number of days the respondent or others in their household worked on the program in the pre-baseline period. *A priori*, we might expect effects to be larger among those workers who were already actively involved in the MGNREGA prior to the intervention. Studying heterogeneity along this dimension allows us to differentiate between impacts on the intensive margin (among previously active program users) and on the extensive margin (expanding the set of those who actively engage with the program).

Third, we consider heterogeneity according to whether the woman is age 35 and below (i.e., a common definition for youth) (U.N. Economic Commission for Africa, 2011). Youth in some contexts have less power in community decision-making, and may be excluded from labor markets or land ownership, potentially reducing their ability to benefit from our interventions (Honwana, 2012).

Fourth, we see if treatment impacts differ according to whether women at baseline believe that village affairs are decided on democratically, at least to some extent. If they do, then the woman may believe that participating in such a training can indeed make a difference. We create an indicator variable that takes on the value of 0 if the woman believes that elite domination characterizes their Gram Panchayat "to a great extent;" all other values are coded as 1.

4.6 Mitigating false positives

Our paper outlines five classes of outcomes: women's aspirations (primary); women's plans and behaviors related to MGNREGA asset demands (primary); pathways to achieving primary outcomes (secondary); potential unintended consequences of the treatments (secondary); and potential spillover effects. We correct for multiple testing within each class of outcomes separately, controlling the false discovery rate following Anderson (2008). As our central interest is

in the role model + training treatment, we group the conventionally calculated p-values for this treatment together and analyze these separately from those of the role model treatment, T1. We primarily analyze T1 to confirm that providing role models alone is insufficient; the MHT calculations on the p-values from T1 serve as a check on this assumption.

5 Results

5.1 Baseline characteristics

Table 1 presents baseline characteristics for the pooled set of women (target women and friends) by treatment arm. Overall, the randomization appears to have worked well. We do see some significant differences across arms in respondent age, religion, household size, and whether a household member migrated in the year prior to the survey, but these are generally small in magnitude. Women are well-balanced on education, occupation dummies, caste, and the total agricultural land their household owns. Appendix Tables A.1 and A.2 present the baseline characteristics across arms for the target women and friends samples respectively. We see few differences across treatment arms for these two sub-samples of women, with good balance on most observable characteristics. We do, however, see sizeable differences between target women and friends: friends are typically younger, more educated, more likely to be married, and less likely to be housewives; they also have larger households on average and are more likely to have had at least one household member migrate in the previous year.

5.2 Results on primary outcomes

Table 2 reports the results from our estimation of equation 1 for the primary outcomes related to women's aspirations around assets. Our main results tables report the main specification, which pools target women and their friends. Appendix tables report secondary specifications that include only the sample of target women or their friends, respectively, as well as the results from the additional specification that interacts the treatment indicators with the indicator F to test for differential impacts for target women and their friends.

Relative to the placebo arm, the role model treatment (T1) does not have a statistically significant impact on any of the aspirations-related outcomes. However, the combination of role model exposure and training (T2) has a statistically significant, positive impact; it leads to a

Table 1: Baseline characteristics of the pooled women across arms

Covariates	Mean/Proportion (SD)			Pairwise p-values		
	Placebo (P)	Treatment 1 (T1)	Treatment 2 (T2)	P vs T1	P vs T2	T1 vs T2
	(N=880)	(N=902)	(N=868)			
Respondent age (years)	42.603	41.506	42.135	0.046	0.407	0.27
	(11.425)	(11.826)	(12.165)			
Respondent completed years of education	3.048	3.086	3.014	0.837	0.858	0.701
	(3.975)	(3.997)	(3.942)			
Respondent currently married	0.883	0.888	0.880	0.737	0.844	0.594
	(0.322)	(0.316)	(0.325)			
Respondent is a house-wife	0.215	0.221	0.200	0.765	0.44	0.282
	(0.411)	(0.415)	(0.400)			
Respondent is a non-ag day laborer	0.283	0.284	0.298	0.968	0.491	0.514
	(0.451)	(0.451)	(0.458)			
Caste						
General	0.073	0.055	0.066	0.136	0.57	0.36
	(0.260)	(0.229)	(0.248)			
Scheduled Caste	0.183	0.207	0.178	0.195	0.781	0.116
	(0.387)	(0.406)	(0.383)			
Scheduled Tribe	0.435	0.415	0.415	0.38	0.382	0.997
	(0.496)	(0.493)	(0.493)			
OBC	0.309	0.323	0.339	0.539	0.175	0.451
	(0.462)	(0.468)	(0.474)			
Religion						
Hindu	0.986	0.981	0.990	0.385	0.534	0.14
	(0.116)	(0.136)	(0.101)			
Muslim	0.001	0.001	0.002	0.986	0.554	0.54
	(0.034)	(0.033)	(0.048)			
Christian	0.002	0.008	0.005	0.102	0.403	0.401
	(0.048)	(0.088)	(0.068)			
Sarna	0.010	0.010	0.003	0.958	0.087	0.096
	(0.101)	(0.099)	(0.059)			
Household size	4.335	4.528	4.338	0.019	0.97	0.021
	(1.745)	(1.721)	(1.717)			
HH member migrated in last year	0.154	0.177	0.137	0.204	0.312	0.022
	(0.362)	(0.382)	(0.344)			
Total agricultural land owned by HH (in acres)	1.234	1.214	1.412	0.859	0.18	0.193
	(1.764)	(2.868)	(3.519)			

Source: Authors' calculations based on study data.

3.2 percentage point increase in the likelihood that the respondent woman aspires to request an asset within the next year, either by herself or as part of a group (a 23 percent increase relative to the placebo arm mean, $p < 0.1$) and a 4.3 percentage point increase in the likelihood that the respondent reports she is either 'somewhat like' or 'just like' a hypothetical woman in a vignette who exercised voice and agency within the MGNREGA process (a 6.9 percent increase relative to the placebo arm mean, $p < 0.1$). The difference in coefficients between the role model and role model + training treatments is significant at the 0.10 level for the outcome of the respondent aspiring to request an MGNREGA asset in the coming year, though not for any other outcome. On other outcomes, we see little significant impact of either treatment; while there is a positive relationship between receiving the role model with training treatment (T2) and aspiring to make improvements to land or acquire assets, this relationship is just short of significance at conventional levels. Further, treated women are no more likely to have a plan to proactively request a MGNREGA asset or aspire to influence community decision-making around MGNREGA asset selection. Thus, we see mixed results on this set of outcomes, with some indication that receiving the role model + training treatment could improve aspirations.

Table 2: Treatment effects on women's aspirations, pooled sample

	Aspires to request an MGNREGA asset in coming year	Aspires to make improvements to land or acquire assets	Has a plan to proactively request an MGNREGA asset	Identifies with hypothetical woman who has voice and agency in MGNREGA asset selection	Aspires to influence community decision-making around MGNREGA asset selection
	(1)	(2)	(3)	(4)	(5)
Role model	0.000	0.038	0.012	0.02	-0.153
	(0.017)	(0.035)	(0.017)	(0.021)	(0.108)
Role model + training	0.032*	0.053	-0.007	0.043*	-0.113
	(0.018)	(0.036)	(0.02)	(0.022)	(0.11)
Difference (p-value)	0.079	0.659	0.376	0.297	0.631
Placebo arm mean	0.139	0.173	2.924	0.624	6.012

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

Table A.3 reports our secondary specifications analyzing the same set of outcomes separately for target women and their friends. We find that the role model treatment increases the likelihood that the respondent woman reports identifying with a hypothetical woman in a vignette who exercised voice and agency, but only among target women. Among the sample of friends, receiving the role model treatment without training has a perverse negative effect on the likelihood that the respondent aspires to influence community decision-making.

Table 3 reports the results relating to women's behaviors between the time of the intervention and the endline survey. The role model treatment does not have a significant impact on any of the outcomes, but offering the role model + training treatment increases the likelihood that the respondent proactively requests an asset either individually or as part of a group by 4.6 percentage points (a 16.6 percent increase relative to the placebo arm mean, $p < 0.05$). We also see a positive impact of the role model + training treatment on any household member having requested a MGNREGA asset since intervention, though this is just short of significance at conventional levels. However, despite broadly positive impacts of both treatments for the other outcomes in this table, these are far from significant at conventional levels.

Table 3: Treatment effects on women's plans and behaviors around MGNREGA asset demands, pooled sample

	Met and discussed MGNREGA assets with SHG since intervention	Met and discussed MGNREGA assets with functionary since intervention	Any household member requested MGNREGA asset since intervention	Proactively requested MGNREGA asset since intervention	Attended ward or *palli sabha* to discuss MGNREGA assets since intervention	Spoke at *palli sabha* meeting since intervention
	(1)	(2)	(3)	(4)	(5)	(6)
Role model	-0.002	0	0.017	0.029	0.022	0.011
	(0.019)	(0.022)	(0.021)	(0.02)	(0.022)	(0.019)
Role model + training	0.013	0.029	0.035	0.046**	0.024	0.02
	(0.02)	(0.022)	(0.022)	(0.021)	(0.023)	(0.02)
Difference (p-value)	0.454	0.164	0.44	0.419	0.963	0.635
Placebo arm mean	0.24	0.258	0.331	0.277	0.451	0.208

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. # MGNREGA functionaries include the Gram Rozgar Sewak (GRS), the Panchayat Executive Officer (PEO), the Technical Assistant (TA) etc.

We see interesting differences between target women and their friends for these outcomes (Table A.4). The role model + training treatment had a statistically significant impact on several outcomes for the target women: on whether they met and discussed MGNREGA assets with a functionary since the intervention (7 percentage points more likely, which is a 30.4 percent increase relative to the placebo mean, $p < 0.05$), on the likelihood that they proactively requested an asset since the intervention (a 4.6 percentage point increase, or a 15.9 percent increase over the placebo mean, $p < 0.1$), and on whether they attended the ward or *palli sabhas* to discuss MGNREGA assets (a 6.2 percentage point increase, or a 13.8 percent increase relative to the placebo mean, $p < 0.05$). For friends, we only see a positive impact of 4.6 percentage points on the respondent proactively requesting an asset (17.4 percent increase relative to the placebo mean, $p < 0.1$), and do not find any statistically significant impacts on attending and speaking up at meetings. Panel C shows that the differential impacts of the role model + training treatment on target women versus friends are indeed significant for two outcomes—meeting and discussing MGNREGA assets with functionaries, and attending meetings since the intervention. In both cases, the impacts are stronger for target women.

Overall, the analysis of our primary outcomes suggests that it is the combination of the role model treatment with the practical skills training that is driving the bulk of the impacts. While effects on women's aspirations are evident only in the pooled sample, the role model + training treatment has stronger impacts on target women's plans and behaviors around MGNREGA assets. As noted above, target women are quite different from their friends in ways that could explain this—for example, the friends are younger and more likely to be employed, which means they might not have the time to attend *palli sabha* and ward meetings, or might defer to older women in the discussions even when they do attend.

5.3 Results on secondary outcomes

This section reports the results of our estimation of equation 1 for the three sets of secondary outcomes outlined in section 4.2, relating to pathways, unintended consequences and spillovers.

Table 4 presents the results for outcomes relating to pathways; these include both those relating to skills and information (knowledge around assets as well as the confidence and ability to articulate demands) and to social support and gender norms. Much like before, the role

model treatment does not have significant impacts on any of these outcomes. The role model + training treatment, however, has a positive impact on both externally and self-reported measures of the respondent's ability to articulate demands. We see a positive impact of the role model + training treatment on the enumerator's score of the respondent's ability to demand assets of 0.028 points (3.2 percent relative to placebo mean, $p < 0.1$), and on the friend's assessment of improvements in the respondent since the intervention of 0.097 points (6.0 percent increase relative to the placebo mean, $p < 0.1$). Interestingly, the respondent's own assessment of their self-efficacy also improves by 0.136 points as a result of the role model + trianing treatment (a 7.6 percent increase relative to the placebo mean, $p < 0.05$). We do not see increases in MGNREGA asset knowledge score, which may not be surprising given all study arms received an information leaflet conveying this information Self-reported comfort in public speaking also did not increase, nor did the likelihood of the respondent having discussed a MGNREGA asset idea with others. We also don't see any impact of either treatment on the gender norms index; it is perhaps not surprising that a light-touch intervention focused mostly on specific knowledge of how to raise voice and agency in a particular forum would not shift gender norms more broadly.

Once again, we see interesting differences between target women and their friends for these pathways outcomes (Table A.5). The impacts of the role model + training treatment on self-efficacy come from both types of women, but the impacts on the enumerator's score of the respondent's ability to articulate a demand are driven by friends, while impacts on the respondent having discussed their MGNREGA asset idea with someone since the intervention come only from the target women. Interestingly, and somewhat surprisingly, the role model treatment positively impacts the MGNREGA asset knowledge score for target women only, while negatively affecting the friends' self-reported comfort in public speaking. It isn't clear why this would be so. There are significant differential impacts between target women and their friends, though these are all for the role model treatment, the impacts of which are consistently larger on target women.

Table 4: Treatment effects on indicators for pathways to achieving primary outcomes, pooled sample

	MGNREGA asset knowledge score	Number of situations in which feels comfortable speaking in public (out of 7)	Enumerator's score of respondent's ability to demand assets^	Friend's assessment of improvements in respondent since intervention (out of 4 dimensions)^	Self-efficacy	Discuss MGNREGA asset idea with others	Gender norms index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Role model	1.611	-0.122	0.020	0.022	0.069	0.013	-0.018
	(1.230)	(0.133)	(0.014)	(0.053)	(0.054)	(0.041)	(0.083)
Role model + training	1.499	-0.110	0.028*	0.094*	0.136**	0.051	-0.015
	(1.238)	(0.136)	(0.015)	(0.054)	(0.055)	(0.041)	(0.084)
Difference (p-value)	0.977	0.935	0.424	0.162	0.154	0.326	0.899
Placebo arm mean	49.476	4.114	0.879	1.572	3.020	1.801	4.997

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. ^these two measures are reported by the enumerator and by the friend of the respondent, all other measures are self-reported by the respondent.

Reassuringly, Table 5 does not show any evidence of negative unintended consequences of the treatments for the pooled sample and Appendix Table A.6 confirms null impacts for both target women and friends individually. In Table 6, which reports the impacts of the treatments on our spillover outcomes, we find that women in the pooled sample who received the role model treatment have signficantly higher MGNREGA work knowledge scores relative to women in the placebo arm by 1.390 points (4.3 percent increase relative to the placebo mean, $p < 0.1$). However, their receipt of entitlements from other programs is not impacted. Table A.7 shows that the impact on work knowledge scores is driven entirely by the target women, but that friends see a significant negative impact of the role model + training treatment (T2) on receipt of entitlements from other (non-MGNREGA) government programs, of 0.173 points (2.1 percent decrease relative to the placebo mean, $p < 0.1$).

Taken together, our estimates of impacts of the role model + training treatment relative to the placebo arm suggest that this has large, positive and significant impacts on several key pathway outcomes, especially those that relate closely to the skills training itself, such as on the respondent's ability to articulate an asset demand, on the enumerator and friend's reports of the respondent's knowledge and abilities relating to MGNREGA assets, as well as the respondent's self-reported self-efficacy, while not negatively affecting their trust in officials or their belief that affairs in their village are decided on democratically. Compared to the generally null impacts of the role model only treatment, the skills training appears to have conferred tangible improvements in respondent confidence and ability, which line up nicely with the impacts on plans and behaviors and on women's aspirations we noted in section 5.2.

5.4 Heterogeneous treatment effects

Appendix Tables A.8, A.9, A.10, A.11, A.12 and A.13 report the results of estimating heterogeneous treatment effects on both sets of primary outcomes—women's aspirations and their plans and behaviors around MGNREGA assets—along three dimensions: the respondent's SHG membership, their engagement with the MGNREGA, measured using the number of days the respondent or others in their household worked on the program in the pre-baseline period, and their youth status, i.e. whether the respondent is 35 years of age of younger. Somewhat surprisingly, we do not see evidence of heterogeneity along any of these dimensions. We do

Table 5: Treatment effects on indicators for possible unintended consequences of the treatments, pooled sample

	Believes that people like them have a voice in the MGNREGA process	Perceives that village affairs are decided on democratically	Number of local officials exhibits trust in (out of 5)[#]
	(1)	(2)	(3)
Role model	-0.037	-0.007	-0.071
	(0.048)	(0.012)	(0.045)
Role model + training	0.024	-0.002	-0.045
	(0.049)	(0.013)	(0.046)
Difference (p-value)	0.185	0.752	0.579
Placebo arm mean	2.087	0.547	2.042

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. [#]: Local officials asked about include the gram saathi (mate), Gram Rozgar Sewak (GRS), Panchayat Executive Officer (PEO), *sarpanch* or ward members.

Table 6: Treatment effects on indicators for intervention spillovers, pooled sample

	MGNREGA work knowledge score	Received entitlements from other programs
	(1)	(2)
Role model	1.390*	-0.059
	(0.798)	(0.068)
	-0.085	-0.041
Role model + training	(0.825)	(0.068)
	0.084	0.867
Difference (p-value)	0.084	0.867
Placebo arm mean	31.947	3.210

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

see large and significant level effects of SHG membership on the respondent identifying with a woman who displays voice and agency in the MGNREGA asset selection process, on her aspirations to influence community decision-making around asset selection, and, mechanically, on whether the respondent met and discussed MGNREGA assets with their SHG since training (Appendix table A.9). Younger women are also more likely to aspire to request an asset and to influence community decision-making around asset selection, as well as to meet and discuss assets with their SHG since receiving the intervention, but we do not see differential effects of treatment by youth status.

We do see interesting heterogeneous treatment effects by the respondent's perception of whether affairs in their village are decided on democratically as opposed to being dominated by elite groups (Table 7). Women who receive the role model treatment (T1) and who believe democratic processes prevail are significantly less likely to aspire to request an asset (by 10.1 percentage points, $p < 0.1$) but significantly more likely to plan to proactively request an asset (by 10.2 percentage points, $p < 0.05$). Women who receive the role model + training treatment and who believe democratic processes prevail in their village are statistically significantly *more* likely to have met and discussed MGNREGA assets with their SHG (an increase of 14.0 percentage points, $p < 0.05$), to have attended the ward and *palli sabhas* to discuss MGNREGA assets (an 18.9 percentage point increase, $p < 0.001$) and to have spoken at the most recent *palli sabha* meeting they attended since the intervention (a 12.7 percentage point increase, $p < 0.05$) (Table 8).

Table 7: Heterogenous treatment effects of the intervention on women's aspirations by respondent perception of whether democratic processes prevail in her village

	Aspire to request an asset	Aspire to make improvements in land or get assets	Plan to proactively request an asset	Voice aspirations	Aspire to influence community decision-making around assets selection
Role model	0.053	-0.070	-0.054	0.118**	0.124
	(0.044)	(0.092)	(0.033)	(0.057)	(0.278)
Role model + training	0.031	0.038	-0.041	0.082	-0.210
	(0.049)	(0.109)	(0.037)	(0.058)	(0.295)
Democratic processes prevail	0.021	-0.078	-0.055**	0.085*	-0.002
	(0.036)	(0.084)	(0.026)	(0.047)	(0.234)
Democratic processes prevail * Role model	-0.101*	0.096	0.102**	-0.077	-0.244
	(0.052)	(0.110)	(0.047)	(0.067)	(0.324)
Democratic processes prevail * Role model + training	0.000	0.003	0.057	-0.055	0.101
	(0.057)	(0.127)	(0.052)	(0.068)	(0.339)
Role model (Democratic processes prevail vs not)	0.093	0.390	0.036	0.106	0.526
Role model + training (Democratic processes prevail vs not)	0.764	0.879	0.237	0.255	0.613

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and on an indicator for the respondent believing that democratic processes prevail in her village, for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. *$p \leq 0.1$, **$p \leq 0.05$, ***$p \leq 0.01$.

Table 8: Heterogenous treatment effects of the intervention on plans and behaviors around asset demands by respondent perception of whether democratic processes prevail in her village

	Met and discussed NREGA assets with SHG since training	Met and discussed NREGA assets with official since training	Any member of household requested asset	Proactively requested an asset in since training, individually or group	Attended ward, *palli sabha*, to discuss NREGA assets since training	Spoke at *palli sabha* meeting
Role model	0.032	0.041	0.041	0.027	-0.026	0.020
	(0.054)	(0.061)	(0.063)	(0.060)	(0.062)	(0.057)
Role model + training	-0.078	0.130*	-0.014	-0.019	-0.087	-0.059
	(0.055)	(0.066)	(0.067)	(0.063)	(0.064)	(0.058)
Democratic processes prevail	-0.013	0.025	0.048	0.025	-0.045	-0.021
	(0.044)	(0.050)	(0.052)	(0.049)	(0.054)	(0.048)
Democratic processes prevail * Role model	-0.034	-0.036	-0.026	0.018	0.054	0.000
	(0.061)	(0.069)	(0.071)	(0.067)	(0.071)	(0.063)
Democratic processes prevail * Role model + training	0.140**	-0.075	0.045	0.081	0.189***	0.127**
	(0.063)	(0.075)	(0.074)	(0.070)	(0.073)	(0.065)
Role model (Democratic processes prevail vs not)	0.552	0.538	0.612	0.939	0.538	0.862
Role model + training (Democratic processes prevail vs not)	0.057	0.136	0.667	0.439	0.039	0.118

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and on an indicator for the respondent believing that democratic processes prevail in her village, for the pooled sample of target women and their friends. "Role model" indicates treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. *$p \leq 0.1$, **$p \leq 0.05$, ***$p \leq 0.01$.

6 Discussion and conclusion

We report the impacts of a set of interventions that both exposed rural Indian women to relatable female role models and combined this exposure with a skills training that equipped women to plan for, frame and articulate their demands for assets within the large national workfare scheme, the MGNREGA. In rural communities in India, light touch role model based aspirational interventions might only go so far unless combined with practical skills-based trainings that build women's capacities to turn their aspirations into reality. This is particularly true for asset-related demands within the MGNREGA, which are intended, at least on paper, to be community driven and democratically deliberated on in the village-level meetings or the *gram sabhas*. Not only are women in India typically underrepresented in positions of influence within local decisionmaking bodies, they are also disadvantaged in their access to information, the quality of their social networks, their mobility, and their comfort in speaking up in public to demand their rights.

We conducted our field experiment in 94 villages of the eastern coastal state of Odisha, a state with a recent history of targeting women through its government schemes, including supporting women SHGs in acquiring use and management rights over select MGNREGA assets. Women enrolled in our study were assigned at random to one of three arms - placebo, role model and role model + training. To rule out the possibility of differences in information about the program across arms, all arms were provided with an information leaflet that gave them basic information about the asset selection process under the MGNREGA. In addition to the leaflet, the placebo arm watched and discussed a video unrelated to our intervention, while the other two arms watched a video of equal length designed for this study that showcased the stories of women in the same districts in Odisha who had succesfully demanded assets under the MGNREGA. Finally, the role model + training arm received a facilitated 1.5 hour training on mapping individual and community needs for assets, framing demands and role-playing articualting those demands to their household members, their SHG and to relevant local officials. The interventions were provided in a group setting, with target women invited to bring along three to five of their friends with whom they felt comfortable. We interviewed the target women at baseline and endline, and one friend each pre-intervention and at endline. Our pooled sample consisted of slightly more than 2600 women.

As hypothesized, the role model treatment alone had limited impacts on women's aspirations regarding MGNREGA assets, their plans and behavior around discussing and requesting these assets, or indicators along key pathways to acquiring assets, such as skills and information or those relating to social norms. However, combining the aspirations treatment with the skills training did have large, positive and significant impacts on several of these outcomes. Most notably, the outcomes relating to plans and behaviors and pathways that were closely related to the content of the skills training saw significant impacts. These include the respondent's ability to articulate an asset demand, external (enumerator and friend) reports of their knowledge and abilities, and the respondent's self-efficacy. We see some differences between target women and their friends, with several effects being stronger for the target women, who are older, less likely to be employed and have a greater engagement with the MGNREGA program.

What does this mean for programs that aim to improve women's voice and agency in accessing and demanding their entitlements? Simply raising awareness and aspirations is likely to be insufficient to change tangible outcomes, unless women are also given practical hands-on skills training. That our short, one-time and relatively light touch intervention could yield these impacts almost six months later is encouraging, and suggests potentially large returns to more regular and consistent engagement with women. In addition, our interventions have the potential for scale: not only are the materials we used (the leaflet, video and public speaking training) all publicly available and ready for use, the modality we employed—of delivering trainings to groups of women who have pre-existing social ties—is one that can be leveraged easily to reach large numbers of women and their households. According to the National Rural Livelihoods Mission, the flagship programme of the Ministry of Rural Development that aims to form and strengthen women's SHGs to improve livelihoods, there are currently 542,510 SHGs in Odisha with 5,451,413 members in total. Assuming each member belongs to a household with at least 2 adult members who can avail of the benefits of the MGNREGA, the potential for scaling up these impacts is impressive.

But is a demand-side driven intervention sufficient? In the context of rural India, local institutions are subject to elite capture, and public service delivery may only be targeted to certain sections of the community. Challenging these entrenched power dynamics is complex, and demand-side interventions that do not also aim to transform these norms may fall short of

their promise. Indeed, our results indicate this. When we test the heterogeneity of our impacts by whether the respondent perceives that affairs in their village are decided upon democratically, we see that effects are stronger where the local elite does not dominate. Women who receive the role model + training treatment and who believe democractic processes prevail in their village are far more likely to act upon the treatment - they are more likely to meet with and discuss assets with their SHG, to have attended the *palli sabha* and ward meetings to discuss assets and indeed to have spoken publicly at the most recent *palli sabha* meeting they attended. Raising aspirations and strengthening the capacity to act upon those aspirations is important—but especially in settings where women have the scope and opportunity to do so.

References

Afridi, Farzana, Kanika Mahajan and Nikita Sangwan. 2022. "Employment Guaranteed? Social Protection During a Pandemic." *Oxford Open Economics* 1:odab003.
URL: *https://doi.org/10.1093/ooec/odab003*

Aggarwal, Ankita, Aashish Gupta and Ankit Kumar. 2012. "Evaluation of NREGA wells in Jharkhand." *Economic and Political Weekly* pp. 24–27.

Anderson, Michael L. 2008. "Multiple inference and gender differences in the effects of early intervention: A reevaluation of the Abecedarian, Perry Preschool, and Early Training Projects." *Journal of the American statistical Association* 103(484):1481–1495.

Appadurai, Arjun. 2004. The capacity to aspire: Culture and the terms of recognition. In *Culture and Public Action*. Stanford University Press pp. 59–84.

Banerjee, Rahul. 2013. "What Ails Panchayati Raj?" *Economic and Political Weekly* 48(30):173–176.
URL: *http://www.jstor.org/stable/23528002*

Bardhan, Pranab and Dilip Mookherjee. 2000. "Capture and Governance at Local and National Levels." *AEA Papers and Proceedings* 90:135–139.

Beaman, Lori, Esther Duflo, Rohini Pande and Petia Topalova. 2012. "Female leadership raises aspirations and educational attainment for girls: A policy experiment in India." *Science* 335(6068):582–586.

Beaman, Lori, Raghabendra Chattopadhyay, Esther Duflo, Rohini Pande and Petia Topalova. 2009. "Powerful women: does exposure reduce bias?" *The Quarterly journal of economics* 124(4):1497–1540.

Beath, Andrew, Christia Fotini and Ruben Enikolopov. 2013. "Empowering Women Through Development Aid: Evidence from a Field Experiment in Afghanistan." *American Political Science Review* 107:540–557.

Bernard, Tanguy, Alemayehu Seyoum Taffesse and Stefan Dercon. 2015. "Will video kill the radio star? Assessing the potential of targeted exposure to role models through video." *The World Bank Economic Review* 29(S1):S226–S237.

Bernard, Tanguy, Stefan Dercon, Kate Orkin and Alemayehu Seyoum Taffesse. 2014. "The future in mind: Aspirations and forward-looking behavior in rural Ethiopia." *World Development* 64:123–139.

Bernard, Tanguy, Stefan Dercon, Kate Orkin and Alemayehu Seyoum Taffesse. 2019. "Parental aspirations, poverty, and children's academic outcomes." *Journal of Human Resources* 54(1):99–134.

Bleck, Jaimie and Kristen Michelitch. 2018. "Is Women's Empowerment Associated with Political Knowledge and Opinions? Evidence from Rural Mali." *World Development* 106:299–323.

Cornwall, Andrea. 2003. "Whose Voices? Whose Choices? Reflections on Gender and Participatory Development." *World Development* 31:1325–1342.

Dalton, Patricio S, Sayantan Ghosal and Anandi Mani. 2015. "Poverty and aspirations failure." *The Economic Journal* 126(590):165–188.

Dasgupta, Aniruddha and Victoria Beard. 2007. "Community Driven Development, Collective Action and Elite Capture in Indonesia." *Development and Change* 38:229–249.

Dasgupta, Monica, Pushkar Maitra and Anurag Pal. 2015. "Female peers and aspirations: Evidence from a network experiment in India." *Journal of Human Resources* 50(2):376–419.

Duflo, Esther, William Gale, Jeffrey Liebman, Peter Orszag and Emmanuel Saez. 2013. "The role of information and social interactions in retirement plan decisions: Evidence from a randomized experiment." *The Quarterly Journal of Economics* 128(3):1217–1249.

Edmonds, Eric V. and Jessica Leight. 2019. "Schooling, aspirations, and life outcomes: Evidence from a life skills and mentoring program in Rajasthan, India." *Economics of Education Review* 73:101920.

Field, Erica, Seema Jayachandran, Rohini Pande and Natalia Rigol. 2016. "Friendship at work: Can peer effects catalyze female entrepreneurship?" *American Economic Journal: Economic Policy* 8(2):125–153.

Genicot, Garance and Debraj Ray. 2017. "Aspirations and inequality." *Econometrica* 85(2):489–519.

Healy, Andrew, Neil Malhotra, Cecilia Hyunjung Mo and Katrina Kosec. 2017. "Economic downturns, desperation, and the persistence of distrust in government." *The Journal of Politics* 79(3):1011–1023.

Himanshu, Abhiroop Mukhopadhyay and MR Sharan. 2015. "NREGS in Rajasthan: rationed funds and their allocation across villages." *Economic and Political Weekly* pp. 52–60.

Honwana, Alcinda M. 2012. *The Time of Youth: Work, Social Change, and Politics in Africa.* Boulder, CO: Kumarian Press.

Imbert, Clement and John Papp. 2015. "Labor market effects of social programs: Evidence from india's employment guarantee." *American Economic Journal: Applied Economics* 7(2):233–263.

Janzen, Sarah A, Nicholas Magnan and Curtis S Thompson. 2017. "Aspirations failure and formation in rural Nepal." *Journal of Economic Behavior & Organization* 139:1–22.

Janzen, Sarah A., Nicholas Magnan, Sudhindra Sharma and William M. Thompson. 2017. "Aspirations failure and formation in rural Nepal." *Journal of Economic Behavior & Organization* 139:1–25.
URL: *https://www.sciencedirect.com/science/article/pii/S0167268117300963*

Jensen, Robert. 2012. "Labor market opportunities and educational attainment in developing countries: Evidence from the Philippines." *Journal of Development Economics* 99(2):126–138.

Jeong, Dahyeon, Ajay Shenoy and Laura Zimmermann. 2023. "*De Jure* versus *De Facto* Transparency: Corruption in Local Public Office in India." *Journal of Public Economics* 221:104855.

Klonner, Stefan and Christian Oldiges. 2014. "Safety net for India's poor or waste of public funds." *Poverty and welfare in the wake of the world's largest job guarantee program* .

Kosec, Katrina and Cecilia Hyunjung Mo. 2017. "Aspirations and the role of social protection: Evidence from a natural disaster in Pakistan." *World Development* 97:49–66.

Kosec, Katrina and Huma Khan. 2016. Understanding the Aspirations of the Rural Poor. In *Agriculture and the Rural Economy in Pakistan*, ed. David Spielman, Sohail Malik, Paul Dorosh and Nuzhat Ahmad. University of Pennsylvania Press.

Kosec, Katrina, Jie Song and Hongdi Zhao. 2021. "Bringing Power to the People or the Well-Connected? Evidence from Ethiopia on the Gendered Effects of Decentralizing Service Delivery.".

Kosec, Katrina, Jordan Kyle and Hiroyuki Takeshima. 2023. "When Women Hold Local Office: Implications for Individual Women's Political Participation amid Conflict and Climate Shocks in Africa." *IFPRI Discussion Paper No. 02230* .

Kosec, Katrina, Jordan Kyle, Sudha Narayanan and Kalyani Raghunathan. 2023*a*. MGNREGA Program Asset Selection: A leaflet providing women information on how to participate. Training materials. International Food Policy Research Institute.
URL: *https://doi.org/10.2499/p15738coll2.137001*

Kosec, Katrina, Jordan Kyle, Sudha Narayanan and Kalyani Raghunathan. 2023*b*. Planning for voice: A skills training manual for women for exercising voice and agency. Training materials. International Food Policy Research Institute.
URL: *https://doi.org/10.2499/p15738coll2.136979*

Kosec, Katrina, Jordan Kyle, Sudha Narayanan and Kalyani Raghunathan. 2023*c*. Planning for voice: A skills training manual for women for exercising voice and agency [in Odia]. Training materials. International Food Policy Research Institute.
URL: *https://doi.org/10.2499/p15738coll2.136981*

Kosec, Katrina, Jordan Kyle, Sudha Narayanan, Kalyani Raghunathan and Soumyajit Ray. 2024. "Claim-Making under India's Mahatma Gandhi National Rura Employment Guarantee Act (MGNREGA): Barriers and Opportunities for Women's Voice and Agency over Asset Selection." *IFPRI Discussion Paper No. 02247* .

Kruks-Wisner, Gabrielle. 2018. "The Pursuit of Social Welfare: Citizen Claim-Making in Rural India." *World Politics* 70:122–163.

Leight, Jessica, Paul Glewwe, Carole Shefner-Rogers and Anuradha Panigrahi. 2019. "Do life skills training programs work for adolescents? Evidence from a randomized controlled trial in India." *Journal of Development Economics* 140:137–154.

Lybbert, Travis J and Bruce Wydick. 2018. "Poverty, aspirations, and the economics of hope." *Economic Development and Cultural Change* 66(4):709–753.

Macours, Karen, Patrick Premand and Renos Vakis. 2014. "Changing households' investments and aspirations through social interactions: Evidence from a randomized transfer program." *The Economic Journal* 124(576):607–633.

Mansuri, Ghazala and Vijayendra Rao. 2013. "Can Participation be Induced? Some Evidence from Developing Countries." *Critical Review of International Social and Political Philosophy* 16:284–304.

Muralidharan, Karthik, Paul Niehaus and Sandip Sukhtankar. 2023. "General equilibrium effects of (improving) public employment programs: Experimental evidence from India." *Econometrica* 91(4):1261–1295.

Narayanan, Sudha. 2016. "MNREGA and its assets." *IdeasforIndia. com* .
URL: *https://www.ideasforindia.in/topics/poverty-inequality/mnrega-and-its-assets.html*

Narayanan, Sudha, Christian Oldiges and Shree Saha. 2022. "Does workfare work? India's employment guarantee during COVID-19." *Journal of International Development* 34(1):82–108.
URL: *https://onlinelibrary.wiley.com/doi/abs/10.1002/jid.3583*

Palaniswamy, Nethra, Ramya Parthasarathy and Vijayendra Rao. 2019. "Unheard Voices: The Challenge of Inducing Women's Civic Speech." *World Development* 115:64–77.

Panda, Sitakanta. 2015. "Political Connections and Elite Capture in a Poverty Alleviation Programme in India." *The Journal of Development Studies* 51:50–65.

Pankaj, Ashok and Rukmini Tankha. 2010. "Empowerment Effects of the NREGS on Women Workers: A Study in Four States." *Economic & Political Weekly* XLV:45–55.

Prakash, Nishith and Protik Ghosh. 2020. "The Bicycle Program for Girls in Bihar: Can a transport subsidy reduce gender gaps in school attendance and education?" *World Development* 130:104938.

Ranaware, Krushna, Upasak Das, Ashwini Kulkarni and Sudha Narayanan. 2015. "MGNREGA works and their impacts: A study of Maharashtra." *Economic and Political Weekly* pp. 53–61.

Ray, Debraj. 2006. "Aspirations, poverty, and economic change." *Understanding poverty* pp. 409–421.

Riley, Emma and Andrew McGuire. 2017. "Increasing students' aspirations: The impact of role models on perceived relative position and educational expectations." *Journal of Human Resources* 52(3):659–688.

Sanyal, Paromita and Vijayendra Rao. 2019. *Oral Democracy: Deliberation in Indian Village Assemblies*. Cambridge University Press.

U.N. Economic Commission for Africa. 2011. "African Youth Report 2011: Addressing the Youth Education and Employment Nexus in the New Global Economy.". The report discusses youth policies in Africa and refers to youth as those aged 15 to 35, in line with the African Youth Charter. Accessed: 2024-08-20.
URL: *https://repository.uneca.org/handle/10855/22184*

Van der Windt, Peter, Macartan Humphreys and Raul Sanchez de la Sierra. 2018. "Gender quotas in development programming: Null results from a field experiment in Congo." *Journal of Development Economics* 133:326–345.

Wydick, Bruce, Paul Glewwe and Laine Rutledge. 2013. "Does child sponsorship pay off in adulthood? An international study of impacts on income and civic engagement." *Journal of Political Economy* 121(2):393–436.

Zax, Jeffrey S and Daniel I Rees. 2002. "IQ, aspirations, and agency." *The Quarterly Journal of Economics* 117(4):1349–1387.

Zimmermann, Laura. 2024. "Why Guarantee Employment? Evidence from a Large Indian Public-Works Program." *Economic Development and Cultural Change* 72.

Online Appendix:

Can Role Models and Skills Training Increase Women's Voice in Village Governance?: Experimental Evidence from Odisha, India

A Appendix

Table A.1: Baseline characteristics of the target woman across arms

Covariates	Mean/Proportion (SD)			Pairwise p-values		
	Placebo (P)	Treatment 1 (T1)	Treatment 2 (T2)	P vs T1	P vs T2	T1 vs T2
	(N = 428)	(N = 448)	(N = 427)			
Respondent age (years)	41.077	39.850	40.473	0.066	0.386	0.363
	(9.939)	(9.810)	(10.436)			
Respondent years of education (completed years)	3.407	3.165	3.396	0.364	0.969	0.391
	(3.986)	(3.879)	(4.063)			
Respondent currently married	0.942	0.926	0.948	0.365	0.659	0.178
	(0.235)	(0.262)	(0.221)			
Respondent is a house-wife	0.143	0.145	0.136	0.914	0.778	0.694
	(0.350)	(0.353)	(0.343)			
Respondent is a non-ag day laborer	0.250	0.239	0.241	0.701	0.766	0.934
	(0.434)	(0.427)	(0.428)			
Caste						
General	0.077	0.060	0.077	0.325	0.992	0.320
	(0.267)	(0.238)	(0.267)			
Scheduled Caste	0.210	0.219	0.204	0.761	0.814	0.587
	(0.408)	(0.414)	(0.403)			
Scheduled Tribe	0.421	0.424	0.398	0.916	0.505	0.436
	(0.494)	(0.495)	(0.490)			
OBC	0.292	0.297	0.319	0.876	0.402	0.489
	(0.455)	(0.457)	(0.466)			
Religion						
Hindu	0.993	0.989	0.986	0.519	0.314	0.702
	(0.084)	(0.105)	(0.118)			
Muslim	0.002	0.000	0.002	0.307	0.999	0.306
	(0.048)	(0.000)	(0.048)			
Christian	0.000	0.002	0.007	0.329	0.083	0.294
	(0.000)	(0.047)	(0.084)			
Sarna	0.005	0.009	0.005	0.446	0.998	0.448
	(0.068)	(0.094)	(0.068)			
Household size	4.603	4.643	4.440	0.740	0.173	0.081
	(1.812)	(1.756)	(1.672)			
Member migrated in last 1 year (Holi 2022 - 2023)	0.210	0.212	0.145	0.949	0.013	0.010
	(0.408)	(0.409)	(0.353)			
Total agricultural land owned by HH (in acre)	1.238	1.079	1.156	0.104	0.430	0.424
	(1.540)	(1.344)	(1.493)			

Source: Authors' calculations based on study data.

Table A.2: Baseline characteristics of the friend across arms

Covariates	Mean/Proportion (SD)			Pairwise p-values		
	Placebo (P)	Treatment 1 (T1)	Treatment 2 (T2)	P vs T1	P vs T2	T1 vs T2
	(N = 428)	(N = 448)	(N = 427)			
Respondent age (in years)	43.977	43.077	43.799	0.305	0.842	0.429
	(12.584)	(13.269)	(13.526)			
Respondent years of education (completed years)	2.680	3.007	2.579	0.232	0.702	0.111
	(3.931)	(4.123)	(3.736)			
Respondent currently married	0.826	0.856	0.816	0.219	0.693	0.105
	(0.380)	(0.351)	(0.388)			
Respondent is a house-wife	0.290	0.298	0.262	0.786	0.368	0.240
	(0.454)	(0.458)	(0.440)			
Respondent is a non-ag day laborer	0.311	0.321	0.359	0.745	0.134	0.238
	(0.463)	(0.467)	(0.480)			
Caste						
General	0.070	0.050	0.057	0.226	0.440	0.666
	(0.255)	(0.218)	(0.232)			
Scheduled Caste	0.155	0.196	0.154	0.117	0.942	0.103
	(0.363)	(0.397)	(0.361)			
Scheduled Tribe	0.455	0.412	0.437	0.207	0.609	0.458
	(0.499)	(0.493)	(0.497)			
OBC	0.320	0.342	0.350	0.501	0.358	0.801
	(0.467)	(0.475)	(0.477)			
Religion						
Hindu	0.979	0.973	0.993	0.536	0.087	0.023
	(0.143)	(0.163)	(0.084)			
Muslim	0.000	0.002	0.002	0.322	0.313	0.979
	(0.000)	(0.048)	(0.049)			
Christian	0.005	0.014	0.002	0.163	0.575	0.065
	(0.068)	(0.116)	(0.049)			
Sarna	0.016	0.011	0.002	0.540	0.035	0.111
	(0.127)	(0.106)	(0.049)			
Household size	4.086	4.431	4.262	0.002	0.128	0.150
	(1.632)	(1.673)	(1.755)			
Member migrated in last 1 year (Holi 2022 - 2023)	0.100	0.141	0.130	0.061	0.166	0.632
	(0.300)	(0.349)	(0.337)			
Total agricultural land owned by HH (in acre)	1.262	1.346	1.692	0.688	0.086	0.243
	(1.986)	(3.873)	(4.789)			

Source: Authors' calculations based on study data.

Table A.3: Treatment effects on women's aspirations, target women and friends

	Aspires to request an MGNREGA asset in coming year	Aspires to make improvements to land or acquire assets	Has a plan to proactively request an MGNERGA asset	Identifies with hypothetical woman who has voice and agency in MGNREGA asset selection	Aspires to influence community decision-making around MGNREGA assets selection
	(1)	(2)	(3)	(4)	(5)
Panel A. Target Women (N=1,293)					
Role model	-0.024	0.002	0.023	0.060**	-0.061
	(0.022)	(0.049)	(0.027)	(0.029)	(0.139)
Role model + training	0.032	0.038	0.002	0.042	-0.130
	(0.024)	(0.052)	(0.028)	(0.029)	(0.143)
Difference (p-value)	0.017	0.453	0.534	0.554	0.678
Placebo arm mean	0.135	0.195	2.905	0.626	6.137
Panel B. Friends (N=1,303)					
Role model	0.023	0.074	0.002	-0.020	-0.242*
	(0.024)	(0.047)	(0.021)	(0.030)	(0.141)
Role model + training	0.032	0.068	-0.016	0.043	-0.096
	(0.025)	(0.048)	(0.023)	(0.031)	(0.147)
Difference (p-value)	0.845	0.932	0.477	0.034	0.280
Placebo arm mean	0.143	0.152	2.944	0.621	5.886
Panel C. Target women vs Friends					
Friend × Role model	0.047	0.069	-0.021	-0.076*	-0.154
	(0.031)	(0.065)	(0.033)	(0.041)	(0.178)
Friend × Role model + training	-0.001	0.025	-0.024	0.002	0.039
	(0.033)	(0.069)	(0.035)	(0.041)	(0.189)
Lagged value in baseline					
Target women	No	No	No	No	No
Friend	No	No	No	No	No

Source: Authors' calculations based on study data. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. See note to Table 2 for more details.

Table A.4: Treatment effects on women's plans and behaviors around MGNREGA asset demands, target women and friends

	Met and discussed MGNREGA assets with SHG since intervention	Met and discussed MGNREGA assets with functionary since intervention*	Any household member requested MGNREGA asset since intervention	Proactively requested MGNREGA asset since intervention	Attended ward or *palli sabha* to discuss MGNREGA assets since intervention	Spoke at *palli sabha* meeting since intervention
	(1)	(2)	(3)	(4)	(5)	(6)
Panel A. Target Women (N=1,293)						
Role model	0.006	0.012	0.022	0.041	0.015	0.017
	(0.025)	(0.028)	(0.027)	(0.026)	(0.029)	(0.025)
Role model + training	0.031	0.070**	0.024	0.046*	0.062**	0.039
	(0.026)	(0.030)	(0.028)	(0.027)	(0.029)	(0.025)
Difference (p-value)	0.333	0.051	0.990	0.889	0.121	0.389
Placebo arm mean	0.209	0.230	0.348	0.290	0.448	0.206
Panel B. Friends (N=1,303)						
Role model	-0.010	-0.014	0.013	0.016	0.031	0.006
	(0.025)	(0.029)	(0.026)	(0.025)	(0.028)	(0.024)
Role model + training	-0.005	-0.011	0.044	0.046*	-0.011	0.003
	(0.026)	(0.030)	(0.027)	(0.026)	(0.029)	(0.024)
Difference (p-value)	0.897	0.908	0.249	0.274	0.119	0.851
Placebo arm mean	0.271	0.287	0.313	0.264	0.453	0.210
Panel C. Target women vs Friends						
Friend × Role model	-0.014	-0.023	-0.009	-0.022	0.017	-0.013
	(0.033)	(0.039)	(0.033)	(0.031)	(0.035)	(0.029)
Friend × Role model + training	-0.039	-0.082**	0.019	0.000	-0.075**	-0.036
	(0.034)	(0.040)	(0.034)	(0.033)	(0.036)	(0.031)
Lagged value in baseline						
Target women	Yes	Yes	No	No	No	Yes
Friend	Yes	Yes	No	No	No	Yes

Source: Authors' calculations based on study data. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. See note to Table 3 for more details.

Table A.5: Treatment effects on pathways, target women and friends

	MGNREGA asset knowledge score	Number of situations in which feels comfortable speaking in public (out of 7)	Enumerator's score of respondent's ability to demand assets^	Friend's assessment of improvements in respondent since intervention (out of 4 dimensions)	Self-efficacy	Discuss MGNREGA asset idea with others	Gender norms index
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Panel A. Target Women (N=1,293)							
Role model	4.006**	0.060	0.023	0.025	0.109	0.079	0.123
	(1.596)	(0.171)	(0.019)	(0.072)	(0.072)	(0.054)	(0.112)
Role model + training	2.136	0.018	0.018	0.087	0.138*	0.095*	0.017
	(1.620)	(0.180)	(0.020)	(0.074)	(0.075)	(0.055)	(0.114)
Difference (p-value)	0.252	0.749	0.869	0.368	0.689	0.825	0.308
Placebo arm mean	49.768	3.944	0.877	1.557	3.007	1.760	4.954
Panel B. Friends (N=1,303)							
Role model	-0.820	-0.304*	0.016	0.011	0.029	-0.054	-0.156
	(1.677)	(0.173)	(0.020)	(0.066)	(0.070)	(0.055)	(0.103)
Role model + training	0.829	-0.249	0.037*	0.098	0.131*	0.005	-0.052
	(1.653)	(0.173)	(0.020)	(0.070)	(0.070)	(0.054)	(0.107)
Difference (p-value)	0.267	0.688	0.192	0.207	0.093	0.234	0.287
Placebo arm mean	49.182	4.285	0.881	1.588	3.033	1.841	5.040
Panel C. Target women vs Friends							
Friend × Role model	-4.794**	-0.366*	-0.008	-0.023	-0.080	-0.134*	-0.293**
	(2.144)	(0.214)	(0.027)	(0.090)	(0.092)	(0.070)	(0.137)
Friend × Role model + training	-1.012	-0.256	0.019	0.020	-0.011	-0.089	-0.088
	(2.110)	(0.223)	(0.026)	(0.098)	(0.095)	(0.072)	(0.143)
Lagged value in baseline							
Target women	Yes	Yes	No	No	Yes	No	Yes
Friend	No	Yes	No	No	No	No	No

Source: Authors' calculations based on study data. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses. $^*p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. See note to Table 4 for more details.

Table A.6: Treatment effects on indicators for unintended consequences of the treatments, target women and friends

	Believes that people like them have a voice in the MGNREGA process	Perceives that village affairs are decided on democratically	Number of local officials exhibits trust in (out of 5)
	(1)	(2)	(3)
Panel A. Target Women (N=1,293)			
Role model	-0.018	-0.011	-0.093
	(0.059)	(0.017)	(0.060)
Role model + training	-0.013	-0.020	-0.050
	(0.061)	(0.018)	(0.061)
Difference (p-value)	0.939	0.533	0.510
Placebo arm mean	2.173	0.559	2.050
Panel B. Friends (N=1,303)			
Role model	-0.055	-0.004	-0.055
	(0.063)	(0.018)	(0.060)
Role model + training	0.064	0.015	-0.047
	(0.064)	(0.019)	(0.060)
Difference (p-value)	0.056	0.357	0.902
Placebo arm mean	2.000	0.535	2.033
Panel C. Target women vs Friends			
Friend × Role model	-0.036	0.007	0.031
	(0.075)	(0.025)	(0.078)
Friend × Role model + training	0.071	0.034	-0.006
	(0.077)	(0.026)	(0.076)
Lagged value in baseline			
Target women	No	Yes	Yes
Friend	No	No	No

Source: Authors' calculations based on study data. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. See note to Table 5 for more details.

Table A.7: Treatment effects on spillover outcomes, target women and friends

	MGNREGA work knowledge score	Received entitlements from other programs
	(1)	(2)
Panel A. Target Women (N=1,293)		
Role model	2.527**	-0.024
	(1.013)	(0.090)
Role model + training	1.453	0.078
	(1.061)	(0.088)
Difference (p-value)	0.308	0.254
Placebo arm mean	30.991	3.090
Panel B. Friends (N=1,303)		
Role model	0.206	-0.117
	(1.084)	(0.094)
Role model + training	-1.701	-0.173*
	(1.089)	(0.091)
Difference (p-value)	0.108	0.453
Placebo arm mean	32.911	3.329
Panel C. Target women vs Friends		
Friend × Role model	-2.263*	-0.104
	(1.347)	(0.127)
Friend × Role model + training	-3.267**	-0.255**
	(1.342)	(0.119)
Lagged value in baseline		
Target women	Yes	Yes
Friend	No	No

Source: Authors' calculations based on study data. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$. See note to Table 6 for more details.

Table A.8: Heterogeneous treatment effects of the intervention on aspirations for assets by respondent SHG membership

	Aspires to request an MGNREGA asset in coming year	Aspires to make improvements to land or acquire assets	Has a plan to proactively request an MGNERGA asset	Identifies with hypothetical woman who has voice and agency in MGNREGA asset selection	Aspires to influence community decision-making around MGNREGA assets selection
Panel A. Pooled (N=2,596)					
SHG membership	0.040*	0.023	0.018	0.090***	0.331**
	(0.024)	(0.050)	(0.026)	(0.033)	(0.156)
Role model	0.007	0.044	0.025	0.049	-0.051
	(0.024)	(0.053)	(0.031)	(0.034)	(0.160)
Role model + training	0.024	0.018	-0.017	0.054	-0.117
	(0.025)	(0.050)	(0.035)	(0.035)	(0.160)
SHG membership × Role model	-0.012	-0.009	-0.023	-0.047	-0.170
	(0.031)	(0.068)	(0.035)	(0.044)	(0.209)
SHG membership × Role model + training	0.012	0.057	0.016	-0.020	0.001
	(0.034)	(0.067)	(0.037)	(0.045)	(0.208)
SHG: members vs non-members (p-value)					
Role model	0.713	0.645	0.447	0.192	0.729
Role model + training	0.827	0.718	0.640	0.331	0.731

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and on a dummy for whether the respondent is an SHG member, for the pooled sample of target women and their friends. Role model indicates the treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

Table A.9: Heterogenous treatment effects of the intervention on plans and behaviors around asset demands, by respondent SHG membership

	Met and discussed MGNREGA assets with SHG since intervention	Met and discussed MGNREGA assets with functionary since intervention*	Any household member requested MGNREGA asset since intervention	Proactively requested MGNREGA asset since intervention	Attended ward or *palli sabha* to discuss MGNREGA assets since intervention	Spoke at *palli sabha* meeting since intervention
SHG membership	0.156***	0.025	0.030	0.020	0.026	0.039
	(0.025)	(0.031)	(0.028)	(0.027)	(0.030)	(0.026)
Role model	-0.012	0.014	0.019	0.021	0.025	0.017
	(0.025)	(0.033)	(0.031)	(0.029)	(0.034)	(0.027)
Role model + training	0.010	0.068**	0.025	0.042	0.042	0.035
	(0.025)	(0.034)	(0.032)	(0.030)	(0.034)	(0.028)
SHG membership × Role model	0.017	-0.022	-0.003	0.013	-0.006	-0.008
	(0.035)	(0.043)	(0.038)	(0.037)	(0.042)	(0.035)
SHG membership × Role model + training	0.003	-0.063	0.015	0.007	-0.029	-0.023
	-0.035	-0.042	-0.039	-0.038	-0.042	-0.035
SHG: members vs non-members (p-value)						
Role model	0.596	0.619	0.73	0.9	0.658	0.662
Role model + training	0.896	0.064	0.883	0.578	0.318	0.321

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and on a dummy for whether the respondent is an SHG member, for the pooled sample of target women and their friends. Role model indicates the treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

Table A.10: Heterogenous treatment effects of the intervention on aspirations for assets by respondent MGNREGA engagement, only for target women

	Aspires to request an MGNREGA asset in coming year	Aspires to make improvements to land or acquire assets	Has a plan to proactively request an MGNERGA asset	Identifies with hypothetical woman who has voice and agency in MGNREGA asset selection	Aspires to influence community decision-making around MGNREGA asset selection
MGNREGA engagement	0.022	0.125	-0.004	0.047	0.109
	(0.036)	(0.085)	(0.042)	(0.043)	(0.217)
Role model	-0.024	0.039	0.022	0.077**	-0.051
	(0.029)	(0.059)	(0.037)	(0.038)	(0.178)
Role model + training	0.014	-0.005	-0.010	0.029	-0.092
	(0.030)	(0.058)	(0.038)	(0.039)	(0.182)
MGNREGA engagement × Role model	-0.002	-0.108	0.003	-0.046	-0.037
	(0.048)	(0.111)	(0.053)	(0.061)	(0.292)
MGNREGA engagement × Role model + Training	0.036	0.075	0.030	0.019	-0.109
	(0.051)	(0.116)	(0.057)	(0.061)	(0.303)
MGNREGA engaged vs none (p-value)					
Role model	0.751	0.332	0.825	0.174	0.974
Role model + training	0.759	0.603	0.639	0.913	0.969

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and number of days the respondent participated in the MGNREGA at baseline, for target women only. Role model indicates the treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

Table A.11: Heterogenous treatment effects of the intervention on plans and behaviors for asset demands by respondent MGNREGA engagement, only for target women

	Met and discussed MGNREGA assets with SHG since intervention	Met and discussed MGNREGA assets with functionary since intervention*	Any household member requested MGNREGA asset since intervention	Proactively requested MGNREGA asset since intervention	Attended ward or *palli sabha* to discuss MGNREGA assets since intervention	Spoke at *palli sabha* meeting since intervention
MGNREGA engagement	-0.036	0.028	0.025	0.002	0.025	-0.008
	(0.037)	(0.044)	(0.042)	(0.041)	(0.045)	(0.037)
Role model	-0.001	0.044	0.033	0.045	0.016	0.018
	(0.032)	(0.036)	(0.035)	(0.033)	(0.036)	(0.031)
Role model + training	-0.021	0.096**	-0.005	0.016	0.047	0.019
	(0.032)	(0.039)	(0.036)	(0.034)	(0.037)	(0.032)
MGNREGA engagement × Role model	0.022	-0.081	-0.033	-0.010	-0.003	0.008
	(0.052)	(0.061)	(0.059)	(0.056)	(0.061)	(0.052)
MGNREGA engagement × Role model + training	0.130**	-0.062	0.060	0.069	0.029	0.052
	(0.054)	(0.062)	(0.059)	(0.058)	(0.062)	(0.053)
MGNREGA engaged vs none (p-value)						
Role model	0.762	0.16	0.435	0.493	0.828	0.9
Role model + training	0.054	0.087	0.450	0.516	0.837	0.667

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and number of days the respondent participated in the MGNREGA at baseline, for target women only. Role model indicates the treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

Table A.12: Heterogenous treatment effects of the intervention on aspirations for assets by respondent woman age (<35 years)

	Aspires to request an MGNREGA asset in coming year	Aspires to make improvements to land or acquire assets	Has a plan to proactively request an MGNERGA asset	Identifies with hypothetical woman who has voice and agency in MGNREGA asset selection	Aspires to influence community decision-making around MGNREGA assets selection
Youth	0.048*	0.066	0.043	0.022	0.293*
	(0.027)	(0.055)	(0.029)	(0.032)	(0.162)
Role model	0.015	0.018	0.021	0.026	-0.162
	(0.021)	(0.039)	(0.022)	(0.026)	(0.127)
Role model + training	0.037*	0.084*	0.002	0.052*	-0.156
	(0.021)	(0.044)	(0.024)	(0.027)	(0.129)
Youth × Role model	-0.051	0.045	-0.031	-0.018	-0.019
	(0.036)	(0.080)	(0.036)	(0.045)	(0.213)
Youth × Role model + Training	-0.021	-0.095	-0.030	-0.030	0.092
	(0.039)	(0.080)	(0.039)	(0.046)	(0.231)
Young vs Old (p-value)					
Role model	0.187	0.797	0.331	0.493	0.634
Role model + training	0.272	0.106	0.577	0.209	0.438

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and a dummy for the respondent being younger than 35 years. Role model indicates the treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.

Table A.13: Heterogenous treatment effects of the intervention on plans and behaviors for asset demands by respondent woman age (¡35 years)

	Met and discussed MGNREGA assets with SHG since intervention	Met and discussed MGNREGA assets with functionary since intervention*	Any household member requested MGNREGA asset since intervention	Proactively requested MGNREGA asset since intervention	Attended ward or *palli sabha* to discuss MGNREGA assets since intervention	Spoke at *palli sabha* meeting since intervention
Youth	0.044	0.023	0.000	0.015	-0.025	-0.013
	(0.028)	(0.032)	(0.029)	(0.028)	(0.032)	(0.026)
Role model	-0.006	0.011	-0.001	0.020	0.017	0.006
	(0.022)	(0.026)	(0.025)	(0.024)	(0.027)	(0.022)
Role model + training	0.017	0.060**	0.043*	0.064**	0.019	0.025
	(0.024)	(0.027)	(0.026)	(0.025)	(0.027)	(0.022)
Youth × Role model	0.004	-0.033	0.051	0.023	0.016	0.017
	(0.038)	(0.044)	(0.040)	(0.038)	(0.043)	(0.036)
Youth × Role model + Training	-0.014	-0.090*	-0.024	-0.053	0.017	-0.008
	(0.042)	(0.046)	(0.042)	(0.040)	(0.044)	(0.037)
Young vs Old (p-value)						
Role model	0.856	0.474	0.365	0.957	0.983	0.833
Role model + training	0.598	0.022	0.261	0.042	0.975	0.523

Source: Authors' calculations based on study data. Note: Each column represents a separate OLS regression of the outcome on the two treatment arms and a dummy for the respondent being younger than 35 years. Role model indicates the treatment T1 where respondents watch and discuss a film about women in Odisha who successfully demanded assets. Role model + training indicates treatment T2 where respondents watch and discuss the same video and also receive a two-hour skills training on identifying social needs, articulating demands and engaging in role-play. We stratify at the level of the Gram Panchayat. Conventional standard errors in parentheses are clustered at the women-friend pair. $^{*}p \leq 0.1$, $^{**}p \leq 0.05$, $^{***}p \leq 0.01$.