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# Can Role Models and Skills Training Increase Women's Voice in Asset Selection?

Experimental evidence from the MGNREGA in Odisha, India

**Kalyani Raghunathan**, International Food Policy Research Institute (IFPRI)  
(with Katrina Kosec, Jordan Kyle, Sudha Narayanan, Soumyajit Ray)

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# The role of women in community driven development

- “Top-down” approaches to social protection: inclusion and exclusion errors, difficulty monitoring transfers and so on
- In contrast, community-based approaches seem attractive...
  - Can leverage local knowledge for better targeting, enable decentralized decisionmaking, improve program functioning, strengthen citizens’ rights
  - But still susceptible to local norms, politics, social and economic inequalities.
- Women are often at a disadvantage, especially when community-based approaches rely on active “claim-making” by citizens
- We study approaches to increasing women’s voice and agency
  - In the context of the large national workfare program, the Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA)
  - In the Indian state of Odisha

# The MGNREGA, most popularly understood as workfare



*NREGA board for an irrigation well in Dumka, Jharkhand. NREGA funds were also supporting the construction of the mango plantation that the well served.*

- Guarantees minimum 100 days of unskilled work at minimum wages to rural households
- Rolled out in three phases between 2006 and 2008, with rollout based on a “backwardness index” that could be leveraged for RDD and DiD designs
- Early years saw lots of work on impacts of the Act
  - On employment, migration and wages (Azam, 2012; Berg et al., 2012; Imbert & Papp, 2015, 2016; Zimmermann, 2023)
  - On household welfare (Klonner & Oldiges, 2014)
  - On the role of the program as buffer against unanticipated shocks, including weather-related shocks and, more recently, the COVID-19 pandemic (Afridi et al., 2021; Johnson, 2009; Narayanan et al. 2022; Zimmermann, 2023)
  - On crop choice (Gehrke, 2019) and on the use of labor-saving technologies in agriculture (Bhargava, 2021)
  - On conflict/insurgency related violent incidents (Khanna & Zimmermann, 2017)
  - ...

# A less studied goal is that of asset creation

- Secondary goal of the MGNREGA: to create durable assets to serve as the basis of sustainable rural livelihoods
- Comparatively fewer studies of asset use, maintenance and impacts (harder to do).
  - MGNREGA assets are viewed as useful and of good quality (Ranaware et al., 2015)
  - Demonstrate high rates of return (Bhaskar & Yadav, 2015, Aggarwal et al., 2012; Verma and Shah, 2012; Narayanan et al. (2024))
  - Reduce the vulnerability of agricultural production, limit soil erosion and increase water availability, among other impacts (Esteves et al., 2013; Indian Institute of Science, 2013; Tiwari et al., 2011)
  - Allow HHs to cultivate more land, use more inputs, increase output, raise employment (Gehrke, 2015; Muralidharan et al., 2021)

# The process of demanding MGNREGA assets: even less well studied

- Formally, a **bottom-up planning process** for assets
  - Each year village-level meetings, *gram sabhas*, decide which works will be built
  - In Odisha, revenue-village meetings—*palli sabhas*—collate demands and send to the *gram sabha*
- Many informal pathways to demanding assets:
  - Approaching officials directly; asking family members/SHG members to raise demands
- Assets also provided in a top-down manner, without demands



Meeting with an MGNREGA labour group in Araria, Bihar.

# Given this background, we were interested in two questions

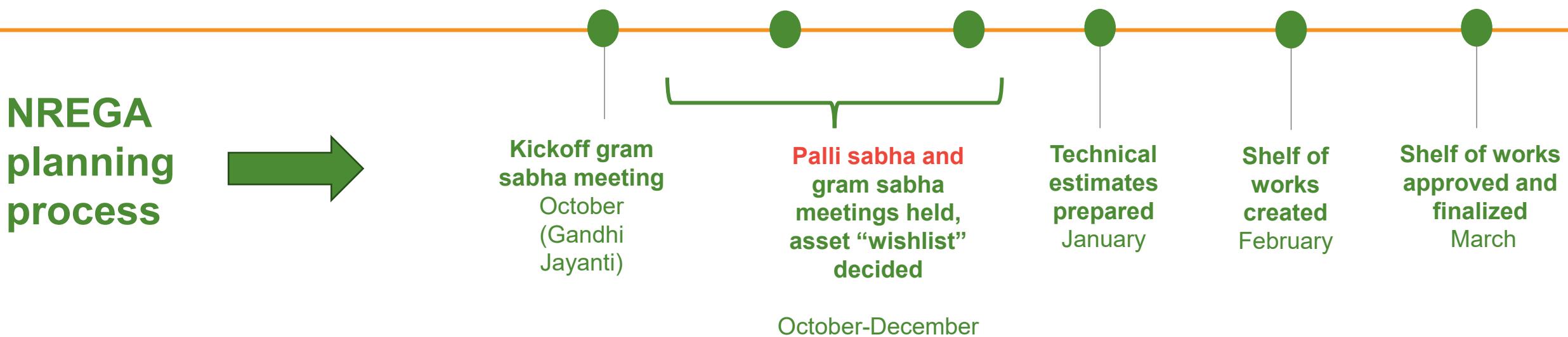
- First, how useful are MGNREGA assets and can beneficiaries get what they want?
  - What are the barriers beneficiaries face in making asset demands, especially women/other marginalized groups?
- Second, if assets are useful but beneficiaries are not able to get what they want, what interventions can we design that can help beneficiaries make their demands known?

# Given this background, we were interested in two questions

- First, how useful are MGNREGA assets and can beneficiaries get what they want?
  - What are the barriers beneficiaries face in making asset demands, especially women/other marginalized groups?
- Qualitative work in three districts of Odisha + baseline survey of ~3500 households in five districts
- Second, if assets are useful but beneficiaries are not able to get what they want, what interventions can we design that can help beneficiaries make their demands known?

Randomized controlled trial in four districts of Odisha of interventions aimed at improving women's ability to voice their demands for assets

# Timeline of MGNREGA asset planning



# Formative qualitative work

- We conducted a small qualitative study in Bolangir, Mayurbhanj and Ganjam districts of Odisha
- We selected 2 blocks from each district with the highest number of assets created over the 5-year period prior to the survey (2017-18 to 2021-22)
- Selected one Gram Panchayat (or GP, a village) per block that had the highest number of assets – 6 GPs in 6 blocks
- Sampled individuals to get a mix of assets and a 2:1 female:male ratio
- Total ~30 interviews with beneficiaries

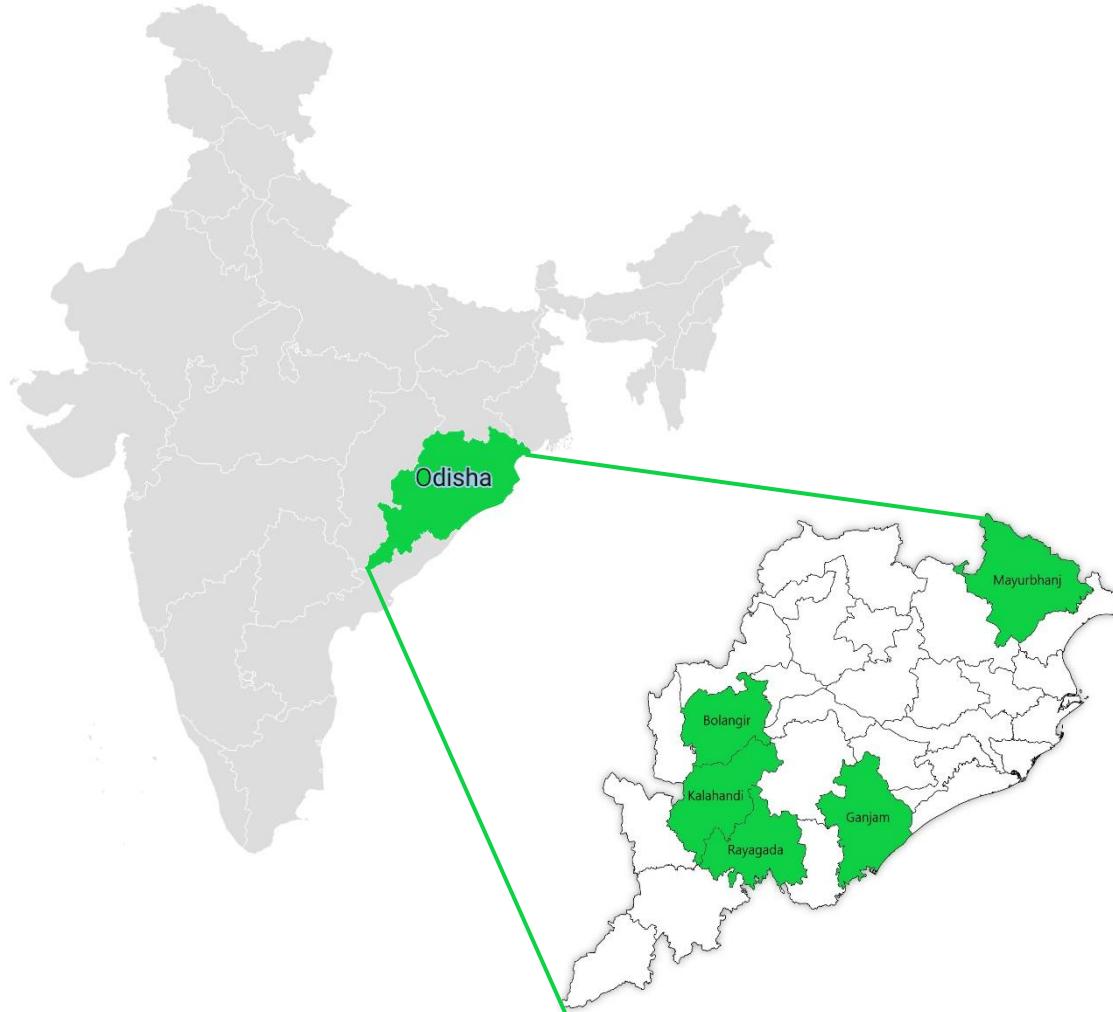


Functional farm pond, Mayurbhanj



Kitchen garden planted with onion, Bolangir

# Baseline survey (May-June 2023)

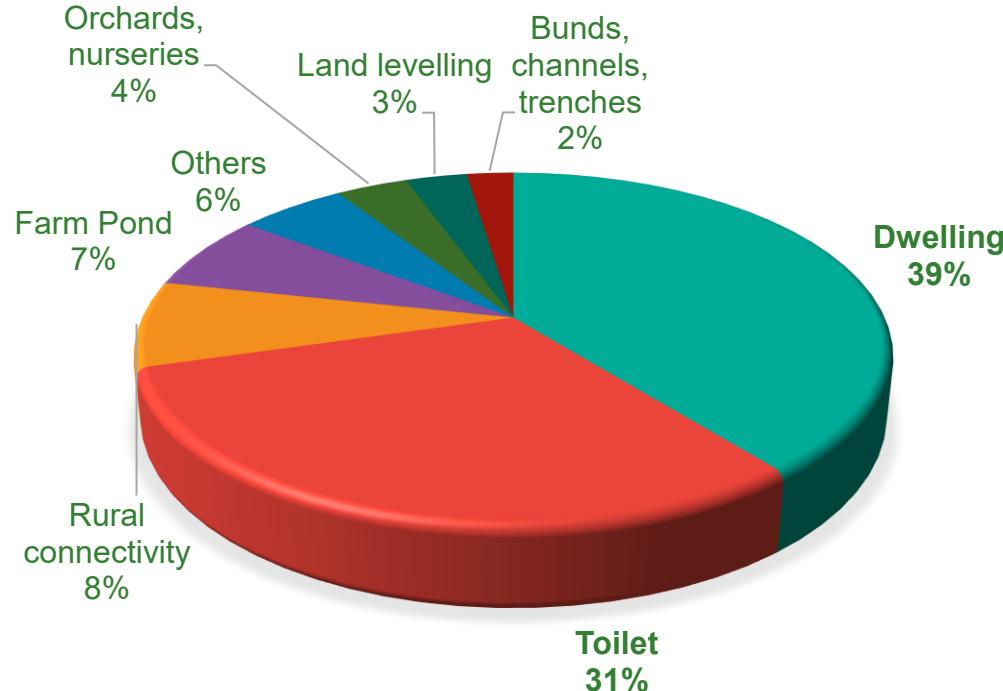


## Baseline survey in 5 districts

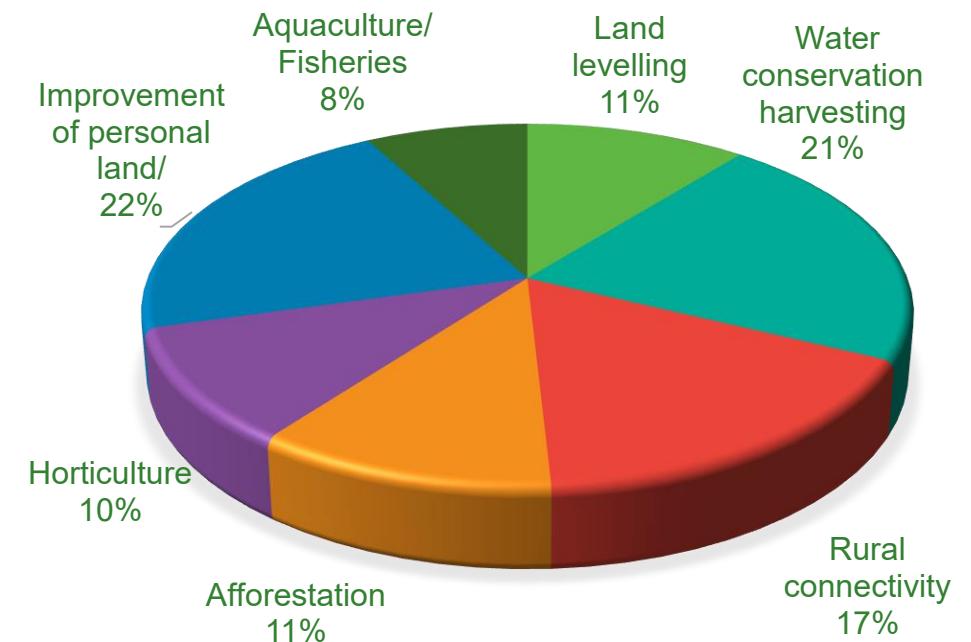
- 50 Gram Panchayats (GPs) per district (**250 GPs**), probability proportional to # active 2021-22 job cards in that GP
- Selected 15 job card holders at random per GP from MGNREGA MIS (**3750 female respondents, achieved 3426 – refusals in Ganjam**)
  - Primary respondent female HH member who worked largest # days on MGNREGA over 2017-18 to 2021-22.
  - More than one such, pick the youngest
  - No woman worked on the program, pick wife of man who worked most days over 5 years prior

# People value assets, but don't always get what they want

- Only 27% of 3426 households had any assets; 86% of them found the asset very useful



What did women get? (N=925)



What did women actually want? (N=3426)

# But usefulness of the asset can also depend on the process: top-down or bottom-up

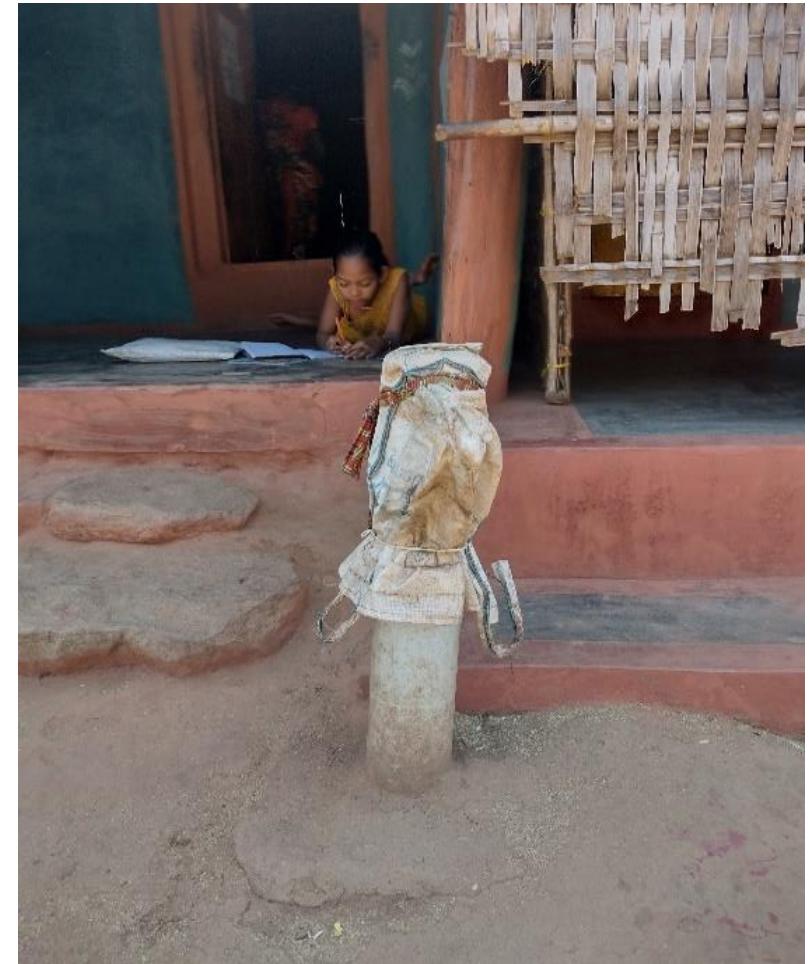
- Top-down assets often not deemed useful:

*“The sarpanch’s husband and ward member visited the pada and told everyone that the GP would construct a water tank in the pada. The construction work started quickly after this announcement”*

*“This tank has not provided any benefits to the community members. There is no water supply through the taps, and they are dry in front of each household. We rely on the tube well in our village for water supply” (male beneficiary, Ganjam)*

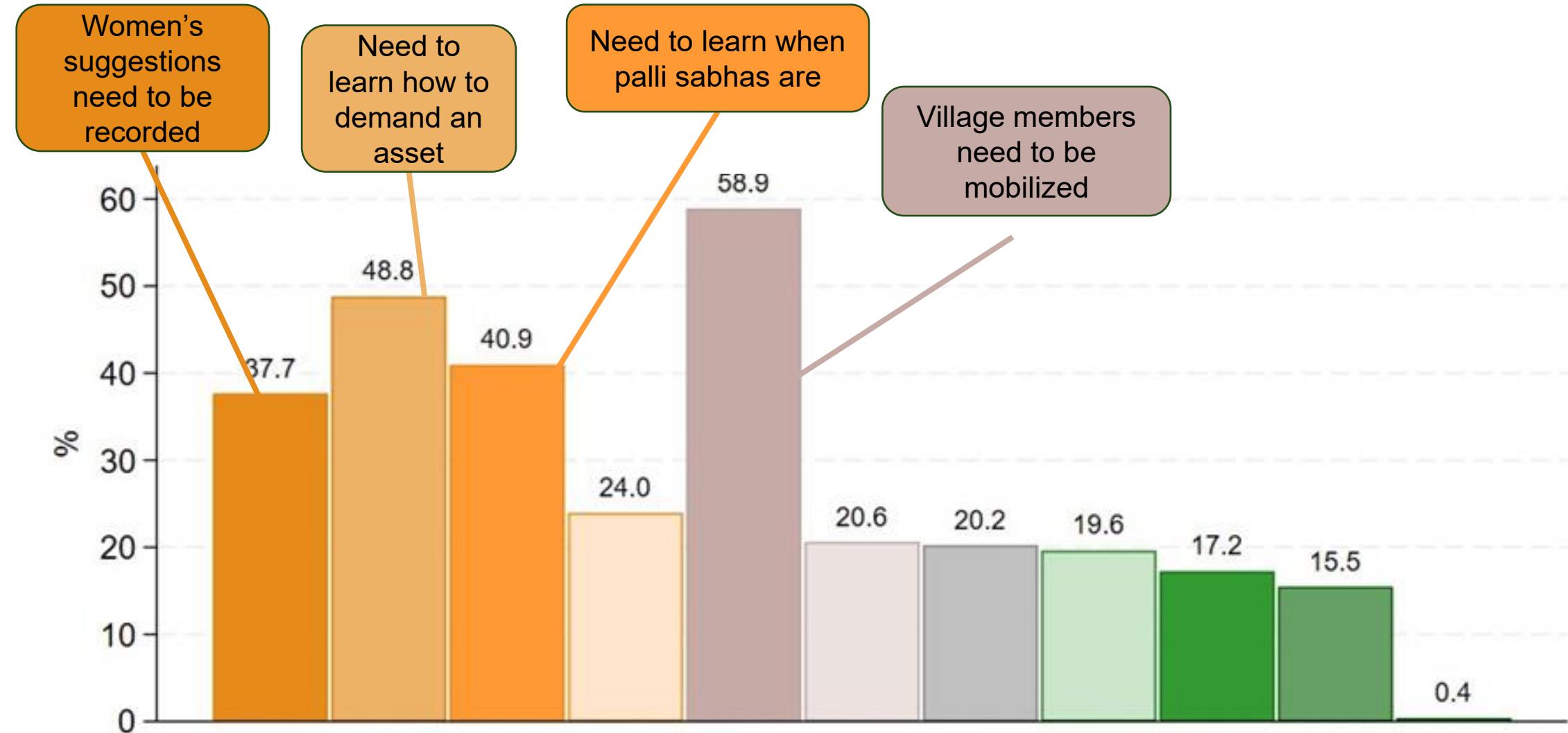
- Bottom-up approaches more successful:

*“We had hoped that this asset would be very useful, and it turned out that way. Now we are be able to store water in rainy seasons. I have used the soil from her land to level up other land they own in a short distance. The farm pond is used by other members in the community as well - they take baths and clean their clothes in their pond.” (female beneficiary, Mayurbhanj)*



*Taps that always run dry, Ganjam*

# Key constraints to demanding assets: mobility, information, responsiveness



# The qualitative work confirmed these barriers

- **Information:** Processes are complex, many women don't know how to navigate them  
*"I do not know about the process, nor did I go to the palli sabha, everything was done by my husband. My documents like Aadhar card, voter card, job card was submitted to the gram sathi for getting the asset." (woman beneficiary, Bolangir)*
- **Public speaking:** Voicing demands is challenging, women don't have practice doing so (though SHGs are helpful)  
*"I sometimes go to meetings and listen to what the Sarpanch and other ward members are saying in the meeting and come back. I feel a little bit shy of saying something there, I am uneducated and always fear if I say something wrong or whether they will listen to me or not." (woman in Ganjam)*
- **Getting men/functionaries to listen:** Even when women attend the palli sabhas and are able to speak up, men decide what demands get recorded.  
*"First listen to our voices in meetings, that itself does not happen in most cases." (woman beneficiary W2, Bolangir)*

# Given these constraints, designed 3-arm cluster-RCT to test select solutions

- The baseline survey described above was used to identify “target women”
  - Selected 94 of the 200 GPs (**~1400 women**) to minimize travel time and costs
  - Included all 15 women in each GP: randomly assigned to one of the three treatment arms
- Each target woman was invited to bring along with her 3-5 other women they consider as “friends”
  - No overlap with the target woman sample, at least one friend NREGA job card holder
  - Interventions were delivered to the group: 1 target woman, + her friends
  - **Note:** friends are self-selected and not random, but give interesting insights
- Importantly, *all* target women got the same recruitment script to avoid selection bias
- Lastly, the first friend to arrive at the location who was an NREGA job card holder was administered a short “pre-intervention” questionnaire

## Placebo

ALL arms receive an information leaflet

Placebo watches unrelated video; other two arms watch video about Odia women who successfully received assets

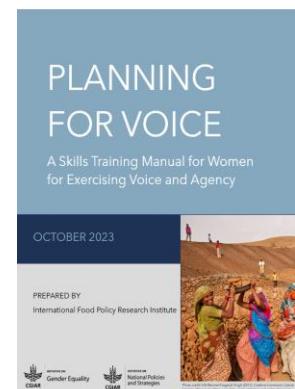
ONLY Treatment arm T2 receives additional skills training



## Role model (T1)



## Role model + training (T2)



# What went into component 3, the skills training?



## I. Social network mapping

Women in each group collaboratively produced a map of their homes and fields, and identified individual and community needs for assets



## II. Identifying and articulating SMART goals

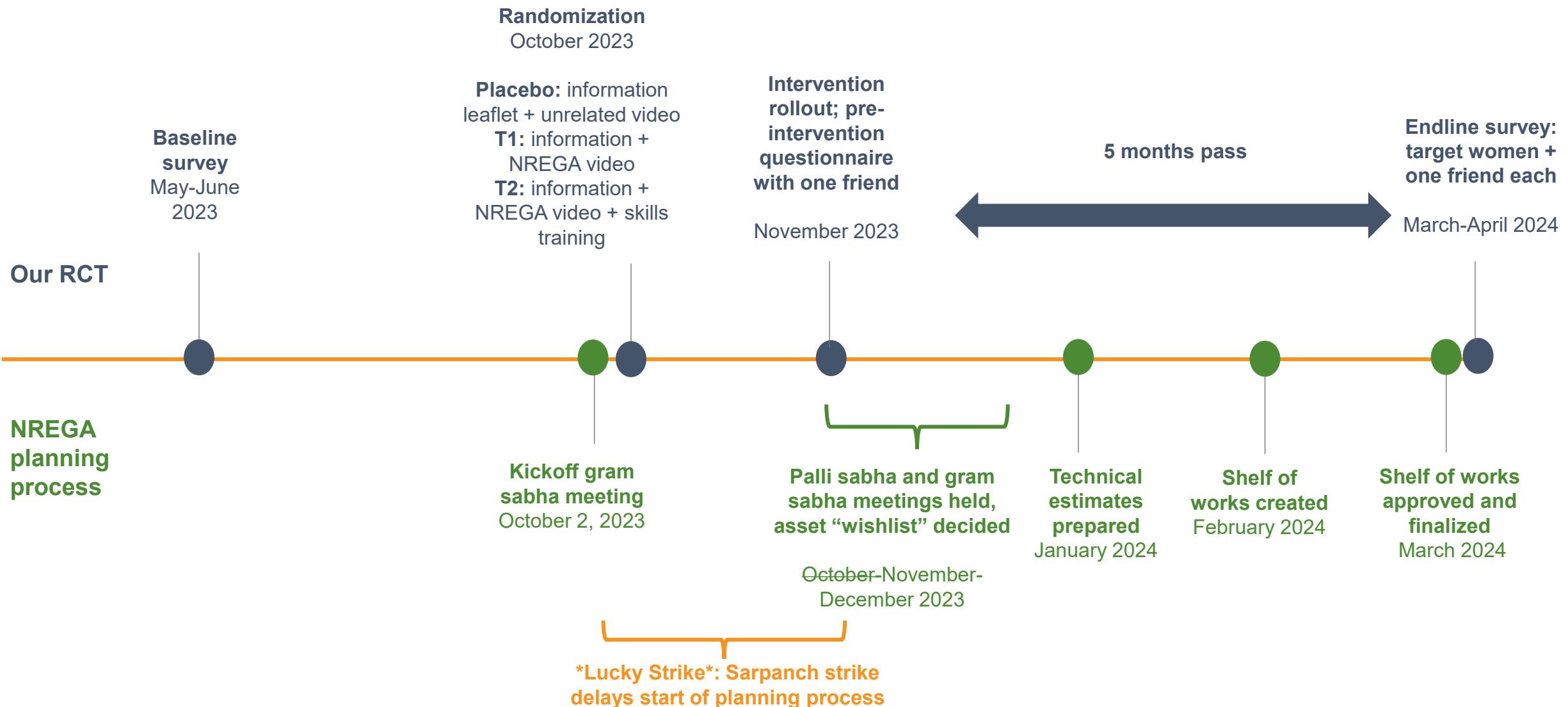
Women practiced articulating demands that were **S**pecific; **M**easurable; **A**chievable; **R**elevant; **T**ime-bound



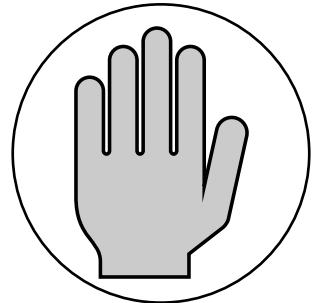
## III. Role play

Once they had an asset in mind, women took turns to enact the process of getting husband/SHG support, making their demands to officials etc

# Study timeline set against the NREGA planning process

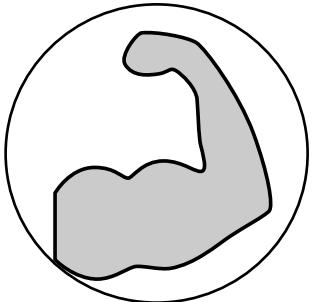


# Endline survey measured outcomes for target woman and friends



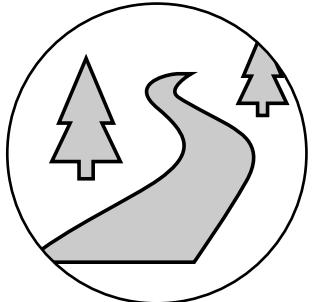
## I. Asset requests

1. Requested an asset since the intervention
2. Aspires to request an asset within next year



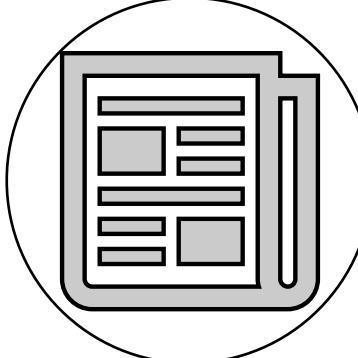
## II. Internal agency and external efficacy

1. Self-efficacy index
2. Identifies as someone who exercises voice
3. Feels comfortable speaking in public (self-reported)
4. Friend's assessment of improvement in respondent's knowledge about assets
5. Enumerator's score of respondent's ability to articulate demand



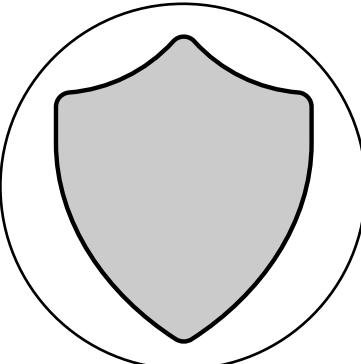
## III. Claim-making pathways

1. Met and discussed with SHG
2. Met and discussed with MGNREGA functionary
3. Attended a palli sabha meeting
4. Spoke at palli sabha meeting
5. Used at least 1 claim-making pathway
6. # of claim-making pathways used



## IV. Information about NREGA

1. MGNREGA program knowledge score
2. Met and discussed the program with others



## V. Trust

1. Belief that people like me have a voice in the MGNREGA process
2. Belief that village is dominated by local elite
3. Trust in local officials

# Empirical strategy

For each set of outcomes of interest for woman  $i$  in GP  $g$ ,  $Y_{ig}$ , we estimate the following ANCOVA specifications:

$$Y_{igt} = \beta_0 + \beta_1 * T_{1ig} + \beta_2 * T_{2ig} + \beta_3 Y_{ig,t-1} + \delta_g + F_{ig} + \beta_x X_{igt} + \epsilon_{ig}$$

where

$T_1$  refers to role model video only,  $T_2$  to the role model video + skills training

$\delta_g$  GP fixed effects;  $F_{ig}$  an indicator for being a friend of the target women

$X_{igt}$  is a vector of pre-intervention characteristics (age, marital status, vector of occupation dummies, household head caste dummies, household head religion dummies, HH member having migrated in the previous year, and the # acres of agricultural land owned)

**This paper reports on the primary specification:** pooled target women + friends, no covariates, error term clustered at the target woman-friend level

Table 1: Baseline characteristics of the pooled women across arms

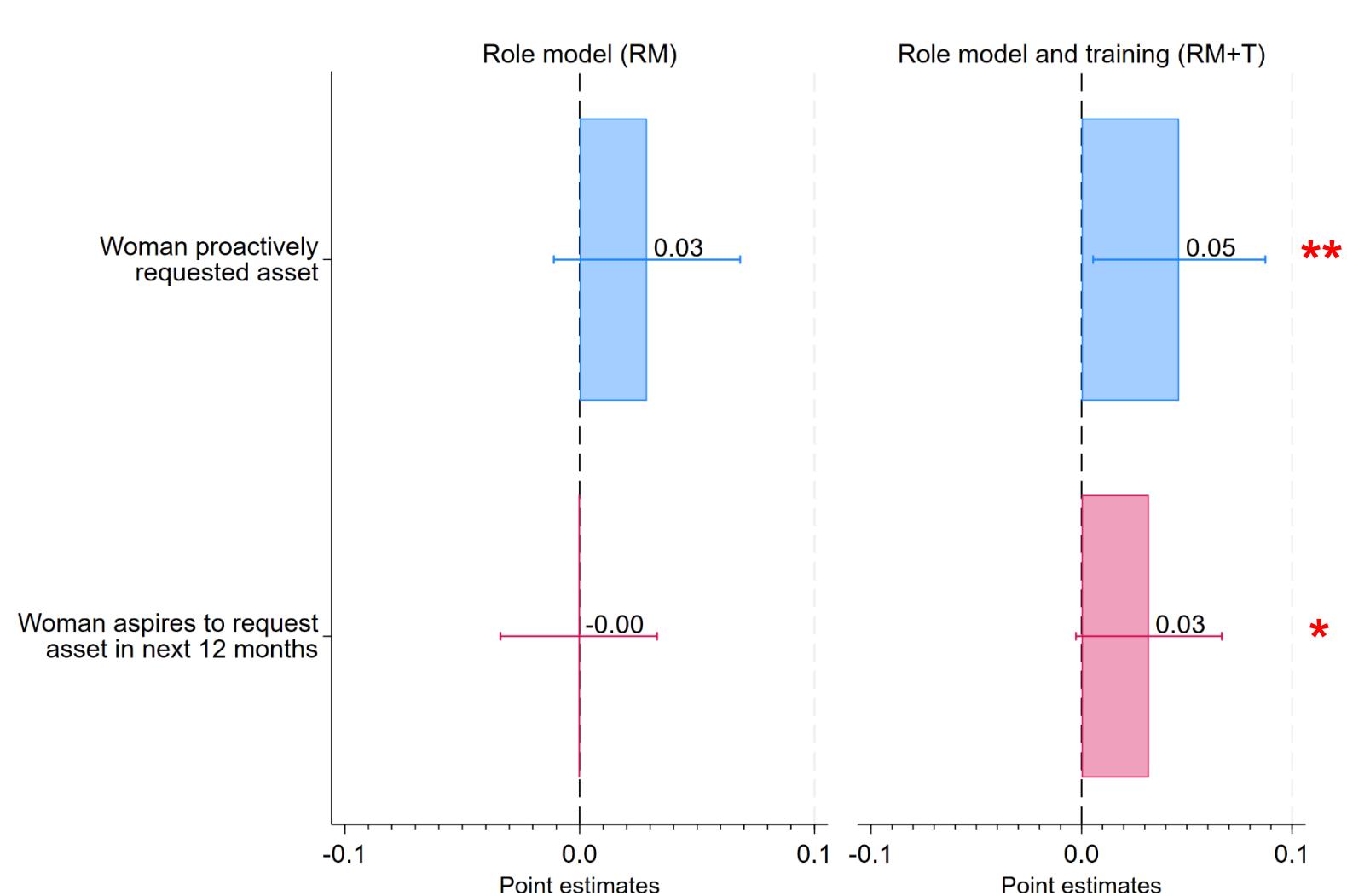
# Baseline balance, pooled sample

- Pooled sample is fairly well balanced across arms (also within target women and friends separately)
- Exceptions are
  - proportion of Sarna households (smaller in T2 than the other two arms)
  - Household size (slightly larger in T1 compared to P and T2)
  - Migration of HH member in last year (larger in T1 than in T2)

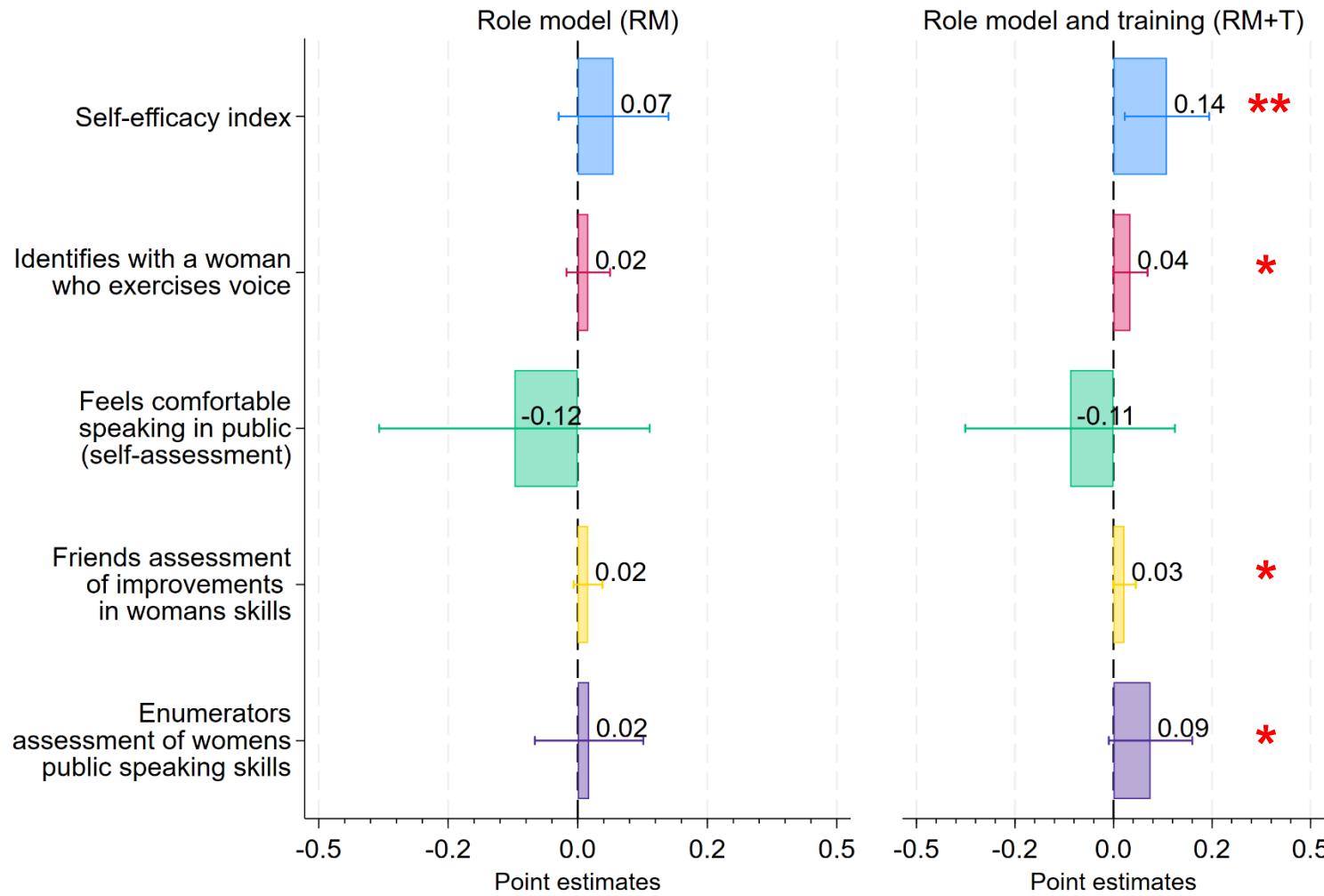
Respondents	Mean/Proportion (SD)			Pairwise t-test		
	Placebo (P)	Treatment 1 (T1)	Treatment 2 (T2)	P vs T1	P vs T2	T1 vs T2
	(N=859)	(N=887)	(N=850)			
Age (years)	42.532 (11.429)	41.448 (11.756)	42.128 (12.180)	-1.084*	-0.404	-0.681
Education (years)	3.042 (3.973)	3.087 (4.000)	2.989 (3.923)	0.045	-0.052	0.097
Married	0.884 (0.321)	0.892 (0.311)	0.882 (0.322)	0.008	-0.001	0.009
Housewife	0.217 (0.412)	0.221 (0.415)	0.199 (0.399)	0.004	-0.018	0.022
Non-ag day laborer	0.281 (0.450)	0.280 (0.449)	0.300 (0.459)	-0.001	0.019	-0.020
<i>Caste</i>						
General	0.073 (0.261)	0.055 (0.229)	0.067 (0.250)	-0.018	-0.006	-0.012
Scheduled Caste	0.183 (0.387)	0.207 (0.406)	0.179 (0.383)	0.025	-0.004	0.029
Scheduled Tribe	0.438 (0.496)	0.418 (0.494)	0.418 (0.493)	-0.019	-0.020	0.001
Other Backward Caste	0.306 (0.461)	0.319 (0.466)	0.334 (0.472)	0.013	0.028	-0.015
<i>Religion</i>						
Hindu	0.986 (0.117)	0.981 (0.137)	0.989 (0.102)	-0.005	0.003	-0.009
Muslim	0.001 (0.034)	0.001 (0.034)	0.002 (0.048)	-0.000	0.001	-0.001
Christian	0.002 (0.048)	0.008 (0.089)	0.005 (0.068)	0.006	0.002	0.003
Sarna	0.010 (0.102)	0.010 (0.100)	0.004 (0.059)	-0.000	-0.007*	0.007*
Household size	4.343 (1.743)	4.538 (1.718)	4.352 (1.715)	0.194**	0.008	0.186**
Household member migrated in last year	0.154 (0.362)	0.177 (0.382)	0.138 (0.345)	0.022	-0.017	0.039**
Agricultural land owned (in acres)	1.250 (1.777)	1.211 (2.888)	1.423 (3.548)	-0.039	0.173	-0.211

# Key findings: requesting an asset

- **4.6 pp** increase in women reporting requesting assets themselves
- **3.2 pp** increase in aspiring to request an asset in the next one year
- When conditioned on not having received an asset already, impact on aspirations are stronger (and significant at 10%)
- Results hold with multiple hypothesis corrections

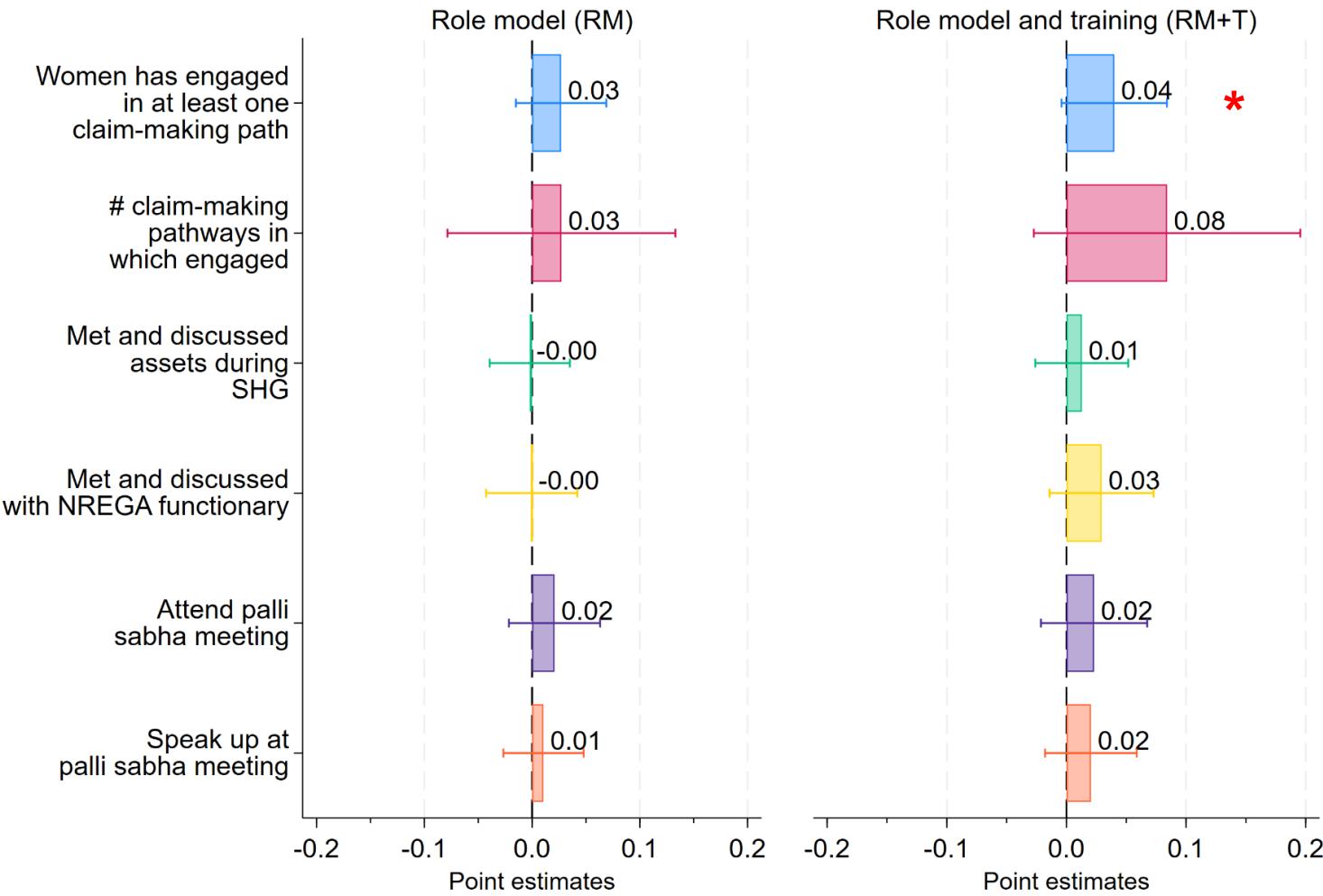


# Key findings: Internal agency and external self-efficacy



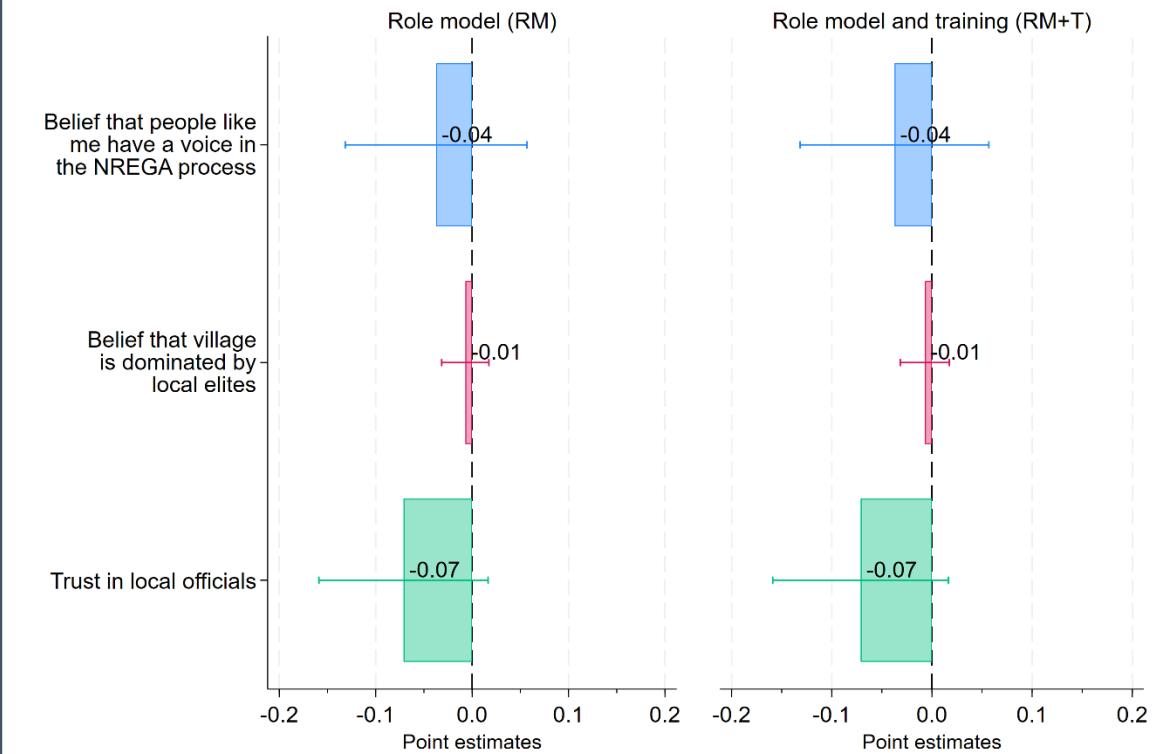
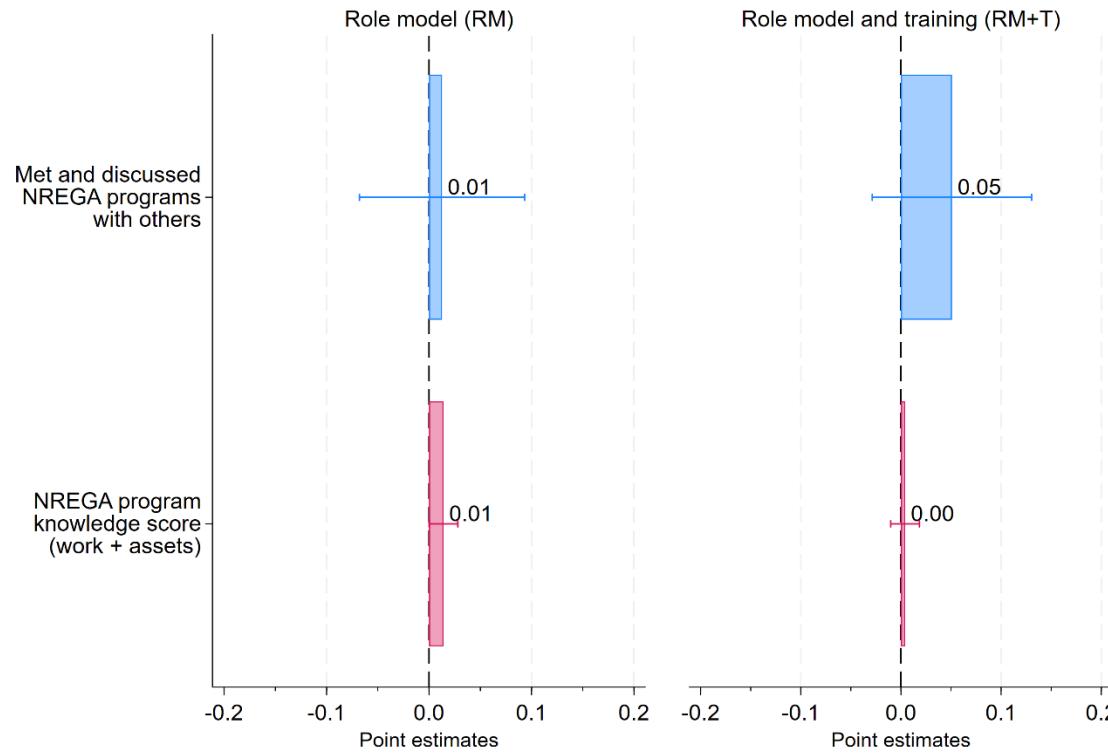
- Improvements in self-efficacy index, the likelihood the woman identifies as someone who exercises voice, and the friend's and enumerator's assessments of respondent women's abilities
- All impacts again coming from RM+T
- Impacts robust to multiple hypothesis corrections

# Key findings: claim-making pathways, pooled sample



- No significant results on individual pathways
  - Positive, but not significant
- But overall index shows an impact on whether the woman engaged in at least 1 pathway

# Key findings: information about NREGA and trust



No significant results on any of these outcomes

# Estimating heterogeneous treatment effects

- We estimate heterogeneous treatment effects along four dimensions:
  - respondent membership in an SHG
  - baseline level of engagement with the MGNREGA
  - respondent age (35 and above)
  - belief that village affairs are not dominated by elites
- First two don't show heterogeneous treatment effects
- We see interesting results for the last two; present these for the main outcomes of interest

# HTE by respondent age (1/3): Positive and significant impacts of RM+T on asset requests and aspirations for older women

	Woman proactively requested asset	Woman aspires to request asset in next 12 months
Role model	0.019 (0.024)	0.015 (0.021)
Role model + training	0.064** (0.025)	0.037* (0.021)
Younger women	0.014 (0.028)	0.048* (0.027)
Younger women x Role model	0.023 (0.038)	-0.051 (0.036)
Younger women x Role model + training	-0.052 (0.040)	-0.021 (0.039)
Role model (Younger vs older women)	0.945	0.187
Role model + training (Younger vs older women)	0.044	0.272

## HTE by respondent age (2/3): Positive impacts of RM and RM+T on self-efficacy for older women; also, friends' assessments (but not enumerators'!)

	Self-efficacy index	Identifies with a woman who exercises voice	Feels comfortable speaking in public (self-assessment)	Friend's assessment of improvements in woman's skills <sup>#</sup>	Enumerator's assessment of women's public speaking skills <sup>#</sup>
Role model	0.113* (0.067)	0.026 (0.026)	-0.105 (0.161)	0.026 (0.017)	-0.046 (0.063)
Role model + training	0.189*** (0.068)	0.052* (0.027)	0.022 (0.162)	0.030* (0.018)	0.105 (0.066)
Younger women	0.156* (0.081)	0.022 (0.032)	0.242 (0.202)	0.032 (0.022)	-0.074 (0.079)
Younger women x Role model	-0.145 (0.109)	-0.018 (0.045)	-0.084 (0.267)	-0.023 (0.029)	0.198* (0.101)
Younger women x Role model + training	-0.171 (0.112)	-0.030 (0.046)	-0.407 (0.280)	-0.008 (0.030)	-0.021 (0.113)
Role model (Younger vs older women)	0.102	0.493	0.955	0.228	0.093
Role model + training (Younger vs older women)	0.026	0.209	0.275	0.379	0.433

# HTE by respondent age: Again, impacts of RM+T on claim-making for older women; differential impacts for engaging in $\geq 1$ pathway

	Women has engaged in at least 1 claim-making path	# claim-making pathways in which engaged	Met and discussed assets during SHG	Met and discussed with NREGA functionary	Attend palli sabha meeting	Speak up at palli sabha meeting
Role model	0.012 (0.027)	0.009 (0.066)	-0.006 (0.022)	0.010 (0.026)	0.002 (0.024)	0.005 (0.022)
Role model + training	<b>0.057**</b> <b>(0.027)</b>	<b>0.118*</b> <b>(0.068)</b>	0.017 (0.024)	<b>0.060**</b> <b>(0.027)</b>	0.019 (0.024)	0.024 (0.022)
Younger women	0.034 (0.033)	0.025 (0.080)	0.041 (0.028)	0.024 (0.032)	-0.027 (0.029)	-0.014 (0.026)
Younger women x Role model	-0.009 (0.045)	0.021 (0.107)	0.005 (0.038)	-0.033 (0.044)	0.030 (0.039)	0.018 (0.036)
Younger women x Role model + training	-0.058 (0.048)	-0.116 (0.114)	-0.017 (0.042)	<b>-0.090*</b> <b>(0.046)</b>	0.001 (0.040)	-0.008 (0.037)
Role model (Younger vs older women)	0.744	0.932	0.839	0.489	0.616	0.800
Role model + training (Younger vs older women)	<b>0.083</b>	<b>0.143</b>	0.561	<b>0.023</b>	0.754	0.535

# HTE by elite domination (1/2): Impact of role model treatment on aspirations comes from those who report absence of elite domination

	Woman proactively requested asset	Woman aspires to request asset in next 12 months
Role model	0.027 (0.060)	0.053 (0.044)
Role mode + training	-0.020 (0.063)	0.031 (0.049)
Absence of elite domination	0.024 (0.049)	0.021 (0.036)
Absence of elite domination x Role model	0.018 (0.067)	<b>-0.101*</b> <b>(0.052)</b>
Absence of elite domination x Role model + training	0.082 (0.070)	0.000 (0.057)
Role model (Absence of elite domination vs not)	0.937	<b>0.093</b>
Role model + training (Absence of elite domination vs not)	0.434	0.764

# HTE by elite domination (2/2): Impact of RM+T on claimmaking predominantly driven by those who report absence of elite domination

	Women has engaged in at least 1 claim-making path	# claim-making pathways in which engaged	Met and discussed assets during SHG	Met and discussed with NREGA functionary	Attend palli sabha meeting	Speak up at palli sabha meeting
Role model	-0.006 (0.065)	0.105 (0.160)	0.033 (0.054)	0.040 (0.061)	0.018 (0.059)	0.014 (0.057)
Role mode + training	0.030 (0.071)	-0.069 (0.161)	-0.077 (0.055)	0.128* (0.066)	-0.060 (0.060)	-0.059 (0.057)
Absence of elite domination	-0.050 (0.054)	-0.013 (0.130)	-0.012 (0.044)	0.026 (0.050)	-0.004 (0.050)	-0.023 (0.048)
Absence of elite domination x Role model	0.070 (0.074)	-0.068 (0.179)	-0.035 (0.061)	-0.037 (0.069)	-0.001 (0.066)	0.004 (0.063)
Absence of elite domination x Role model + training	0.082 (0.079)	0.311* (0.183)	0.137** (0.063)	-0.075 (0.075)	0.122* (0.067)	0.126* (0.064)
Role model (Absence of elite domination vs not)	0.576	0.600	0.547	0.542	0.879	0.935
Role model + training (Absence of elite domination vs not)	0.725	0.256	0.062	0.139	0.142	0.119

# What can we conclude?

- We found that women beneficiaries value MGNREGA assets, but can't always get the assets they want
- Even a one-time light-touch intervention *can* impact women's skills, aspirations, and demand for assets
  - But inspirational video not enough on its own
  - Must be combined with training on practical skills
- Structural constraints remain a concern: non-responsive officials, elite capture etc
  - We don't address these at all
  - Interestingly: effects on asset requests larger in villages where respondents say that village affairs are decided on democratically (vs. elite-driven)



Signposts in Dumka with various MGNREGA-related pieces of information.

# Thank you!



Information leaflet



Role model video



Skills training manual

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