

Gender-sharing between local leaders and frontline workers

*Implications on preferences, revealed interaction dynamics, and
public services in Gujarat*

Investigators

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Executive Summary

This report was prepared by a group of researchers comprising of Soledad Prillaman (Stanford University), Anupam Sharma (IITGN), and Deepak Singhania (IITGN). It is part of the study that was funded by Azim Premji University (APU). The objective of this study was to understand the dynamics between village *sarpanches* and several frontline workers (FLWs), and how and if these dynamics play out differently when they share their identity in the form of their gender. While there have been ample studies that show difference in various outcomes in the villages headed by male and female *sarpanches*, an understanding on the gender dynamics between *sarpanches* and their respective FLWs is highly limited. The aim of this study was to fill that gap.

This report is a work-in-progress, and it currently presents the preliminary findings from the data collected from FLWs. The data collected from the *sarpanches* will be analysed later to provide more holistic interpretations. The funding from APU and our preliminary findings allowed us to raise additional funds, which further expanded the scope of our research.

We used a mixed-methods approach integrating qualitative and quantitative methods. The study was conducted in Ahmedabad and Chhota Udepur districts of Gujarat during 2022-2023. For the deeper qualitative insights, we randomly sampled 20 villages from the two districts, while for more representative insights we conducted a comprehensive survey in 300 villages, equally divided between the two districts. The final sample comprised of 300 *sarpanches* and 784 FLWs which included Anganwadi Workers (AWWs), school Headmaster (HM), and village secretaries. Below are the key preliminary findings.

1. FLWs prefer to work with politicians of their gender
 - (a) We tried to assess FLW's preferences for the gender of *sarpanches* by showing them hypothetical profiles¹. This was done in addition to asking about actual interactions, which we report below.

¹This is done through a method called Conjoint Experiments, which is explained in the report

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- (b) Male FLWs reported a negative preference towards working with female *sarpanches*, perceived them to be less qualified, less cooperative, and to lack confidence in speaking to officials on their behalf. However, this effect disappeared in the sample of male FLWs who currently worked directly with female *sarpanches*.
 - (c) On the other hand, female FLWs preferred women *sarpanches*, irrespective of the gender of the *sarpanch*.
2. Shared gender does not affect the frequency of *sarpanch*-FLW interactions
- (a) There is no statistically significant relationship between shared gender of FLWs and *sarpanches* for frequency or duration of meetings.
3. Shared gender increases comfort in *sarpanch*-FLW interactions
- (a) Male and female FLWs were both more comfortable meeting *sarpanches* alone, instead of with someone else, when they shared their gender identities. This effect was stronger for male FLWs.
 - (b) FLWs were comfortable discussing personal matters when they shared their gender with the *sarpanch*, and this effect is stronger among female pairings.
 - (c) Male FLWs were relatively more comfortable contacting male *sarpanches* outside office hours over phone. At the same time, both the male and female FLWs reported having less access to contact numbers of female *sarpanches* as compared to that of male *sarpanches*. These findings could partly be driven by lack of phone ownership among women.
4. Female FLWs perceived female *sarpanches* to take their demands more seriously
- (a) AWWs reported female (versus male) *sarpanches* likely took their demands more seriously. This effect was not seen among HM and village secretaries.
5. Shared gender of FLW and *sarpanches* does not relate to observed outcomes
- (a) We found no statistically significant association of a shared-gender identity with observed outcomes such as the quality and cleanliness of primary schools and Aanganwadi centres.

In summary, our study was an attempt to understand gender-based dynamics between FLWs and locally elected *sarpanches*. While we found evidence some differences when FLWs and *sarpanches* shared their gender (as compared to cross-gender identities), these effects *were largely concentrated in preferences as opposed to outcomes* and were stronger for male-male dyads. Easy accessibility to female politicians wasn't observed, despite a clear revealed preference in the hypothetical experiment by female FLWs, which could also be driven by the differences in agency of female *sarpanches* compared to male *sarpanches*. Policymakers could consider strategies to enhance the visibility and accessibility of female leaders, such as through training and mentorship programs. Raising awareness about gender inclusivity within local governance framework could help reduce biases and make the working environment more equitable.

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Gender sharing between FLWs and sarpanches

1 Introduction

There remain stark gender gaps in political participation in low- and middle-income countries. This is worrisome in countries such as India where such disparities are primarily driven by deeply-rooted patriarchal norms and a strict division of labour that limits women's roles to domestic responsibilities. In India, while women constitute 48% of the population, they are significantly underrepresented in politics. As per the Inter-Parliamentary Union, as of January 2021, women held only 14.4% of seats in India's Parliament, a figure that highlights the persistent gender disparity in political engagement (Inter-Parliamentary Union, 2021).

To address these disparities, the Government of India has implemented initiatives aimed at increasing women's representation in politics. Most notably, the 73rd Amendment to the Indian Constitution, enacted in 1992, introduced a reservation system for women which mandated that at least one-third of the seats in local governing bodies (Panchayati Raj Institutions (PRIs)), be reserved for women across every state.

The impact of this reservation policy has been significant and well-documented. Early evidence presented by Dubey & padalia (2000) indicated a substantial increase in women's access to political decision-making roles following the implementation of these reservation policies. Studies after decades of the implementation of the policy have also shown some positive effects of the reservation policy on local governance outcomes such as raising demands of NREGA work (Bose & Das, 2017), effective political participation translating to a greater willingness to contribute to public goods (Deininger et al., 2012), knowledge and awareness

about PRIs among women citizens (Pathak & Bharti, 2021), and greater political participation and empowerment among women citizens (Priebe, 2017). In this line of inquiry, the seminal work by Chattopadhyay and Duflo (2004) showed the impact of gender reservations in local governments of West Bengal and Rajasthan on how female sarpanches were more likely to focus on public goods that align with the preferences of women citizens, such as improved access to water and better roads.

While the effectiveness of the reservation policy has been well-documented, the specific mechanisms or pathways by which female sarpanches implement such changes remains a black box. Service delivery and effective policy-making requires seeing ideas through from inception to delivery. Given the complex bureaucracy in India, this means working with bureaucrats at many levels to ensure women politicians' visions are executed. Gender bias among higher level bureaucrats has been well-documented (Purohit, 2021). These higher level bureaucrats control the planning and funding for many local schemes and such bias may hinder women politicians' ability to execute their visions.

Even if politicians can effectively work with higher level bureaucrats, they must then ensure that the frontline workers (FLWs) – those whose job is to interact with beneficiaries and deliver schemes – are accountable to their policies. FLWs, such as Aanganwadi workers (AWW), primary school headmasters (HMs), and village secretaries are important local bureaucrats who may rely on sarpanches for effective service delivery. Unpacking the dynamics of such collaborations is critical for understanding local governance.

Previous research indicates that women sarpanches often faced multiple societal hurdles such as lack of cooperation from both voters and officials (Palanithurai, 2002; Beaman et al., 2009), which in turn can impede their effectiveness (Beaman et al., 2009). Similar biases or preferences, if they exist among FLWs, could further complicate the implementation process. There may also be structural impediments for female politicians in interacting with local bureaucrats, such as constraints on mobility. Therefore, understanding the gender dynamics between sarpanches and FLWs is crucial for identifying the pathways through which sarpanches navigate their roles and influence policy outcomes.

Given this pretext, our study aimed to examine the gender-dynamics between sarpanches and FLWs. First, through an experiment, called conjoint experiment, we examined the preferences of FLWs towards working with sarpanches and if gender affected these preferences. Second, we assessed how gendered dynamics influence a diverse set of interim outcomes to program delivery, such as their level of interaction, comfort in interactions, accessibility, and perceptions about effectiveness along with observed service delivery outcomes. The research questions of this study are:

1. Does gender shape the preferences of FLWs regarding who they work with? Do FLWs

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perceive female *sarpanches* to be of different quality than male *sarpanches*?

2. How does shared gender between *sarpanches* and FLWs relate to their interactions, including frequency and comfort of interactions, ease of access, and perceived seriousness of demands?
3. Does a shared gender identity between FLWs and *sarpanches* relate to better public service delivery, specifically in the quality and cleanliness of primary schools and Anganwadi Centres (AWCs)?

2 Methodology and approach

2.1 Research design

Our study utilized a mixed-methods approach (Creswell & Clark, 2017), integrating both qualitative and quantitative methods to explore the dynamics between *sarpanches* and FLWs, and their impact on policy implementation and service delivery. We first began with a scoping study that informed our interview guides. Then, we conducted focus group discussions (FGDs) and in-depth interviews (IDIs) with *sarpanches* and FLWs to develop a deeper understanding of these interactions, with a particular focus on the role of shared identities. Following this, we carried out a structured survey across 300 villages to quantitatively analyze the effects of shared gender identity on various outcomes. We therefore combined detailed qualitative insights with the findings from the quantitative data with the aim to provide a nuanced overview of the factors potentially influencing grassroots policy implementation.

2.2 Field plan

Our research was conducted in Gujarat, India. Qualitative interviews were done during August 2022 – January 2023, while the quantitative surveys were done in September-October 2023. We selected Ahmedabad and Chhota Udepur as our study locations to examine the dynamics in contrasting environments – Ahmedabad, a largely urbanized district with developed infrastructure, contrasts sharply with Chhota Udepur, which is predominantly rural with a significant tribal population.

Based on the learnings from scoping interviews, we refined our interview guides. These guides were designed to gather detailed information about FLWs' and *sarpanches*' interactions within the village ecosystem, focusing on the nature, frequency, and quality of their interactions. After obtaining ethical clearance from the IIT Gandhinagar Institutional Ethics Committee, we conducted IDIs with various AWWs, ASHAs, Gram Rojgar Sewaks (GRS), Gram Sewaks (GS), primary school headmasters (HMs) and village secretaries along with their respective *sarpanches*, in 20 villages selected through random sampling. We ensured a gender-balanced representation from the districts involved, collected data was recorded, transcribed verbatim, and analysed using content analysis techniques to identify key themes related to relational dynamics and their impact on policy implementation.

Following the qualitative phase, we conducted a comprehensive survey in 300 villages, equally divided between Chhota Udepur and Ahmedabad districts. Respondents comprised of FLWs (AWWs, HMs, and village secretaries) and *sarpanches*. We utilized the gender of the *sarpanch* as a key parameter for stratified random sampling within each district while ensuring representativeness across blocks. A total of 300 *sarpanches* and 784 FLWs were included in our analytical sample (details in subsequent section). In this survey, we collected data on the

nature of their interactions (in terms of frequency and comfort, and this was motivated by the findings of Purohit (2021) who discussed the differences in how bureaucrats interact based on gender). We also collected data on the quality of services, and FLWs' preferences towards *sarpanches*, using structured observations and conjoint experiments, respectively. The list of variables included in our study can be found in Appendix 1.

We also conducted conjoint experiments which is a promising research tool to explore decision-making processes by presenting individuals with hypothetical scenarios that vary in specific attributes, such as gender, qualifications, and experience. We provided two hypothetical profiles of *sarpanches* with random attribute parameters on gender, caste, experience, and others (see Appendix 3), to identify the relative importance of gender of the *sarpanch* in FLWs choices for a set of questions about their preference to work.

2.3 Analysis plan

We collected FLW data on HMs, village secretaries, and AWWs with the former two chosen due to their inherent gender diversity within services. Primary school HMs are typically appointed by external bodies like Staff Recruitment Selection Committees, providing an opportunity to analyze the association of a shared gender identity and interaction dynamics, keeping the service type constant. For these gender-variant roles within services, we utilized linear and logistic regression analyses to explore how shared-gender identity between the FLWs and the *sarpanches* was associated with the different outcomes as reported by the FLWs, by including an interaction of their genders (specifications below). On the other hand, the female AWWs offered a controlled environment to study the potential effect of working with *sarpanches* of a specific gender on different outcomes, where we employed fixed-effects models. Finally, in the conjoint analysis, we systematically varied and controlled for the included attributes, to uncover how gender of the *sarpanch* could be a factor for FLW's judgments and preferences.

We used Ordinary Least Square (OLS) regressions to analyze continuous outcome variables, such as the FLW reported frequency of monthly meetings between *sarpanches* and FLWs. The model primarily considered the effects of both the *sarpanch's* and the FLW's gender and the interaction between their genders (the interaction term was included only for the HM and village secretary sample). Additionally, it controlled for variables like the FLW's current position, caste and education of both the FLW and the *sarpanch*, the village's reservation status, permanent residency status of the FLW, and the administrative block of the village as fixed effect. For binary outcomes, such as whether an FLW meets alone with the *sarpanch* always, we applied a logistic regression model.

The linear regression model is described by the equation:

$$Y_{k,i} = \alpha + \gamma(\text{Female FLW})_{k,i} + \beta_1(\text{Female sarpanch})_k + \beta_2(\text{Female FLW} \times \text{Female sarpanch})_{k,i} + \theta\mathbf{X}_{k,i} + \epsilon_{k,i} \quad (1)$$

where:

- $Y_{k,i}$ is the outcome for individual i in village k .
- $(\text{Female FLW})_{k,i}$ is a dummy variable indicating whether the FLW is female.
- $(\text{Female sarpanch})_k$ is a dummy variable indicating whether the sarpanch (village head) is female.
- $(\text{Female FLW} \times \text{Female Sarpanch})_{k,i}$ is an interaction term between the gender of the FLW and the gender of the sarpanch.
- $\mathbf{X}_{k,i}$ represents the covariate matrix. This include FLW's current position, caste and education of both the FLW and the *sarpanch*, the village's reservation status, permanent residency status of the FLW, and the administrative block of the village.
- $\epsilon_{k,i}$ is the error term.

For binary outcomes, the logistic regression model is specified as follows:

$$\log \left(\frac{P(Y_{k,i} = 1)}{1 - P(Y_{k,i} = 1)} \right) = \alpha + \gamma (\text{Female FLW})_{k,i} + \beta_1(\text{Female sarpanch})_k + \beta_2(\text{Female FLW} \times \text{Female Sarpanch})_{k,i} + \theta\mathbf{X}_{k,i} + \epsilon_{k,i} \quad (2)$$

3 Findings

Our analytical sample revealed gender-based differences in occupational roles within the surveyed districts (Table 1). All AWWs are women, as defined by their job descriptions. School headmasters and village secretaries were predominantly male, with male representation exceeding 70% in these positions. Regarding the shared-gender identities between FLWs and *sarpanches* (Table 2), 51.53% of the sample reported a shared gender identity, indicating that over half of the FLWs shared the same gender as their *sarpanches*.

Table 1: The distribution of FLWs across Ahmedabad and Chhota Udepur districts according to their gender

Position	Gender	Ahmedabad		Chhota Udepur	
		N	%	N	%
AWW	Male	0	0.00%	0	0.00%
	Female	136	100.00%	152	100.00%
School Headmaster	Male	93	70.45%	115	73.72%
	Female	39	29.55%	41	26.28%
Village Secretary	Male	93	80.17%	67	72.83%
	Female	23	19.83%	25	27.17%
Total	Male	186	48.44%	182	45.50%
	Female	198	51.56%	218	54.50%

Table 2: The distribution of FLWs according to shared gender identities with the sarpanches

Gender Overlap	AWW		School Head		Village Secretary		Total	
	N	%	N	%	N	%	N	%
Do not overlap	85	29.51%	179	62.15%	116	55.77%	380	48.47%
Gender overlap	203	70.49%	109	37.85%	92	44.23%	404	51.53%
Total	288	100.00%	288	100.00%	208	100.00%	784	100.00%

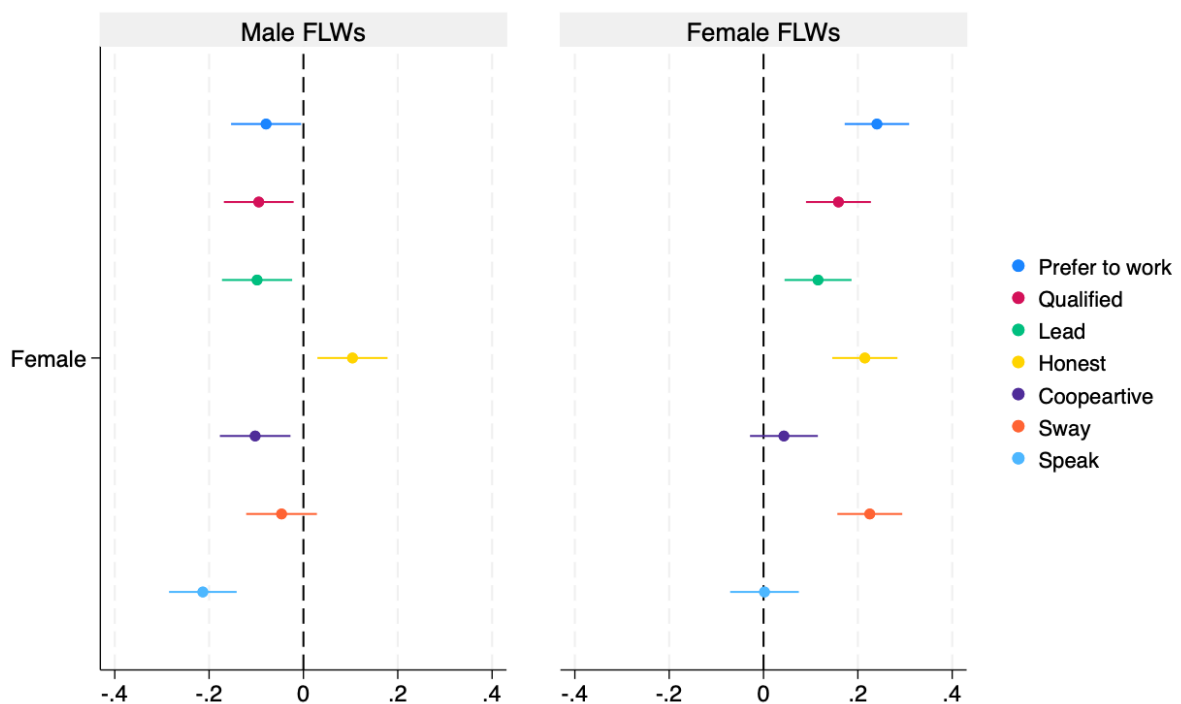
3.1 Shared-gender identity between FLWs and *sarpanches* and its effect on preferences and perceptions: Findings from the conjoint experiments

Our findings from the conjoint experiments have yielded several interesting and important findings. We found that male FLWs often reported less preference towards women *sarpanches* to work with, perceived them to be less qualified, cooperative, and lacked confidence in speaking on behalf of the FLWs (Figure 1). However, male-FLWs perceived women leaders to be more honest. This finding aligns with previous research that suggests women in leadership positions

were often perceived as more trustworthy and ethical compared to their male counterparts (Eagly & Carli, 2007). This could be due to the stereotype that women have more nurturing and communal traits, resulting in an image as honest leaders (Koenig et al., 2011).

On the other hand, we found that women FLWs were reportedly more inclined to prefer working with women and had assigned positive preferences towards women in all aspects of our inquiry (Figure 1).

Figure 1: A plot of the coefficients of the OLS regressions showing the effect size (coefficients) of gender effects for outcomes of the conjoint experiments (on different attributes) as reported by the FLWs across gender of the FLWs.

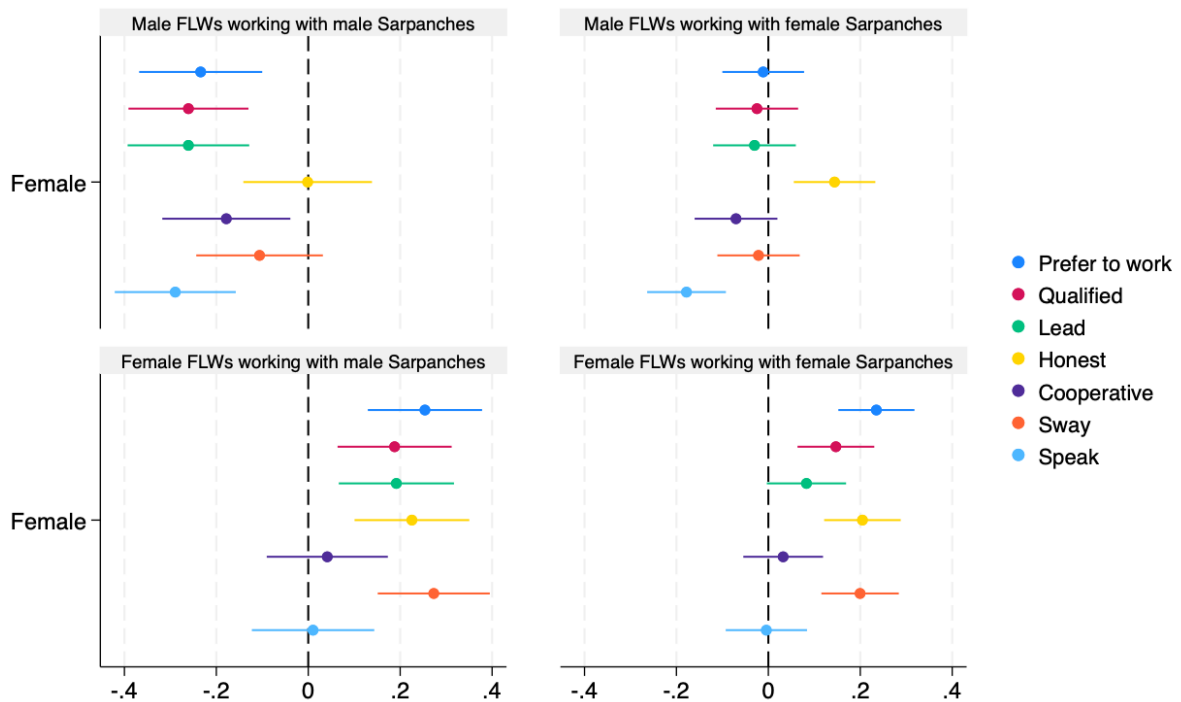


Note: Robust standard errors are in parentheses. Dependent Variables: Preference: Who would you prefer working with?; Qualified: Who is more qualified?; Lead: Who will you be able to lead better?; Trust: Who would be more trustworthy and honest?; Cooperative: Who would be more of a team player and cooperative?; Sway: Who do you believe would sway the work more in your favor?; Speak: Who would you prefer to speak on your behalf to any higher authority, such as the Block/Taluka officers or the district officers? The models accounted for FLW type. The spike plots refer to the 95% CIs.

More interestingly, the gender effects were different across male and female FLWs. One reason for this could be borrowed from our qualitative findings, where women FLWs reported perceiving that women *sarpanches* could be more empathetic. We then explored, if these estimates indicate consistency when we assess them by subgroups of combinations of their gender identities, assuming that the experience of working with cross- or same- gender *sarpanches* might have an influence on these preferences reported by the FLWs. Interestingly, the subgroup analysis revealed that the negative preferences among male FLWs towards female *sarpanches*

diminished (loses statistical significance for a majority of outcomes) when considering the subgroup of male FLWs currently working with female leaders (Figure 2). However, for the women FLWs, the estimates of preferring women *sarpanches* remained the same irrespective of the gender of the *sarpanch* of their current village.

Figure 2: A plot of the coefficients of the OLS regressions showing the effect size (coefficients) of the results of the conjoint experiments (on different attributes) as reported by the FLWs across gender of the FLWs and their working status with *sarpanches* of different genders.



Note: Robust standard errors are in parentheses. Dependent Variables: Preference: Who would you prefer working with?; Qualified: Who is more qualified?; Lead: Who will you be able to lead better?; Trust: Who would be more trustworthy and honest?; Cooperative: Who would be more of a team player and cooperative?; Sway: Who do you believe would sway the work more in your favor?; Speak: Who would you prefer to speak on your behalf to any higher authority, such as the Block/Taluka officers or the district officers? The models accounted for FLW type. The spike plots refer to the 95% CIs.

3.2 Shared-gender identities between FLWs and *sarpanches* and its effect on various outcomes

In the previous section, we found that a shared-gender identity was related to FLWs preferences towards working with *sarpanches*. We next analyse how shared gender identities *sarpanches* interaction mechanism. We first performed a descriptive analysis of the different dynamics of interaction between the FLWs and *sarpanches* (as reported by male and female FLWs) which allows us to get a comparative picture into the professional and informal interactions between FLWs and *sarpanches*. Table 3 and 4 compares the average responses of female and male FLWs

on their nature of dynamics between male and female *sarpanches*. While the female FLWs are likely to report about 1.4 more meetings with male *sarpanches* compared to female *sarpanches* in a month, they are 9.8 percentage points more likely to reportedly meet female *sarpanches* alone. Other aspects where we observe female shared identities and differences in interaction dynamics are ‘discussing personal matters over the phone’ and ‘having access to a *sarpanch*’s phone number.’ In both the cases, female FLW are more likely to report better dynamics with female *sarpanches*.

Table 3: Difference in outcomes as reported by female FLWs across gender of the sarpanches

Variable	Male sarpanch		Female sarpanch		t-test Difference
	N	M (SD)	N	M (SD)	
Meeting Frequency with ER in a month	245	4.110 (0.354)	286	2.724 (0.202)	1.386***
Duration of Meeting (Minutes) with ER	195	32.862 (2.721)	245	28.000 (1.881)	4.862
Always meeting the Sarpanch Alone	245	0.167 (0.024)	286	0.266 (0.026)	-0.098***
Meeting The Sarpanch at Their Home	244	0.770 (0.027)	284	0.750 (0.026)	0.02
Reaches out to Sarpanch for work first	245	0.465 (0.032)	286	0.514 (0.030)	-0.049
Comfort Level with Calls During Office Hours	241	0.909 (0.019)	283	0.890 (0.019)	0.018
Comfort Level with Calls Outside Office Hours	240	0.879 (0.021)	284	0.863 (0.020)	0.016
Discusses personal things with ERs	245	0.167 (0.024)	286	0.339 (0.028)	-0.172***
Have access to Sarpanch's number	245	0.616 (0.031)	286	0.580 (0.029)	0.036
Have access to Sarpanch's family members' number	208	0.976 (0.011)	231	0.861 (0.023)	0.114***
Very comfortable in making demands	245	0.886 (0.020)	284	0.905 (0.017)	-0.019
Demands very seriously taken	156	0.795 (0.032)	186	0.839 (0.027)	-0.044

Table 4: Difference in outcomes as reported by male FLWs across gender of the sarpanches

Variable	Male Sarpanch		Female Sarpanch		t-test Difference
	N	M (SD)	N	M (SD)	
Meeting Frequency with ER in a month	109	7.239 (0.651)	119	3.303 (0.405)	3.936***
Duration of Meeting (Minutes) with ER	106	37.283 (3.714)	98	23.092 (2.247)	14.191***
Always meeting the Sarpanch Alone	109	0.385 (0.047)	119	0.168 (0.034)	0.217***
Meeting The Sarpanch at Their Home	109	0.569 (0.048)	119	0.521 (0.046)	0.048
Reaches out to Sarpanch for work first	109	0.881 (0.031)	119	0.714 (0.042)	0.166***
Comfort Level with Calls During Office Hours	108	0.991 (0.009)	119	0.908 (0.027)	0.083***
Comfort Level with Calls Outside Office Hours	108	0.944 (0.022)	119	0.807 (0.036)	0.138***
Discusses personal things with ERs	109	0.211 (0.039)	119	0.160 (0.034)	0.051
Have access to Sarpanch's number	109	0.991 (0.009)	119	0.866 (0.031)	0.125***
Have access to Sarpanch's family members' number	50	0.720 (0.064)	53	0.736 (0.061)	-0.016
Very comfortable in making demands	108	0.954 (0.020)	121	0.934 (0.023)	0.02
Demands very seriously taken	73	0.904 (0.035)	79	0.684 (0.053)	0.221***

Note: The value displayed for t-tests are the differences in the means across the groups. ***, **, and * indicate significance at the 1, 5, and 10 percent critical level. N, M, and SD denotes observations, mean, and the standard deviations, respectively.

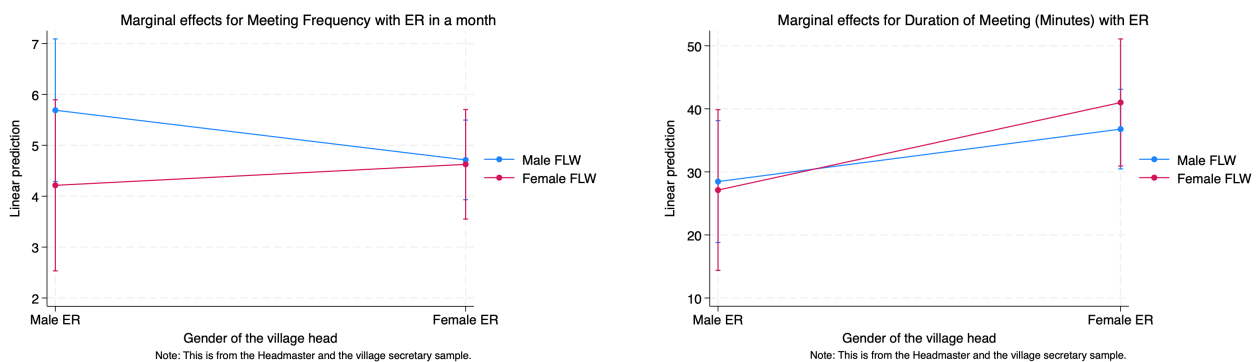
Moving from female FLWs to male FLWs, interestingly, we find that the differences are starker and more in favour of shared gender identity between male FLW and their *sarpanch* across most of the interaction related variables. Part of the reasons for not finding such clear differences across the variables in Table 3 could also be related to the lack of agency with female *sarpanches* which might be resulting even for female FLWs to interact better with male *sarpanches*. Overall, Table 3 highlights that female FLWs and female *sarpanches* reportedly got less attention suggesting broader gender inequalities that exist in rural India. *sarpanches*.

This analysis suggested some association of shared gender identity between the FLWs and the *sarpanches* with differences in interaction frequencies, communication styles, access to resources, and perceptions. Since these findings were insufficient to argue for the effect of gender identity sharing, we then performed robust regression analyses on different outcomes.

3.2.1 Interaction dynamics between the FLWs and the *sarpanches*

In our quantitative analysis, we assessed the association of the shared gender identity between the *sarpanches* and FLWs on diverse outcomes related to their interaction dynamics as reported by the FLWs. First, we looked at their reported frequency of interactions in a month, and the average duration of such meetings in minutes, conditional on other variables. Figure 3 presents shows the predicted marginal effects of the of the key included variables in the linear regression models for frequency of interactions and the average duration of such meetings.

Figure 3: A plot of the marginal effects of the interaction terms of OLS regressions showing how the expected value of the meeting frequency and meeting length (in minutes) change across the combinations of the genders of FLW and sarpanches.



Note: Marginal effects of OLS regression of the model that accounts for FLW current position, reservation status of the *sarpanch* (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs’ permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. Each dot represents the marginal effects of the interaction term (gender group).

We did not find any statistically significant relationship between shared-gender identities and both the outcomes, in both the sub-samples (See Appendix 2). Although not statistically significant, we found a positive effect of the interaction term (female *sarpanch* * female FLW) showed to have a for meeting frequency (1.38) and meeting lengths (5.56) in the HM and village secretary sub-sample. Figure 3 showed that in the HM and village secretary sample, male FLWs reportedly had a likelihood of greater frequency of meetings with male *sarpanches*, compared to female *sarpanches*. The likelihood of female FLWs’ frequency of interaction with female *sarpanches* was also higher compared to male *sarpanches*, but this effect was less pronounced compared to male *sarpanches* and male FLW pairings.

On the other hand, in the AWW sample, we found that AWWs currently working with female *sarpanches* reportedly had likelihood of reporting lower meeting frequencies compared to those working with male *sarpanches* (See Appendix 2). However, the AWWs working with female *sarpanches* reported longer duration of meetings, compared to those working with male *sarpanches*, adjusted for covariates, but none of these estimates were statistically significant. Our qualitative findings (QF1) helped us understand in what different ways do the different FLWs interact with their respective *sarpanches*.

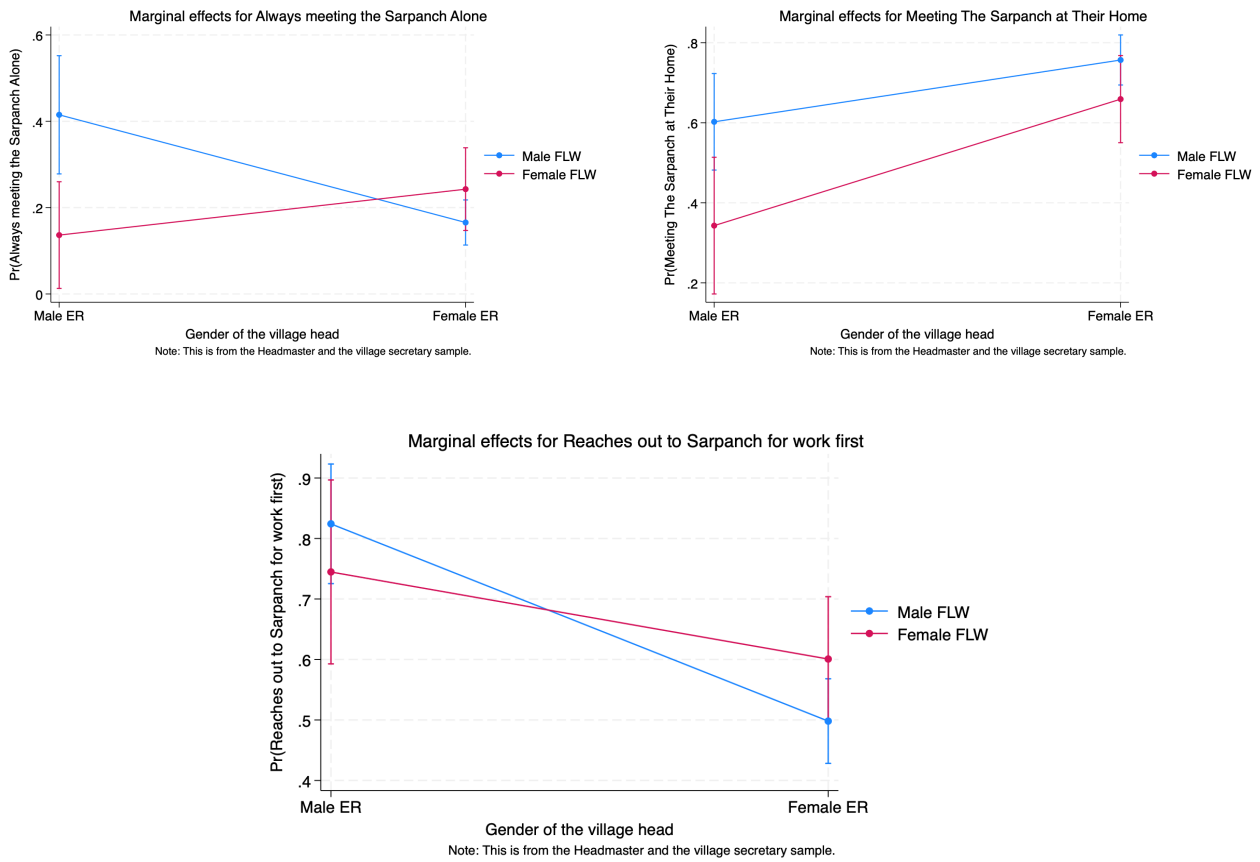
QF1: The interactions were largely influenced by departmental responsibilities and gender dynamics. Primary school headmasters generally had minimal contact with the sarpanches because school operations are primarily under the jurisdiction of the education department. However, they engaged through the School Management Committee (SMC). Further, they collaborated on school needs and organized educational and national events like Republic Day and Independence Day. AWWs on the other hand, interacted with sarpanches mostly for discussions about infrastructure improvements at AWCs, especially when there was insufficient support from the Women and Child Health Department (WCD). Village secretaries reported the most frequent interactions with Sarpanches, although their presence in the villages could be sporadic due to their responsibilities across multiple locations.

We further looked at three additional binary outcomes related to the nature of their interaction, namely FLWs' reports of meeting the *sarpanch* always alone, meeting the *sarpanches* at their homes when they were not available in office, and reaching out to the *sarpanch* first when any work-related need arose.

We found positive interaction terms for outcomes of meeting the *sarpanch* always alone (AOR of the interaction term is 8.53^{***}) and reaching out to the *sarpanch* first when work related need arose (AOR of interaction term is 2.88^{*}) (see Appendix 2). The marginal effects of the interaction (Figure 4) highlight that male FLWs reported a greater likelihood of meeting male (versus female) *sarpanches* always alone and reaching out to them first for any work, while female FLWs reported a greater likelihood of meeting female (versus male) *sarpanches*. However, the effects of a shared gender identity for these outcomes were more pronounced for male FLWs. Despite the lack of statistical significance of the interaction term, both male and female FLWs reported greater likelihood of meeting the female (versus male) *sarpanches* at their houses when not available in office.

In the AWW sample, we found that AWWs working with female *sarpanches* reported greater likelihood of them meeting the *sarpanch* at their houses (AOR=3.77^{***} in Appendix 2), when they were not available in their offices, compared to those working with male *sarpanches*. One potential reason for this is that, often both AWWs and the *sarpanches* are permanent residents of the village, giving them ample scope to know each other better, creating a better

Figure 4: A plot of the marginal effects of the interaction terms of adjusted logistic regressions showing how the expected probabilities of the meeting the sarpanch alone, meeting the sarpanch at their home, and reaching the sarpanch first for work change across the combinations of the genders of FLW and sarpanches.



Note: Marginal effects of logistic regressions of the model that accounts for FLW current position, reservation status of the Sarpanch (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs' permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. Each dot represents the marginal effects of the interaction term (gender group).

level of comfort (compounded with both being women) for them to meet at their houses. Our qualitative findings (QF2) gives another explanation to this.

QF2: Accessibility to women sarpanches was another reason for the ease of interaction with the female FLWs. Male sarpanches (and male kins of women sarpanches) were often away from the village during the day, while social norms limiting women's mobility ensured their accessibility to village residents including female FLWs. Even though men were almost always available on the phone, the physical accessibility of the women sarpanches in the village likely made it simpler for the FLWs to approach them.

3.2.2 Comfort in interaction between the FLWs and the sarpanches

In this sub-section we look at another dimension of interactions between FLWs and the sarpanches—comfort in interactions. We specifically looked at three outcomes related to this, comfort in calling the sarpanch during and outside office hours, and if they discussed personal things outside of work. The findings are presented in Figure 5.

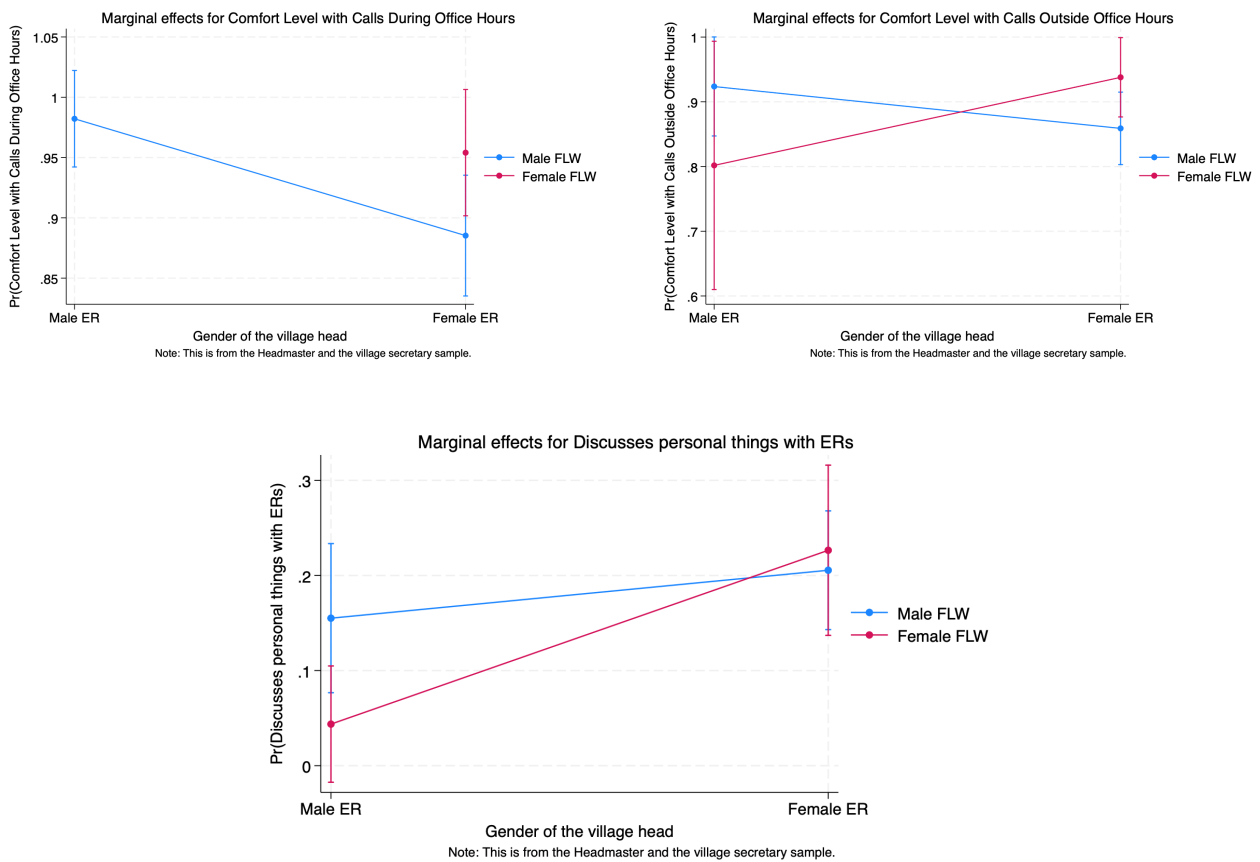
We found that, in the HM and secretary sample, the AOR for the interaction term was positive for outcomes of greater comfort reported by FLWs in making calls to the sarpanches outside of office hours (see Appendix 2: AOR of the interaction term was 8.14**), while we could not assess the same for during office hours due to inadequate variation in our data. Similar positive effect was also found for “discusses personal things with the sarpanch” (AOR of the interaction term was 5.23*).

Figure 5 shows, similar to the findings earlier, that male FLWs reported a likelihood of greater comfort in making calls to male (versus female) sarpanches outside of office hours and discussing personal things with them; and female FLWs with female (versus male) sarpanches. In contrast to what was found earlier, the effect was stronger for female FLW and female sarpanch pairings. This observation corroborate findings by Mohindra & Azhar (2012), who note that gender norms in India significantly influence communication styles, with men often adhering to norms that discourage emotional expressiveness, whereas women are encouraged to be more relational and communicative.

Such an effect of shared gender identity was also observed in our AWW sub-group analysis, which indicate that compared to AWWs working with male sarpanches, those working with female sarpanches reported greater comfort in calling the sarpanches outside of their office hours (AOR= 3.52**) and discussing of personal issues (AOR= 8.54***) (see Appendix 2).

While the quantitative part focused on specific comfort outcomes, our qualitative findings provided broader insights that could explain the quantitative results. QF3 below presents a few of those insights.

Figure 5: A plot of the marginal effects of the interaction terms of adjusted logistic regressions showing how the expected probabilities of comfort in calling the sarpanch during and outside office hours, and if they discussed personal things outside of work change across the combinations of the genders of FLW and sarpanches.



Note: Marginal effects of logistic regressions of the model that accounts for FLW current position, reservation status of the Sarpanch (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs’ permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. Each dot represents the marginal effects of the interaction term (gender group). We could not find for gender variation in the comfort to calling sarpanch during office hours.

QF3: Female FLWs shared about their higher comfort level and ease of communication with female sarpanches, often reasoning this to shared gender experiences and an empathetic understanding of community-specific issues. In contrast, male FLWs shared about the social and logistical challenges when interacting with female sarpanches, which reflects the traditional gender norms that restricts cross-gender communication and physical interactions in rural India.

An Anganwadi Worker from Chhota Udepur shared her comfort of discussing sensitive topics with the female sarpanch, “It is easier to work with women about such [related to nutrition and children’s health] issues. Women can talk easily with women. We can communicate our queries easily. Sometimes I hesitate to discuss such issues in the presence of a man (or directly with a man).”

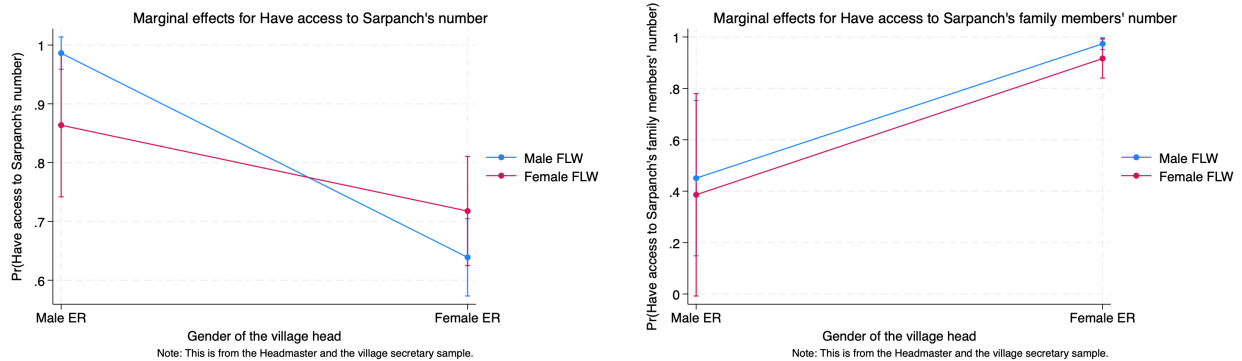
A male school headmaster from Ahmedabad shared his difficulties of interacting with the female sarpanch due to persisting social norms, “It’s easy to travel by bike anywhere with the male Sarpanch, but it’s not possible to do the same with the female Sarpanch for any official or other work within the village. While it’s possible to make phone calls to the male Sarpanch at any time, even after 10:00 pm, the same isn’t possible with the female Sarpanch because it’s important to consider the appropriate hours for contacting a woman.”

3.2.3 Accessibility of *sarpanches* as reported by FLWs

In the earlier sections, we discussed the association of shared-gender identities with interaction and comfort dynamics. However, the *sarpanches*’ accessibility by the FLWs could have potential effects on how they coordinate, thereby resulting in varied policy implications. It is especially important to unpack if a shared-gender identity plays a role there. Therefore, in this section we explore the relationship between the shared-gender-identity of *sarpanches* and FLWs, and its association with the accessibility of the *sarpanch*’s contact information (and that of their family members who assist in their work).

The adjusted odds ratios from the logistic regressions (Appendix 2) show a statistically significant positive interaction term for having access to the *sarpanch*’s phone number in the HM and village secretary sample (AOR of the interaction term was 20.86**), which was for having access to *sarpanches*’ family members’ contact numbers (although not statistically significant). Both male and female HMs and village secretaries were substantially less likely to have access to the contact number of a female *sarpanch* compared to their male counterparts. The effect was more prominent for male FLW and male *sarpanch* pairings (Figure 6). This was also found in the AWW sample.

Figure 6: A plot of the marginal effects of the interaction terms of adjusted logistic regressions showing how the expected probabilities of having access to the sarpanches' and their family members' phone number change across the combinations of the genders of FLW and sarpanches



Note: Marginal effects of logistic regressions of the model that accounts for FLW current position, reservation status of the Sarpanch (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs' permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. Each dot represents the marginal effects of the interaction term (gender group).

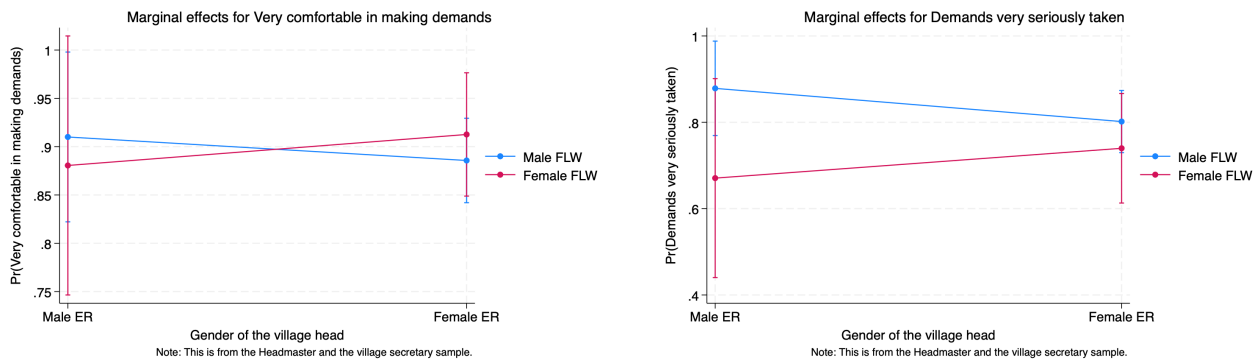
3.2.4 Comfort in raising demands by FLWs to sarpanches and their perceptions on the seriousness of such demands by the arpanch

We next explored the association of gender dynamics with two critical aspects of local governance: the comfort of FLWs in raising demands to the sarpanches and the perceived seriousness with which these demands are taken which sheds light on the operational effectiveness of shared gender identity in a governance context, moving beyond interaction dynamics to assess the tangible outcomes of such interactions.

Comfort in Raising Demands: Figure 7 suggest that the presence of a female sarpanch does not uniformly increase comfort levels among FLWs in raising demands. However, the interaction term between female sarpanches and female FLWs shows a positive effect in the HM and village secretary subsample models, although not statistically significant (See Appendix 2). Figure 7 shows that male HMs and secretaries had greater likelihood of reporting comfort in raising demands to male (versus female) sarpanches, while female reported a similar likelihood of comfort in making demands to female sarpanches. Our qualitative findings corroborated this (see QF4). However, we could not find such effect for the AWW sub-sample.

Perceived Seriousness of Demands: Although not statistically significant, the interaction of female sarpanch and female FLWs in the HM and village secretary sub-sample was positive. This result was, however, statistically significant and strong for the AWW sample (AOR=18.65***, see Appendix 2), a reason for this is well demonstrated in QF4.

Figure 7: A plot of the marginal effects of the interaction terms of adjusted logistic regressions showing how the expected probabilities of comfort in making demands and their perceived seriousness change across the combinations of the genders of FLW and sarpanches



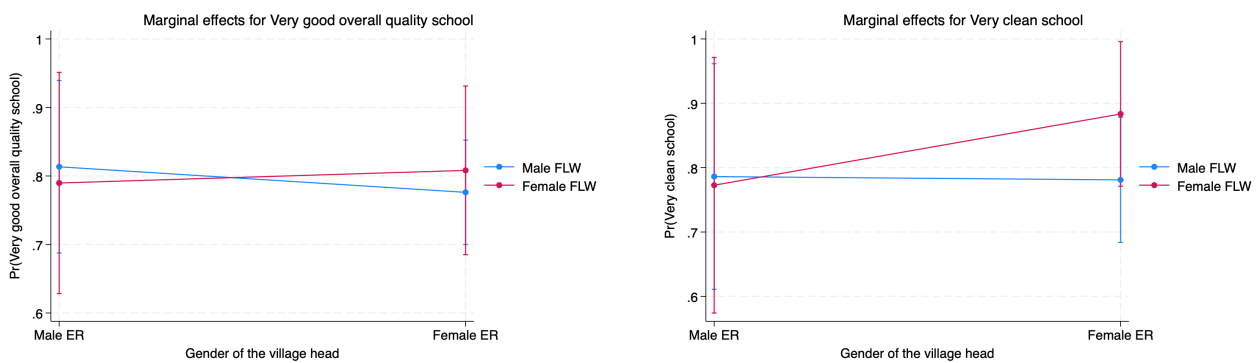
Note: Marginal effects of logistic regressions of the model that accounts for FLW current position, reservation status of the Sarpanch (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs’ permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. Each dot represents the marginal effects of the interaction term (gender group).

QF4: Female FLWs often reported that it was easier for them to raise their concerns related to nutrition and child education to female *sarpanches* as they believed that women leaders would be more compassionate in listening to their needs and acting on them. “She has been the *sarpanch* here for the last year. Our school doesn’t have a borewell for drinking water. One day, the *sarpanch* came to drop off her children and mentioned that her son hadn’t bathed because there was no water from the river. I laughed and said, “You only have two kids, and it’s difficult for you to manage! How can I manage 350 students? But because of that small conversation, we were able to get a borewell installed in the school. After that, the *sarpanch* took a special interest in the project and would come at night to check on the progress and sent me photos.” (Female HM, Ahmedabad)

3.2.5 Shared gender identity and observable outcomes

Finally, we assessed the relationship between shared-gender identities of FLWs and *sarpanches* (HM-ER and AWW-ER) with observed quality and cleanliness of schools and AWCs respectively, after accounting for the host of covariates. Figure 8 presents the findings, which suggests that we could not find any statistical evidence of how a shared-gender identity between the FLWs and the *sarpanches*, could potentially associate with the quality and cleanliness of the respective service centres.

Figure 8: A plot of the marginal effects of the interaction terms of adjusted logistic regressions showing how the expected probabilities of school and AWC cleanliness and quality change across the combinations of the genders of FLW and sarpanches



Note: Marginal effects of logistic regressions of the model that accounts for FLW current position, reservation status of the Sarpanch (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs' permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. Each dot represents the marginal effects of the interaction term (gender group)..

4 Conclusion and actionable policy recommendations

In this preliminary study ¹, we explored the dynamics of gender-shared identities between *sarpanches* and FLWs in rural governance, focusing primarily on how these dynamics potentially influence their communication, comfort in demand raising, and perceptions of leadership effectiveness. In summary, our study highlights some key points.

One prominent finding from our analysis was from the conjoint experiment which revealed that male FLWs often reported less preference working with female *sarpanches*, perceived them to be less qualified, cooperative, and lack of confidence in speaking on behalf of the FLWs. Interestingly, the effect was statistically non-existent when the sample was restricted those male FLWs who currently worked directly with female heads. This could be potentially because of their own learnings from such a cross-gender working dynamics that resulted in them having a different preference towards women *sarpanches*. Also, as expected, female FLWs preferred women *sarpanches* in all aspects of inquiry.

While we found strong evidence for such gendered-preferences, we found only some evidence of the role of shared gender identity in influencing various outcomes of our inquiry, with evidence pointing to stronger effects in for male shared-identities (compared to females) between FLWs and *sarpanches*. Finally, we are unable to see any effects on the observed outcomes of Aanganwadi centres and schools.

Our study therefore highlights how gender dynamics, especially in a male-dominated space such as India, may influence local governance. While, in practice, we did not find strong evidence for the effects of shared gender between female FLWs and female *sarpanches*, considering the clear preferences by female FLWs for female heads in our conjoint experiment, may imply the commonly cited agency limitations that female heads experience compare to male heads.

Policymakers could consider strategies to enhance the visibility and accessibility of female leaders, such as through training and mentorship programs. Raising awareness about gender inclusivity within local governance framework could help reduce biases and make the working environment more equitable.

¹This is a work-in-progress, and it currently presents the preliminary findings from the data collected from FLWs. The data collected from the *sarpanches* which will be analysed later to provide more holistic interpretations.

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6 Appendix

6.1 Appendix 1: Key variables of interest

We operationalized key variables to systematically address the thematic components of our research questions. Following table presents the operationalization of the variables, namely in the themes of the dynamics of interaction, accessibility, comfort, and observable outcomes within the context of governance and public service delivery.

Table 5: Detailed Description of Interaction and Comfort Variables

Domain	Variable Name	Description	Coding
Interaction Dynamics	Dy- Meeting Frequency	Number of times meeting with the Sarpanch per month	0-30 days
	Duration of Meeting	Length of official meetings with the Sarpanch (in minutes)	Numerical (minutes)
	Meeting the Sarpanch Alone	Whether meetings with the Sarpanch occur alone or with others present	0 = With others, 1 = Alone
	Meeting the Sarpanch at Home	Whether the Sarpanch is visited at home if not available in the Panchayat office	0 = No, 1 = Yes
	Reaches out to the Sarpanch First	Preferred initial contact in the panchayat office for support	0 = Others, 1 = Sarpanch
Comfort in Interaction	Comfort in Calling During Office Hours	Comfort level in calling the Sarpanch during office hours	0 = Not very comfortable, 1 = Very comfortable
	Comfort in Calling Outside Office Hours	Comfort level in calling the Sarpanch outside of office hours	0 = Not very comfortable, 1 = Very comfortable

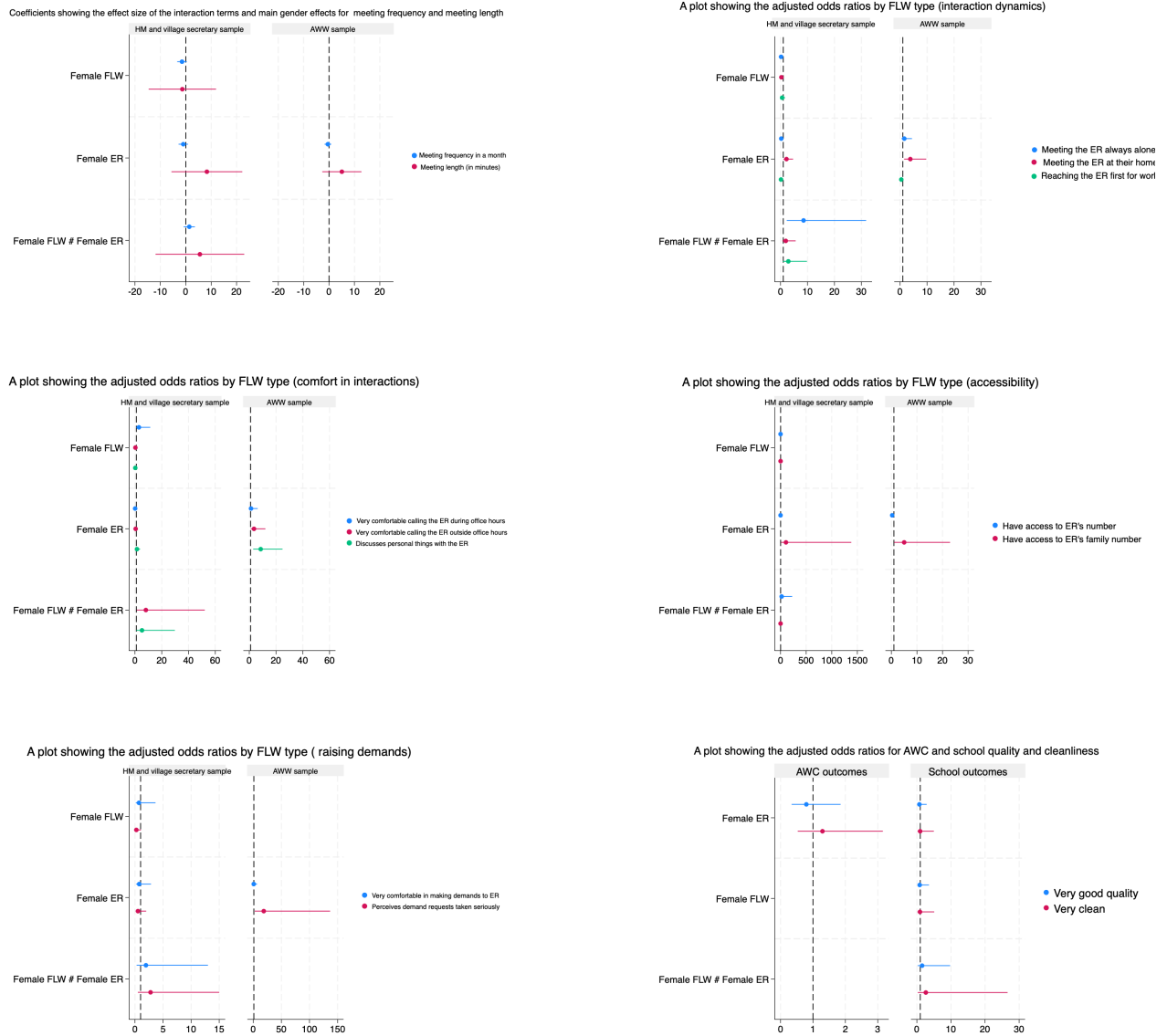
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Table 5 continued from previous page

Domain	Variable Name	Description	Coding
	Talk Personal Things with the Sarpanch	Whether personal topics are discussed with the Sarpanch	0 = No, 1 = Yes
Accessibility Dynamics	Have Access to Sarpanch's Number	Whether the FLW has the Sarpanch's phone number	0 = No, 1 = Yes
	Have Access to Sarpanch's Family Member's Number	Whether the FLW has the phone number of the Sarpanch's family member assisting in official duties	0 = No, 1 = Yes
Comfort in Raising Demands	Very Comfortable in Making Demands	Comfort level in raising demands with the Sarpanch	0 = Not very comfortable, 1 = Very comfortable
	Demands Very Seriously Taken	Perception of how seriously the Sarpanch takes demands	0 = Not very serious, 1 = Very serious
Observable Outcomes	AWC/School Quality Indicators	Overall quality and cleanliness of AWC and schools	0 = Less than very good, 1 = Very good

6.2 Appendix 2: Plots of the coefficients (and AORs) of the main gender effects and interaction terms for the linear and logistic regressions run for different outcomes by FLW type

Figure 9: The plots of the coefficients (and AORs) of the main gender effects and interaction terms for the linear and logistic regressions run for different outcomes by FLW type



Note: OLS regression coefficients and adjusted odds ratios for logistic regression models accounted for FLW current position, reservation status of the Sarpanch (ER), education of the ER and the FLW, caste category of the ER and the FLW, FLWs' permanent residency status in the GP, and block fixed effects. ER denotes elected representatives. This presents the main effects of the genders and their interaction terms.

6.3 Appendix 3: Example of conjoint profile of sarpanch shown to FLWs

Figure 10: Sample conjoint profiles of sarpanches

પ્રોફાઇલ (સરપંચ)		
	<p>હવે હું તમને સરપંચ માટેના બે ઉમેદવારોની પ્રોફાઇલ બતાવવા જઈ રહ્યો છું કે હું ઈચ્છું છું કે તમે કલ્પના કરો કે તમે જે પંચાયતમાં કામ કરો છો તેમાં બંને ચૂંટણી લડી રહ્યાં છે. કલ્પના કરો કે આ વાસ્તવિક ઉમેદવારો હતા. કૃપા કરીને આ બે અરજદાર પ્રોફાઇલની સમીક્ષા કરવા માટે થોડો સમય કાઢો.</p>	
SA1	સરપંચ પ્રોફાઇલ	
વિશેષતાઓ	પ્રોફાઇલ A	પ્રોફાઇલ B
લિંગ	પુરુષ	સ્ત્રી
શિક્ષણ	10 પાસ	12 પાસ
પરીવારની માહિતી	અમુક રાજકીય બેગ્રાઉન્ડ ધરાવે છે	કોઈ રાજકીય બેગ્રાઉન્ડ નથી
પંચાયતનો અનુભવ	બીજી વખત સરપંચ	પ્રથમ વખત સરપંચ
જાતિ/જનજાતિ	અનુસૂચિત જનજાતિ (ST)	અનુસૂચિત જનજાતિ (ST)
પંચાયત બાબતોમાં સ્વતંત્ર રીતે કામ કરવું	પરિવારના સભ્યોના સહયોગ સાથે કામ કરે છે	પરિવારના સભ્યોના સહયોગ વિના કામ કરે છે