Appendices

A   Data Collection Process

In order to implement both the assembly recording and collection of surveys, two field enumerators were assigned to each village — one from outside the village to record data on the issues raised, and another, who was local, to collect attendance data and help identify the speaker. Given that the average attendance across our *gram sabhas* was nearly 120 people, the introduction of a single enumerator from a neighboring village was unlikely to affect local citizens' behavior. The local enumerator, who was necessary to correctly provide information on the participants' positions, only recorded attendance data and assisted the outside enumerator with information on the identities of speakers. Official attendance data in such meetings is typically recorded only at the beginning of the meeting, if at all. Where available, our data on attendance at the time the meeting began was cross-validated with this official data by the external enumerator.

Since all data had to be collected on a single day, this required a team of at least 200 enumerators — a number larger than any survey firm could provide. Moreover, familiarity with the *gram sabha* meetings was essential to our being able to collect this data accurately and in real time. In order to address both these constraints, we hired and trained local women as our field enumerators. Using these enumerators was advantageous in being able to record the *gram sabha* proceedings without the disruption having an "outside" observer. To maintain independence of the data collection process, however, we ensured that field enumerators who recorded the proceedings of the meeting were assigned collect data from a village in her neighboring, rather than home, district. Enumerators who helped identify the speakers were local residents, as local knowledge is essential in order to do this accurately.

B   Topic Model Validation

B.1   Example Docuemnts

See below for the top documents associated with the two most frequent topics:

Topic: Water

"I request you to repair the road in Mukkarumbur East colony. Drinking water, drinking water, drinking water, drinking water, water problem of colony has to be set right."

"If the tap is in regular use, water will be in good condition. You are not using the tap regularly so water is not in good condition."

"Please repair the pump in the junction of 3 roads. There is no water. Or, the motor has to be repaired. we have to go around for water."

Topic: Beneficiary and Voter Lists

"Checking the voters' list, and adding names in voters list for 2014: Those who have completed 18 years recently may apply now for addition of their name. The corrected list after addition and deletion of names, up to October 31st has been received... If anyone has come from outside to the village, they could also add their name in that

special camp. Application was given to the eligible persons. Now we will readout the names, please listen..."

"As per the scheme, priority should be given to differently-abled persons. 2 or 3 persons have given a list in our Panchayat. It is not known who all have given their names. NREGS cards have been given to 9 villages. NREGS cards should definitely be given to differently-abled persons. They should be paid salary even when they simply stay at the site. This mission is mainly to identify the differently-abled persons. All should participate in the peoples status survey. Then only we will be able to differentiate the poor and the differently abled persons."

"I now read the newly included voters name at No.14, Seliambedu village. Amsaveni daughter of Ramakrishnan. Suganya daughter of Gnaprakasam. Gayathri wife of Kamalakannan. Kanimozhi wife of Devaraj. Aruldass. Babu son of Gnanaprakasam. Sridhar son of Ragupathi. Kalaiselvan son of Madasami. Arul son of Panneer Selvam. Thangamuthu son of Arumugam. The voters ID cards are with me. If anybody's name is omitted, you get the form from me and fill up the form."

B.2   Validation using Survey Data

In addition to the predictive validation exercises, we also validate the output of our topic model by comparing the distribution of topics generated against topics coded by survey enumerators who recorded the proceedings of each *gram sabha*. Though this comparison is useful, it is necessarily imperfect because clear analogues do not always exist across the topic model output and the enumerators pre-determined categories. As such, where possible, we aggregate topics for comparison. Table B.1 presents the topics from the topic model, along side the survey data topic used for comparison. Certain categories across both data sources had no clear comparison, and were thus excluded from the validation exercise.

B.3   Measures of Deliberative Equality

Having validated the output of the topic model, we can generate a set of quantitative measures to capture deliberative quality across our sample of villages. Deliberative quality here is assessed based on the three metrics identified above — namely, the equality of participation, agenda-setting power, and responsiveness by the state.

To evaluate the equality of participation, we look at both the frequency and volume of speech by gender and position. That is, we can examine counts for the *number of speakers* with each demographic category of interest (men versus women, citizens versus officials). We also examine the *length* of speech as a proxy for the amount of floor time that speakers occupy.

To better understand who drives the topic of conversation, we examine the sequence of speech topics to estimate the likelihood that a given speech is followed a speech that addresses the same topic. Since any given speech is modeled as a mixture across multiple documents, we focus on the primary and secondary topics that are associated with each topic. More specifically, we generate three measures for agenda setting power: (1) an indicator if either the the primary or secondary topic of speech i is the same as the primary or secondary topic of speech $i + 1$ (*nextSame*); (2) the share of the next five speeches that address either the primary or secondary topic of speech i (*prop5same*); and (3) the length of speeches for which the primary or secondary topic of speech i

Table B.1: Topic Comparisons for Validation

Transcript Topics	Survey Data Topics
Allocation of Funds	*Panchayat* Expenses
	Taxes
Maintenance of Public Goods	Sanitation and Environment
Environmental Protection	
Employment & Wages	Employment
Water	Water
Toilet Construction	Toilets
Education	Education
	Childcare
Ration Shop	Ration Shop
Housing and Land Titles	Housing

Analogues not available	
Resolution Announcements	
Greetings and Thanks	
Beneficiary and Voter List	
Intro to PVP	
SHGs	
Service Failures	
	Health
	Roads
	Women's Issues
	Elderly Care
	Animal Care
	Electricity
	Voter ID Cards
	Village Organizations

is continues to be addressed (*lengthTopic*). Given the frequency of topic changes, we only measure this for a maximum of 5 subsequent speeches. Based on these measures, we can then examine whether features of the speaker or assembly are associated with greater agenda-setting power within the *gram sabha*.

Lastly, since a key objective of the *gram sabha* is to provide citizens with the opportunity to speak directly to the state — to ask questions, to demand accountability, to voice complaints — one measure of deliberative influence is whether state officials directly address citizen concerns. To measure this, we generate a series of indicator variables to capture (a) whether a citizen's speech is followed by an official, either elected or administrative, and (b) whether that response addresses the topics raised by the citizen. The latter consideration ensures that officials are not merely co-opting the conversation by switching topics, but actually engaging with the concerns raised by citizens.

C Results Under Alternative Topic Model Specifications

To ensure that the main results for agenda setting power and state responsiveness are not sensitive to a particular topic model specification, we re-run our topic model with $K = 20$ and $K = 30$ topics, generate new measures of deliberative influence, and present results below.

C.1 Agenda Setting Power

We first re-examine how agenda-setting power varies with the gender and status of the speaker. Consistent with the main results presented (for $K = 15$ topics), we see that even under these alternative model specifications, male citizens are more likely to drive the agenda than male politicians, and female citizens are less likely to drive the agenda than female politicians. Point estimates all follow the patterns presented in the main results, but lose statistical significance for $K = 30$.

Table C.1: Agenda Setting Power, by Gender and Position ($K = 20$)

| | *Dependent variable:* | | | | | |
| | Next Same | | % Next 5 Same | | Length Topic | |
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.13***	0.11***	0.09***	0.07***	0.29*	0.24
	(0.05)	(0.05)	(0.03)	(0.03)	(0.17)	(0.16)
Citizen	0.11***	0.10**	0.11***	0.09***	0.26***	0.25***
	(0.05)	(0.05)	(0.03)	(0.02)	(0.11)	(0.09)
Female x Citizen	−0.13*	−0.13*	−0.13***	−0.11***	−0.29	−0.27
	(0.07)	(0.07)	(0.05)	(0.04)	(0.21)	(0.19)
District FE	✓	✓	✓	✓	✓	✓
Backwardness Score Control	✓	✓	✓	✓	✓	✓
Topic FE		✓		✓		✓
Female President Control	✓	✓	✓	✓	✓	✓
Observations	1,651	1,651	1,456	1,456	1,607	1,607

Note: *p<0.1; **p<0.05; ***p<0.01. Robust Standard Errors, clustered at the district, in parenthesis. The Backwarndess Score is an measure of village level development, calculated using demographic and infrastructal variables, including the share of population belonging to the Scheduled Castes and Tribes, as well as indicators for the presence of a primary or secondary school, hospital or medical clinic, and bank.

Table C.2: Agenda Setting Power, by Gender and Position ($K = 30$)

	Dependent variable:					
	Next Same		% Next 5 Same		Length Topic	
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.07*	0.05	0.05*	0.02	0.21***	0.13
	(0.03)	(0.04)	(0.03)	(0.03)	(0.09)	(0.09)
Citizen	0.10***	0.07*	0.07***	0.04***	0.24***	0.18***
	(0.04)	(0.04)	(0.02)	(0.02)	(0.08)	(0.08)
Female x Citizen	−0.04	−0.03	−0.04	−0.03	−0.21	−0.19
	(0.07)	(0.08)	(0.05)	(0.05)	(0.18)	(0.19)
District FE	✓	✓	✓	✓	✓	✓
Backwardness Score Control	✓	✓	✓	✓	✓	✓
Topic FE		✓		✓		✓
Female President Control	✓	✓	✓	✓	✓	✓
Observations	1,651	1,651	1,456	1,456	1,624	1,624

Note: *p<0.1; **p<0.05; ***p<0.01. Robust Standard Errors, clustered at the district, in parenthesis. The Backwarndess Score is an measure of village level development, calculated using demographic and infrastuctal variables, including the share of population belonging to the Scheduled Castes and Tribes, as well as indicators for the presence of a primary or secondary school, hospital or medical clinic, and bank.

C.2 Dialogic Responsiveness

Next, we examine whether women are less likely to receive a relevant response from state officials, as they do in the main results. Once again, point estimates are consistent with two broad patterns: first, female citizens are significantly less likely to receive a topical response from elected male politicians; and second, they are significantly more likely to receive a relevant response from female incumbents. While evidence of women's relative neglect is consistent and statistically significant across both topic model specifications, the coefficient on female president responsiveness to female citizens loses statistical significance in the $K = 30$ specification.

Table C.3: Official Responsiveness, by Gender ($K = 20$)

	Dependent variable:					
	On Topic Politician Response			On Topic Admin. Response		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	−0.09	−0.17*	−0.20***	−0.06***	−0.10	−0.16***
	(0.09)	(0.10)	(0.08)	(0.03)	(0.06)	(0.07)
Female President		0.01	0.02		0.13*	0.13
		(0.10)	(0.11)		(0.07)	(0.08)
New Topic	−0.19***	−0.18***	−0.19***	−0.09	−0.09	−0.06
	(0.05)	(0.05)	(0.06)	(0.07)	(0.07)	(0.07)
Female x Female President		0.23	0.21		0.12	0.16
		(0.17)	(0.17)		(0.14)	(0.15)
District FE	✓	✓	✓	✓	✓	✓
Backwardness Score Control	✓	✓	✓	✓	✓	✓
Topic FE			✓			✓
Observations	233	233	233	262	262	262

Note: *p<0.1; **p<0.05; ***p<0.01. Robust Standard Errors, clustered at the district, in parenthesis. The Backwarndess Score is an measure of village level development, calculated using demographic and infrastructal variables, including the share of population belonging to the Scheduled Castes and Tribes, as well as indicators for the presence of a primary or secondary school, hospital or medical clinic, and bank.

Table C.4: Official Responsiveness, by Gender ($K = 30$)

	Dependent variable:					
	On Topic Politician Response			On Topic Admin. Response		
	(1)	(2)	(3)	(4)	(5)	(6)
Female	0.03	−0.12***	−0.15**	0.06	−0.01	−0.003
	(0.07)	(0.04)	(0.07)	(0.08)	(0.07)	(0.06)
Female President		−0.16*	−0.15*		0.13*	0.09**
		(0.08)	(0.09)		(0.07)	(0.04)
New Topic	−0.08	−0.09	−0.02	−0.06	−0.06	−0.03
	(0.06)	(0.07)	(0.08)	(0.07)	(0.07)	(0.07)
Female x Female President		0.35***	0.33***		0.18	0.18
		(0.10)	(0.13)		(0.14)	(0.12)
District FE	✓	✓	✓	✓	✓	✓
Backwardness Score Control	✓	✓	✓	✓	✓	✓
Topic FE			✓			✓
Observations	233	233	233	262	262	262

Note: *p<0.1; **p<0.05; ***p<0.01. Robust Standard Errors, clustered at the district, in parenthesis. The Backwarndess Score is an measure of village level development, calculated using demographic and infrastructal variables, including the share of population belonging to the Scheduled Castes and Tribes, as well as indicators for the presence of a primary or secondary school, hospital or medical clinic, and bank.

D   Additional Results Under Female Quotas

Table D.1 regresses our measures of agenda-setting power on indicators for gender of the speaker and the gender of the village council president.

Table D.1: Agenda Setting Power, by Gender of Speaker and Gender of President

	Dependent variable:					
	Next Same		% Next 5 Same		Length Topic	
	(1)	(2)	(3)	(4)	(5)	(6)
Female	−0.14***	−0.14***	−0.05	−0.05	−0.37***	−0.40***
	(0.03)	(0.03)	(0.04)	(0.04)	(0.11)	(0.12)
Fem. Pres.	−0.09*	−0.09*	−0.07	−0.08*	−0.33	−0.33*
	(0.05)	(0.05)	(0.05)	(0.05)	(0.20)	(0.19)
Female x Fem. Pres.	0.20***	0.19***	0.02	0.02	0.30***	0.28***
	(0.05)	(0.06)	(0.05)	(0.04)	(0.13)	(0.10)
District FE	✓	✓	✓	✓	✓	✓
Backwardness Score Control	✓	✓	✓	✓	✓	✓
Topic FE		✓		✓		✓
Observations	924	924	818	818	895	895

Note: *p<0.1; **p<0.05; ***p<0.01. Sample include only speeches delivered by citizens (all administrator and politician speech is excluded). Robust Standard Errors, clustered at the district, in parenthesis. The Backwarndess Score is an measure of village level development, calculated using demographic and infrastructal variables, including the share of population belonging to the Scheduled Castes and Tribes, as well as indicators for the presence of a primary or secondary school, hospital or medical clinic, and bank.

We also plot the interaction between an indicator for female speakers and an indicator of a female president in Figure D.1, which shows that the female incumbents significantly reduce the

differential treatment that men and women receive from the state. In fact, Figure D.1a shows that women are slightly *more* likely than men to receive a topical response from elected officials when a female president presides over the *gram sabha*. Interestingly, among (largely male) administrators, the gender differentials under male and female presidents follow the same general pattern. Even though differences are not statistically significant (Figure D.1b), this still suggests that administrators follow the lead of female presidents.

Figure D.1: State Responsiveness by Gender of Speaker and Gender of President

(a) On Topic Response from Politicians   (b) On Topic Response from Administrators
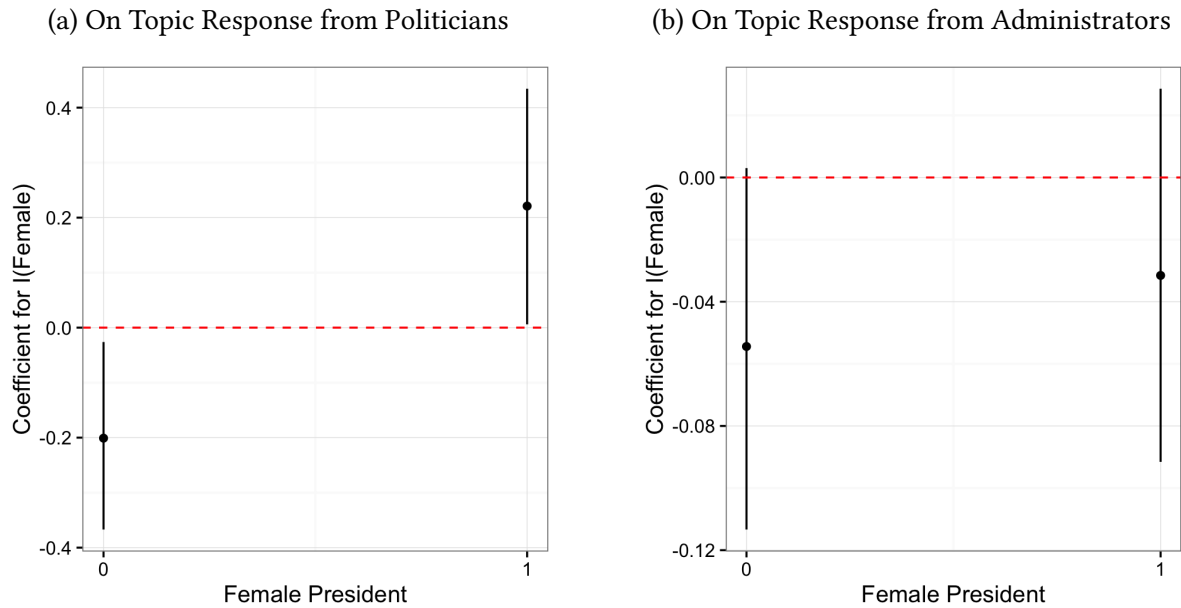
Note: The figures above plot the interaction between speaker's gender and president's gender on responsiveness by the state. The x-axis charts the whether the president is a woman, and the y-axis graphs the coefficient for the effect of being a woman and the 95 percent confidence interval. The model specification includes controls for village level demographics and infrastructure, district fixed effects, and topic fixed effects.

Table D.2 tests whether the increased frequency of female speech among politicians (Table 5, Models 4 and 5) is driven by driven by the female incumbent herself, or other female politicans (e.g. ward members). To test this, Table D.2 drops all presidential speeches and examines whether the indicator for female presdient is correlated with a greater frequency of female political speech. Results are positive, but much smaller in magnitude than Table 5 — suggesting that while female presidents do influence other female politicians to speak, the bulk of the effect is driven by the incumbent president herself.

Table D.2: Frequency of Female Speech among Politicians

	Dependent variable:	
	Female Speech	
	Politicians	Politicians
	(1)	(2)
Female President	0.24***	0.24***
	(0.09)	(0.09)
Female Attendance	−0.001	−0.001
	(0.001)	(0.001)
Female Literacy	−2.19	−2.17
	(2.28)	(2.35)
District FE	✓	✓
Backwardness Score Control		✓
Observations	322	322

Note: *p<0.1; **p<0.05; ***p<0.01. Robust Standard Errors, clustered at the district, in parenthesis. The Backwarndess Score is an measure of village level development, calculated using demographic and infrastructal variables, including the share of population belonging to the Scheduled Castes and Tribes, as well as indicators for the presence of a primary or secondary school, hospital or medical clinic, and bank.