Women as Policy Makers

Evidence from a randomized policy experiment in India

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Introduction

$\longrightarrow$ Policy maker's identity affects to the policy outcome?

- **Main Purpose:** Effects of women's leadership on policy decisions
  $\rightarrow$ Political reservation enhance women participation
  $\rightarrow$ Women and men have different preferences
- Birbhum (West Bengal) and Udaipur (Rajasthan)
- Gram Panchayat (GP): System of village level
  1. Village
  2. Council
  3. Pradhan

Good Experiment?

- Random assignment

Women among Pradhans in Reserved and Unreserved GP

Table 1: Women among Pradhans

	Reserved GP (1)	Unreserved GP (2)
West Bengal		
Total	54	107
Proportion	100%	6,5%
Rajasthan		
Total	40	60
Proportion	100%	1.7%

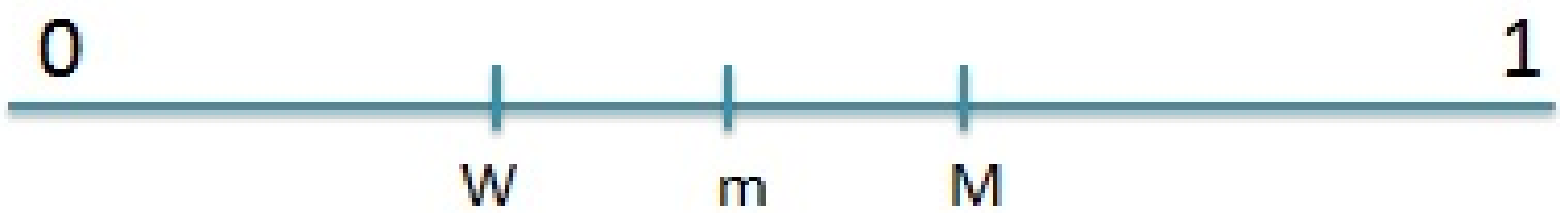
Source: (Chattopadhyay and Duflo, 2004)

Model

- "Citizen Candidate" model

Characteristics

- Citizens in a Gram Panchayat know each other well (they know each other preferences).
- Higher cost of running for office for women than men. $\delta_W > \delta_M$.
- Each citizen has a preferred policy $\omega_i \in [0, 1]$ and they are different for women and men.

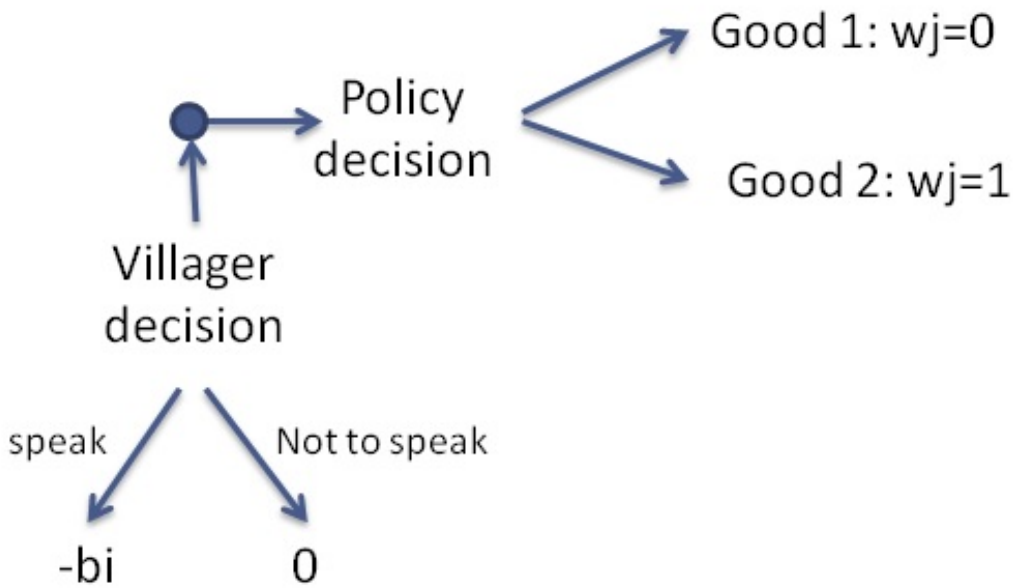


- The political game has three stages:
  1. Citizens decide whether or not to run.
  2. Citizens elect a candidate.
  3. The policy is implemented.
- The utility of citizen i if outcome x_j is implemented:
  $-|x_j - \omega_i|$ if citizen i was not a candidate;
  $-|x_j - \omega_i| - \delta_i$ if citizen i was a candidate
- Policy implemented:
$$x_j = \alpha * w_j + (1 - \alpha) * \mu'$$
  - w_j: Policy chosen by the elected candidate
  - μ': policy option preferred by the local elite

Testing the Empirical Predictions

Policy outcomes in reserved vs unreserved GPs:

- **Test:** check if there is differences on average women and men preferences.
  Preferences of individuals $\rightarrow$ formal request and complains
- **Approach:**



- The frequency at which a good appears in the complains is an unbiased estimate of the frequency of which this good is preferred in this group.
- $D_i = (\frac{n_i^W}{N^W} - \frac{n_i^M}{N^M})$
  strength of the difference between women's and men's preferences for a individual good
- $S_i = \frac{1}{2}(\frac{n_i^W}{N^W} - \frac{n_i^M}{N^M})$
  the average of the measure of the strength in the aggregate population for the good

$\longrightarrow$ Allocations are more closely aligned to women's needs in reserved GPs

Why?

- Selection of women candidates influences the opinion of the local elite
- Reduction in the cost of speaking for women

Data Collection

Data from **two locations**: Birbhum in West Bengal (166 GPs) and Udaipur in Rajasthan (100 GPs).

- Census 1991 $\rightarrow$ no significant differences in local characteristics between unreserved and reserved GPs.
- Collection of Data $\rightarrow$ Two stages:
  1. Interview with the GP Pradhan.
  2. Survey of three villages in the GP: Two villages randomly selected in each GP, as well as the village in which the GP Pradhan resides.

Empirical Strategy

Denote $R_i \in [0;1]$ the policy state and $Y_i(0), Y_i(1)$ the potential outcomes of the policy.

- **Average effect of the Reservation Policy:**
  $ATE = E(Y_{ij}|R_i = 1) - E(Y_{ij}|R_i = 0)$

Regresions to test if in reserved GPs there is more investment in goods mentioned more frequently by women:

1. $Y_{ij} = \beta_1 + \beta_2 * R_j + \beta_3 * D_i * R_j + \sum_{l=1}^{N} \beta_l * d_{il} + \epsilon_{ij}$
2. $Y_{ij} = \beta_4 + \beta_5 * R_j + \beta_6 * S_i * R_j + \sum_{l=1}^{N} \beta_l * d_{il} + \epsilon_{ij}$
   Regresion to test if in reserved GPs there is more investment in goods preferred by women in a specific village:
3. $Y_{ij} = \beta_7 + \beta_8 * R_j + \beta_9 * D_i * R_j + \beta_{10} * D_{ij} * R_j +$
   $\beta_{11} * S_{ij} * R_j + \beta_{12} * S_{ij} + \beta_{13} * D_{ij} + \sum_{l=1}^{N} \beta_l * d_{il} + \epsilon_{ij}$

Results

Effects on political participation of women

Table 2: Effect of Women's Reservation on Women's Political Participation in West Bengal

Dependent Variables	Mean, Reserved GP (1)	Mean, Unreserved GP (2)	Difference (3)
Fraction of Women Among	9.80	6.88	2.92
Participants(%)	(1.33)	(0.79)	(1.44)
Have Women filed a Complaint	0.20	0.11	0.09
in the last 6 months	(0.04)	(0.03)	(0.05)
Have Men filed a Complaint	0.94	1.00	0.06
in the last 6 months	(0.06)		(0.06)
Observations	54	107	

Source: (Chattopadhyay and Duflo, 2004)

Results

Effects on political participation of women

Table 3: Effect of Women's Reservation on Women's Political Participation in Rajasthan

Dependent Variables	Mean, Reserved GP (1)	Mean, Unreserved GP (2)	Difference (3)
Fraction of Women Among	20.41	24.49	-4.08
Participants(%)	(2.42)	(3.05)	(4.03)
Have Women filed a Complaint	0.64	0.62	0.02
in the last 6 months	(0.07)	(0.06)	(0.10)
Have Men filed a Complaint	0.95	0.88	0.073
in the last 6 months	(0.03)	(0.04)	(0.058)
Observations	40	60	

Source: (Chattopadhyay and Duflo, 2004)

Results

Request of Men and Women

Table 4: Issues raised by women and men in the last 6 months in West Bengal

	Women			Men	Average	Difference
	Reserved	Unreserved	All			
Public Works Issues	(1)	(2)	(3)	(4)	(5)	(6)
Drinking water	0.30	0.31	0.31	0.17	0.24	0.13
Road Improvement	0.30	0.32	0.31	0.25	0.28	0.06
Housing	0.10	0.11	0.11	0.05	0.08	0.05
Electricity	0.11	0.07	0.08	0.10	0.09	-0.01
Irrigation and Ponds	0.02	0.04	0.04	0.20	0.12	-0.17
Education	0.07	0.05	0.06	0.12	0.09	-0.06
Adult Education	0.01	0.00	0.00	0.01	0.00	0.00
Other	0.09	0.11	0.10	0.09	0.09	0.01
Number of Issues	128	206	334	166		
Chi-Square		8.84		71.72		
p-value		0.64		0.00		

Results

Request of Men and Women

Table 5: Issues raised by women and men in the last 6 months in Rajasthan

	Women			Men	Average	Difference
	Reserved	Unreserved	All			
Public Works Issues	(1)	(2)	(3)	(4)	(5)	(6)
Drinking water	0.63	0.48	0.54	0.43	0.49	0.09
Road Improvement	0.09	0.14	0.13	0.23	0.18	-0.11
Housing	0.02	0.04	0.03	0.04	0.04	-0.01
Electricity	0.02	0.04	0.03	0.02	0.02	0.01
Irrigation and Ponds	0.02	0.02	0.02	0.04	0.03	-0.02
Education	0.02	0.07	0.05	0.13	0.09	-0.09
Adult Education	0.00	0.00	0.00	0.00	0.00	0.00
Other	0.19	0.21	0.20	0.12	0.28	0.05
Number of Issues	43	56	99	135		
Chi-Square		7.48		16.38		
p-value		0.68		0.09		

Results

Effects on provision of public goods

Table 6: Effect of Women's Reservation on Public Goods Investment in West Bengal (Village Level)

Dependent Variables	Mean, Reserved GP (1)	Mean, Unreserved GP (2)	Difference (3)
Number of Drinking Water Facilities	23.83	14.74	9.09
Newly Built or Repair	(5.00)	(1.44)	(4.02)
Conditions of Roads	0.41	0.23	0.18
(1=Good Condition)	(0.05)	(0.03)	(0.06)
Number of Panchayat Run	0.06	0.12	-0.06
Education Centers	(0.02)	(0.03)	(0.04)
Number of Irrigation Facilities	3.01	3.39	-0.38
Newly Built or repaired	(0.79)	(0.08)	(1.26)
Other	1.66	1.34	0.32
	(0.49)	(0.23)	(0.48)
Test-Statistics: Difference Jointly Significant			4.15
p-value			(0.001)

Source: (Chattopadhyay and Duflo, 2004)

Results

Effects on provision of public goods

Table 7: Effect of Women's Reservation on Public Goods Investment in Rajasthan (Village Level)

Dependent Variables	Mean, Reserved GP (4)	Mean, Unreserved GP (5)	Difference (6)
Number of Drinking Water Facilities	7.31	4.69	2.62
Newly Built or Repair	(0.93)	(0.44)	(0.95)
Conditions of Roads	0.90	0.98	-0.08
(1=Good Condition)	(0.05)	(0.02)	(0.04)
Number of Irrigation Facilities	0.88	0.90	-0.02
Newly Built or repaired	(0.05)	(0.04)	(0.06)
Other	0.19	0.14	0.05
	(0.07)	(0.06)	(0.09)
Test-Statistics: Difference Jointly Significant			2.88
p-value			(0.02)

Source: (Chattopadhyay and Duflo, 2004)

Results

Effects on provision of public goods

Table 8: OLS Regressions: Determinants of Public Good Provision in West Bengal

	(1)	(2)	(3)	(4)
R_j	0.23	-0.17	0.00	0.18
	(0.101)	(0.123)	(0.159)	(0.136)
$R_j * D_i$	1.63		1.22	1.56
	(0.501)		(0.799)	(0.629)
$R_j * S_i$		2.04		
		(0.642)		
$R_j * D_i$			0.03	
(Village level)			(0.047)	
$R_j * S_i$			-0.01	
(Village level)			(0.155)	
D_{ij}	No	No	Yes	No
S_{ij}	No	No	Yes	No
Pradhan's Characteristics	No	No	No	Yes
Pradhan's Characteristics*D_i	No	No	No	Yes

Source: (Chattopadhyay and Duflo, 2004)

Results

Effects on provision of public goods

Table 9: OLS Regressions: Determinants of Public Good Provision in Rajasthan

	(5)	(6)	(7)
R_j	0.16	-0.29	0.04
	(0.115)	(0.19)	(0.16)
$R_j * D_i$	4.40		4.66
	(1.454)		(1.6)
$R_j * S_i$		1.78	
		(0.728)	
$R_j * D_i$			-0.37
(Village level)			(0.169)
$R_j * S_i$			0.05
(Village level)			(0.27)
D_{ij}	No	No	Yes
S_{ij}	No	No	Yes

Source: (Chattopadhyay and Duflo, 2004)

Conclusion

Mandated representation for women has important effects on policy decisions in local government. Under reservation policy...

1. they invest more in public goods more closely linked to women's concerns;
2. they invest less in those linked to men's concerns.

$\longrightarrow$ Only because of the gender of the policy maker.
The direct manipulation of the identity of the policymaker can have important effect on policy.

Why this paper is important?

1. Reservations for women are increasingly being implemented at various levels of government.
2. Even at the lowest level of a decentralized government, all mechanisms that affect politician's identities may affect policy decisions.