

Does female leadership impact on governance and corruption?

Evidence from a public poverty alleviation programme in Andhra Pradesh, India

(PRELIMINARY - DO NOT CITE)

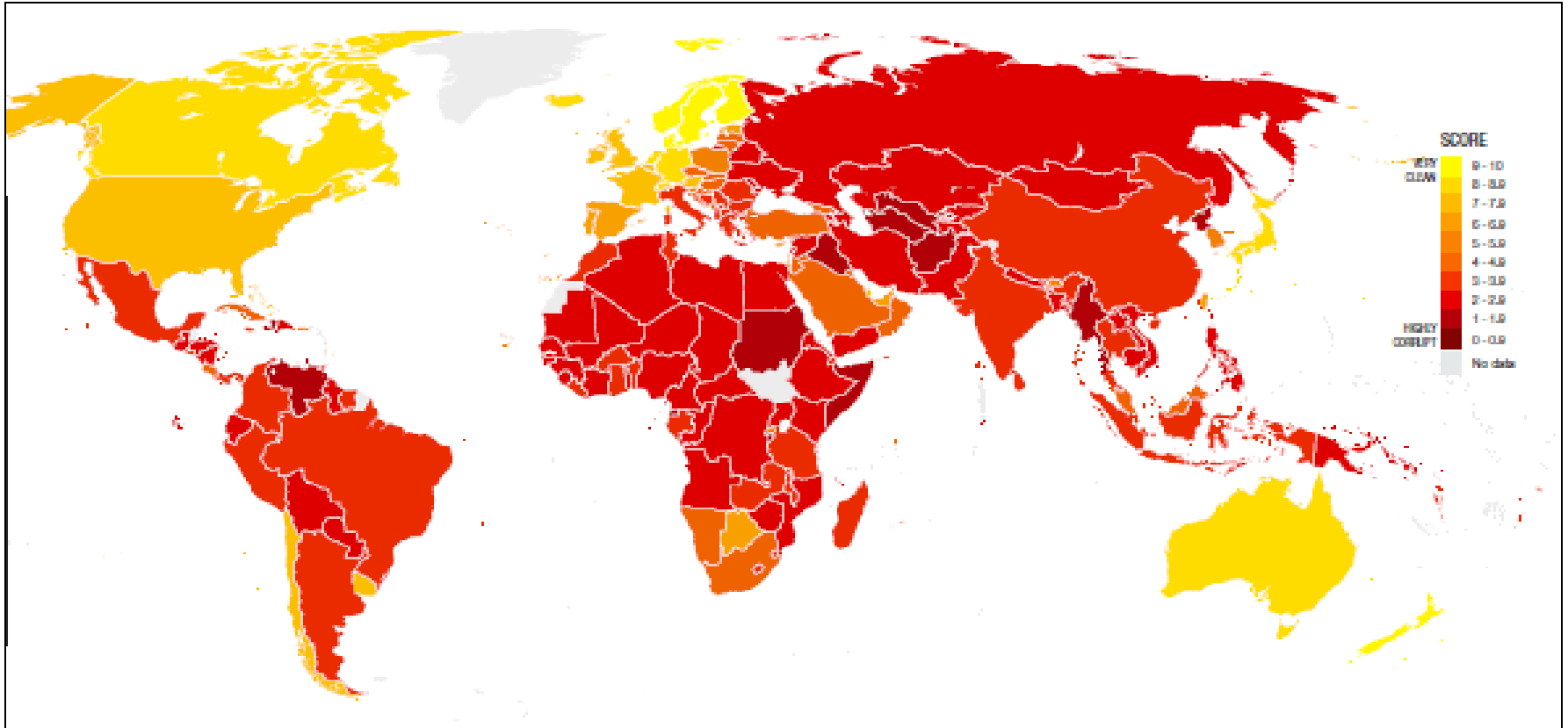
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Motivation

Poor governance, in general, and corruption in particular can be important causes behind the disappointing performance of public programs in developing countries.

Motivation



Source: Transparency International, Corruption Perception Index, 2011

In 2011 India scored 3.1 on a scale of 0 – 10
(0 means perceived as highly corrupt, 10 very clean)

Motivation

Extension of the focus on women as agents of change from the household (Sen, 1998) to the political sphere: 'the potential of presence' (Agarwal, 2010)

Motivation

- Policy focus on affirmative action in India
 - Women's Reservation Bill seeks to reserve 33% of state and national legislature positions for women.
 - Reservation of village council headships for women increased to 50% in 2009 (eg: Bihar, Madhya Pradesh).

Previous literature – gains in governance

- Dollar et al. (2001) and Swamy et al. (2001) report that greater female political representation is associated with lower corruption in separate cross-country studies.
- Chattopadhyay & Duflo (2004) find that public good investments in GPs with a female sarpanch more strongly reflect the preferences of female voters.
- Beaman et al. (2009) suggest that in female reserved village councils people were less likely to have paid a bribe to receive a BPL card or to get a water connection.

Previous literature - critical voices

- Ban and Rao (2006) find that in 4 southern states “panchayats led by women are no worse or better in their performance than those with male leaders, and women politicians do not make decisions in line with the needs of women.”
- Alolo (2006) suggests that female public officials in Ghana are less likely to endorse corrupt behaviour, but may be more inclined to use public office to promote family interests.
- Bardhan, Mookherjee and Torrado (2010) show significant worsening of within-village targeting of SC/ST households in villages reserved for woman sarpanch.

Our study

- Focus on *corruption* in and the *quality of delivery* of a specific public program (largest to date in India).
- a setting where *local residents are well placed to observe and pass verdicts about the scheme's implementation* and to monitor actuals against prescribed allocations of public funds.
- *Unique survey data and panel data* from audit reports with unchanged village council headship and composition.
- Context in which *gender equality* is higher than in most previous studies.

Research Questions

- Does female representation in local governments affect implementation of the National Rural Employment Guarantee Act (NREGA)?
- Does the affect of female headship on governance change over time during tenure?
- What individual characteristics of female village council heads are important for overcoming potential limitations of affirmative action?

Preview of results

- Households in female reserved GPs are more likely to have suffered from corruption and poor program administration.
- Panel audit data suggest there is improvement in the governance of and reduction in corruption in program projects in female reserved GPs over time.
- When sarpanchs in female reserved GPs have prior political experience and are less likely to require assistance with day to day work, the governance of the program is significantly better than in unreserved GPs.

Background - why NREGA?

- national *importance and scale* of the scheme:
In 2011-12, the Act had provided employment to almost 40 million households at an annual expenditure of more than \$8 billion, 70% of which was accounted by expenditure on wages
- almost 3 fold *increase in public funds* allocated to rural works between 2004-05 and 2008-09
- *Mandated audits* with local stakeholder participation

Background

Steps to obtain work on projects under the NREGA:

- all households eligible ('right 'based program)
- apply for 'registration' to the GP, in writing or orally
- GP issues a 'job card' to the household as a whole, free of cost
- submit a written or oral application for employment to the GP
- disbursement of wages on a weekly basis and not beyond a fortnight

Background - Role of Gram Panchayats in NREGA

Nationwide

- Prepare shelf of all projects to be implemented
- Planning and the subsequent execution of at least 50% of all projects

In Andhra Pradesh

- Appointment of the Gram Rozgar Sevak or field assistant (FA), the direct interface between beneficiary and the program
 - Registering and issuing job cards to households
 - Intimation of work availability
 - Maintenance of labor records for timely and correct disbursement of wages
- Choose the suppliers for the material component of the projects under the program.

Background - NREGA in Andhra Pradesh

- Among states with the highest employment generation under the program
- Regular, systematic and standardized audits of program expenditures since 2006 by an autonomous body (SSAAT)
- Timing of new sarpanch election in 2006 for five year tenure coincides with phasing-in of program
- Primary role of sub-district or mandal parishad development office (MPDO) in program implementation

Background - Audits of NREGA projects in AP

- *standardized audit report card*
date of the audit, demographic characteristics of the GP, impressions of the audit team regarding process performance, calculation of financial misappropriations
- detailed *complaints*; filed during the verification process by individuals, groups of individuals or the audit team which form the basis for above.
recorded during the door-to-door verification of labor expenditures and visits to project site; each complaint verified through signed affidavits and brought up in a public hearing

Data

- **Three surveys** across 8 districts of Andhra Pradesh in April-July, 2011:
 - Current MPDOs (100 mandals)
 - Sarpanchs (3 GPs in each sampled mandal) elected in 2006 for a fixed term of 5 years
 - Beneficiary households (1500 across 300 sampled GPs)
- Audit findings from original **audit reports** (supplemented by abridged reports) for surveyed GPs from 2006 to 2010
- Village level census abstract, 2001
- State Election Commission , 2006

Randomization of GPs reserved for woman sarpanch in AP

Characteristics	Unreserved GPs N=172	Reserved GP N=124	Difference
Persons per hectare of village area	3.55 (0.289)	3.26 (0.327)	0.30 (0.439)
Number of primary schools	4.58 (0.300)	3.66 (0.301)	0.92** (0.436)
Number of middle schools	1.54 (0.154)	1.41 (0.175)	0.13 (0.235)
Number of senior secondary schools	0.95 (0.107)	0.77 (0.114)	0.18 (0.159)
Number of primary health centre	0.28 (0.034)	0.23 (0.038)	0.05 (0.052)
Drinking water	0.99 (0.006)	0.99 (0.008)	0.00 (0.010)
Tap water	1.20 (0.034)	1.20 (0.040)	0.00 (0.052)
Tube well	1.43 (0.051)	1.38 (0.063)	0.05 (0.081)
Hand pump	1.03 (0.016)	1.01 (0.018)	0.03 (0.025)
Post office	0.88 (0.028)	0.82 (0.036)	0.06 (0.045)
Pucca road	1.10 (0.025)	1.16 (0.035)	-0.06 (0.042)
Proportion of cultivated area which is irrigated	0.28 (0.020)	0.24 (0.022)	0.04 (0.030)
Distance to nearest town	29.69 (1.512)	31.31 (1.855)	-1.62 (2.377)

Source: Census, 2001

Comparable beneficiary household characteristics

	Unreserved GP	Reserved GP	Difference
	(1)	(2)	(1) – (2)
<i>Household characteristics</i>	N=860	N=640	
Household size	4.46 (0.053)	4.33 (0.062)	0.13 (0.082)
Total land owned	1.56 (0.133)	1.62 (0.122)	-0.05 (0.186)
Irrigated land owned	0.49 (0.119)	0.40 (0.066)	0.09 (0.150)
Below poverty line (BPL)	0.99 (0.004)	0.99 (0.004)	0.00 (0.006)
SC household head	0.59 (0.017)	0.59 (0.019)	-0.01 (0.026)
ST household head	0.26 (0.015)	0.21 (0.016)	0.04** (0.022)
Hindu household head	0.92 (0.009)	0.94 (0.009)	-0.02 (0.013)
Household head casual laborer	0.82 (0.013)	0.85 (0.014)	-0.03 (0.02)
Household head self-employed on farm	0.10 (0.01)	0.10 (0.01)	-0.00 (0.154)
Awareness of NREGA entitlements (maximum score 5)	3.58 (0.023)	3.52 (0.028)	0.06 (0.036)

Audit summary statistics

GP level audit characteristics	Unreserved GP (1)	Reserved GP (2)	Difference (1)-(2)
	N=162	N=121	
Number of social audits between 2006-10	2.40 (0.053)	2.42 (0.058)	-0.02 (0.079)
Total number of complaints per audit	6.50 (0.329)	6.48 (0.420)	0.02 (0.527)
Labor related complaints (%)	0.84 (0.012)	0.87 (0.013)	-0.03* (0.018)
Non-payment or delay in wage payments (%)	0.29 (0.016)	0.27 (0.020)	0.01 (0.026)
Impersonations in wage payments (%)	0.19 (0.015)	0.23 (0.022)	-0.04 (0.026)
Excess payments/bribes in labor expenditures (%)	0.015 (0.013)	0.16 (0.015)	-0.01 (0.020)
Excess payments/bribes in material expenditures (%)	0.04 (0.007)	0.04 (0.008)	0.01 (0.011)
FA held responsible (%)	0.38 (0.020)	0.34 (0.020)	0.04 (0.029)

GPs reserved for woman sarpanch perform poorly

Program Process	Unreserved GP	Reserved GP	Difference
<i>Registering with program</i>	N=860	N=640	
Asked to make payment for registration card	0.15 (0.012)	0.19 (0.016)	-0.05** (0.019)
Bribe amount conditional on payment (Rs.)	31.24 (2.432)	38.88 (3.613)	-7.64* (4.330)
Number of weeks for obtaining card	2.64 (0.135)	2.50 (0.060)	0.14 (0.164)
Proportion of households with card	0.94 (0.008)	0.96 (0.008)	-0.02* (0.012)
<i>Participating in program</i>			
Household applied for work to GP	0.28 (0.015)	0.29 (0.018)	-0.01 (0.024)
Stakeholders informed about work availability by GP	0.74 (0.015)	0.78 (0.016)	-0.04* (0.022)
<i>Receiving program benefits</i>			
Asked to make payment to receive due wages	0.10 (0.010)	0.11 (0.013)	-0.01 (0.016)
Bribe amount, conditional on above (Rs.)	136.96 (28.065)	158.55 (33.304)	-21.59 (43.249)
Wages received lower than wages due	0.11 (0.011)	0.14 (0.014)	-0.03* (0.017)
Frequency of wage payment receipt (weeks)	2.17 (0.037)	2.27 (0.044)	-0.10* (0.057)
Wage payment made by cash in hand	0.09 (0.010)	0.12 (0.013)	-0.03* (0.016)
<i>Verification of program funds</i>			
Asked to verify labour records in audit	0.50 (0.017)	0.56 (0.020)	-0.07*** (0.026)
Discrepancy in labour records, conditional on above	0.10 (0.015)	0.14 (0.018)	-0.04* (0.040)

Methodology – Household survey data

$$NREGS_{ijk} = \beta_0 + \beta_1 R_{jk} + \beta_2 \mathbf{Z}_{ijk} + \beta_3 \mathbf{X}_{jk} + \beta_4 D_k + \varepsilon_{ijk}$$

$NREGS_{ijk}$: program process experience of household i in GP j in mandal k

R_{jk} : GP j in mandal k is reserved for a female sarpanch,

\mathbf{Z}_{ijk} : vector of household characteristics (caste, religion, land ownership)

\mathbf{X}_{jk} : vector of characteristics of GP including attributes of sarpanch

D_k : unobservable characteristics of mandal k

Methodology - Audit data

$$\begin{aligned} \text{Audit}_{jkl} = & \alpha_0 + \alpha_1 R_{jkl} + \sum_t \alpha_t (R_{jkl} * \text{Year}_t) + \alpha_2 \mathbf{X}_{jkl} + \alpha_3 D_k + \alpha_4 \text{Year}_t \\ & + \alpha_5 (D_l * \text{Year}_t) + \mu_{jkl} \end{aligned}$$

Audit_{jkl} : Number (or amount) of complaint type in GP j , mandal k , district l in audit year t

$D_l * \text{Year}_t$: time trend of district l in audit year t

Results

Poor governance of program in GPs reserved for woman sarpanch (household survey)

<i>Program process</i>	<i>Coefficient on GP reserved for female</i>		
	(1)	(2)	N
<i>Registering with the program</i>			
(1) Asked to make payment for registration card	0.066** (0.030)	0.076** (0.032)	1484
(2) Bribe amount conditional on payment	-3.130 (6.858)	-8.521 (6.994)	243
<i>Receiving program benefits</i>			
(3) Wages received lower than wages due	0.026 (0.021)	0.030 (0.022)	1453
(4) Weeks for wage payment receipt	0.089* (0.051)	0.095* (0.051)	1484
(5) Wage payment through cash-in-hand	0.002 (0.023)	0.002 (0.024)	1484
<i>Verification of program funds</i>			
(6) Participated in audit	0.097** (0.038)	0.103*** (0.035)	1463
(7) Asked to verify labor records	0.083** (0.039)	0.087** (0.037)	1473
(8) Discrepancy in labor records, conditional on above on (7)	0.055* (0.031)	0.053 (0.034)	775
mandal fixed effects	√	√	
household characteristics	√	√	
sarpanch characteristics	√	√	
village census characteristics	x	√	

Poor governance of program in GPs reserved for woman sarpanch (audit data)

<i>Number of audit complaint type</i>								
Coefficient	Labor related complaints		Impersonations in wage payments		Excess payments/bribes in labor expenditure		Amount of discrepancy	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GP reserved for female	0.502 (0.469)	2.146** (0.900)	0.459* (0.266)	1.158 (1.098)	-0.042 (0.123)	0.534* (0.272)	9,048.54 (16,167.63)	1,40,364.32*** (52,081.736)
GP reserved for female x 2007		-1.932* (1.137)		-0.881 (1.12)		-0.493 (0.464)		-1,73,722.90*** (63,208.361)
GP reserved for female x 2008		-1.736 (1.159)		-0.871 (1.136)		-0.724* (0.423)		-1,31,495.89*** (55,184.454)
GP reserved for female x 2009		-1.434 (1.127)		-0.957 (1.138)		-0.245 (0.367)		-1,12,959.75** (43,721.597)
GP reserved for female x 2010		-1.618 (1.057)		-0.435 (1.183)		-0.735** (0.312)		-1,31,262.10** (58,398.304)
2007		0.628 (3.128)		2.255 (3.09)		-0.605 (0.53)		2,59,469.65* (134,145.194)
2008		1.564 (3.388)		0.588 (2.342)		1.141 (0.856)		1,77,301.48 (1,35,509.53)
2009		-6.146*** (2.316)		-1.798 (2.182)		-0.055 (0.546)		2,22,408.51* (128,489.738)
2010		2.54 (2.768)		4.376 (2.842)		-0.542 (0.401)		3,15,617.43* (165,509.984)
Constant		2.804 (4.795)		-2.163 (2.914)		0.274 (1.320)		-1,98,870.20 (2,11,890.68)
N (Number of observations)	594	594	594	594	594	594	389	389
R ²	0.48	0.48	0.36	0.36	0.31	0.32	0.30	0.31

Robustness checks

- If incumbents are less likely to be re-elected (as may be the case when the headship is no longer reserved for women), corruption may be significantly higher (Ferraz and Finan, 2011)
 - Control for unobserved differences in ‘incentives’
- Results might allude to gender stereotypes (Beaman et al., 2009)
 - Citizen report cards do not exhibit gender stereotypes (Duflo and Topalova, 2005)
 - If correct, results should not vary by experience or ability of reserved sarpanchs

Prior political experience improves performance of GPs reserved for woman sarpanch (household survey)

Coefficient	<i>Registering with the program</i>		<i>Receiving program benefits</i>			<i>Verification of program funds</i>		
	Asked to make payment for registration card	Bribe amount conditional on payment	Wages received lower than wages due	Weeks for wage payment receipt	Wage payment through cash-in-hand	Participated in audit	Asked to verify labour records	Discrepancy in wage payments, conditional on (7)
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GP reserved	0.094*** (0.033)	-25.770** (10.500)	0.034 (0.024)	0.131** (0.057)	0.008 (0.025)	0.094** (0.037)	0.090** (0.039)	0.066* (0.036)
Prior political experience	0.009 (0.046)	-54.010** (21.430)	0.032 (0.036)	0.132* (0.077)	-0.000 (0.035)	-0.020 (0.062)	0.002 (0.051)	-0.002 (0.046)
Prior political experience x GP reserved	-0.158* (0.084)	67.220* (38.620)	-0.036 (0.088)	-0.314** (0.148)	-0.049 (0.070)	0.083 (0.106)	-0.030 (0.111)	-0.158 (0.141)
Constant	-0.733** (0.334)	301.000** (117.300)	-0.072 (0.230)	1.550*** (0.514)	-0.465** (0.231)	-0.668* (0.394)	0.060 (0.357)	-0.567 (0.355)
R ²	0.275	0.713	0.211	0.284	0.460	0.423	0.575	0.288
N	1454	240	1423	1454	1454	1434	1443	758

Results driven by less independent reserved sarpanchs (household survey)

Sample characteristic	<i>Registering with the program</i>		<i>Receiving program benefits</i>			<i>Targetting</i>
	Asked to make payment for registration card	Bribe amount conditional on payment	Wages received lower than wages due	Weeks for wage payment receipt	Wage payment through cash-in-hand	Beneficiary household is BPL
	(1)	(2)	(3)	(4)	(5)	(6)
sarpanch requires day-to day assistance	0.229** (0.095)	-11.680 (9.120)	0.067 (0.048)	0.231*** (0.074)	-0.000 (0.041)	-0.074* (0.041)
sarpanch does NOT require day-to day assistance	0.115** (0.055)	-16.230* (9.288)	-0.016 (0.037)	0.108 (0.099)	-0.066** (0.029)	0.011 (0.008)

Summary

- Evidence of corruption and poor administration in GPs headed by reserved sarpanchs both for processes for which the GP is entirely responsible (viz. registration and distribution of job cards) and for those for which it shares responsibilities (viz. wage payments) with other program functionaries.
- Controlling for prior political experience and greater administrative ability, there is a differentially larger positive effect on governance of the public program in reserved GPs.
- Above finding corroborated by results from audit data which suggest that the performance of reserved sarpanchs 'improves' over time and thus with more experience.
 - political experience may improve governance of *female* leaders.

Next steps...

- Is there evidence of ‘capture’ in GPs headed by inexperienced and less independent woman sarpanchs?
- Are female leaders intrinsically less corrupt and less likely to misgovern public programs once we control for ‘incentives’?