

Public Work Programs and Social Capital: An Exploration of NREGA in India

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Presentation Scheme

- Background
- Literature
- Description of Data
- Methodology
- Results
- Way Forward

Background

- The importance of social capital as a public good and its influence on socioeconomic development has gained momentum in recent decades.
- Public work programs have the potential to build social capital through their community driven approach to poverty alleviation.
- We study the impact of India's Mahatma Gandhi National Rural Employment Guarantee Act (NREGA), a public works program, on social capital outcomes.

Research Question

Is there any association between participation in NREGA and household's social capital outcomes? Specifically:

- **Social Networks**

Personal acquaintance in health, education, and government sectors

- Any Caste

- Different Caste

- **Community Based Organization Membership**

Membership in nine different groups or organizations

NREGA Impacts

- Increase in private sector wages (Imbert and Papp 2015)
- Increase in monthly per capita expenditure on food and non-food items (Ravi and Engler 2015)
- Increase in school attendance and better educational achievements (Afridi et al. 2013, Mani et al. 2014, and Sivasankaran 2014)
- Delayed and reduced prenatal visits, decrease in breastfeeding duration, and increase in institutional delivery (Chari et al. 2014)
- Increase in formal borrowing and women's control over resources, lower child labour, and better education outcomes (Desai, Vashishtha, and Joshi 2016)

NREGA and IHDS-II

NREGA Classification	Households (%)
NREGA Card Holders	42
Non-zero NREGA Income	22
Work > 240 hours	11

NREGA Income (INR)	Households (%)
0	48
100 to 2500	15
2500 to 5000	13
5000 to 7500	9
7500 to 10,000	6
10,000 to 15,000	7
15,000 and above	2

Total Rural Households= 27,547

Social Capital Outcomes Covered in IHDS

- Social Network (any caste)

Network Type	2004-05	2011-12
Health	30%	53%
Education	39%	56%
Government	29%	26%

- Social Network (different caste)

Network Type	2004-05	2011-12
Health	22%	45%
Education	23%	47%
Government	14%	21%

- Social Network (any caste)

Survey	N	Range	Q ₁	Median	Mean	Q ₃
2004-05	26800	0 to 3	0	1	1	2
2011-12	27260	0 to 3	0	1	1	2

Transition Type	Total Sample	Non-NREGA	NREGA Income
Same	32%	32%	30%
Improve	44%	43%	48%
Worse	24%	24%	22%

Zero Social Network	Non-NREGA	NREGA Income
2004-05	46%	54%
2011-12	31%	31%

- Social Network (different caste)

Survey	N	Range	Q ₁	Median	Mean	Q ₃
2004-05	26803	0 to 3	0	1	1	2
2011-12	27252	0 to 3	0	0	1	1

Transition Type	Total Sample	Non-NREGA	NREGA Income
Same	35%	35%	34%
Improve	47%	47%	48%
Worse	18%	18%	18%

Zero Social Network	Non-NREGA	NREGA Income
2004-05	66%	68%
2011-12	39%	38%

Social Capital Outcomes Covered in IHDS

- Community-based Organization Membership

CBO Type	2004-05	2011-12
Mahila Mandal	8%	9%
Youth Club	4%	2%
Trade Union	3%	3%
SHG	11%	21%
Credit/Savings Group	8%	11%
Religious Group	15%	13%
Caste Associations	14%	8%
NGO	2%	1%
Co-operatives	5%	4%

- Community-based Organization Membership

Survey	N	Range	Q ₁	Median	Mean	Q ₃
2004-05	27228	0 to 9	0	0	1	1
2011-12	27249	0 to 9	0	0	1	1

Transition Type	Total Sample	Non-NREGA	NREGA Income
Same	51%	51%	52%
Improve	25%	25%	27%
Worse	24%	24%	21%

Zero CBO Membership	Non-NREGA	NREGA Income
2004-05	63%	63%
2011-12	61%	58%

Methodology: Difference-in-difference estimation

- Household level panel

$$SocialCapital_{ht} = \beta_0 + \beta_1 NREGA_h + \beta_2 Time_t + \beta_3 (NREGA \times Time)_{ht} + \overrightarrow{\beta_4} \overrightarrow{X_{ht}} + \varepsilon_{ht}$$

- Change in social capital before and after NREGA
- Compare with changes in non-NREGA households
- Difference-in-difference estimate

Results: Difference-in-difference estimates

Treatment	Social Network (any caste)	Social Network (caste)	Community-based Organization
NREGA Card	0.14*	0.02	0.06*
NREGA Income	0.11*	-0.01	0.07*
NREGA Workers	-0.00	-0.05*	0.04

*p < 0.05

Controls: Caste, Religion, Income, BPL card, Debt, Household education, Number of people in the household, District Fixed Effects

Way Forward: Robustness Checks and Sensitivity Analysis

- Households self-select into NREGA as it is demand driven and guaranteed to every households that demands it

--Propensity-score Matching

Match households on observables in round 1 within each district

--Heckman Selection Model

Correct for selection bias introduced due to non-random selection of households into NREGA

Thank you!

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About NREGA

- Act passed in 2005
- One of the largest public work programs in the world
- Any rural household is eligible to participate
- Guarantees 100 days of paid labor per year to every enrolled household
- Unskilled wage employment at minimum wage rate
- Work can be allocated among the adult members of the household
- A third of all the beneficiaries must be women

Data: India Human Development Survey

- Nationally Representative multi-topic survey covering 1503 villages and 971 urban blocks in 384 of 612 districts in India
- Individual and Household panel
 - 41,554 households surveyed in 2004-05
 - 83% of the original households and their split households residing within the same village and an additional sample of 2134 households surveyed in 2011-12
- **Household survey:** information on socio-economic conditions of the household including income, employment, educational status, consumption expenditure, and social capital.
- **Information on NREGA at individual and household level in IHDS-II**