



**Trust and Reciprocity among  
Urban Slum Dwellers:  
Experimental Findings from a Trust  
Game in Hyderabad**

**Bibhu P. Nayak**

**Tata Institute of Social Sciences (TISS) Hyderabad**

# Introduction

- The economic payoff of social capital
- Defining social capital as 'the propensities of individuals to trust and cooperate' to 'community level networks'
- Defining trust:
  - "the willingness of a party to be vulnerable to the actions of another party" (Mayer et al., 1995)
  - "the expectation that arises within a community of regular, honest, and cooperative behaviour, based on commonly shared norms" (Fukuyama, 1995)
  - "concerns the question whether an individual is willing to cooperate having the expectation that the other will reciprocate" (Ostrom, 1998)



# Does Trust Matter?

- In higher trust environment the cost of economic activities that require some agent to rely on the future action of others is less
- Trusting societies have stronger incentive to innovate and to accumulate physical capital and also likely to have higher returns to accumulation of human capital
- Several indirect effects on economic outcomes through political channel



# Trust and Cooperation:

## Review of Indian Studies

- Studies have found low level of trust and argued that Indian society lack a 'common code of generalised morality' (Platteau, 1994; Saberwal, 1996).
- 'Selective trust' amongst business family, an anthropological perspective (Harris,2003)
- Collective action (protests) on environmental issues in coastal Odisha linked to stronger sense of communalities (higher trust level) in comparison to inland region (Blomkvist and Swain ,2001)



# Trust and Cooperation: Review of Indian Studies

- Group lending is successful in achieving low rates of default because it harnesses existing social capital and creates new social capital through repeated interactions (Feigenberg, Field and Pande, 2009)
- Higher level of trusts in rural areas (highest where SHG exists) than in cities (Mitra and Gupta, 2009)
- Participation in community resource management is higher with the households exhibiting higher level of trust (Bouma et al, 2008)





# Measuring the Trust

- Survey based methods vs experimental methods (field and lab)
- 'Trust game' designed by Berg et al, (1995) as a standard experimental method to measure trust
  - **first mover is randomly and anonymously paired with second mover**
  - **both are given a monetary endowment**
  - **first mover transfer some or all her endowment to the second mover**
  - **the transferred amount is tripled by the experimenter**
  - **the second mover may return none or some or all the received transfer or even more (part of her endowment)**
  - **one shot game**

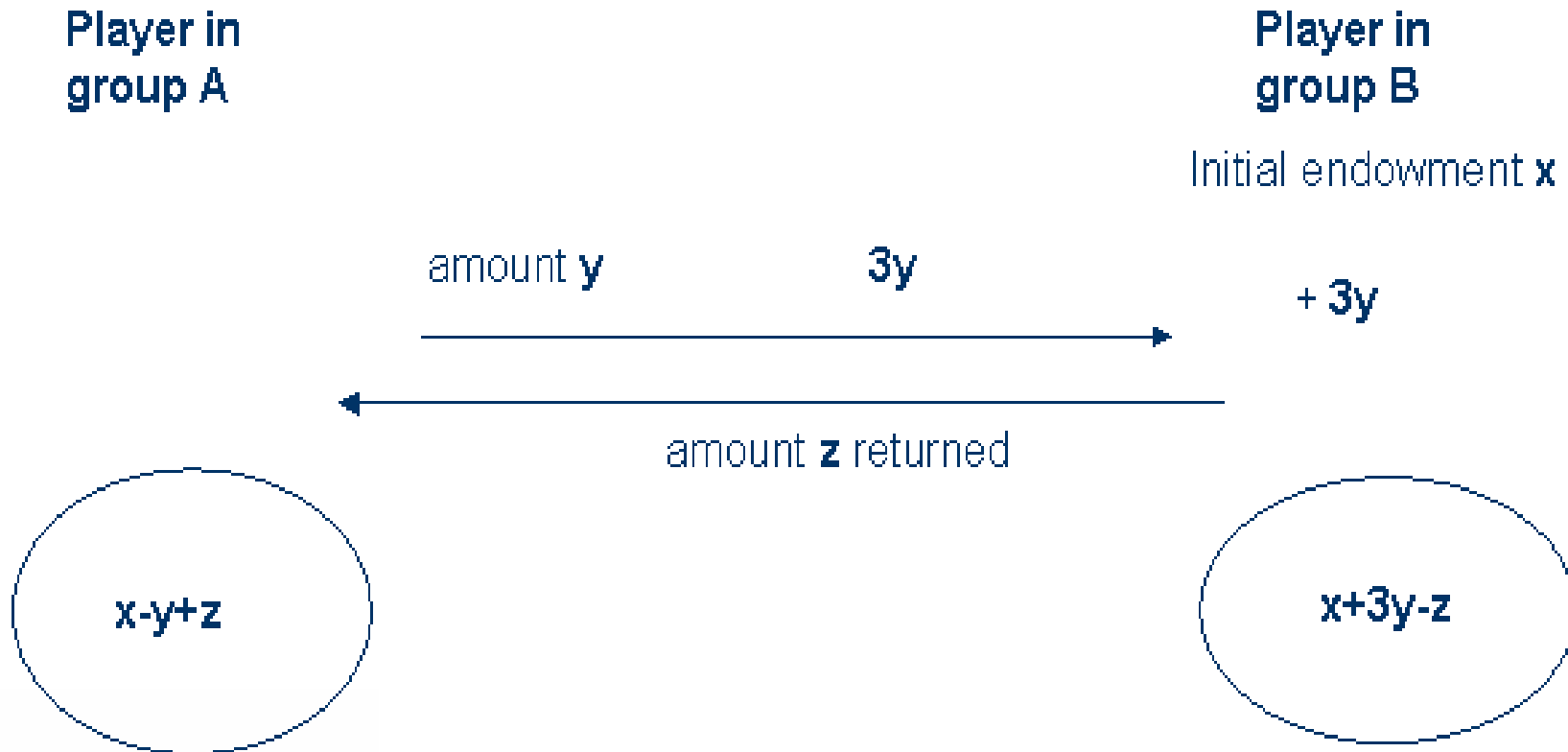


# The Trust Game

- Trust game conducted in 8 randomly selected slums in Hyderabad
- Game was played with 'real' money and 'real' people
- Group size for the game was 30 to 36, both men and women together (N=270)
- More women than men (64 %)
- 5 of the 8 slums had SHG experience
- The initial endowment consists of four Rs. 50 currency notes (total Rs. 200)
- Pre and Post Game surveys



# Trust Game Procedure



- initial endowment of  $x=4$
- amount sent  $y= \{0, 1, 2, 3, 4\}$
- amount returned  $z = \{0, 1, 2, \dots, 15, 16\}$



# Trust Game Results

- Players generated 71.5 % of maximum possible income
- Second movers earned more (55.25 %)

## Trust

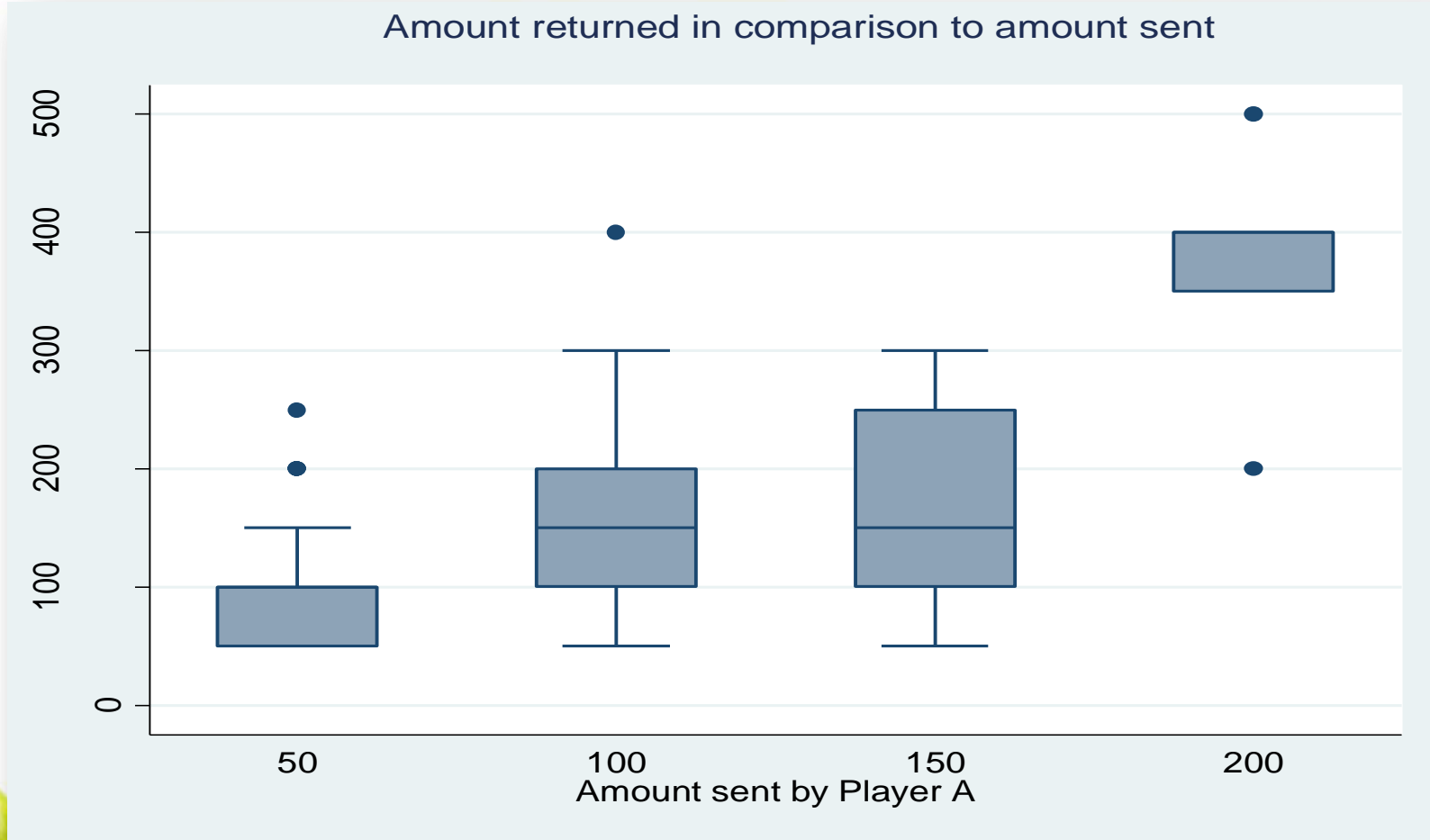
- Average amount sent by sender group is Rs. 85.82
- Only 5 % of players sent whole initial endowment
- None sent no money ( $y \geq 0$ )
- 88 % sent half or less of the initial endowment

## Reciprocation

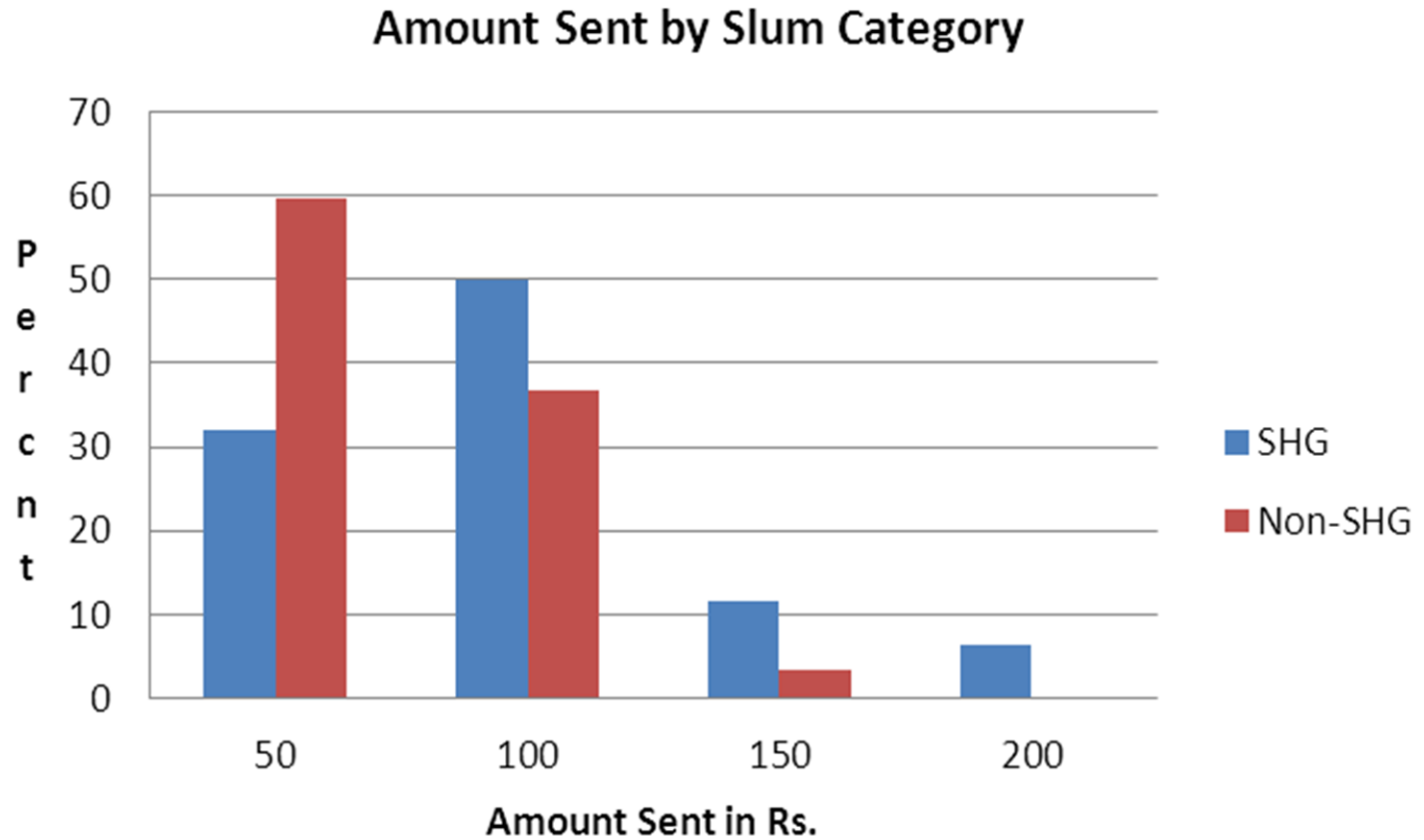
- Average amount returned is Rs. 138.89 (30 %)
- 26 % sent only 50, 33% 100, 8 % more than 200
- 44% received 150, 44% received 300
- None returned no money ( $z \geq 0$ )



# Trust and Trustworthiness



# Trust and Cooperation Experience



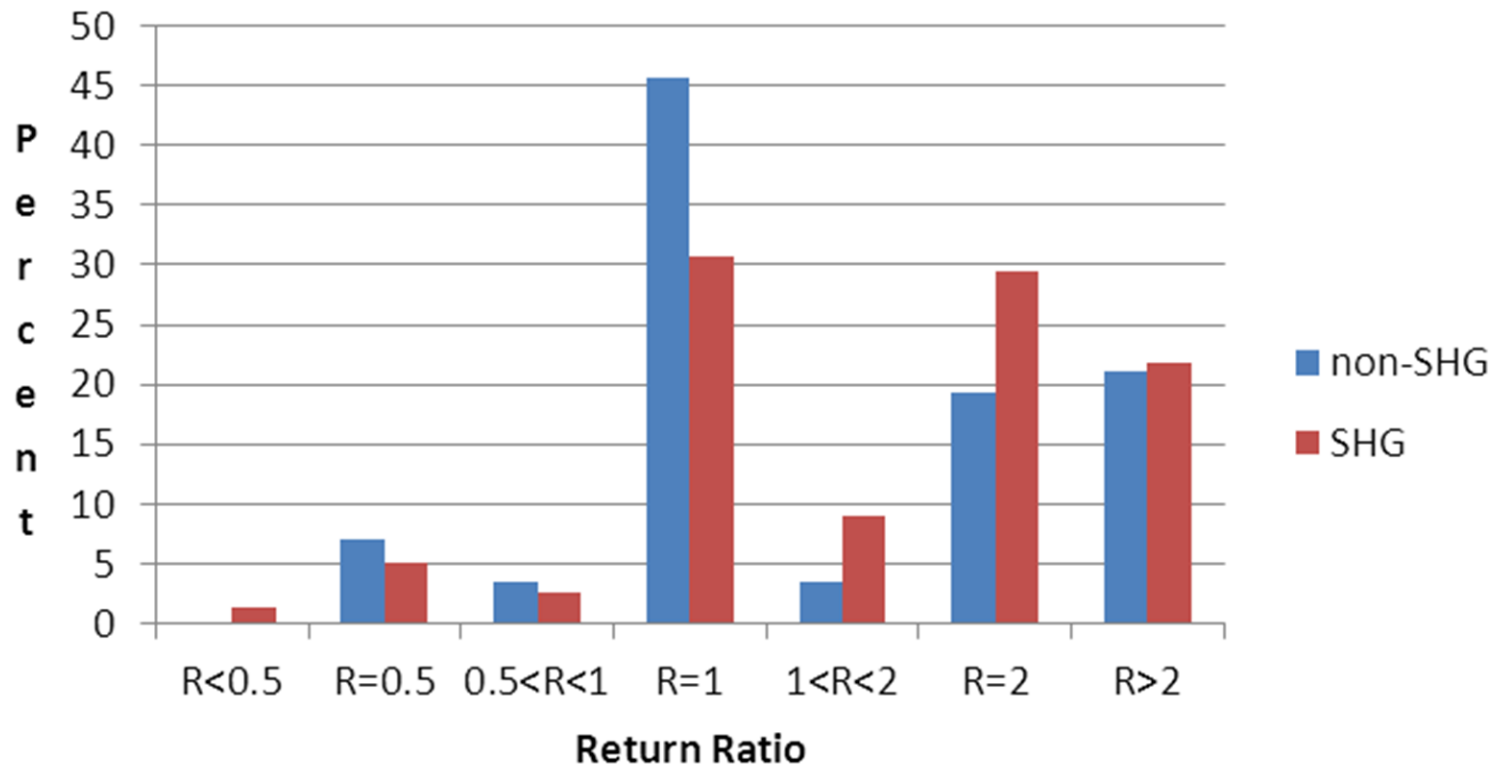
# Trust and Gender

Amount Sent by Gender

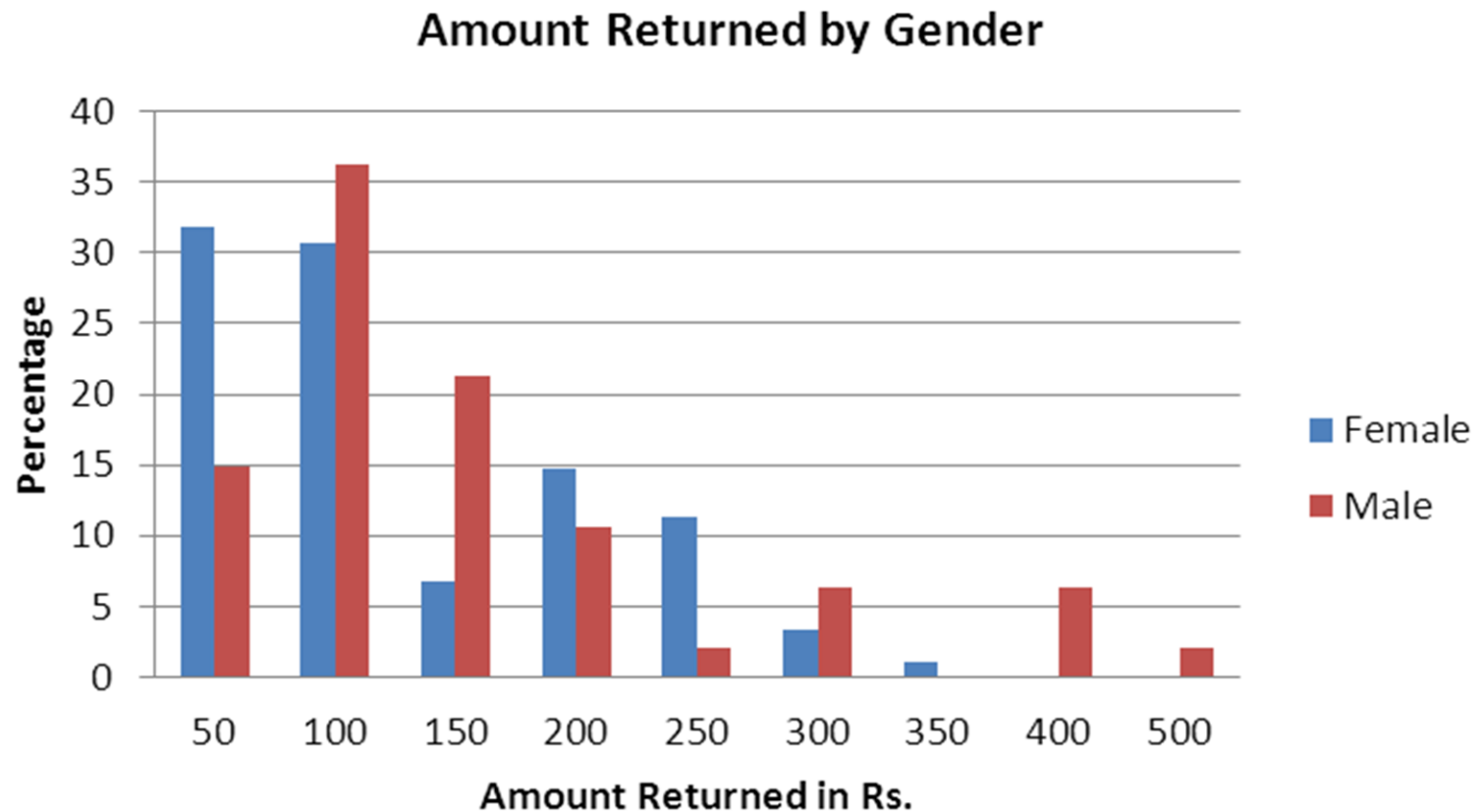


# Cooperation Experience and Reciprocation

Distribution of Return Ratio by slums



# Gender and Reciprocation





# Determinants of Trust

Model	(TG1)		(TG2)		(TG3)		(TG4)	
Variables	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<b>Socio-economic</b>								
Age	-0.713*	0.410	-0.631*	0.375	-0.007	0.005		
Male	24.552***	8.562	18.143**	7.715	0.309***	0.091	0.235***	0.081
Education (No. of years)	0.252	0.701			0.006	0.008		
HH head	-11.120	6.762			-0.124	0.076		
Married	7.975	6.697			0.072	0.070		
HH size	0.269	1.312			0.004	0.015		
Years living in slum	0.846**	0.371	0.603*	0.355	0.008**	0.004	0.003	0.003
Religiosity	-0.361	0.576			-0.004	0.006		
Relative deprivation feeling	-1.202	5.981			-0.016	0.069		
Trust perception	1.548	7.189			0.027	0.079		
<b>Collective Action</b>								
Member of community org.	-8.224	8.313			-0.087	0.102		
Responsibility	-6.080	12.660			-0.064	0.166		
Time spent for collective action	-1.412**	0.677	-1.006	0.658	-0.016**	0.008	-0.012	0.009
Lending	9.525	7.525			0.128	0.087		
<b>Experimental</b>								
Understanding	6.280	12.826			0.028	0.148		
Real life appl.	-4.088	8.531			-0.015	0.093		
SHG Slums	28.880**	13.006	27.271***	6.515	0.330**	0.148	0.296***	0.074
<b>Controls</b>								
Constant	52.552**	21.527	67.624***	(0.484)	3.944***	0.248	3.987***	0.074
Session dummies	7 sessions (1 session significant)		1 session (1 session significant)		7 sessions (1 session significant)		1 session (1 session significant)	
No. of observations	133		133		133		133	
R-squared	0.317		0.241		0.338		0.256	



# Determinants of Trust

- Age (-)
- Male player (+)
- Living duration (+)
- Time spent of collective activities (+)
- SHG membership (+)



# Determinants of Reciprocation

Model	(TG5)		(TG6)		(TG7)		(TG8)	
	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.	Coeff.	S.E.
<b>Amount received</b>	1.185***	0.216	1.154***	0.229	0.007***	0.001	0.006***	0.001
<b>Socio-economic</b>								
Age	0.042	0.769			0.000	0.005		
Male	37.672**	17.741	12.663	13.986	0.287**	0.118	0.212**	0.098
Education (No. of years)	-1.133	1.553			0.001	0.011		
HH head	-6.946	16.026			-0.124	0.110	-0.227**	0.096
Married	-5.094	13.069			-0.002	0.095		
HH size	-5.770**	2.555	-7.234***	2.294	-0.048***	0.018	-0.057***	0.016
Years living in slum	-0.244	0.652			0.001	0.004		
Religiosity	-0.425	1.136			-0.003	0.007		
Relative deprivation feeling	-11.019	14.865			-0.101	0.097		
Trust perception	-13.886	13.626			-0.039	0.095		
<b>Collective Action</b>								
Member of community org.	4.167	18.384			0.048	0.130		
Responsibility	-4.362	20.992			0.051	0.151		
Time spent for collective action	-12.788***	4.050	-10.119***	3.355	-0.091***	0.029	-0.077**	0.028
Lending	-12.334	16.616			-0.130	0.117		
<b>Experimental</b>								
Understanding	-102.14***	28.294	-89.070***	19.957	-0.559***	0.195	-0.537***	0.130
Real life appl.	26.991	18.194			0.165	0.131		
SHG Slums	58.009**	25.714	50.067***	13.743	0.622***	0.186	0.574***	0.116
<b>Controls</b>								
Constant	153.886***	40.854	132.620***	28.671	4.59***	0.276	4.680***	0.190
Session dummies	7 sessions (2 sessions significant)		2 sessions (2 sessions significant)		7 sessions (2 sessions significant***)		2 sessions (2 session significant***)	
No. of observations	135		135		135		135	
R-squared	0.504		0.415		0.531		0.448	



# Determinants of Reciprocation

- Amount received (+)
- Male (+)
- HH size (-)
- Time spent on collection action (-)
- Understanding of the game (-)
- Real life application (+)



# Conclusions

- Trust and reciprocation are found to be higher in slums having active SHGs
- The level of trustworthiness or reciprocation is very less for all the slums, though it is marginally higher in case of SHG slums
- Male players are found to send more as well as return more than their female counterparts
- Different socio-economic factors influence the trust as well as the reciprocation
  - **The factors like age, gender, years of living in slums, participation in other collective action are determining the level of trust**
  - **In case of reciprocation- the amount received, household size, collective action experience and relating the game to real life experience are the determining factors.**



# THANK YOU

Email: [bibhuprasadnayak@gmail.com](mailto:bibhuprasadnayak@gmail.com)





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