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Information and Corruption: The National Rural Employment Guarantee Scheme in India[1]

by

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ABSTRACT

The impact of information on corruption and effective implementation is Janus faced. In this paper we use household level data to address the issue of corruption in the NREG program in three states: Rajasthan, Andhra Pradesh and Maharashtra. We discover that at the entry level, information about the NREG has the effect of increasing the entry of non-poor while the acutely poor, who possessed neither TVs nor cell-phones, nor attended public meetings nor were connected to social networks did not know and therefore did not participate in the program. At implementation level, information enabled those who possessed it to avoid being shortchanged by the administration. The non-poor benefited more from the NREG in all three states, and the ethnographic evidence from Andhra Pradesh and Maharashtra shows that the non-poor even misused the program. So, information has generated corruption on the part of some informed beneficiaries.

Conversely, in areas where poorer and illiterate participants are in greater numbers, they are likely to experience more corruption from government officials during the implementation because they possess less information on the benefits accruing to a participant in the NREG. The picture from Rajasthan shows that, while the entry level capture by the non-poor is relatively low, compared to the other two states, the corruption at the level of implementation is higher. Here, lack of information on the part of the beneficiary reduces the monitoring potential and effective implementation and enables corruption.

Social networking (and the access to information) increases the likelihood of participation by the affluent but decreases the likelihood of participation by non-affluent and the poor. This implies that the non-affluent are not able to act even if they have information. We need to explore this result further.

The results from the three states back the rationale for the importance of a right to information and suggests that the government should invest more in advocacy campaigns about their programs, particularly in the poorest areas. At the same time, it is important to carry out periodic information drives among the beneficiaries to ensure that they are aware of the components of the scheme. However, while these measures may not stop the non-poor from benefiting at the expense of the poor, they might introduce better monitoring of the programs by the poor.

I. Introduction

> Just as fish moving under water cannot possibly be found out either as drinking or not drinking water, so government servants employed in the government work cannot be found out (while) taking money (for themselves). (Kautilya, *Arthasastra*)

Scholars and practitioners struggle with the question of how best to reduce the amount of water (money) being drunk by fish (government officials and political representatives). Corruption can be controlled in two ways: by instituting government structures to create veto points and independent sources of political, administrative and judicial power; and second, by supplying information about government actions so that the media and the public can voice complaints and push for public accountability (Rose-Ackerman, 1999). Since corruption often arises because bureaucrats and other agents in the public and private sectors have an interest in concealing information, one way to reduce leakage is by broadcasting information about the program to the beneficiaries. As Rose-Ackerman (1999) points out, the government must tell its citizens what it is doing so that the public has the information and can then be a check on the arbitrary exercise of power by the government. Such dissemination, scholars argue, enhances the monitoring of the officials' activities and facilitates more efficient delivery of anti-poverty programs.

Can access to information perform the role envisaged by Rose-Ackerman and others? Is information an unadulterated good? Does access to information about a government program on the part of the public always lead to beneficial consequences in terms of better program delivery and lower leakages?

In this paper, we assess the relationship between the type of information possessed by the program's beneficiaries and the efficacy of India's national rural employment guarantee scheme (NREGS) in three states. Our findings suggest that the link between information, corruption and the delivery of the program is not straightforward. Information can increase the propensity for the program to be accessed by those who are not its primary target population, and can also increase the efficacy of delivery of the program to such beneficiaries. Lack of information, on the other hand, decreases the ability of a citizen to access the benefits of an anti-poverty program.

The paper is divided into the following sections: In Section I we situate our understanding of the role of information within the theoretical debates on the definition, causes and consequences of corruption. The third section outlines our hypotheses and

methodology. The fourth section addresses the first hypothesis on the link between information and participation in the NREG. The fifth section discusses the second hypothesis, namely the link between information and the implementation of the NREG. The final section concludes and underlines the implications of our findings for policy makers.

II. Theoretical debates on information, corruption and efficient targeting of government schemes:

Corruption occurs where private wealth and public power overlap (Ackermann, 1999), and can range from low-level opportunistic payoffs that lead to inefficient and unfair distribution of scarce benefits to a systemic corruption that could undermine a country's whole economy.[3] Corruption is usually linked to the monopoly and discretionary power of the government especially when it functions without transparency and effective institutional checks (Tanzi and Davoodi, 1997).

Different studies define corruption differently, ranging from simply taking bribes (Mauro, 1997), misusing public office for private gain (Treisman, 2000), channeling public funds into unscrupulous sectors, to public service providers shirking in their duties (Reinikka and Svensson, 2000).[4] The debate on the implications of corruption centers on the link between corruption and efficiency. One strand of literature on corruption argues that graft and bribes may actually improve efficiency and help growth by providing 'grease in the squeaking wheels' of a rigid administration (Leff, 1964:11; Huntington, 1968:386). Acemoglu and Verdier (2000) point to the unavoidability of corruption when bureaucrats are involved and treat such corruption as an unpleasant side effect of necessary government intervention to prevent market failure. However, as Tanzi (1998) correctly points out, those who grease the wheels may not be the most economically efficient but may be the most successful at rentseeking. In fact, in corrupt societies, the most able individuals may be

[3] Toke S. Aidt (2009) makes a distinction between four different analytic approaches to corruption.
1. Efficient corruption: corruption arises to facilitate beneficial trade between agents that would not otherwise have been possible. It promotes allocative efficiency by allowing agents in the private sector to correct pre-existing government failures.
2. Corruption with a benevolent principal: corruption arises when a benevolent principal delegates decision making power to a non-benevolent agent. The level of corruption depends on the costs and benefits of designing optimal institutions.
3. Corruption with a non-benevolent principal: corruption arises because non- benevolent government officials introduce inefficient policies in order to extract rents from the private sector. The level of corruption depends on the incentives embodied in existing institutions.
4. Self-reinforcing corruption: the reward to corruption depends on the incidence of corruption due to strategic complementarity. The level of corruption depends, for given institutions, on history. In this paper, we blend the third and fourth approaches.

[4] These articles are discussed in Daniel Suryadarma (2008).

diverted by existing incentives from pursuing socially productive activities and towards rent seeking ones. In the case of a poverty reduction scheme, corruption reduces public revenue and even increases public spending (Tanzi and Davoodi, 1997) and increases income inequality (as measured by the Gini coefficient) because it is likely to allow well positioned individuals (eg. village chiefs) to take advantage of a government program at the cost of the poorer sections.

If corruption is a function of motivations and opportunities, then one must assess the conditions under which corruption occurs. There are three broad explanations for the emergence of corruption: economic, cultural, and political. Several studies have found that economic development through the spread of education and the creation of a middle class reduces corruption (Treisman, 2000), and the reverse, that lower corruption leads to economic development (Kaufmann and Kraay, 2002). Other studies have zeroed in on the level of wages paid to civil servants (Evans and Rauch, 1999) — high wages are less likely to produce corruption-- and the abundance of natural resources causes more corruption (Leite and Weidmann, 1999). You and others (2005) argue that corruption is caused by income inequality because the wealthy have greater motivation and greater opportunity to engage in corruption, whereas the poor are more vulnerable to extortion and less able to monitor and hold the rich accountable.

Cultural explanations have highlighted the effect of history. Thus, Treisman (2000) found that British colonies with their emphasis on common law and procedural fairness are significantly less corrupt). Religion also has an effect: Paldham (2001) found that Protestantism is associated with less corruption. Olken (2006) argued that villages in Indonesia with a higher level of ethnic fragmentation suffered from higher corruption.

Political explanations for corruption revolve around democracy, decentralization and the size of the government. The relationship between corruption and democracy is more nuanced. Partial democracy may increase corruption but past a threshold, democracy inhibits corruption (Montinola and Jackman, 2002). One strand of literature focuses on the role of decentralization in reducing corruption and eliciting better governance from local authorities who, it is assumed, are closer to the people and can therefore identify their needs (Rondinelli et al 1989). Decentralisation involves administrative changes, which give lower levels of government greater authority in delivering services (Khan 2002). Manor (1999) argues the reverse — that decentralization is always accompanied by an increase in the number of persons who are involved in corrupt acts, though this does not mean that the amount of

money appropriated by corrupt acts necessarily increases.[5] Prud'homme (1995) and Tanzi (2000) too point out that there are more opportunities for corruption at the local level because local officials have more discretionary power and are more likely to be subjected to the demands of local interest groups. Recent theoretical work involving the principal- agent incentive theory too finds that decentralization raises the propensity of individuals to accept bribes (Carbonera, 2000).

One of the factors that deepens the participatory and democratic aspects is the quality of information voters have at their disposal (Blair, 2000; Crook and Sverrisson, 2001; Dreze and Sen, 1996). Bardhan et al. (2008) found that villages with greater land inequality allocated significantly lower share of benefits to scheduled castes and scheduled tribes. They examined how benefit delivery patterns were related to attendance and participation in the village gram sabha. Villages with greater gram sabha participation were also those that delivered more benefits to the landless and the SC/ST population; and villages with lower incidence of landlessness and ST presence exhibited greater gram sabha participation. They are careful to point out that while this does not provide evidence of a causal impact of village meetings on targeting, it is consistent with the hypothesis that village meetings 'formed a channel of accountability of GPs to poor and low caste groups'.

In this paper, we test the relationship between the access to information and leakages of funds (to beneficiaries and public officials) and assess the ways in which information helps or hinders the effective functioning of the NREG program.

National Rural Employment Guarantee Scheme

The NREGA of 2005 is perhaps the most significant social policy initiative in India in the last decade. Its main objective is "to provide enhancement of livelihood security of the households in rural areas of the country by providing 100 days of guaranteed wage employment to every household in unskilled manual work," at the minimum wage on demand within 15 days of asking for employment (Ministry of Law and Justice, 2005). Some of its unique features include a time-bound employment guarantee and wage payment within 15 days (otherwise the government is penalized), prohibition of the use of contractors (to check leakage of funds) and machinery (to enhance direct benefits of the program to the participants), and a mandatory 33 per cent participation for women.

[5] Also see Bardhan and Mookherjee (1999, 2000, 2002) who argue that local governments may be more vulnerable to capture by local elites who will then receive a disproportionate share of spending on public goods.

The NREG's design conforms to Galasso and Ravallion's (2005) prescription of a targeted program. They posit that capture by the non-poor occurs when public spending is on a private (excludable) good targeted to the poor, and there is no self-targeting mechanism to ensure that only the poor want to participate. Targeting is touted as one way to reduce capture; instead of relying on an administrator to choose the beneficiaries, the program relies on the beneficiaries to select themselves by creating incentives so that only the poor will participate in the scheme. The cost of participation rises as income rises, but benefits remain the same thus making it less attractive to the non-poor. NREG has a self selecting mechanism, which is supposed to ensure that anyone who can earn above the minimum wage will opt out of the program.

In practice, however, the self- selection mechanism has been weakened in areas where the NREG wage was higher than the prevailing market wages. An audit by the Comptroller and Auditor General (CAG 2007) also revealed glaring weaknesses and leakages in the program, and sparked a contentious public debate on the efficacy of anti-poverty programs. For instance, only 3.2 per cent of the registered needy households in 200 of India's poorest districts received the guaranteed 100 days of employment in a year. The benefits varied across states: Rajasthan emerged among the top performers – the average employment per participating household was 77 days of work. Kerala, a state with a good record of human development was at the bottom. Other failures relate to the distribution of job cards and the leakages in the selection, design and execution of projects.

Let us examine whether access to information about the components of the NREG played a role in increasing the effectiveness of targeting and the delivery of the scheme. Information about the NREG was disseminated on TV, newspapers and at public meetings organized by the panchayat and ward committees.

III. Information and Corruption: Hypotheses and Methodology

We have two hypotheses:

1. First, those with information about the benefits of a government program will be more likely to enroll in the program than those who do not possess such information. So, a rural household's access to information about the NREG influences their participation in the scheme.

2. Second, taking into account the different ways in which the implementing authorities administered the scheme in the three states, we assume that the NREG will work well for those beneficiaries who possess more information about the different aspects of the program.

For instance, beneficiaries with more information about the measurement of work, wages and the promise of a hundred days of wage employment will earn more and work for a greater time period than the beneficiaries without such knowledge.

Sample Design

The present analysis draws upon household data from three states in India: Rajasthan, Andhra Pradesh and Maharashtra. A representative sample was designed as follows. First, a list of NREGP districts was compiled for each state. From these districts, three were selected on the basis of probability proportional to size (in this case, rural population as reported in the 2001 Census) in the case of Rajasthan. In a similar manner six districts were selected for each of Andhra Pradesh and Maharashtra. The next step proceeded as follows. In the case of Rajasthan, for example, three villages were randomly selected from each district in Rajasthan, followed by a random selection of households. Twenty five households were selected from each of twenty villages spread over three districts in Rajasthan. In Andhra Pradesh and Maharashtra, these 25 villages were spread over 6 districts each. In each village 20 households were randomly selected giving us a sample of 500 households in each of the three states surveyed.[6] Apart from household level information individuals within households were also interviewed. The data include information on caste, occupation, landholdings, household size, NREG participation, type of ration card, and PDS participation.[7] The number of individuals interviewed for Rajasthan, Andhra Pradesh and Maharashtra were, respectively, 2664, 2190, and 2270.

Alongside the survey, detailed interviews were conducted in eight villages selected according to the political affiliation of the sarpanch, in each state within the dataset.[8] Two trained interviewers (in each state team) who spoke the local language and were cognizant of the requirements of ethnographic research conducted the interviews. The interviews contain anecdotes and examples of corruption, the decision making process of the panchayat (village governing body), the choices made in the NREG, the influence of political parties in village

[6] The districts chosen in Rajasthan were Sirohi, Udaipur and Jhalwar. In Andhra Pradesh the six districts chosen were Karimnagar, Mahbubnagar, Nalgonda, Warangal, Vizianagaram and Chittoor. The districts selected in Maharashtra were Gondia, Chandrapur, Yavatmal, Nanded, Hingoli and Ahmednagar.

[7] NREG participation is measured using the question — are you a beneficiary of NREGP? PDS participation is measured using the questions — whether the household draws foodgrains from PDS, whether the household draws sugar from PDS, whether the household draws kerosene from PDS?

[8] Since the sarpanch is elected on non-party line, we found out his or her political affiliation during the household survey.

level issues, the impact of caste and income on the ability to influence decisions, the information available to the respondent about the program, among others.[9]

We constructed a participation equation that enables us to establish a causal link between attendance in public meetings (a proxy for access to information) and participation in the NREG.[10] A probit specification was employed where participation takes the value 1 for a participant and 0 for others. Explanatory variables comprise: gender, age, age square, married (versus single), Education (primary, middle, secondary, above secondary versus illiterate), social group (SC, ST, OBC versus Other), land owned (in bigha), number of adult males in the household, number of adult females in the household, ratio of NREG wage to agricultural wage, land inequality in village (gini), interaction between ratio of NREG wage with land inequality, average distance of worksite from the village, number of villagers who attended a public meeting in the previous year, and number of households that owned a tv and a cellphone in a village. Table 6 gives the details of these variables.

IV. Information, Participation, and Targeting in NREG

(i) Access to information and participation

As shown in Table 1, the participation equation successfully establishes the causal link between attending public meetings and participating in the NREG in Rajasthan and Andhra Pradesh. .But there are nuances to the effect of attendance on participation. In Rajasthan, although the effect of participation in a village meeting increases the probability of participating in the NREG, the marginal effect is small. In Andhra Pradesh, the relationship with participation becomes weaker as the attendance in the village meeting increases, implying that while awareness is a factor in influencing participation, the effect weakens after a certain point. Somewhat surprisingly, in Maharashtra, the higher the percentage of households with cell phones and televisions in a village, the lower is the probability of participation in NREG. However, when it is interacted with the percentage of households who attended a village meeting, the positive coefficient weakens the negative effect slightly. Presumably, tvs and cell phones as conduits of information substitute for attendance in these

[9] The interviewees included the village sarpanch, ex-sarpanch, deputy sarpanch, gram sevak, NREG assistant, caste leaders, panchayat members, village development committee members, political activists from the leading parties, NGOs in the village, the Patwari, moneylender, ration shop owner, worksite supervisor, NREG beneficiaries at the worksite, and individual asset creation beneficiaries. At the block level, we interviewed the Block Development Officer, the NREG program officer, the junior engineers, ward panchayat members, and the Pradhan. We also interviewed the local member of the Legislative Assembly (MLA).

[10] We are aware that, to get a more robust causal path between the (initial) possession of information about NREG and the subsequent decision to participate, we need to allow for the endogeneity of information.

meetings. Altogether, the link between attendance in these meetings and participation in NREG is corroborated, as hypothesized.

Let us now examine the profile of those who attended public meetings (Table 2), based on a probit specification. In all three states, the higher the village attendance in a public meeting, the more likely it was for a household to participate in these meetings, thus implying the presence of network externalities. Besides, households who participated in a social network (SHG group, credit and cooperative groups, trade unions) were more likely to have participated in a public meeting. The marginal effect is considerably stronger in Rajasthan and Maharashtra.

In Rajasthan, compared to illiterates, those with primary education were more likely to participate in a public meeting; in Andhra Pradesh, those with middle schooling were more likely to participate in a public meeting; and, in Maharashtra, those with more than higher secondary level were more likely to participate.[11] In AP, married persons were more likely to attend (though the effect is weak), and in Maharashtra, males were more likely to attend a public meeting than females. The greater the amount of land owned, the more likely it was for that household to attend a public meeting in Maharashtra, but in the other two states, there was no significant relationship between land owned and attendance. Nor did the square of land owned have any effect on attendance.

Ethnographic findings

The results of the ethnographic studies of the three states are consistent with the econometric findings that the greater the information about the NREG, the greater was the likelihood of participation in the program. In Andhra Pradesh, the gram panchayat, sarpanch and the gram sabha were among the primary sources of information about NREG. Munjanpalli Lakshmaiah, a 58 year old landless male at the worksite in Mecharajupalli (AP) said that he "came to know about this programme from the Gram Panchayat Sarpanch and the Panchayat Secretary. Officials came to our village and conducted Grama Sabhas for identifying the works under these program and for the issue of job cards to the public for these works. After I know these things I also had taken up the job card." Focus group discussions with five beneficiaries each in Regulagudem and Savara villages revealed that the participants were informed about the works/activities of NREG by the officials at the meetings organized by the Gram Panchayat.

[11] NB: the variable takes the household head's education, gender and age.

In Maharashtra, the television, gram panchayat and the gram sabha were among the primary sources of information about the NREG for male beneficiaries, while the female ones said that they had found out through their neighbours. For instance, Amol Gopichand Nagrale said that after he heard about NREG on TV, he registered his name at the gram panchayat. "One day an announcement was made by gram panchayat that the NREG work is going to start. I went on the work." This beneficiary was one of the shrewder ones since he had availed of the individual beneficiary scheme.

In Rajasthan, on the other hand, the focus group interviews revealed that the beneficiaries found out about the program through the school master or neighbours or through personal acquaintance with the sarpanch and gram sevak, but not from a public meeting such as a gram sabha or a meeting called by ward panches. For instance, Ramcharan Meena of Dharkada village said that one day he met the school master who told him about the NREG. He went and met the sarpanch and the gram sevak the next day and the latter filled out a form and got his thumb print. After 8-10 days, he got a job card and after 15-20 days he was allotted work at a site.

Vrinda Bhil, a female beneficiary from Dhundiya village said that she first heard about the program from her neighbours, and then approached her caste leader who told her to approach the gram panchayat office where the gram sevak asked her whether her name was in the BPL list. She replied in the affirmative after which she was given a form; she got assistance from an educated person to fill the form. Only in the Ranya Khedi worksite, one found that the beneficiaries attended the gram sabha meetings, and all had attended the previous meeting where NREGA was discussed. This group was aware of the social audit and said that two such audits had already taken place. The group said that in both audits, a public meeting was held where the NREGA officials read out the list of projects and expenditures incurred.

Thus, both the quantitative and ethnographic accounts validate the first hypothesis.

(ii) Access to Information and Targeting of NREG

How did the access to information affect the targeting of the NREG? Let us examine the profile of those who participated in the NREG. The probits (Table 1) reveal that in all three states, as the age increased, the likelihood of participating in NREG increased, but this likelihood was reversed after a certain age (i.e. older persons were less likely to participate in manual labour). If we take SCs and STs as being the more deprived and socially excluded, in

all three states, these groups were more likely to participate in the NREG as compared to the others. Also, the OBCs were more likely to participate in these states. The marginal effects for each of these deprived groups were strongest in Andhra Pradesh.

In Rajasthan, as the number of adult males increased in a household, the likelihood of participation declined, and similarly for adult females in a household. Compared to illiterates, those with primary, middle and secondary school education significantly less likely to participate in the NREG. Relative to others, scheduled caste, scheduled tribes and OBCs were significantly more likely to participate in NREG, implying better targeting on the disadvantaged groups.

In Andhra Pradesh, educated persons were significantly less likely to participate in the NREG, with the most educated (i.e. above higher secondary) least likely to participate, relative to illiterates. SCs and STs were more likely to participate than OBCs, and all three groups were more likely to participate in the NREG as compared to others. Households with more adult males were more likely to participate while households with more adult females were less likely to participate in the NREG. As the average distance to the worksite increased, the propensity to participate in the NREG decreased.

In Maharashtra, males were significantly more likely to participate than females. Married persons were less likely to participate as compared to others. There was no significant relationship between education and participation. SCs and STs were more likely to participate than other castes, while OBCs showed no significant relationship with participation.

In all three states, participation rose with age but at a diminishing rate, attesting to the role of physical stamina and dexterity in a piece-rate wage system.

If we take the official poverty line for assessing targeting accuracy, Rajasthan's performance was the best since half the NREG participants were poor (49.78), while about 70 per cent were non-poor in AP, and 72 per cent were non-poor in Maharashtra. Let us further examine targeting in terms of the poverty criterion. We divided the NREG participants into four categories based on their monthly expenditures (Table 3). In all three states, the affluent accounted for over a third of the participants, which shows that the targeting to the poorest households was not accurate. More dismal results can be seen in the participation of the acutely poor in the three states. Rajasthan had the maximum share of acutely poor (35 per cent) as compared to AP (15 per cent) and Maharashtra (11 per cent). But the ordered probit results reveal that in Rajasthan both the acutely poor (30 per cent) and affluent (31 percent)

were more likely to participate in NREG (Table 4).[12] The moderately poor exhibited a low probability of participation (14 per cent) while moderately non-poor a higher probability (24 per cent). The Andhra Pradesh results (Table 5) differ markedly as the acutely poor were largely excluded (7 per cent) while the moderately non-poor (39 per cent) and affluent (36 per cent) dominated the Maharashtra results (Table 6) are similar to those for Andhra Pradesh as the acutely poor were largely excluded (6 per cent) and the moderately non-poor (41 per cent) and affluent dominated (35 per cent).

Often landlessness is used as a correlate of poverty but its relevance over time has diminished with the growing diversification of rural economies. It is therefore interesting to note that participation decreases with land owned in both Andhra Pradesh and Maharashtra but the marginal effects are small-especially in the latter (Table 1).

Participation decreases with the ratio of NREG wage to agricultural wage in Rajasthan while in both Andhra Pradesh and Maharashtra it varies with this ratio. However, in the latter the square of this ratio has large negative effects, implying that the positive relationship between participation and NREG/agricultural wage ratio weakens at higher values of the ratio (Table 1). While the effect of inequality in land distribution is negative in Rajasthan, its interaction with the NREG/agricultural wage ratio has a large positive effect. As this more than offsets the negative effect of this ratio, it is plausible that there are two mechanisms at work-one tends to exclude the poorest (the negative effect of the Gini) and the other tends to promote the inclusion of the affluent (the interaction of the Gini and the ratio of NREG/agricultural wage).

In Andhra Pradesh, the Gini land was not significant, implying that inequality in the distribution of landholdings does not play a role in influencing participation in NREG. In Maharashtra, as the Gini land effect was positive but weakly significant, not much should be made of it.

The ordered probit results offer further insights into the factors determining the participation of groups of poor and non-poor (Tables 4–6).

While the participation of acutely poor diminishes with level of education than that of moderately poor and moderately non-poor in Rajasthan, that of the affluent rises with the level of education, relative to illiterates. Also, both the acutely poor and moderately poor

[12] In comparison with actual proportions of these groups among the participants, the ordered probit probabilities are more reasonable as these obtained taking into account various household and village characteristics, including access to information about NREG. For a case along these lines, with some illustrations, see Greene (2008).

participants were more likely to be SCs and STs while those from the moderately non-poor and affluent were less likely to be so. The poor and non-poor divide is also reflected in their household sizes-the acutely and moderately poor are more likely to be from larger households while the moderately non-poor and affluent are more likely to be from smaller households. Further, while participation of the acutely poor and moderately poor diminishes with land owned, that of the moderately non-poor and affluent rises with land owned. As indicated earlier, concentration of land dampens participation of the acutely poor and moderately poor while it enhances that of the moderately non-poor and affluent.

The Maharashtra results are similar in some respects but differ in others. The acutely poor, moderately poor and moderately non-poor participants are less likely to be married while the affluent are more likely to be married. These groups are also more likely to be illiterate while the affluent are more likely to be educated. In fact, participation of the latter varies with the level of education. Both the acutely poor and moderately poor participants are more likely to be SCs, STs and OBCs while the moderately non-poor participants are more likely to be OBCs. In contrast, the affluent participants are less likely to be from any of these groups than others. Among the acutely poor, moderately poor and moderately non-poor, participation varies with household size while among the affluent there is an inverse relationship. However, in all four cases larger household sizes weaken the positive and negative relationships between household size and participation. Among the acutely poor, moderately poor and moderately non-poor, participation decreases with amount of land owned but at a diminishing rate. In contrast, among the affluent, participation varies with land owned but at a diminishing rate. A striking contrast is also observed in the way land inequality affects participation of these groups- while that of the acutely poor, moderately poor and moderately non-poor diminishes with higher land inequality, participation of the affluent rises quite sharply with land inequality. Social networking influences participation of these groups differently — while that of the acutely poor, moderately poor and moderately non-poor diminishes with an index of social networking, participation of the affluent increases with it.

The results for Andhra Pradesh point to the importance of age — the acutely poor, moderately poor and moderately non-poor participants are more likely to be young while those from the affluent are more likely to be older. The acutely poor and moderately poor participants are less likely to be married while the affluent ones are more likely to be married. The contrast with Rajasthan and Maharashtra is striking for the reversal of the relationships between education and participation. Among the first three categories, participation rises with

educational attainments but diminishes among the affluent. The acutely poor and moderately poor participants are less likely to be SCs while those among the affluent are more likely to be so. However, the first two categories of participants are more likely to be STs but the affluent participants are less likely to be so. The relationship between household size and participation is similar to that observed for the acutely poor, moderately poor and moderately non-poor in Maharashtra — the larger the household size, the greater is the participation but this relationship weakens when household size increases. In contrast, there is a negative relationship among the affluent and it weakens when household size increases. However, the effect of land inequality on participation is positive among the first three categories and negative among the affluent. In either case, the relationship weakens with higher Ginis. Social networking is inversely related to participation among the first three categories and positively among the affluent.

If the purpose of the program was to serve the needs of the neediest, then there has been greater capture (implicit in corruption through various forms of collusion between the affluent and those who implement the scheme in question) of the NREG in all three states. The affluent and the moderately non-poor were more likely to enroll in the NREG than the acutely poor. If we combine this with the finding that the non-poor were also more likely to have information about the NREG (through their attendance in public meetings and social networking), our first hypothesis is validated in all three states. Ironically, the implications for targeting were more adverse in Maharashtra and AP than in Rajasthan where fewer people attended these meetings and therefore the level of awareness about the NREG was much lower for all income groups than for the other two states.

V. Information and Implementation of NREG

Now let us examine the link between the implementation of NREG, corruption, and the information possessed by beneficiaries of the program. The second hypothesis states that the program will work better for those beneficiaries who know what to expect in terms of wages and day worked in the program. Conversely, those who are unaware of how the NREG works will be more likely to experience some form of corruption.

Leakage in NREG funds has occurred in various ways. Reports by the CAG and newspapers (*Mint, Times of India, the Hindu, Economic and Political Weekly*) suggest that funds have been siphoned off by fudging muster rolls, paying lower daily wages, and taking bribes from participants. Let us assess whether in the selection of participants, registration

process, and knowledge of the NREG's provisions including facilities at the worksite, wage levels and days worked, the relationship between the information possessed by the beneficiary was inversely correlated with the level of leakage (measured in terms of lower wages and days worked). The participants were asked to respond to questions about who facilitated their participation in NREGA, whether they had to offer bribes to register for the program, and their knowledge of the way work was measured and the rate of wages paid, among others.

In principle, the program is open to all rural persons, but a majority (65.53 per cent) of NREG participants in Rajasthan thought that it was obligatory to be recommended by someone to access the program, as compared to 25 per cent in Maharashtra and 6 per cent in Andhra Pradesh. Overall, poor participants in Rajasthan (54.53 per cent) were more likely to say that it was obligatory to be recommended for the program, as compared to the poor participants in Maharashtra (20 per cent) and AP (5.52 per cent).

The interviews in Maharashtra and AP showed higher awareness on the part of the beneficiaries. For instance, a beneficiary in Maharashtra (Takeli village) said that there was no need to choose beneficiaries. "An announcement is made by the Gram Panchayat that those who want work should register their names. When work starts, people are called to do the work. Those households who registered their names will be eligible for the purpose of getting NREG benefits. The jobs cards are used for the purpose." Similarly, in Andhra Pradesh, Avu Venkata Naidu (male and BPL, and a former TDP activist) from Pedapalli village said: "In the Grama Sabha we take resolutions for those works which are to be under this programme. After that, works are sanctioned by the officials and the funds are released. Finally, officials gave orders for us to start the work. Anybody can attend the works under this program. There are no restrictions on the number of people attending. Household Job Cards are a must and for the labourers who attend these works and for the wage payments they have to open a savings account in the Post Office through the Branch Post Master. The above mentioned restrictions are a must for the labourer who goes for these works."

Over 98 per cent of the beneficiaries in the three states thought that the registration process was simple, and an overwhelming majority completed the registration within 14 days. In Andhra Pradesh and Maharashtra, the pradhan or a member of the panchayat were the most likely persons to help in the registration process (over 90 per cent), but, in Rajasthan, only 60 per cent of the beneficiaries were assisted by these officials, while over a third said that an influential person (not a politician or a caste leader) helped them register. The proportion of poor participants who reported paying bribes was three times as high as that of

non-poor participants. Specifically, in the Rajasthan villages, about 25 per cent of the non-poor admitted paying bribes for inclusion in NREGA while about 75 per cent of the poor admitted doing so.[13] Thus, NREG participants in Rajasthan exhibited less knowledge about the registration process than the participants in Andhra Pradesh and Maharashtra.

To reduce the capture of the NREG by the non-poor, the wage rates of NREG are supposed to be less than the market wage rate. The central government set the NREG wage rate to reflect the statutory minimum wage for an agricultural worker but, unfortunately, in many areas, the market wages are lower than the statutory minimum wages. About 70 per cent of the beneficiaries in Rajasthan (15 per cent answered the question) were unaware of the NREG wage rate set by the government, as compared to 29.53 per cent in Maharashtra and 12.38 per cent (33 per cent answered the question) in AP. In Rajasthan, of the 70 per cent who were unaware of the NREG wage rate, half were poor, as compared to Andhra Pradesh where only a third (34 per cent) were poor.

In all three states, the lack of awareness about the wage rate was higher among illiterate beneficiaries. Fewer illiterate beneficiaries were likely to be aware of the NREG wage rate in Rajasthan (23.68 per cent), as compared to 44.38 per cent in Andhra Pradesh and 73.67 per cent in Maharashtra. Poor and illiterate beneficiaries in Maharashtra were more likely to possess information about the NREG wage rate as compared to similar groups in Andhra Pradesh and Rajasthan, with the Rajasthan beneficiaries possessing the least amount of information on the program.

The official minimum wage rates for agricultural labourers at the time of the survey (November/December 2008) were Rs 66 to 72 in Maharashtra (depending on the zone), Rs.75 in Rajasthan and Rs. 80 in Andhra Pradesh. These rates were hiked to Rs. 100 in all the states as of August 2009. Of those who said that they were aware of the wage rate, 71 per cent (in Rajasthan) and 96 per cent (in Maharashtra) thought that the rate was Rs. 50 to 75. Some 21 per cent of beneficiaries in Rajasthan and 97 per cent of Andhra Pradesh beneficiaries thought it was Rs.100. In Maharashtra, compared to the illiterates, primary and middle school NREG beneficiaries were more likely to be aware of the NREG wage rate, but there was no significant difference beyond middle school. In the other two states, there was no significant difference in wage rate information between the illiterates and literates.

[13] A small percentage answered the question about bribes, so these results are not conclusive. Only 2 per cent or so paid a bribe to be selected in Rajasthan, as compared to 0.33 per cent in Maharashtra and 5.96 per cent in Andhra Pradesh. The average amounts paid ranged from Rs 25 to Rs 200, with half paying less than Rs 50 in Rajasthan, while half paid Rs 10 in Andhra Pradesh and a third paid Rs 50.

A second avenue of leakage is the way the work is measured in the project and the corresponding amount of wages paid to the beneficiary. There are two types of measurement: time rate (per day regardless of the work done) and piece rate (by work done and measured by a Junior Engineer). 97 per cent of participants were paid on a piece rate in Maharashtra, 82 per cent in Rajasthan, and 61 per cent in. Andhra Pradesh. Some 36 per cent were paid through a combination of time rate and piece rate in AP. The actual wage paid per day to the beneficiary in the dataset was between Rs. 50 to 75 for 84 per cent of respondents in Rajasthan, and Rs. 75 to 100 for 60 per cent in Maharashtra, and 97 per cent in Andhra Pradesh. So workers in Rajasthan got lower wages than their counterparts in the other two states.

NREG guidelines state that the wages are supposed to be paid on a fortnightly basis. In Rajasthan, less than a third (30 per cent) were paid on a fortnightly basis, while almost half the workers were paid on a monthly basis (46 per cent). In Andhra Pradesh, on the other hand, a vast majority (73 per cent) were paid either weekly or fortnightly (20 per cent). In Maharashtra, a quarter or less were paid fortnightly, and similar figures prevailed for monthly and 'as and when available in Panchayat'. In Rajasthan (18 per cent) and Maharashtra (25 per cent), more persons said that the frequency of payment was uncertain, as compared to 3.33 per cent in Andhra Pradesh.

The program functioned better for beneficiaries in Andhra Pradesh, as compared to Rajasthan and Maharashtra. But even Maharashtra does not completely contradict our hypothesis because a quarter of the non-poor were paid fortnightly as compared to only 8 per cent of the poor. The relationship between lack of information and inefficiency is more evident in Rajasthan, while in Andhra Pradesh, where the beneficiaries were better informed, the program has performed better (though not necessarily less corruptly, as we shall see shortly).

In terms of days worked, the non-poor in all three states worked for more days than the poor. In Rajasthan, of those who could get employment, 34 per cent of people working less than 15 days had monthly per capita income net of NREG of less than Rs. 400. Households with per capita incomes net of NREG of less than Rs. 400 constituted only 43.6 per cent of households securing employment of between 75 to 100 days. In Maharashtra, in contrast, about 6 per cent worked for 60 days or more, as compared to about 11 per cent of the non-poor. In Andhra Pradesh, all participants (i.e. the acutely poor) with per capita monthly income of Rs. 200 or less (net of NREG earnings) worked for between 30 to 60 days. Only households (i.e. affluent) with monthly per capita incomes of between Rs. 400 and 500, Rs. 600 to 700 and more than Rs. 900 (net of NREG earnings) found work for 100

days. However, close to a third of all per capita income classes above Rs. 200 a month worked for more than 100 days, indicating substantial misuse of the NREGP in Andhra Pradesh. 37 per cent of poor participants and 33 per cent of non-poor participants worked for 60 days or less. These figures also indicate that the program worked better for the non-poor who also possessed more information about the program.

Ethnographic Evidence from Selected Villages

The interviews of 5–7 beneficiaries per worksite in 8 sites in each state confirm that Rajasthani beneficiaries possessed less knowledge about their entitlements under the NREG, as compared to Maharashtra and Andhra Pradesh. They were unaware of the NREG wage rate and were also not cognizant of how measurements were undertaken (when payment was according to the work completed). Maharashtra, on the other hand, demonstrates how information can be used to make the program work in one's favour. In accordance with the wage rate notified by the Central government for Maharashtra, an NREG worker was supposed to get between Rs 66 to Rs 72, depending on the zone. A male beneficiary from Gardani village who owned 5 acres and had a BPL card said that he worked for 12 days and received Rs 1180 (i.e. Rs 98 per day). On further probing, we found that the beneficiaries in Gardani knew about the way the piece- rate system worked and used the information to their advantage. The work involved digging a tank and transporting the soil to another area. The beneficiaries used tractors (with the permission of the supervisor) and bullocks for the work and received more wages based on the measurement of the work. Even the female beneficiaries in that village (e.g. Tanhabai Vishnu Madke, female, 30 yrs) were paid a decent rate. Madke said that she worked for 49 days and got a cheque for Rs. 3224 (about Rs 66 per day). Contrast this experience with that of Satika Eknath Khobragade, a 26 year old female beneficiary from Minghari village (who was unaware of how work was measured) in Maharashtra, who said that she worked for 60 days and was paid Rs 807 (i.e. about Rs 13 per day).

Among the beneficiaries from Maharashtra, a male from Gardani said that he "always attended the gram sabha"; in the last gram sabha the issues discussed were "sanitation and quarrel free village". The women, on the other hand, said that they never or rarely attended the gram sabha. All the beneficiaries expressed their dissatisfaction at the 30 day delay in payment of wages. "The panchayat distributes the wages. It is not done on time. I don't know why it is late", said a female beneficiary (Indira Vitthal Wankhede, age 36, with two acres of land).

Similarly in Andhra Pradesh, the program has worked well for those who know more about the NREG. Naidu, a beneficiary from Pedapally village, said: "I was attending these works from the day one when they started. Yes, I am getting paid on the basis of how much work I did for a particular time. On average, I have been paid Rs 60–80 per day." He also explained who paid the wages and the reasons for the delay in wage payment. "Here the wage payment is done by the Branch Post Master. In the past there was a delay of about one and half months but at present it takes only 15 days. This is because of the heavy work load to the BPM as there are no other officials like Assistant, Technical Assistant etc." Kadaraka Dharmaraju of Savara village, a marginal farmer and a card carrying member of CPM, too was very well informed about the NREG. He said that he worked for 14 days in 2006–07, 30 days in 2007–08 and 50 days upto September end in 2008–09, and was paid Rs 15,980 (about Rs 170 per day).[14] A similar story emerges from Regulagudem village where the male beneficiary (who knew the provisions of the NREG) said that through the NREG, in the first year, "his family members got 70 days wage employment, in the second year 67 days and in the present year 55 days of wage employment. Totally, our family had got almost Rs 41,000 income and we had repaid the old loans from this income of the SHG Activities." The per day wage for this household was Rs 213, in excess of the Rs 80 set by the government.

The educational and political profile of these beneficiaries indicate that those, who were plugged into strong social networks (eg. the CPM and TDP activists) or were educated and attended public meetings, were more likely to get the fullest benefit from the NREG. The wages for these groups were twice or thrice (about Rs 170 to 213 per day) those of an illiterate beneficiary who did not possess information about the NREG and was not part of social networks. These anecdotes illustrate that the corruption in the program was benefiting some of the Andhra Pradesh and Maharashtra beneficiaries, and raises interesting questions about the link between information and corruption.

In other areas too, the worksite beneficiaries from Andhra Pradesh and Maharashtra demonstrated detailed knowledge about the process of choosing an NREG project, thus exhibiting their awareness of the activities of the officials. In a focus group discussion with five beneficiaries in Regulagudem, the Beneficiary Group reported that they were informed about the works/activities of NREG by the officials at the Gram Panchayat. Beneficiaries in Savara too had a similar story. Here is what the focus group said: "Now the works/activities

[14] The wage rate for Andhra Pradesh set by the central government was Rs 80 as of 1/1/2009. The payment of wages used to be delayed initially but now the respondents in some of the villages said that they were being paid fortnightly.

that are to be taken up through this programme are discussed in the Gram Sabha; job cards have been issued to the respective people; these works are implemented by the Field Assistant and officials with the mates (supervisors) who in turn will make the works with us. After the completion of one work, another one is started and our wages have been credited to the savings account in the Post Office." The job cards were issued to "every interested candidate and after that they are called for the works. There are no problems in the case that one person gets the work and other do not get the work. There is no involvement/influence in these issues."

In Maharashtra too, the beneficiaries at the worksite were aware of the way the decisions were taken. Here is the process of choosing an NREG project, as described by Keshao Nama Gawande (male, BPL, 27 years). "Firstly, it is seen that which work is sanctioned for this village. Then it is seen that how many sites are available in the village. After that which work has to be undertaken is decided in gram sabha by a majority. The person who are affected or going to be affected objects on the site. Final decision is made by gram sabha and the proposal is sent to the block office. When the block office approves the proposal, work is started in the village."

Compared to Maharashtra and Andhra Pradesh, the beneficiaries in Rajasthan (who were more likely to be acutely and moderately poor and illiterate) were more likely to be shortchanged. For instance, in Garda village (Jhalawar), the focus group reported that there were irregularities in keeping the muster rolls. In Kota village, the focus group said that they received their wages in cash (and not from the bank or the post office). None of them had bank accounts. About 300 FIRs have been registered in 2008–09 in Rajasthan against sarpanchs, block development officers and the state administrative service officers. Forty program officers contracts have been terminated and thirty gram sevaks were suspended. Newspaper reports suggest that there has been graft in purchasing materials used for constructing the NREG projects.

There is a link between duration of participation and the level of education, with the more educated participating for a longer period in NREG. Since more educated persons in Andhra Pradesh and Maharashtra, who also seem to have more land and comprise the non-poor have accessed NREG in the two states, it is not surprising that their knowledge of the wage rate, registration process, and other related aspects of the NREG is better than in Rajasthan. Our second hypothesis that the program will work better for those who have the information on NREG is also borne out.

VI. Conclusions

The impact of information on corruption and effective implementation is Janus faced. At the entry level, information about the NREG had the effect of increasing the entry of non-poor while the acutely poor, who neither possessed TVs or cell-phones nor attended public meetings nor were connected to social networks did not know and therefore did not participate in the program. At implementation level, information enabled those who possessed it to avoid being shortchanged by the administration. The non-poor benefited more from the NREG in all three states, and the ethnographic evidence from Andhra Pradesh and Maharashtra shows that this group even misused the program. So, information has generated corruption on the part of some informed beneficiaries.

Conversely, in areas where poorer and illiterate participants are in greater numbers, they are likely to experience more corruption from government officials during the implementation because they possess less information on the benefits accruing to a participant in the NREG. The picture from Rajasthan shows that, while the entry level capture by the non-poor is relatively low, compared to the other two states, the corruption at the level of implementation is higher. Here, lack of information on the part of the beneficiary reduces the monitoring potential and effective implementation and enables corruption.

Social networking (and the access to information) increased the likelihood of participation by the affluent but decreased the likelihood of participation by non-affluent and the poor. This implies that the non-affluent are not able to act even if they have information. We need to explore this result further.

But the results from the three states back the rationale for the importance of a right to information and suggests that the government should invest more in advocacy campaigns about their programs, particularly in the poorest areas. At the same time, it is important to carry out periodic information drives among the beneficiaries to ensure that they are aware of the components of the scheme. However, while these measures may not stop the non-poor from benefiting at the expense of the poor, they might introduce better monitoring of the programs by the poor.

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Table 1: Estimation of NREGS participation equation

Dependent variable: Estimation methods	NREGS Participation: Probit regression					
Models	Rajasthan		Andhra Pradesh		Maharashtra	
Explanatory variables	Coefficients (t-value)	Marginal effects (t-value)	Coefficients (t-value)	Marginal effects (t-value)	Coefficients (t-value)	Marginal effects (t-value)
Gender	-0.06(-0.62)	-0.01(-0.62)	0.04(0.50)	0.01(0.50)	0.29***(3.31)	0.05***(3.28)
Age	0.18***(9.62)	0.03***(8.75)	0.20***(9.35)	0.07***(10.02)	0.18***(9.99)	0.03***(10.64)
Square of Age	-0.002***(-8.76)	-0.0003***(-8.32)	-0.002***(-8.34)	-0.001***(-8.89)	-0.002***(-9.69)	-0.0004***(-10.36)
Whether Married	-0.13(-0.71)	-0.02(-0.71)	-0.07(-0.40)	-0.02(-0.40)	-0.47***(-2.61)	-0.09***(-2.61)
Below primary education	-0.40***(-3.38)	-0.05***(-3.47)	-0.33***(-3.26)	-0.12***(-3.37)	0.15(1.29)	0.03(1.25)
Middle school	-0.67***(-3.75)	-0.07***(-4.88)	-0.69***(-4.25)	-0.21***(-5.37)	0.16(1.13)	0.03(1.07)
Secondary education	-0.60**(-2.36)	-0.06***(-3.72)	-0.61***(-4.16)	-0.19***(-5.06)	0.20(1.41)	0.04(1.31)
Higher secondary plus	-0.93***(-4.85)	-0.08***(-6.57)	-0.45**(-2.56)	-0.15***(-2.93)	-0.25(-1.31)	-0.04(-1.50)
SC	0.34*(1.85)	0.06*(1.64)	0.85***(5.62)	0.32***(5.69)	0.44***(3.14)	0.10***(2.66)
ST	0.36*(1.87)	0.06*(1.68)	0.87***(5.08)	0.34***(5.26)	0.28**(2.03)	0.06*(1.82)
OBC	0.42**(2.26)	0.07**(2.01)	0.62***(4.50)	0.22***(4.62)	0.07(0.62)	0.01(0.62)
Amount of land owned	-0.01(-0.73)	0.00(-0.73)	-0.12***(-5.01)	-0.04***(-4.99)	-0.07***(-5.01)	-0.01***(-5.10)
Number of adult male	-0.13**(-2.54)	-0.02***(-2.6)	0.09**(2.07)	0.03**(2.06)	-0.19***(-3.91)	-0.04***(-3.86)
Number of adult female	-0.21***(-3.48)	-0.03***(-3.4)	-0.14***(-2.94)	-0.05***(-2.92)	-0.14**(-2.21)	-0.03**(-2.23)
Ratio of NREG to AGR wage rate	-1.25*(-1.93)	-0.18**(-2.02)	4.16**(2.39)	1.51**(2.39)	2.87***(4.95)	0.53***(5.12)
Square of Ratio of NREG to AGR wage rate			-1.76**(-2.42)	-0.64**(-2.42)	-0.75***(-4.28)	-0.14***(-4.36)
Land Gini index	-3.88***(-2.85)	-0.56***(-3.16)	0.57(1.31)	0.21(1.30)	0.47(1.55)	0.09(1.56)
Interaction: Ratio NREGAGRWR with LGI	3.30**(2.54)	0.47***(2.72)				
Average distance of site from the village	-0.05(-0.59)	-0.01(-0.59)	-0.39***(-4.77)	-0.14***(-4.85)	0.00(-0.05)	0.00(-0.05)
%hhs attending meetings	0.01**(2.53)	0.001**(2.56)	0.06***(2.89)	0.02***(2.88)	0.00(-1.10)	0.00(-1.11)
Square of %hhs attending meetings			-0.001***(-3.47)	-0.000***(-3.46)		
%hhs with both TV and Cellphone					-0.03***(-4.20)	-0.01***(-4.19)
Interaction: %hhs MEETATTEND with %hhs with TVCELL					0.0002**(2.01)	0.00003**(2.02)
Constant	-1.58**(-2.14)		-6.72***(-5.47)		-5.22***(-7.58)	
Number of observations	2684		2190		2270	
Pseudo R-square	0.3220		0.3512		0.3577	
Wald chi-square	392.63***		649.76***		498.20***	

N.B. * , **, *** = significance at 10 %, 5 % and 1 % respectively.

Table 2: Profile of the Poor (%)

Degrees of poverty	Rajasthan	AP	Maharashtra
Acutely Poor	35(less than Rs 383)	15 (less than Rs 299)	11 (less than 371)
Moderately Poor	11 (Rs 383-450)	17 (Rs 299-352)	18 (371-436)
Moderately Non-poor	18 (450-585)	28 (Rs 352-458)	34 (436-567)
Affluent	35(more than Rs 585)	40 (Above Rs 458)	37 (more than 567)

Table 3: Estimation of Household Participation (attendance) in Village Meetings

Dependent variable :Estimation methods	Whether household attend village meeting: Probit regression					
Models	Rajasthan		Andhra Pradesh		Maharashtra	
Explanatory variables	Coefficients (t-value)	Marginal effects (t-value)	Coefficients (t-value)	Marginal effects (t-value)	Coefficients (t-value)	Marginal effects (t-value)
Gender	0.52(1.00)	0.17(1.17)	-0.56(-1.19)	-0.10(-1.62)	1.11*(1.82)	0.42*(1.89)
Age	0.08(1.52)	0.03(1.51)	-0.01(-0.15)	0.00(-0.15)	-0.02(-0.53)	-0.01(-0.53)
Square of Age	0.00(-1.39)	0.00(-1.39)	0.00(0.16)	0.00(0.16)	0.00(0.81)	0.00(0.81)
Whether Married	0.03(0.07)	0.01(0.07)	1.09*(1.90)	0.36(1.61)	-0.29(-0.53)	-0.09(-0.58)
Below primary education	0.44*(1.95)	0.17*(1.92)	-0.29(-1.60)	-0.07(-1.47)	-0.03(-0.13)	-0.01(-0.13)
Middle school	0.00(-0.02)	0.00(-0.02)	0.92**(2.46)	0.14***(4.23)	-0.02(-0.07)	-0.01(-0.07)
Secondary education	0.43(1.33)	0.17(1.30)	0.20(0.62)	0.04(0.69)	0.30(0.99)	0.09(1.09)
Higher secondary plus	0.47(1.57)	0.18(1.54)	-0.21(-0.39)	-0.05(-0.36)	0.52(1.36)	0.15*(1.67)
SC	-0.23(-0.70)	-0.08(-0.71)	-0.53(-1.51)	-0.14(-1.37)	-0.10(-0.33)	-0.03(-0.32)
ST	-0.10(-0.28)	-0.04(-0.28)	-0.08(-0.21)	-0.02(-0.20)	0.34(1.15)	0.10(1.26)
OBC	-0.13(-0.41)	-0.05(-0.41)	-0.18(-0.55)	-0.04(-0.55)	0.33(1.53)	0.11(1.55)
HH size	-0.07(-0.49)	-0.03(-0.49)	0.13(0.56)	0.03(0.56)	0.14(0.86)	0.05(0.86)
Square of hh size	0.00(0.01)	0.00(0.01)	-0.02(-0.71)	0.00(-0.70)	-0.01(-0.79)	0.00(-0.80)
Amount of land owned	0.01(0.78)	0.00(0.78)	-0.14(-1.29)	-0.03(-1.25)	0.08*(1.73)	0.03*(1.73)
Square of amount of land owned			0.01(0.91)	0.00(0.88)	0.00(-0.67)	0.00(-0.67)
Land Gini index	0.89(0.26)	0.33(0.26)	2.23(0.24)	0.52(0.24)	-2.06(-0.43)	-0.69(-0.43)
Square of Land Gini index	-1.00(-0.31)	-0.37(-0.31)	-1.64(-0.20)	-0.38(-0.20)	2.26(0.53)	0.76(0.53)
%hhs attending meetings minus 5%	0.03***(5.38)	0.01***(5.50)	0.04***(9.86)	0.01***(8.54)	0.04***(14.23)	0.01***(12.78)
Social networking	0.56*(1.65)	0.22*(1.64)	0.37**(2.20)	0.09**(2.11)	0.64***(3.55)	0.22***(3.52)
Constant	-3.85**(-2.44)		-2.93(-1.07)		-3.29**(-1.97)	
Number of observations	499		498		500	
Pseudo R-square	0.1058		0.3072		0.5216	
Wald chi-square	42.28***		162.30***		249.83***	

N.B. * , **, *** = significance at 10 %, 5 % and 1 % respectively.

Table 4: Estimation of poverty status: Rajasthan

Dependent variable :Estimation methods	Poverty status: 1= Acutely poor , 2= Moderately poor , 3= Moderately non-poor , 4= Affluent: Ordered Probit regression				
Explanatory variables	Coefficients	Marginal effects for poverty status			
	All	Acutely poor	Moderately poor	Moderately non-poor	Affluent
Gender	-0.10(-1.41)	0.04(1.41)	0.00(1.38)	0.00(-1.38)	-0.04(-1.41)
Age	0.01(1.16)	0.00(-1.16)	0.00(-1.16)	0.00(1.13)	0.00(1.17)
Square of Age	0.00(-0.42)	0.00(0.42)	0.00(0.42)	0.00(-0.42)	0.00(-0.42)
Whether Married	-0.11(-1.02)	0.04(1.02)	0.01(1.03)	-0.01(-0.99)	-0.04(-1.02)
Below primary education	0.22**(2.49)	-0.07**(-2.55)	-0.01** (-2.20)	0.01***(2.76)	0.08**(2.45)
Middle school	0.48***(4.03)	-0.15***(-4.65)	-0.03***(-3.12)	0.00(-0.03)	0.18***(3.87)
Secondary education	0.82***(5.08)	-0.22***(-7.21)	-0.06***(-4.07)	-0.03*(-1.66)	0.32***(5.11)
Higher secondary plus	1.00***(6.33)	-0.26*** (-9.90)	-0.08***(-5.00)	-0.05**(-2.32)	0.38***(6.64)
SC	-0.77***(-5.81)	0.29*** (5.79)	0.01***(3.18)	-0.06***(-4.17)	-0.24***(-6.72)
ST	-0.67***(-4.87)	0.24***(4.85)	0.02***(4.52)	-0.04***(-3.54)	-0.22***(-5.36)
OBC	0.18(1.36)	-0.06(-1.38)	-0.01(-1.28)	0.01(1.57)	0.06(1.34)
HH size	-0.27***(-5.07)	0.09***(5.00)	0.01***(4.40)	-0.01***(-3.65)	-0.09***(-5.05)
Square of hh size	0.00(1.02)	0.00(-1.02)	0.00(-1.02)	0.00(1.00)	0.00(1.02)
Amount of land owned	0.06***(5.96)	-0.02***(-5.87)	-0.003***(-4.78)	0.003***(4.00)	0.02***(5.89)
Square of amount of land owned	0.00(-0.47)	0.00(0.47)	0.00(0.47)	0.00(-0.47)	0.00(-0.47)
Land Gini index	3.29**(2.36)	-1.15**(-2.35)	-0.15**(-2.28)	0.14**(2.09)	1.16**(2.37)
Square of Land Gini index	-1.93(-1.46)	0.68(1.45)	0.09(1.45)	-0.08(-1.35)	-0.68(-1.46)
Social networking	-0.15(-1.12)	0.05(1.09)	0.01(1.43)	-0.01(-0.91)	-0.05(-1.16)
Number of observations	2684				
Pseudo R-square	0.1693				
Wald chi-square	634.20***				
Predicted probability		0.30	0.14	0.24	0.31

N.B. * , **, *** = significance at 10 %, 5 % and 1 % respectively. Figures in parentheses are the t-values.

Table 5: Estimation of poverty status: Andhra Pradesh

Dependent variable :Estimation methods	Poverty status: 1= Acutely poor , 2= Moderately poor , 3= Moderately non-poor , 4= Affluent: Ordered Probit regression				
Explanatory variables	Coefficients	Marginal effects for poverty status			
	All	Acutely poor	Moderately poor	Moderately non-poor	Affluent
Gender	0.05(0.77)	-0.01(-0.77)	-0.01(-0.77)	0.00(-0.77)	0.02(0.77)
Age	0.02*(1.78)	-0.002*(-1.80)	-0.003*(-1.76)	-0.001*(-1.70)	0.01*(1.79)
Square of Age	0.00(-1.54)	0.00(1.54)	0.00(1.53)	0.00(1.50)	0.00(-1.54)
Whether Married	0.21*(1.76)	-0.03*(-1.81)	-0.04*(-1.76)	-0.01(-1.57)	0.08*(1.76)
Below primary education	-0.37***(-4.81)	0.05***(4.25)	0.07***(4.80)	0.01***(2.97)	-0.14***(-4.97)
Middle school	-0.21*(-1.79)	0.03(1.59)	0.04*(1.81)	0.005**(2.19)	-0.07*(-1.87)
Secondary education	-0.43***(-3.77)	0.07***(3.02)	0.08***(4.00)	0.00(-0.42)	-0.15***(-4.19)
Higher secondary plus	-0.35***(-2.64)	0.06**(2.19)	0.06***(2.76)	0.00(0.07)	-0.12***(-2.88)
SC	0.18*(1.92)	-0.02**(-2.00)	-0.03*(-1.94)	-0.01(-1.53)	0.07*(1.89)
ST	-0.30***(-2.59)	0.05**(2.19)	0.05***(2.66)	0.00(0.47)	-0.10***(-2.77)
OBC	0.14(1.62)	-0.02(-1.62)	-0.03(-1.62)	-0.01(-1.47)	0.05(1.62)
HH size	-1.04***(-12.37)	0.14***(10.80)	0.20***(10.20)	0.05***(4.63)	-0.39***(-12.42)
Square of hh size	0.05***(6.79)	-0.01***(-6.49)	-0.01***(-6.40)	-0.003***(-3.94)	0.02***(6.77)
Amount of land owned	0.53***(13.96)	-0.07***(-10.25)	-0.10***(-11.34)	-0.03***(-5.02)	0.20***(14.19)
Square of amount of land owned	-0.04***(-6.38)	0.005***(5.65)	0.01***(6.09)	0.002***(4.36)	-0.01***(-6.43)
Land Gini index	-14.34***(-5.13)	1.92***(4.76)	2.69***(5.00)	0.74***(3.85)	-5.36***(-5.18)
Square of Land Gini index	11.89***(5.15)	-1.59***(-4.77)	-2.23***(-5.02)	-0.61***(-3.84)	4.44***(5.19)
Social networking	0.26***(4.31)	-0.04***(-4.06)	-0.05***(-4.21)	-0.01***(-2.92)	0.10***(4.38)
Number of observations	2190				
Pseudo R-square	0.2001				
Wald chi-square	774.58***				
Predicted probability		0.07	0.19	0.39	0.36

N.B. * , **, *** = significance at 10 %, 5 % and 1 % respectively. Figures in parentheses are the t-values.

Table 6: Estimation of poverty status: Maharashtra

Dependent variable :Estimation methods	Poverty status: 1= Acutely poor , 2= Moderately poor , 3= Moderately non-poor , 4= Affluent: Ordered Probit regression				
Explanatory variables	Coefficients	Marginal effects for poverty status			
	All	Acutely poor	Moderately poor	Moderately non-poor	Affluent
Gender	-0.02(-0.35)	0.00(0.35)	0.00(0.35)	0.00(0.35)	-0.01(-0.35)
Age	0.01(1.14)	0.00(-1.13)	0.00(-1.14)	0.00(-1.13)	0.00(1.14)
Square of Age	0.00(0.77)	0.00(-0.78)	0.00(-0.77)	0.00(-0.76)	0.00(0.77)
Whether Married	0.34***(2.82)	-0.04***(-2.74)	-0.06***(-2.87)	-0.02**(-2.44)	0.13***(2.83)
Below primary education	0.26***(3.45)	-0.03***(-3.53)	-0.05***(-3.46)	-0.02***(-2.64)	0.10***(3.41)
Middle school	0.23**(2.41)	-0.03***(-2.69)	-0.04**(-2.46)	-0.02*(-1.77)	0.09**(2.36)
Secondary education	0.44***(4.05)	-0.04***(-5.03)	-0.08***(-4.27)	-0.05***(-2.69)	0.17***(3.96)
Higher secondary plus	0.69***(4.90)	-0.06***(-7.18)	-0.11***(-5.76)	-0.10***(-3.20)	0.27***(4.91)
SC	-0.30***(-3.48)	0.05***(2.86)	0.06***(3.57)	0.00(0.86)	-0.11***(-3.71)
ST	-0.44***(-5.01)	0.07***(3.87)	0.08***(5.25)	0.00(-0.15)	-0.15***(-5.52)
OBC	-0.16**(-2.47)	0.02**(2.30)	0.03**(2.52)	0.01**(2.35)	-0.06**(-2.48)
HH size	-0.77***(-10.60)	0.10***(8.64)	0.14***(9.59)	0.04***(4.38)	-0.28***(-10.46)
Square of hh size	0.04***(6.39)	-0.005***(-5.75)	-0.01***(-6.23)	-0.002***(-3.86)	0.01***(6.36)
Amount of land owned	0.14***(9.57)	-0.02***(-9.87)	-0.02***(-8.16)	-0.01***(-4.11)	0.05***(9.47)
Square of amount of land owned	-0.003***(-6.27)	0.0004***(6.17)	0.001***(5.92)	0.0002***(3.67)	-0.001***(-6.23)
Land Gini index	2.83**(2.15)	-0.36**(-2.13)	-0.52**(-2.13)	-0.16**(-2.01)	1.04**(2.16)
Square of Land Gini index	-1.50(-1.26)	0.19(1.26)	0.28(1.26)	0.08(1.24)	-0.55(-1.26)
Social networking	0.14**(2.53)	-0.02**(-2.55)	-0.03**(-2.47)	-0.01**(-2.36)	0.05**(2.56)
Number of observations	2270				
Pseudo R-square	0.1306				
Wald chi-square	473.16***				
Predicted probability		0.06	0.18	0.41	0.35

N.B. * , **, *** = significance at 10 %, 5 % and 1 % respectively. Figures in parentheses are the t-values.

Table 7: Definitions of the variables used in the analysis

Dependent Variable	Definition
NREGS Participation	NREGS Participation (=1 if participated in NREGS; 0 therwise)
Whether household attends village meeting	Whether household attend village meeting (=1 if household attends any village meeting; 0 otherwise)
Poverty status	1= Acutely poor , 2= Moderately poor , 3= Moderately non-poor , 4= Affluent
Explanatory Variables	
Gender	Gender of household member or head (=1 if male, 0 if female)
Age	Age of household member or head
Square of Age	Square of Age of household member or head
Whether Married	Dummy for being Married (=1 if married; 0 otherwise)
Illiterate (Reference)	Dummy for no education (=1 if illiterate, 0 otherwise)
Below primary education	Dummy for primary education (=1 if literate but upto primary education, 0 otherwise)
Middle school	Dummy for middle school (=1 if passed only upto middle school, 0 otherwise)
Secondary education	Dummy for secondary education (=1 if literate but upto secondary education, 0 otherwise)
Higher secondary plus	Dummy for higher secondary and above (=1 if education upto higher secondary and above, 0 otherwise)
SC	Dummy for SC (=1 if household or member of SC, 0 otherwise)
ST	Dummy for ST (=1 if household or member of ST, 0 otherwise)
OBC	Dummy for OBC (=1 if household or member of OBC, 0 otherwise)
Others (Reference)	Dummy for Others (=1 if household or member of Others caste, 0 otherwise)
Amount of land owned	Amount of land owned
Square of amount of land owned	Square of amount of land owned
HH size	Size of the household
Square of hh size	Square of size of the household
Number of adult male	Number of adult male in the household
Number of adult female	Number of adult female in the household
Ratio of NREG to AGR wage rate	Ratio of NREG wage to agricultural wage rate at village level
Square of Ratio of NREG to AGR wage rate	Square of ratio of NREG wage to agricultural wage rate at village level
Land Gini index	Gini index of inequality of landholdings
Square of Land Gini index	Square of Gini index of inequality of landholdings
Interaction: Ratio NREGAGRWR with LGI	Interaction of Ratio of NREG wage to agricultural wage rate at village level with Gini index of inequality of landholdings
Average distance of site from the village	Average distance of site from the village
%hhs attending meetings	%households attending meetings at village level
Square of %hhs attending meetings	Square of %households attending meetings at village level
%hhs attending meetings minus 5%	%households attending meetings minus 5% at village level
%hhs with both TV and Cellphone	%households with both TV and Cellphone at village level
Interaction: %hhs MEETATTEND with %hhs with TVCELL	Interaction of %households attending meetings with %households with both TV and Cellphone at village level
Social networking	Dummy for Social network (=1 if in social network; 0 otherwise)

Table 8: Definition of different levels of Poverty

Levels of poverty	Rajasthan	Andhra Pradesh	Maharashtra
Acute poverty	If per capita monthly consumption expenditure<Rs.383	If per capita monthly consumption expenditure<Rs.299	If per capita monthly consumption expenditure< Rs. 371
Moderate poverty	If per capita monthly consumption expenditure>=383 but < Rs.450	If per capita monthly consumption expenditure>=Rs.299 but<Rs.352	If per capita monthly consumption expenditure>=Rs.371 but<Rs.436
Moderate Non-poverty	If per capita monthly consumption expenditure>=Rs.450 but Rs.<585	If per capita monthly consumption expenditure>=Rs.352 but Rs.<458	If per capita monthly consumption expenditure>=Rs. 436 but Rs.<567
Affluent	If per capita monthly consumption expenditure>= Rs.585	If per capita monthly consumption expenditure>=Rs.458	If per capita monthly consumption expenditure>=Rs.567
Poverty	If per capita monthly consumption expenditure< Rs.450	If per capita monthly consumption expenditure<Rs.352	If per capita monthly consumption expenditure<Rs.436