CDE
July 2009

"Group Measurement" of NREGA work: The Jalore Experiment

Reetika Khera

Email:reetika.khera@gmail.com

Centre for Development Economics
Delhi School of Economics
University of Delhi

Working Paper No. 180

Centre for Development Economics
Department of Economics, Delhi School of Economics

"Group Measurement" of NREGA work: The Jalore Experiment

Reetika Khera*

1. Introduction

Rajasthan is seen as the forerunner with respect to the implementation of the National Rural Employment Guarantee Act (NREGA), both in terms of scale of works and transparency safeguards. This combination has meant that large numbers of people have benefited from the NREGA in the state. The scale of NREGA works in Rajasthan is impressive: according to official statistics, in 2006-7 and 2007-8 Rajasthan generated 77 days and 68 days, respectively, of employment per rural household (in the districts where NREGA was in force), the highest in the country.[1]

More recently, there have been positive reports of Rajasthan's efforts to improve worksite management.[2] Proper worksite management is essential for at least three purposes: ensuring good working conditions and the provision of mandatory worksite facilities[3]; implementing the transparency safeguards; providing technical supervision to ensure satisfactory labour productivity and asset creation.

Related to effective worksite management, an important issue that has not been resolved yet is that often NREGA labourers in Rajasthan are not paid the statutory minimum wage. Low wages are commonly attributed to low productivity on worksites. This means that labourers do not (or are unable to) perform the "task" required to earn the minimum wage. There could be several reasons for this: excessive productivity norms, confusion or lack of awareness regarding the task that must be performed to earn the minimum wage, poor worksite supervision arrangements, and poor work incentives related to the system of wage calculation.[4]

---

* The field work for this paper was done in collaboration with Shiva Dhakal and Vivek S. Thanks are also due to Nikhil Dey for advice and suggestions, and to Rohit Kumar (District Collector, Jalore) for helpful information about the Jalore experiment. Thanks to Jean Drèze for helping me think through the issues raised here. The paper was presented at a seminar at the Centre for Development Economics at the Delhi School of Economics. I would like to thank the participants for their comments and feedback.

[1] See Drèze and Oldiges (2007) for 2006-7 figures. I am grateful to Christian Oldiges for sharing the 2007-8 figure calculated from www.nrega.nic.in.

[2] See Rohit Kumar (2007) and Yamini Iyer (2007). See also Ridge (2008).

[3] The following essential worksite facilities are mandatory under the Act: shade for periods of rest; drinking water; first aid. If more than five children under the age of six years are present at the worksite, one female worker should be deputed to look after them and paid the minimum wage.

[4] Discussions with labourers suggest that poor, faulty or non-existent measurement by Junior Engineers could also have a bearing on the low wage rates. There were frequent complaints regarding the wage not being commensurate to the output and of the "lead and lift" not being taken into account. While it

This brief note takes a closer look at an experiment of training mates (worksite supervisors) in Rajasthan to improve worksite management.[5] It is based on a four-day field visit (11-14 February, 2008) to Jalore district where this experiment is said to have been a success. A team of three researchers visited nine ongoing worksites from two blocks of Jalore (Raniwara and Jalore) and two completed worksites.[6]

The Gram Panchayats (GPs) visited include Bakra Road (one worksite), Leta (two worksites), Oon (one worksite) and Sankarna (three worksites) in Jalore Block. For this Block we got a list of Gram Panchayats with ongoing works. From this list, we selected Bakra Road and Sankarna because they were served by buses and Leta and Oon because these were accessible by bicycle. The closest Gram Panchayat was Leta (6 km from Jalore district headquarters) and the furthest was Bakra Road (about 25 km away). We also visited two GPs in Raniwara Block on the recommendation of the District Collector and Block Development Officer.

2. The Wage Payment System

The NREGA permits wage payments on daily rate as well as on piece rate. Rajasthan has followed the piece rate system, whereby wages are paid according to the work performed, and a prescribed "task" must be completed in order to earn the minimum wage. For instance, for digging, the prescribed task consists of a given number of cubic feet, which varies by soil type and also takes into account lead (the distance the soil is carried) and lift (the gradient). The details of these productivity norms are listed in the "Schedule of Rates". Under the Act, the Schedule of Rates has to be such that "a person working for seven hours would normally earn a wage equal to the [minimum] wage rate".[7]

Further, following the earlier tradition of public works in Rajasthan, wage payments on NREGA works are based on "collective measurement". The total output (e.g., cubic feet of earth dug) of all the workers employed at a particular worksite is

---

is true that Junior Engineers are overworked, there is no reason why poor labourers should pay the price for this.

[5] See Kumar (2007) and Iyer (2007) for more details on this experiment.

[6] Preliminary observations from a more detailed survey conducted in Dungarpur and Sirohi districts in May-June 2008 are also reported in the concluding section.

[7] A circular issued by the Ministry of Rural Development in 14 January 2008 extended the length of the working day from seven hours to nine hours; a follow-up circular, dated 28 May, 2008, clarified that this would include a one-hour break; for further details see www.nrega.nic.in.

measured once, collectively, at the end of a fortnight. The total output is divided by the total task (required to earn the minimum wage). Thus, if total task equals total output, then all labourers earn the minimum wage. If the total output is less than the total task, labourers earn proportionately lower wages.[8]

Under the collective measurement system, all labourers earn the same wage, based on their joint effort. In this system, in order to earn the minimum wage, labourers would have to cooperate with each other and work towards producing an output that equals the prescribed total task. If some labourers do not cooperate, it is likely to affect the work incentive for the others also, driving the wage rate down for all workers.[9]

The poor work incentives associated with the collective measurement system appear to be the main reason why Rajasthan has witnessed some of the lowest NREGA wages. The average wage earned in Rajasthan in 2006-7 was Rs. 51 per day, much lower than the statutory minimum of Rs. 73 per day, and less than the average wage in any other state (see Drèze and Oldiges, 2007).[10] More recently, in February 2008, we came across similarly low wages (starting from Rs. 30 per day) in Jhalawar, Jalore and Barmer districts.

To address this problem, the Government of Rajasthan recently began an experiment of group measurement (as opposed to collective measurement), in collaboration with Rozgar Evam Suchna ka Adhikar Abhiyan. Briefly, this experiment entailed the formation of groups of five workers at a worksite (typically more than 40 labourers work at any given worksite). This experiment required that there be trained "mates" (worksite supervisors), who would not only mark attendance but also assign each group its "task" *and* measure the "output" of the group. Both, assigning and measuring, are to be done on a daily basis. Workers are then paid based on the output of the group, rather than of the worksite as a whole. This was expected to lead to higher work incentives, labour productivity, and wages. Aside from this, the posting of trained mates at NREGA worksites was expected to further the general objectives of improved worksite management, mentioned earlier.

3. Group Measurement in Practice

[8] Under this system, the minimum wage is effectively the maximum that a labourer can earn.

[9] This phenomenon has been referred to as an "inefficient work culture" by some (see for instance, Kumar, 2007).

[10] See also Drèze and Lal (2007). From 1 April 2008, the minimum wage in Rajasthan was increased to Rs. 100 per day (from Rs. 73).

A. Mate Training

Of the nine worksites that we investigated, two did not have any mate. We met trained (including semi-trained) mates at seven out of nine worksites.[11] Four sites had mahila (female) mates; three mates were men. The mates we met said that the training covered the following matters:

1. Maintenance of muster rolls;
2. Basics of work measurement;
3. Maintenance of the measurement sheet or "*mate maap pustika*" (MMP); and
4. Provision of worksite facilities (e.g., medicine kits).

Apart from this, it is not clear how much they were told about the Act. One mate we met did not know the minimum wage whereas another did not know about work application procedures or the unemployment allowance.[12]

In Jalore, mahila mates have been trained in large numbers. The experiment of training of mahila mates was quite impressive. When I met one woman from Raniwara Gram Panchayat, and asked her why she was not working on the NREGA sites even though she had not exhausted her 100 day entitlement, she said, "*ab to mate ka hi kaam karna hai*" (Now I only want to work as a mate). Allowing women who have studied up to class 5 or 8 to train as mates has enabled the creation of a large pool of mahila mates – as many as five or six in each revenue village, according to the District Collector.

Mates had formed groups at many worksites and most mates knew about the task required to earn the minimum wage. Generally, they also had the mate's kit consisting of the MMP, a calculator and a measuring tape. At some worksites, we even came across some child-care facilities and provision of a tent to provide shade for period of rest.

B. Group Formation

[11] The reason why there were untrained mates at the other worksites is that in those villages, the trained mates had exhausted their quota of 100 days of work.

[12] See Kumar (2007: pp. 3-6) for a detailed discussion of what the training is supposed to have consisted of. It is possible that the mates we met retained only part of what was discussed at the training.

In order for group measurement to happen, the formation of groups (at the beginning of the fortnight, when new muster rolls are issued) is essential. At some worksites, however, groups had not been formed. Where groups had been formed, the names of labourers had been recorded group-wise on the MMP. The groups were self-selected, i.e., labourers had decided on their own who would be part of their group (this is how it is meant to happen).

C. Group Measurement

Group measurement was not happening at any of the worksites that we visited. The practice seems to be that the mate marks out the task at the beginning of the day. Whether they measure accurately, or at all, at the *end* of the day was not clear.[13] The common practice seemed to be to credit each group with the full task in the MMP. In the absence of group measurement, different groups were *not* getting different wages.

We were told that there were a few instances of group-wise measurement in the past but that these had stopped. In one GP in Raniwara, measurements were made separately for each mate's groups (i.e. separate measurement for each of the mates so that all the groups supervised by him/her got the same rate). This - different rates for workers supervised by different mates (rather than for different groups) on the same worksite - led to a fight. The labourers said "*aap log hamare mein phoot daal rahe hain*" (you are creating divisions amongst us labourers). This was resolved by agreeing that all workers would get the same rate.

4. Reasons for Improved Productivity with Group Measurement

Group formation (GF) and group measurement (GM) can increase labour productivity for three distinct reasons:

A. Improved work incentives;
B. Better monitoring;
C. Greater clarity regarding task.

A. Improved Work Incentives

[13] At one of the worksites where we were at 5pm, no measurement was done and the labourers left with us. This is also the only worksite where every single labourer was sitting when we arrived.

Under the collective measurement system, the wage earned by each labourer is not directly related to his or her effort. It also depends on the effort of all those who are working at the same worksite. Under group measurement, labourers earn according to their group's output, linking productivity more directly with the rewards. To that extent, group measurement leads to better work incentives.

However, for productivity to improve in this manner, both GF and GM are required. GF alone will not enhance work incentives.

In Jalore the District Collector, Block officials and Junior Engineer claimed that both GF and GM were in place. As mentioned before, this was not borne out at the worksites that we visited – only GF was being practiced.

Officials also claim that now everyone does the full task. Many labourers, mates and most officials claimed that the task done had increased as a result of the formation of work groups. To substantiate this claim, they point to the rising wage rate: the wage rate in Jalore District has shown a steady upward trend since the introduction of group formation and group measurement: starting at Rs. 45-48 per day in May 2007, it was nearly touching Rs. 70 in November-December 2007.[14]

This rise in wages could be due to an actual increase in output, or simply to the fact that *recorded* output has increased (without an increase in productivity). As discussed below, it is quite possible that productivity did increase, in spite of the absence of actual group measurement. But mates generally have no incentive to actually measure the output everyday or to record the actual output as measured by them (if they do measure).

I also noticed a tendency to "over-measure", in the sense that the mate, irrespective of the output, records in the MMP that each group has completed the prescribed task. It seems that mates just *record* that the full task has been done. At least at one worksite, the mate was filling in the measurement for all days of the fortnight, in front of us. At yet another worksite, the mate was filling in the measurement for that particular day, even though he had not measured and nor was the day over yet. The way the MMP had been filled indicated that they had just put the same numbers down for each team. I suspect similar practices are common at other worksites as well, because of the "look" of the MMP (with uniform entries for all groups).

[14] See Kumar (2007), p. 7.

It is not clear what incentive the mates have to measure output honestly (or at all). In principle, if a mate over-measures, he or she will be "caught" when the Junior Engineer does the collective measurement at the end of the fortnight. From this brief survey, it was not very clear how often discrepancies arose between the mates' MMPs and the Junior Engineer's measurements, and how these discrepancies were resolved. It seemed that in some cases, the Junior Engineer's measurements "overrode" the MMPs as far as wage payments are concerned; this would amount to falling back on collective measurement. In other cases, the Junior Engineer probably accommodated the MMP by adjusting his own estimates. This undermines the verification role of the Junior Engineer's measurements and opens the door to over-measurements by the mates.

Thus, the rising trend in wages could reflect "over-measurement" on the part of the mates as much as actual improvements in productivity at NREGA worksites.[15]

B. Better Monitoring

Peer Monitoring

When labourers are working in groups of five, it is easier for them to monitor each other and to pull up any "shirker(s)" amongst them, than when they work in groups of 40 or more (which is generally the case under collective measurements). Shirking becomes more difficult under these circumstances.

At one of the worksites that we visited in Sankarna Panchayat, women said that working in groups was better because earlier the better off labourers, to whom the wage rate didn't matter much, would sit around; this harmed those of them who needed the money and wanted a better wage rate. With smaller groups, it was easier for them to monitor each other. Besides this, women at other worksites also said that working in smaller groups allowed them to divide tasks (e.g., digging, loading, carrying) amongst themselves in a more efficient manner.

Mate Monitoring

[15] It is also worth noting that there have been periodic revisions of the "Schedule of Rates" in Rajasthan during the last two years, with the standard "task" being relaxed each time. This, in itself, would contribute to higher wages, even in the absence of any change in productivity.

The formation of groups also enables better worksite supervision by the mate. It becomes easier for the mate to spot which group(s) are lagging behind in the completion of their task. This also puts pressure on the labourers to work because closer monitoring by the mate is possible.

In larger groups, NREGA labourers said that each one thinks that the other will work, or that it wasn't clear how much they were supposed to do, and the mate could not single out one set of people to pull up for poor productivity until it was too late.

The bottom line is that working in groups facilitates work monitoring - both peer monitoring and supervision on the part of the mates.

C. Greater Clarity regarding Task

With collective measurement, when labourers work in batches of 40 or more, it is difficult for them to understand the task required to earn the minimum wage. In smaller groups, the task can be marked out more easily. Discussions with labourers indicated that improved clarity regarding what is required of them is an important factor in raising productivity.

For instance, labourers working in groups of 40 or more may not understand how much earth exactly they need to dig in order to earn Rs. 73 per day (the minimum wage at the time of this investigation). When groups are formed, the task for each group of five is marked out for them and makes the job of completing it easier. Thus, even if each group's output is not measured separately at the end of the fortnight, the labourers may have achieved more output than before just on account of having better understood what is required of them.

We also tried to understand the labourers' perspective on group measurement versus collective measurement. It was not clear whether labourers prefer GM or CM. Some said that they preferred not to work in groups because the aged and other physically weak persons would be the losers in a group measurement system. Able-bodied persons may not be willing to allow older persons in their group, for fear of reducing their own wage rate. On the other hand, if the older persons are from their own family or caste, or if there are other forms of solidarity amongst the labourers, then older persons may be grouped with the able-bodied. For instance, in other places labourers said that if old people do show up for work, then they spread them across different groups, so that their "burden" can be shared by everyone. Similarly, we met a

disabled man who had worked as a mate but who felt that the GM system was not good for the disabled because nobody wanted them in their group.

Sometimes women said that they preferred working in groups because they can finish their task early, and work at their own pace. But follow-up questions revealed that they can rarely finish the task early, and even if they are able to do so, they have to stay at the worksite until 5pm because they worry about "checking" (they will be marked absent if they aren't around). If labourers are allowed to pace themselves and leave early when they complete their day's task it would greatly strengthen the argument in favour of GM. This is especially true of women who often combine NREGA work with other household chores and responsibilities.

5. Worksite Management in Rajasthan: Post-script

In May-June 2008, the G. B. Pant Social Science Institute initiated a survey of NREGA in six states (Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan and Uttar Pradesh). In Rajasthan, the survey teams covered 10 worksites each in Dungarpur and Sirohi districts and interviewed 200 workers employed at these worksites. The findings of this survey confirm that worksite management in Rajasthan is much better than most other states. Close to 80 percent of the worksites visited had trained mates. This has enabled the implementation of transparency safeguards in the state: muster rolls were available at 86 per cent of the worksites, labourers at all worksites said that they signed the muster roll at the time of payment of wages, *and* simultaneously corresponding entries were made in their job cards. Investigators were able to find muster rolls at only one out of every ten worksites visited in the other survey states.

Further, the presence of trained mates has also meant that basic worksite facilities are more likely to be found in Rajasthan than in any of the other survey states. For instance, most of the worksites in Rajasthan had drinking water, compared with just half of the worksites in the other states.

Where trained mates had been posted, they had been told about the formation of groups and in many cases they had also been provided with a MMP to record group-wise measurements.

However, as with our own investigation in Jalore, the investigators found that in almost all cases, wages were still being calculated on the basis of collective

measurements made by the Junior Engineer. Labourers at all worksites reported getting less than the minimum wage. The average wage earned was Rs. 71/day (the statutory minimum in Rajasthan is Rs. 100/day).

6. Conclusion

The main purpose of the mate training experiment in Rajasthan was to improve labour productivity. I find that its impact on raising labour productivity is unclear. The experiment, however, has much to contribute to better worksite management.

While groups had been formed at most of the worksites that we visited, not a single worksite was practicing group measurement. It is therefore difficult to attribute the rising wage in Jalore to the driving out of shirkers through group measurement, as has been claimed.

The main impact of this experiment on labour productivity seems to operate through the formation of groups. If the wage rate has been increasing on account of improved productivity (rather than due to inflated measurement), it is probably because GF facilitates better worksite supervision and peer monitoring, rather than on account of greater work incentives. Further, GF can have an impact on productivity because of the greater clarity amongst labourers regarding the prescribed task. Group formation alone seems to affect productivity, independently of group measurement. Even that is a significant achievement given that low productivity is a genuine problem on NREGA works in Rajasthan.[16]

The uncertain impact of trained mates on labour productivity does not detract from the value of this initiative as a step towards better worksite management. Trained mates are definitely required at NREGA worksites, and have much to contribute (e.g. in terms of better provision of worksite facilities, improved record-keeping, and implementation of the transparency safeguards), whether or not group measurement is practiced.

[16] I witnessed an extreme example of low productivity in Chohtan Block of Barmer District, at a worksite where approximately 250 workers were employed, but very few were actually working at the time of my visit. This worksite was like a large picnic, with groups of labourers sheltering themselves under trees, cooking and resting, until our arrival. This is not a general pattern (it is worst I have seen, as far as labour productivity is concerned), but it does illustrate the vulnerabilities of the collective measurement system.

The training of mates has certainly helped to protect the entitlements of labourers - in the sense of provision of mandatory worksite facilities, as well as protecting them from corrupt practices. Rajasthan is still among the few states that have taken the transparency safeguards, prescribed in the NREGA Operational Guidelines and in the Act itself, seriously.

References

Drèze, Jean and Lal, Siddhartha (2007), "Employment Guarantee: Unfinished Agenda", The Hindu, 13 July, 2007.

Drèze, Jean and Oldiges, Christian (2007), "Commendable Act", Frontline, 2007.

Iyer, Yamini (2007), A Happy Tale from Two States, Indian Express, 27 December, 2007.

Kumar, Rohit (2007), "Seeds of Revolution @ 73", NREGANET, Knowledge Network for NREGA, Series 1, Ministry of Rural Development, Department of Rural Development, Government of India.

Ridge, Mian (2008), "India's Job Plan Goes Nationwide", Christian Science Monitor, 8 April, 2008. Available online at http://www.csmonitor.com/2008/0408/p06s02-wosc.html