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## On Days of Employment of Rural Labour Households

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In a rural economy characterised almost entirely by informal-sector employment (formal-sector employment in agriculture and manual non-farm work is negligible in India), the rate of employment as used in macroeconomic analyses of economies dominated by formal-sector employment is not a useful measure of employment. In less-developed economies such as India's, the average number of days of employment per worker is perhaps the best and most appropriate measure of the extent of employment and underemployment in the rural work force, and change in the number of days of employment per worker is a telling indicator of changes in economic activity and livelihood.

The Rural Labour Enquiry (RLE) of the Labour Bureau, Government of India, is the only source of official time-series data on the number of days of employment obtained by rural workers in India. From the 3rd RLE (1977–78) onwards, however, RLE data have been collected together with the larger, quinquennial Employment and Unemployment Surveys (EUS) of the National Sample Survey Organisation (NSSO), and all decisions related to the definition of variables and the survey methodology for the quinquennial rounds are taken by the NSSO. The Labour Bureau uses the information from the NSSO's surveys to prepare its series of *Reports on Employment and Unemployment of Rural Labour Households*.

The process of preparation and publication of the RLE *Reports* is as follows. The NSSO conducts the Employment and Unemployment Surveys every five years. The Survey Design and Research Division (SDRD) of the NSSO prepares, from NSS unit-level data, a dataset on the days of employment obtained by members of rural labour households. The Labour Bureau then publishes the data, generally providing data from previous surveys alongside current data. The Labour Bureau makes no methodological contribution at any stage of the process. It publishes the *Report on*

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*Employment and Unemployment of Rural Labour Households* about four to five years after the surveys are conducted by the NSSO.<sup>1</sup>

#### DEFINITIONS AND CONCEPTS

The Rural Labour Enquiry defines a rural labour household as one whose “major source of income during the 365 days preceding the survey was more from wage-paid manual labour (agricultural and/or non-agricultural) than from paid non-manual employment or from self-employment.”<sup>2</sup> Of the rural labour households, those that derive 50 per cent or more of their total income from wage-paid manual work within the reference period in agricultural activities are treated as agricultural labour households. Thus the criterion used for classification of households is an *income criterion*.

The instruction given to enumerators is:

The household type code based on the means of livelihood of a household will be decided on the basis of the sources of the household’s income during the 365 days preceding the date of survey. For this purpose, only the household’s income from economic activities will be considered.<sup>3</sup>

Specifically,

if a single source contributes 50 per cent or more of the household’s income from economic activities during the last 365 days, it will be assigned the type code (1, 2, 3, 4 or 9) corresponding to that source.

The type codes are: (1) self-employed in non-agriculture, (2) agricultural labour, (3) other labour, (4) self-employed in agriculture, and (9) others.

Persons belonging to manual labour households are assigned an activity status. This is termed their “usual activity,” defined on the basis of a time criterion (often referred to as the “major time criterion”). More specifically, the usual activity of a person is the activity on which he or she spent the major part of his or her time during the preceding year. A rural labourer is defined as one “who does manual work in rural areas in agricultural and/or non-agricultural occupation in return for wages in cash or kind, or partly in cash and partly in kind” (Labour Bureau 2008).<sup>4</sup>

<sup>1</sup> The 8th RLE was published four years after the 61st round of the Employment and Unemployment Survey of the NSSO.

<sup>2</sup> See Labour Bureau (2008).

<sup>3</sup> Since the 50th round, gainful activity has been replaced by economic activity, to make it compatible with the international standards set by the United Nations. The NSSO has incorporated all the activities within the domain of the System of National Accounts of the United Nations, other than processing of primary products for own consumption.

<sup>4</sup> Any kind of family or exchange labour is thus excluded from the definition of a rural labourer.

RLE defines manual work as “a job essentially involving physical labour” or/ and “jobs not involving much of physical labour [though] at the same time not requiring much educational background” (Labour Bureau 2008). However, “jobs essentially involving physical labour but also requiring a certain level of general, professional, scientific or technical education are not to be termed as manual work” (*ibid.*). Workers engaged in manual work for wages or salaries paid in cash or kind, or partly in cash and partly in kind, are categorised as “wage-paid manual labour” (*ibid.*).

Among rural labourers, a person is considered to be an agricultural labourer “if he or she followed one or more of the following agricultural occupations in the capacity of a labourer on hire, whether paid wholly in cash or kind or partly in cash and partly in kind” (Labour Bureau 2008). According to the RLE categories, agricultural occupations include any of the following:

1. farming including cultivation, tillage, etc.;
2. dairy production;
3. production, cultivation, growing, and harvesting of any horticultural commodity;
4. animal husbandry including bee-keeping or poultry farming;
5. any other manual farm activity that also includes forestry or timber, and preparation for market and delivery to storage or to market or to carriage for transportation to market of farm products (referring only to the initial transport of products from farm to the first stage of disposal).

Information on days of work in the agricultural sector is reported separately for five tasks: ploughing, sowing, transplanting, weeding, harvesting, and other cultivation activities. The RLE provides data on the number of days of work in self-employed activities, and regular salary and wage employment, for both rural labour households and agricultural labour households. The aggregate number of days of employment in non-agricultural occupations is also provided by the RLE, although the data on non-farm work are not further disaggregated.

On the basis of the definitions and framework discussed above, the RLE provides information on the average number of days of employment of individual workers in rural labour households and agricultural labour households.

#### *REVIEW OF METHODOLOGY RELATED TO ESTIMATION OF DAYS OF EMPLOYMENT*

There are three major concerns with respect to the methodology adopted by the RLE for calculation of days of employment.

The first relates to the definition of a rural labour household. From the 3rd RLE (1977–78) onwards, income and not time became the single criterion for identifying rural

labour households.<sup>5</sup> The major problem with this changed criterion of income used to identify rural labour households is that no effort is made to compute household incomes. In other words, although the time criterion has been discarded in favour of an income criterion, no statistical exercise is undertaken to obtain either the absolute levels of income of households, or the shares of income from various sources in order to assign households to specific occupational categories. The methodology relies entirely on the *perceptions of the enumerator and respondent* in respect of income.

A related problem is the possible misclassification of rural labour households. A definition based on self-perception of the share of income obtained from wage employment might lead to the exclusion of those households that undertake manual work both in agricultural and non-agricultural activities, but report themselves as self-employed because of relatively minor own-cultivation activities. Under the current methodology, small land-holder households that depend heavily on income from labouring out, but perceive themselves to be self-employed, are likely to be excluded from the category of labour households.

When working with village-level survey data, we have found that even where detailed source-wise income data are available, it is very difficult to draw a precise boundary between poor peasant households and manual worker households. It is even more difficult (or even unfeasible) to separate small and marginal peasants from rural labourers on the basis of NSS data, since the NSSO neither collects information on incomes from all possible sources, nor classifies households on the basis of objective criteria. Where self-perception is all, it is likely that a not-so-negligible section of households that would be labour households by an objective income criterion could report themselves as cultivators.

Village studies have found that workers in rural India today obtain less than six months of employment in a year, and are therefore severely underemployed (Dreze and Mukherjee 1987; Ramachandran 1990; Ramakumar 2004; Ramachandran and Swaminathan 2006; Rawal 2006; Mehta 2006). Social scientists generally classify workers who spend a major part of their work-time as hired labourers and obtain a major share of their income from hired labour as rural workers. To set the major part of 365 days as the activity status criterion means that a worker must obtain more than 180 days of employment to qualify as a rural worker. Thus the classification of rural workers on the basis of the NSS category of “usual status” leaves out a large

<sup>5</sup> In the first Agricultural Labour Enquiry, “an agricultural labour family is one in which either the head of the family or 50 per cent or more of the earners report agricultural labour as their main occupation,” and the main occupation of a person is “the occupation in which he was engaged for 50 per cent or more of the total number of days worked by him during the previous year while all other occupations are treated as subsidiary occupations” (Government of India 1960). In the second Agricultural Labour Enquiry, conducted in 1956–57, the criterion used to define agricultural labour household was family income rather than employment: “An agricultural labour household was defined as one for which the major source of income during the previous year was agricultural wages” (Government of India 1960).

section of people who are in fact part of the agricultural and rural proletariat, and leads to misclassification.

The second problem specific to the data on days of employment is the use of the concept of “half day” and “full day” to calculate days of employment. A worker who is employed for one hour or more but for less than four hours a day is considered as being employed for half a day, and a worker employed for four hours or more during the reference day is considered as employed for a full day (NSSO 2006).

Scholars have pointed out that problems with the methodology and definitions adopted by the NSS-RLE are responsible for the discrepancy between days of employment reported by independent studies and the RLE (Ramachandran 1990; Dreze and Mukherjee 1987). The number of days of employment of workers can be calculated by using two methods.

Method I: Computing the aggregate hours of work performed by an individual worker in manual work and then dividing the total by eight, thus normalising the data in terms of an eight-hour working day.

Method II: Using the NSS-RLE categories of “half-day” and “full-day” to calculate the number of days of employment.

Method II can actually overestimate the days of employment to the extent of 135 days in a year. Let us consider the following example. If a person works for one hour each day of the reference week, his or her actual days of employment would be 0.91 in the reference week. However, according to the norm of “half-day,” he or she is employed for 0.5 labour day for each day of the reference week and so his or her total days of employment would be 3.5 labour days. So the overestimated days of employment would be  $(3.5 - 0.91)$  2.6 labour days in the reference week. In the entire reference year, that is, for 52 weeks, the overestimated days of employment would be almost 135 days. Similar results would follow if an individual worker spent five hours working on each day of the reference week.

The work-hour category can also *underestimate* the number of days of employment if workers have to work more than eight hours a day in any production system.

To illustrate, we provide data on the average number of days of employment obtained by male and female workers in four villages surveyed by the Foundation for Agrarian Studies as part of its Project on Agrarian Relations in India (PARI).<sup>6</sup> The villages chosen for this analysis are Ananthavaram, Guntur district, Andhra Pradesh (surveyed in 2006), Harevli, Bijnor district, Uttar Pradesh (surveyed in 2006), Warwat Khanderao, Buldhana district, Maharashtra (surveyed in 2007), and 25 F Gulabewala,

<sup>6</sup> For more details, see <http://www.fas.org.in/pages.asp?menuid=16>, viewed on December 1, 2012.

**Table 1** *Discrepancy in days of employment using work-hour category of NSSO and actual work hours of hired manual worker households, by sex, study villages, 2006–08*

Village	Sex	By actual work	By half-day/full-day	Difference
		hours*	category	
		A	b	b – a (as % of a)
Ananthavaram	Male	106	117	11 (10)
(Andhra Pradesh)	Female	65	77	12 (18)
	All workers	90	102	12 (13)
Warwat	Male	57	68	11 (19)
(Maharashtra)	Female	85	96	11 (13)
	All workers	72	82	10 (14)
25 F Gulabewala	Male	122	97	–25 (21)
(Rajasthan)	Female	52	49	–3 (5)
	All workers	81	69	–12 (15)
Harevli (Uttar Pradesh)	Male	135	112	–23 (17)
	Female	78	68	–10 (13)
	All workers	109	92	–17 (16)

*Notes:* Figures in parentheses show the percentage difference in days of employment.

\*Converted to standard eight-hour working day.

*Source:* PARI village survey data.

Sri Ganganagar district, Rajasthan (surveyed in 2007). Data from these villages are chosen only as illustrations.

In Table 1 we report, first, days of employment based on actual work-hours of each worker (normalised to an eight-hour working day), and second, estimated days of employment using the RLE work-hour norm, that is, by converting actual work-hours into half-day and full-day categories.<sup>7</sup>

As mentioned, the NSS–RLE methodology can overestimate the number of days of employment. However, from Table 1 we observe that the NSS–RLE methodology can also underestimate the number of days of employment. Let us first consider two villages – Ananthavaram in Andhra Pradesh and Warwat Khanderao in Maharashtra – where, by using the NSS–RLE methodology, we obtain an overestimate of the number of days of employment. In both villages, the difference in the days of employment of male workers, calculated on the basis of exact work-hours and the half-day/full-day norm, respectively, was 10 per cent and 19 per cent. For female workers, the difference in the number of days of employment using exact work-hours and the

<sup>7</sup> Although an eight-hour working day is an arbitrary assumption, it must be kept in mind that historically eight hours of work is considered as the limit for a working day (The International Workingmen’s Association, 1866). In agriculture in contemporary India, changes in technology and cropping practices seem to have reduced the length of the working day. On the other hand, the proliferation of piece-rated contracts in some agricultural operations has increased the length of the working day. A study of *actual* work-hours is therefore required to calculate the number of days of employment.

norm of half-day/full-day was 18 per cent and 13 per cent, respectively. A general reason for overestimation of the number of days of employment is the short length of the working day in these two study villages. In Ananthavaram, the difference in estimate is large for female workers as they were mainly hired for three to five hours a day. In Warwat Khanderao, the difference in estimate is large for male workers due to the length of their working day, which varies between five hours and seven hours. In Warwat Khanderao, the proportion of workers whose hours of work varied between five and seven in a working day - counted as “full-day” work by the NSS–RLE estimation procedure – was 54 per cent.

In the other two villages, that is, 25 F Gulabewala in Rajasthan and Harevli in Uttar Pradesh, the NSS–RLE methodology *underestimates* the number of days of employment. The order of underestimation of number of days of employment (using the exact work-hour and the norm of half-day/full-day) for male workers was 21 per cent in 25 F Gulabewala and 17 per cent in Harevli. For female workers, the difference was 5 per cent in 25 F Gulabewala and 13 per cent in Harevli. The reason for the underestimation of number of days of employment is the long working day in both villages. Especially in 25 F Gulabewala, the length of the working day generally varies between nine hours to 14 hours, signifying overexploitation of labour. The share of observations of 9-hour to 14-hour working days is a staggering 74 per cent. A similar phenomenon is observed in Harevli.

Scholars have shown that calculating the number of days of employment on the basis of the NSS–RLE methodology generally yields an overestimation. This is only partially true, for, as we observe here, the NSS–RLE methodology can also underestimate the number of days of employment. Differences in the length of the working day within a village production system as well as across production systems can occur due to a variety of factors.

To sum up, it can be stated that in calculating the number of days of employment, the choice of the half-day or full-day category instead of the actual work-hours can result in overstatements or understatements of the magnitude of work received. The magnitude of overestimation and underestimation depends on various factors, of which perhaps the prominent ones are the type of wage contract, the nature of crop production, and the actual length of the working day.

The third problem with the NSS–RLE methodology is related to the collection of agricultural operation-wise data by the NSS. Accuracy of recall data depends on disaggregation of the data by crop and crop operation. Information on days of work in the agricultural sector is reported for five important cultivation-related activities separately: for ploughing, sowing, transplanting, weeding, harvesting, and other cultivation activities. Interestingly, the classification of agricultural operations has not changed since the inception of the RLE. These are vaguely defined, and the list of tasks is not exhaustive. Hence a large number of labour-absorbing activities



**Table 2** *Wage-paid employment per worker of rural labour households in different agricultural operations, by sex, 2004–05, in eight-hour days and per cent*

Agricultural operation	Male		Female	
	No. of days	%	No. of days	%
Ploughing	17	7	1	1
Sowing	9	4	7	4
Transplanting	10	4	12	6
Weeding	21	9	52	26
Harvesting	47	21	46	23
Other cultivation activities	124	54	81	41
Manual work in cultivation	228	100	199	100

*Source:* 8th Rural Labour Enquiry, based on 61st round of Employment and Unemployment Survey, NSSO.

as well as important agricultural operations are categorised as “other cultivation activities” (see Table 2). The NSS–RLE category of “other cultivation activities” is not verifiable as it includes all unclassified operations including those that come under the general classification of field preparation (other than ploughing) and of post-harvest operations. The present categorisation of agricultural operations thus falls very short of being a useful classification for an analysis of the distribution of days of employment, and the pattern of changes in the number of days of employment in various agricultural operations over time.

As we can see from Table 2, for male workers, around 54 per cent of days of employment come under the category of “other cultivation activities.” In the case of females, the proportion of uncategorised days of employment is 41 per cent of the total number of days spent on agricultural occupations.

### CONCLUSION

The Rural Labour Enquiry, based on the Employment and Unemployment Surveys of the NSSO, is the only source of serial data to provide information on the number of days of employment and unemployment of rural labour households. Here we have shown that there are some serious definitional and methodological problems in the NSS–RLE data, resulting in possible overestimations and underestimations of the number of days of employment gained by a rural worker, as well as a less-than-useful categorisation of the number of days of employment by agricultural operation. The first problem lies in the definition and identification of a rural labour household, which is based entirely on the perception of the respondent regarding the share of wage income in his or her total income. The definition as used may leave out a large proportion of households that derive a major share of their income from hiring out their labour, but who may report themselves as cultivator households. Secondly, we have shown that the number of days of employment of individual workers in rural

labour households can both be overestimated or underestimated because of the use in the NSS data of half-day and full-day categories instead of actual work-hours.

Lastly, agricultural crop operations are poorly categorised by the NSS.

On account of these three problems, it is clear that a complete picture of the number of days of employment of workers engaged in manual labour in rural India cannot be obtained from the Reports of the RLE.

**Keywords:** Rural Labour Enquiry, India, rural labour household, days of employment, work hour.

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