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ABSTRACT

This paper examines certain aspects of employment among women workers in hired labour households, drawing on two surveys of Gokilapuram, a village in south-west Tamil Nadu, India, conducted in 1977 and 1999. The study finds that, first, work participation rates among women were high. Secondly, a woman was able to gain employment in 1999, on average, for only about six months a year. Thirdly, there was a distinct shift between 1977 and 1999 in the composition of total employment available to women. Fourthly, while the real wage rate for women at cash-paid, daily-rated crop operations rose significantly between 1977 and 1999, the gender gap in wages widened.

JEL Classification: J2, J3, J11

Key words: women, agriculture, wages, work participation rate, Asia, India

1. Introduction

Given the persistence of mass poverty and limited employment opportunities for rural women in India, an investigation of changes in wages and employment of women workers is of relevance to all concerned with women's well being. In this paper, we examine some aspects of employment and changes in employment among women hired workers in a village in south India. The paper attempts, first, to describe and analyse the volume and pattern of hired employment available to women workers from landless rural labour households in the contemporary period, their earnings from such work and their participation in work in general.¹ Secondly, the paper deals with changes in these variables over the last two decades. The reference period for measuring change thus covers the twenty years that followed the peak period of the so-called "green revolution" in rural India.

The core empirical data for the paper come from two surveys in Gokilapuram, a village in Tamil Nadu in south India. The surveys were conducted in 1977 and 1999, and one of the authors of this paper was an organiser of and participant in both of them. We also review the main sources of large-scale official data in respect of the variables that are discussed in the paper.

1.1 Official sources of statistics on women workers

There are three main sources of data on the participation of women in economic activity in rural India:

- (i) the decennial population Censuses;
- (ii) successive rounds of Employment and Unemployment Surveys conducted by the National Sample Survey Organisation (NSSO); and
- (iii) the Rural Labour Enquiries published by the Labour Bureau (which are based on data collected by the NSSO).

There is now general agreement that the Censuses of India and the National Sample Survey (NSS) underestimate women's work participation. Among the reasons for the underestimation are problems with the definition of "work" used by the Census of India and the NSS (although these have improved),² and empirical problems associated with the measurement of work in a subsistence economy where much work is unpaid and is undertaken at home or on a person's own premises.³

An important problem with the Census of India data on women's work participation and NSS data on women's work participation is that they yield different results for the 1980s. First, the rate of women's work participation is consistently lower in the Census of India than the rate given by the NSS (see Table 1). Secondly, the two sources of data show work participation rates among women moving in opposing directions: the Census shows a rise and the NSS a fall in work participation over the 1980s. Conflicting evidence from the Census of India and the NSS, then, make for little clarity on the issue of trends in women's work participation in the 1980s.⁴

It is clear, however, that the Census of India and the NSS seriously underestimate *levels* of women's work participation. A recent pilot study of time use conducted by the NSS in six states of India reports estimates of employment that are five per cent higher than those reported in NSS surveys (CSO, 2000).⁵

There is a third source of data on work in rural areas, and these are the reports of the Rural Labour Enquiries (RLE), conducted every five years by the NSSO along with the employment-unemployment surveys. While the broad framework of the RLE is similar to that of the NSS surveys, the RLE provides detailed information on the “class of labourers in rural areas” and in particular, on days of employment. In the RLE a household is defined as a rural labour household if income from wage paid manual labour (in agricultural and non-agricultural occupations) during the previous year exceeded income from non-manual employment or self-employment. We shall review the main findings from the RLE in the next Section.

It is clear from this review that while official sources of large-scale data have the merit of wide coverage, they are less than satisfactory in respect of methods of collecting and processing data and in respect of the socio-economic detail they provide on conditions of work in rural India, particularly women’s work. Micro-studies of specific rural situations, we believe, are necessary elements in any effort to analyse agrarian relations and social change in the Indian countryside.

2. A profile of women workers from landless hired labour households, Gokilapuram village, 1977 and 1999

2.1 Study area and data base

Gokilapuram village is in Theni district, in the south west of the state of Tamil Nadu. It is located in the physical-geographical area known as the Cumbum Valley, which is a distinct geographical and agro-economic region within the district. The Valley is shaped, roughly speaking, like an inverted triangle with a rounded apex, wedged between the Cardamom Hills, whose watershed marks the western and south western wall of the Valley (and the border between Tamil Nadu and Kerala) and the High Wavy and Erasakkanayakanur Hills in the east and

south-east. It is an area of much beauty, whose specific agro-economic features include loamy and sandy soils of comparatively high fertility and assured surface and groundwater irrigation over large parts of the region.

The Valley stands out in Tamil Nadu as a vanguard agrarian region. Paddy and some sugarcane are grown on surface-irrigated land (irrigated by the Periyar system) and coconut, banana, grape and vegetable crops are the main crops on groundwater-irrigated land. The cultivation of these crops is characterised, by the standards of Tamil Nadu, by advanced levels of agricultural techniques.⁶ The agriculture of the Valley draws on a numerically preponderant, largely settled force of hired workers.

In 1977, a census-type socio-economic survey of households (it covered 650 households) was conducted in Gokilapuram village. In 1999, a second census-type socio-economic survey of households in the village was completed, covering 908 households. This paper reports results from the census-type socio-economic survey of 1999, and compares them with some results from the first survey, conducted in 1977.

The data set used in this paper

The data from the survey of 908 households in 1999 are still being processed. As a proxy for the class of landless rural labourers, that is, the class of landless households whose income comes mainly from the earnings of its members from hired labour, we have separated those households whose entire income derives from earnings from hired labour on agriculture or at non-agricultural tasks. This set is actually smaller than the class of landless rural labourers will be, because it does not take into consideration any household that had incomes from remittances, pensions, self-employment or other sources. We call this set, which consists of 233 households, “landless rural labour households from the

survey of 1999” and women in these households are the subjects of the detailed analysis in this paper.

For 1977, we use data for the class of landless agricultural labour households in the village, that is, landless households whose major income came from earnings from hired labour in agriculture. This set consists of 257 households, and there is a detailed analysis of their socioeconomic characteristics in Ramachandran (1990).

For both reference years, 1976-77 and 1998-99, we have data on the number of days worked by each worker at each crop operation for every crop at which she or he worked and the earnings from each day of work. The crops grown in the village include paddy, banana, coconut, grapes, groundnut and sugarcane. We also have data on the total number of days that each worker spent at work on non-agricultural (including agro-processing) tasks and the earnings of each from such work. Non-agricultural tasks have been subdivided into tamarind processing, plantation work, and other tasks.

The two data sets are thus close enough for comparative use, but do not represent precisely equivalent categories at two time periods. Note also that we have used longitudinal data from the village in this paper; we have not compared changes experienced by the same workers over time, as the task of matching is yet to be completed.

Women in rural areas engage in a variety of non-agricultural activities; we describe below two types of activities that were encountered frequently in Gokilapuram, and that require some further explanation.

Tamarind processing. This is something of a village-specific task, and one that is very important in the annual work calendar of a woman worker in the village.⁷ Women in this village receive tamarind from tamarind merchants. They dry the fruit, and shell, de-fibre and decorticate it and

fold the kernel over. The processed fruit are then weighed and women paid by the piece. Tamarind-processing work is either done at home or in sheds where groups of women work. Over the last 40 years or so, Gokilapuram has been an important centre of the tamarind traders. Tamarind processing work on a year's current crop is available for about five months from February through June. In addition, tamarind comes from cold storage from the district town of Theni and provides some women with employment most of the year round.

Tamarind processing work is paid by the piece, according to the weight of the processed fruit. The average working woman can produce two baskets of processed tamarind in an 8-hour day, for which she is paid 20 rupees (1 USD=43 rupees).⁸ The regular wage for a daily-rated cash-paid operation in agriculture is 25 rupees. Women process tamarind at a lower wage for three main reasons. First, and most important, it gives them employment at times of the year when none other is at hand. Secondly, it is a task that requires little job search, and is available in the village itself, while work on the fields calls for a more difficult search and often workers walking long distances. Thirdly, given the nature of the job and the mode of payment, the working day in tamarind processing is more flexible than at a daily-rated task. Women can and do set their own schedule when they process tamarind, and some even take on consignments of unprocessed fruit on days when they work elsewhere, processing tamarind in the free time that they are able to find.

Plantation work. Plantations are located in the eastern (Tamil Nadu) and western (Kerala) hills. Plantation workers in our survey, all of whom worked on cardamom estates, are of two types. The first are workers who have regular households in the village, and travel frequently to estates in the hills to work on the cardamom crop. The second are workers who spend nine months a year in the estates, and return to the village from

March through May, during which there is no cardamom work. The latter cannot really be considered part of the regular labour force of the village, although some of them work at harvesting and threshing paddy and process tamarind for a few days during their stay in the village. Gokilapuram however, remains their native village, and they preserve strong links with their families here. Most cardamom workers belong to the second category, and appeared in our survey only because they happened to be on their annual visit to their native village when we conducted our survey.

Other non-agricultural tasks include brick kiln work, construction work and repairing irrigation channels.

2.2 *Main findings from the village surveys*⁹

Among the 233 landless hired labour households in our data set, there were 279 women workers and 240 male workers; in the village as a whole there were 902 women workers and 965 men workers.

Rural landless workers are a caste-heterogeneous class. As in 1977, the data set for 1999 show that every caste in the village is represented among landless hired workers (Table 2).¹⁰ In Gokilapuram, there are three castes that represent the erstwhile untouchables or Dalits, namely, Pallars, Parayars and Chakkiliyars. The share of Dalit households in the data set (34.3 per cent) is higher than the share of Dalit households in the population of all households in the village (21.8 per cent). This conforms to expectation as Dalit men and women are predominantly manual workers in most parts of India.

Literacy

Literacy levels in the village in 1999 were low and still marked by sharp inequalities of class, caste and gender (Table 3). Nevertheless, our survey data for 1999 indicate substantial rise in literacy in the 1990s,

particularly among women, as compared to the official estimates for 1991. According to the Census of 1991, literacy among males was 57.2 per cent and that among females was 36.4 per cent in Gokilapuram village. In 1999, our estimates show that 76.8 per cent of males and 52.9 per cent of females were literate. While literacy rates in general were lower among Dalits, among women workers in our data set, there was not much difference in literacy rates across castes.

Work participation¹¹

Work participation rates in the village are high: 52.6 per cent for women and 57.8 per cent for men (see Table 4). The work participation rates for the population are higher, for instance, than the corresponding figures from the Census of India. The work participation rate reported in the Census of 1991 for Gokilapuram was 54.5 for males and 48.3 for females. Furthermore, the rates of work participation for persons of working age (15-60 years) are very high indeed.

Among hired labour households, for persons in the prime working age, work participation rates were not only extremely high but equal among men and women (86 per cent). When all ages are taken together, however, women's work participation rate is higher than that of men. This suggests that the young and elderly among women are "forced" into employment relative to the young and elderly among men in the same households.¹²

Work participation rates among Dalit men and women were, again as expected, higher than among non-Dalit men and women (Table 4).¹³ A feature of the data here is that the gap between Dalit and non-Dalit participation rates was consistently higher for women than for men.

In 1999, the work participation rates for men and women were higher than in 1977, by about 5 percentage points (Table 5). At both

surveys, though the work participation rate for men in the village population as a whole was higher than for women, it was higher for women in our categories of manual workers.¹⁴

To summarise, in Gokilapuram, in 1999, the work participation rate was 63.1 per cent among women in hired labour households and 52.6 percent among all women in the village. Among persons of working age (15-60 years), the work participation rate was no less than 86 per cent for women from hired labour households and 71 per cent for all women in the village. Among Dalit women from hired labour households, the work participation rate was 91 per cent. Participation in the labour market was clearly a necessity for landless Dalit women. In the working-age group, in fact, the work participation rate among Dalit women was higher than that among Dalit men. Lastly, work participation rates for both men and women in the village were higher in 1999 than in 1977.

Findings from a single village cannot, of course, be easily compared to regional, state or national estimates. Also, Gokilapuram belongs to a relatively advanced agrarian region and cannot be taken as representative of the state of Tamil Nadu. Nevertheless, we can note that our village-level estimates of women's participation in the labour force are higher than estimates reported by official statistics for rural Tamil Nadu (including the Census for Gokilapuram village).¹⁵ Also, unlike the trend of decline in women's work participation rates suggested by the NSS data for India and Tamil Nadu, in Gokilapuram, work participation rates have risen among women between 1977 and 1999.

The size of the female labour force in agriculture

In the literature and public discussion on women workers in rural India, one of the issues raised has been about the extent of "feminisation" of the agricultural work force.¹⁶ Manual labour in the countryside is the

single largest source of employment for women workers in India (there were more than 28 million women agricultural labourers at the Census of 1991). Rural manual workers are among the poorest members of the work force, and their work calendars are characterised by chronic underemployment and employment insecurity. The question raised in public debate is whether this relatively disadvantaged sector of the work force is coming to be dominated by women.

Three measures taken together have been regarded as indicative of the “feminisation” of the agricultural work force (Duvurry, 1989). These are:

- (i) an increase in the proportion of female agricultural workers in the female work force;
- (ii) an increase in the ratio of female agricultural workers to male agricultural workers; and
- (iii) an increase in the proportion of female work force in the female population.

At the all-India level, there was a significant increase in the proportion of female agricultural workers in the female work force (indicator i) over the 1960s and 1970s (by Census data, from 25.6 per cent in 1961 to 49.6 per cent in 1981).¹⁷ In Tamil Nadu, the level of indicator (i) was higher than the all-India level and rose sharply as well.

Data from the Censuses of India 1981 and 1991 (see Table 6) show an increase in Tamil Nadu in all but one of the indicators listed (indicator i, which increased sharply between 1961 and 1981, remained approximately the same over the 1980s). The Census data suggest that although there were substantial differences between Tamil Nadu and India with respect to the absolute value of each indicator and the degree

of change in each, the directions of change in Tamil Nadu and India have not been dissimilar.

Data for Gokilapuram village from the Censuses also show an absolute rise in the number of female agricultural workers, as well as a rise in all three indicators of “feminisation” (Table 6). Turning to survey data, male workers in Gokilapuram outnumbered female workers in 1999, although female workers in landless hired labour households outnumbered male workers. In 1977, among landless agricultural labour households, the ratio of women to men workers was 107 per cent. The ratio of women workers to male workers in hired labour households was 116 per cent in 1999.

To summarise, the “feminisation” of the agricultural labour force in Tamil Nadu over the 1960s and 1970s that was noted by scholars, on the basis of Census of India data, has continued through the 1980s. Village survey data show a more complex picture, although they are characterised by, first, an absolute increase in the female labour force and an increase in the ratio of female workers to male workers in the landless labour force.

Number of days of employment¹⁸

As we have written, the Cumbum Valley is one of the most advanced regions in Tamil Nadu in terms of agricultural production. Our village data show that agriculture in this region is supported by women manual workers whose annual work calendars are characterised by chronic underemployment and employment insecurity.

The average number of days of employment available to a woman who lived in a household that lived by hired labour alone was 163 days, or a little less than five months and a half in the year. To put it another way, women workers in hired labour households were unemployed for

almost seven months in the year. If we were to divide the total number of days of employment by the number of women who were potential members of the labour force, that is, all women between the ages of 16 and 60 in the data set, then the number of days of employment would have been 147 days, that is, less than five months in the year.¹⁹

Of all working women in the data set, 37 per cent received less than four months work in the year, and 61 per cent received less than 6 months work in the year (Table 7). Dalit women workers in this data set were employed for about three weeks more in the year than non-Dalit women (Table 8). A striking feature of the data is that the average number of days of employment per year for a woman worker from a labouring family remained about unchanged over the 22 years between our surveys. For Dalit women, however, the average number of days of employment in 1998-99 was less than in 1976-77.

Another conspicuous feature of the data concerns the component parts of a woman worker's labour year in 1976-77 and 1998-99 (see Table 9). In 1998-99, the share of non-agricultural work in total employment was 63 per cent (and the share of tamarind processing was about 46 per cent). The share of agriculture in total employment, then, was only 37 per cent. These shares are almost exactly the inverse of the situation in 1976-77, when the share of agricultural work in total employment among women workers from landless agricultural labour households was 65 per cent and the share of non-agricultural work 35 per cent. In 1998-99, a woman worker from our data set was employed for about 61 days of work at agricultural tasks, and about 102 days of work at non-agricultural tasks (including about 75 days at processing tamarind). In 1976-77, a woman worker from a landless agricultural labour household was employed, on average, for 103 days at agricultural tasks and 55 days at non-agricultural tasks. This shift in the composition

of employment from agricultural tasks towards non-agricultural tasks corresponds to the shifts observed at the state and national levels (see below).

The major sources of official data and micro-studies differ substantially in respect of statistics on the average number of days of employment that a worker receives in a year and trends in annual employment per worker. The number of days of employment estimated by scholars from village studies – for both men and women – is substantially lower than the days of employment reported by the RLE (Mukherjee 1998; Ramachandran 1990).

The RLE reports the average number of days of employment per worker in rural labour households separately for men and women, by agricultural and non-agricultural activity as well as by wage employment (hired labour) and other employment. According to the RLE, the total days of employment available to a woman worker in a rural labour household in India has risen, on average, from 233 days in 1983 to 265 days in 1993-94 (Table 10).²⁰ The days of employment in agriculture, however, have fallen steadily and correspondingly, the days of employment at non-agricultural tasks have risen.

A similar pattern is observed in Tamil Nadu (Table 11): the total days of employment per woman worker rose from 214 in 1977-78 to 230 in 1987-88 while the days of employment in agriculture fell, on average, from 198 to 187 during the same period. With two qualifications, the situation was similar for landless labour households (Table 11). First, the number of days of agricultural wage employment was higher for men and women from landless labour households than for all rural labour households. Secondly, the decline in wage employment in agriculture was less marked among women from landless labour households than among all rural labour households.

In respect of total employment, the results from our village survey are somewhat different from those from the reports of the RLE. First, a woman worker from a landless hired labour household received an average of only 158 (163) days of employment in 1977 (1999). According to the RLE, the average number of days of employment available to women from landless labour households in Tamil Nadu was 212 in 1977-78 and 242 in 1993-94.

In respect of the composition of employment, our findings corroborate observations from the RLE of a decline in wage employment in agriculture for women (at the all India level and for Tamil Nadu), though the decline was steeper in Gokilapuram.²¹

Our major conclusions from Gokilapuram about the number of days of employment available to a woman from a landless hired labour household are the following.

First, the work calendar of a woman worker is characterised by chronic underemployment and employment-insecurity.²² The average number of days of employment is low – with women workers employed for less than six months in a year — and levels of employment measured in these terms have remained stagnant between 1976-77 and 1998-99.

Secondly, women workers have increasingly to seek employment in low-paid non-agricultural work. In respect of wages, non-agricultural work is of two types. The first covers tasks at which the daily wage is higher than the wage rate for daily-rated, cash-paid tasks in agriculture. Such employment included plantation work, construction work, work at brick kilns, road-construction and work at other public works project. The second category covers tasks that are paid at average wage rates that are lower than the wage rate for daily-rated, cash-paid operations in agriculture. The main job here is processing tamarind (the category also

includes domestic work). Thus while the average number of days of employment for a woman from a hired labour household remains almost the same, that number conceals a change in the task-composition of the working woman's year. Women now have to spend more time than before in a relatively low-paid non-agricultural task in order to survive.²³

Thirdly, in 1976-77, there were three main sectors of cultivation in the Valley and village: surface-irrigated land (*nanjai*) on which two crops of paddy a year were grown; unirrigated land (*punjai*), on which a poor crop of traditional cereals was grown; and a young, expanding sector of lift-irrigated land (*thottam*, or land irrigated by wells fitted with motor pumps), on which a wide variety of crops, including cotton, vegetables and banana were grown. In the 1980s and 1990s, two major changes occurred. First, *punjai* land was converted to *thottam* (and is now negligible); secondly, cropping patterns on *thottam* changed. *Thottam* began increasingly to be planted with banana, coconut and grape, all of which are less female-labour-absorbent than the cotton and vegetable crops they replaced. The stagnation in women's employment despite the overall intensification of cultivation in the Valley is thus likely to be a consequence both of the increase in the supply of women workers (caused particularly by an accelerated process of differentiation among the peasantry) and changes in cropping patterns.

Our observations on female employment speak to another debate in the literature, though indirectly, on the impact of the green revolution and associated modernisation of agriculture on the demand for female labour.²⁴ Studies of the impact of the new technology on women's employment indicate that some components of the new technology (such as use of HYV seeds and higher cropping intensity) increased the demand for female labour while other components of the technology (such as mechanisation of harvesting and application of herbicides) reduced the

demand for female labour.²⁵ The net effect on demand for female labour depended on the specific agrarian context (including cropping patterns, farming techniques and prevalent institutional factors). In Gokilapuram, the net effect appears to have been a reduction in the demand for female labour in agricultural tasks.

Wages and earnings

The average annual earnings of a woman worker in our data set were 4,827 rupees.²⁶ If plantation workers are excluded from the calculation, since they are mainly emigrants, average earnings per year come down to Rs 4,300 (or roughly USD 100). While the share of non-agricultural tasks in the average number of days of employment received by a woman worker was 62 per cent, the share of non-agricultural wages in total earnings was 53 per cent. This is an indicator of the point made above, that women must seek work at relatively low-paid non-agricultural labour in order to compensate for the lower employment opportunities in agriculture.²⁷

To put these figures in perspective, a rough calculation of the official poverty line income per capita in rural Tamil Nadu in 1998-99 was Rs 305.11 a month,²⁸ or about Rs 3,660 a year. Even by this norm, which by any reasonable reckoning represents destitution, 49 per cent of women workers in our data set earned an amount every year that was below the poverty line. (This is not, of course, a measure of how many women live in households that are below the poverty line, since a woman whose total earnings in a year are above the poverty line may well be a member of a household whose total earnings are below the poverty line and vice versa.)

We shall not discuss wage rates in different operations in detail here, but shall make a few observations with regard to the standard wage

paid to a woman worker at daily-rated cash-paid tasks in agriculture. The wage rate at such tasks was 25 rupees in 1998-99. The standard wage paid to a male worker at similar tasks was Rs 60. For work at daily-rated, cash-paid operations, then, a woman's wage was 42 per cent of the wage of a man.²⁹

To put agricultural wage rates in perspective, the daily wage of a textile worker in the lowest wage-grade in Coimbatore and Chennai was Rs 147 per day in 1998-99. To put it differently, the lowest industrial urban wage was 5.8 times the wage for women in daily-rated, cash-paid agricultural work in the village. However, since the average number of days of employment for a woman in the village is low, the total annual earnings of a textile worker was 9.1 times that of a woman hired labourer who worked 163 days in the year in Gokilapuram.

Nevertheless, the wage rate at cash-paid daily-rated tasks rose in real terms between 1976-77 and 1998-99. If we use the price of second-quality rice as a deflator, the increase in the daily wage rate for women was of the order of 65.6 per cent; the corresponding increase in the daily wage rate for men was of the order of 70.3 per cent.

While real wage rates rose, the last two decades also saw a small widening of the gap between rates of wages paid to men and women (Table 12). In 1998-99, a woman's wage was less than 42 per cent of a man's wage for daily-rated, cash-paid agricultural work.

Trends in real wages

On trends in real wages, there are three sources of official statistics. The NSS and RLE provide data on earnings. The serial publication *Agricultural Wages in India* (AWI) has data on wage rates for different operations at selected centres in all parts of the country. The NSS data show a rise in real wages for men and women workers in agricultural

activities between 1983 and 1993-94: according to the NSS, male wages rose 90 per cent while female wages rose 85 per cent (Unni 1999). There was a similar rise in real wages for non-agricultural employment.

AWI data provide monthly information on wage-rates at the state level, as well as for selected villages in each district (Jose 1988). There are serious problems of quality with regard to the collection, processing and presentation of AWI data; nevertheless, they do give us something of a first take on trends in wage-rates in rural India.

Recent computations using AWI of real wages in terms of rice equivalents from 1964-65 to 1994-95 indicated the following trends.³⁰ Real wages for male and female workers in agriculture stagnated till the late 1970s, rose in the early 1980s (with a dip in 1983) and peaked in the mid- to late-1980s. Real wages fell in the early 1990s but rose again from 1993, although they remained below the peak of the 1980s.

The wage rate for women workers at cash-paid daily-rated tasks in Gokilapuram, as discussed earlier, increased in real terms between 1977 and 1999. The average earnings of a woman worker, nevertheless, remained low both in relation to a measure of income-poverty and in relation to the minimum wage for an urban industrial worker.

Gender differentials in wages

It is not easy to compare the wages that men and women receive, as the gender division of labour in agriculture is marked and there are only few agricultural operations that are performed by both men and women. There is also much diversity in the level and form of payments for different operations.

Data from the RLE indicate no change in the gender gap in wages among rural labour households at the national level. In Tamil Nadu,

however, the gender gap widened. The female-male earnings ratio fell from 70 per cent in 1983 to 67 per cent in 1987-88 and 58 per cent in 1993-94.³¹ Figures from Agricultural Wages in India (AWI) also indicate a worsening of the gender gap in wages in the immediate post-1991 period. Table 13, computed from AWI data, shows the ratio of female wages to male wages in three districts of Tamil Nadu (Ramakumar 1999). In North Arcot and Coimbatore, the gender gap widened between 1964-65 and 1994-95. In both districts, the male-female differential was highest in the 1980s. In Thanjavur, women earned only a quarter of male wages in 1964-65; the relative wage rate for women improved until the early 1980s, when it began again to worsen. Table 13 has two notable features. First, even in the 1990s, wages for women were typically around one-half of wages for men, a very large disparity indeed. Secondly, the period of rising wages, the 1980s, was associated with a widening of the gender gap in wages.³²

In both surveys of Gokilapuram, the differential between male and female wages rates was high. Furthermore, the male-female wage gap widened slightly between 1977 and 1999.

3. Women agricultural workers: changes over two decades

Some noteworthy conclusions emerge from our discussion of women's work in Gokilapuram in 1999 and change between 1977 and 1999 in respect of female hired labour in the village.

Work participation rates among women were high in 1999, and substantially higher than the rates estimated by official sources of large-scale data in India. National Sample Survey data show a secular decline in female work participation rates in India. By contrast, our village data indicate that they have remained more or less constant over the period 1977-99. There are clear differences in work participation across classes

and across castes. The work participation rate among women from hired labour households was higher than among women from other village households. Work-participation among Dalit women was very high and higher than among non-Dalit women.

The working year of a woman from a landless hired labour household in 1998-99 was marked by acute underemployment and insecurity of employment. A woman was able to gain employment, on average, for only 163 days a year; of women workers, 53 per cent received employment for less than five months a year. Significantly, the average number of days of female employment at hired labour remained almost unchanged over the period 1976-77 to 1998-99: the average number of days of hired labour among women workers from landless agriculture labour households in 1977 was 158. The policy conclusion for 1999, then is little different from the one we reached from our study in 1977: the number of days of employment indicates that even in an area of relatively advanced agriculture such as Gokilapuram, state-run employment schemes have a potentially large role to play in filling the long periods of joblessness in a working woman's year (see Ramachandran, 1990: 134).

There was a distinct shift between 1977 and 1999 in the composition of total employment available to women: the share of employment at agricultural operations fell sharply while the share of non-agricultural employment rose correspondingly. As is clear, however, such a change in the annual work-calendar does not necessarily indicate diversification into non-agricultural tasks that earn women higher wages. As we have seen, the rise in the share of non-agricultural employment in Gokilapuram reflects a shift in employment towards a relatively low-paid task. It represents a worsening of the situation for hired women workers, since the major non-agricultural task, processing tamarind, earns

women lower wages than at crop production. In dealing with diversification of rural employment, scholars and policy makers often assume that regular non-agricultural manual employment is characterised by higher wage rates than employment in crop production. The case of Gokilapuram, where employment in tamarind processing earns a woman lower wages than in agriculture, provides something of a sobering counter-example.

The real wage rate at female-specific, cash-paid, daily-rated crop operations rose significantly — by about 65 per cent between 1976-77 and 1998-99. At the same time, the gap between wage rates for female and male daily-rated cash-paid operations remained wide. The wage rate for women was 42.8 per cent of the male wage-rate in 1976-77 and 41.6 per cent of the male wage-rate in 1998-99. Wide disparity still remains between female wage-rates in agriculture and urban industry. In 1998-99, the female wage rate in the village was 17 per cent of the wages earned by the lowest-paid workers in the textile industry in the urban centres of Coimbatore and Chennai.

Forty nine per cent of women workers in landless hired labour households in the village earned less than the official poverty-line income in 1998-99. By way of comparison, the average annual earnings of women workers in our data set was a fraction, 10.9 per cent, of the annual earnings of the lowest-paid workers in the textile industry in Coimbatore and Chennai. The success of any anti-poverty policy in India depends crucially on increasing incomes among rural manual workers and thus, on increasing the incomes of women manual workers in the countryside. The data clearly show that the problem of female income-poverty in rural areas can be solved only if women are paid higher wages and provided more days of employment in a year.

With respect to the demand for female labour in the village in 1977, we had written that “since changes in cropping patterns and the precise tasks created and displaced by different aspects of technical change are crucial determinants of the absorption of female labour, the situation is not static.” (Ramachandran, 1990: 117).³³ Our observations from field-work in the village – that is, from the qualitative and quantitative data that have been collected, including the data cited in this paper – are consistent with the following hypothesis: the early years of technological change in agriculture associated with the “green revolution” were characterised by an acceleration in female labour absorption in the village. However, as result of changes in cropping pattern and technological changes (including the introduction of weedicides in paddy cultivation), the subsequent phase (covering the period between our surveys of 1977 and 1999) was one of significant deceleration in female labour absorption in agriculture.

Notes

- 1 This paper uses a narrow definition of the term “work”: for purposes of the paper, “work” refers to work at hired labour, salaried employment and self-employment other than at tasks within a person’s own household. While all work by women, whether paid or unpaid, whether for domestic consumption or for the market, should be measured and valued, work for domestic consumption alone has analytically to be distinguished from work that gains a woman an outside income, as the two have different implications for the socio-economic status of women and for their emancipation. The socio-economic status of a woman depends crucially on the extent to which she participates in economic activities outside the purview of unpaid domestic work (see, in this context, Nagaraj 1989 and the references therein).
- 2 Under pressure from scholars and activists, the concept of work used by the Census and the NSSO has changed over time. From 1977-78, the NSS began to include non-market agricultural activity in its definition of work. It also collects information on an extended list of activities that include domestic work. In 1991, the Census expanded its definition of work to include unpaid work on the farm or family enterprise.
- 3 See, for example, the discussion in Bannerjee (1989), Jose (1989), Krishnaraj (1990), Nayyar (1987), and Unni (1989).
- 4 Since there have been changes in concepts and definitions over time, it is not easy to gauge whether reported changes in work participation are on account of changes in definition and improvements in methods of data collection (including increased sensitivity to the nature of women’s work) or on account of real changes in participation rates.

- 5 This large-scale study, the first of its kind in India, was conducted in 1998-99 and covered 18,380 households in 52 districts.
- 6 Rice yields in Gokilapuram were estimated to be 4 to 5.4 tons per hectare in 1981-82 (Ramachandran, 1990). These yields are not only much higher than the corresponding all-India average but comparable to those reported for East Asia (Taiwan: 5.2 tons/hectare in 1972 and Japan: 5.1 tons/hectare in 1971).
- 7 Gokilapuram has become a major centre of the tamarind economy of the Cumbum Valley (Ramachandran, 1990).
- 8 This was the exchange rate at the time of the survey (May 1999).
- 9 All findings for 1977 are taken from Ramachandran (1990). All statistical tables for 1999 are based on survey data. We have also reported estimates from the Census of India 1991 for Gokilapuram village.
- 10 On the correspondence between castes and class, see Ramachandran (1990).
- 11 In this paper, a person is considered a worker if she or he is a hired manual worker, a salaried employee or self-employed at any income-bearing activity, irrespective of the number of days that she or he has worked in the reference year.
- 12 Interestingly, this is not the case when all village households are examined.
- 13 In rural Tamil Nadu, for instance, work participation among women from the Scheduled Castes and Scheduled Tribes was 46.7 per cent in 1991 as compared to 35.9 per cent among all other women.

- 14 The categories of manual workers that we have used for 1977 and 1999 are not precisely similar (see Section 2.1). The small difference in work participation rates in these categories in 1977 and 1999 cannot, therefore, be regarded as a secular decline in the female work participation rate among manual workers.
- 15 Other recent village surveys that show similar results in this regard include Sharma *et. al* (2000) for Bihar and Unni (2000) for Gujarat.
- 16 See, for example, AIDWA *et. al.* (2000), da Corta and Venkateswarlu (1999), Duvurry (1989), Jose (1989), and Nagaraj (1989).
- 17 The increase in female workers between 1971 and 1981, as has been widely noted, is on account of gross underestimation of female workers in 1971. Agricultural labourers, however, were least affected as they are more visible as workers compared to women engaged in self-employment at the farm or household.
- 18 The data in this section and the next do not take into account the length of each working day. For daily-rated cash-paid operations, the time spent at work (excluding transport to and from the field) varies from 6 hours and a half to 8 hours, for transplanting and harvesting, the working day varies from about 8 to 10 hours, and for threshing, the working day is from 10 to 12 hours long. The working day at tamarind processing varies widely between individual workers, depending on whether a woman works part-time or full-time at the task. Two other features of the data here qualify their interpretation. First, the calculations include “gathering scattered paddy”. This is not waged work: women sweep the streets and paths along field-bunds for paddy shed from

sheaves that have been transported from field to threshing floor and leave the fields for grain as well. This is not a major source of income for women in the data set as a whole, but for workers who actually perform the task, it brings in more than 700 rupees' worth of paddy in a year. Secondly, the data report days of work and earnings from plantation labour, which, as noted in the previous section, is a task at which women who are essentially emigrants from Gokilapuram are employed.

- 19 Plantation workers and the number of days spent at plantation work are included in this calculation. If they were to be eliminated from the calculation, the average number of days of employment per year available to a woman worker from the data set would have been 161 days, and the number of days of work per year per woman between the ages of 16 and 60 would have been 145.
- 20 For further on this, see Unni (1999).
- 21 According to the RLE, total agricultural employment accounted for 93 per cent of total employment among women workers from landless labour households in 1977-78. This share fell to 82 per cent in 1987-88 (see Table 11).
- 22 The high level of underemployment in rural areas is also noted in a recent survey of six villages in Mehsana district, Gujarat, where, on average, female agricultural labourers worked for 106 standard (8-hour) days and male agricultural labourers worked for 180 days in 1993-94 (Unni 2000). In this region, women not only worked fewer days on average than men but the distribution of employment was more unequal across women than men.
- 23 The fact that tamarind processing is a task that is somewhat specific to Gokilapuram and its immediate surroundings raises

some questions. If trends in agricultural employment in other villages in the Valley, which do not generate a high volume of tamarind work, were similar to trends in Gokilapuram, is underemployment among women workers even worse elsewhere in this region?

- 24 Our paper does not deal directly with the extent of labour use (both male and female) per unit of area under a specific crop.
- 25 One of the first studies on the impact of mechanisation on demand for labour was by Bina Agarwal (see Agarwal, 1983). A good and recent summary of the research on the impact of new technologies on women's employment in rice cultivation is Thelma R. Paris (1998). See also references therein.
- 26 This is approximately 112 US dollars, at the May 1999 exchange rate.
- 27 If plantation labour were to be eliminated from the calculation, the share of wages from non-agricultural labour would fall to 45 per cent, while the share of non-agricultural work in the total number of days of employment would have been 57 per cent.
- 28 This refers to the official poverty line for 1993-94 updated by the Consumer Price Index for Agricultural Labourers.
- 29 Men and women work, of course, at different tasks (the only task at which men and women do similar work is harvesting paddy).
- 30 This is based on papers for an assignment on trends in real wages undertaken by the students of the course titled "Land and Labour in Rural India" the Indira Gandhi Institute of Development Research, Mumbai, August-December 1999 (see Chavan 1999;

Misra 1999; Ramakumar 1999; Sinha 1999; and Thomas 1999). Nominal wage-rates from the AWI were converted to real wages using the retail price of rice as deflator.

31 Based on Unni (1999).

32 An exception comes from the ICRISAT studies, one of the few village studies that provide information on trends in the gender gap in wages (Ryan and Walker 1990). In one of the three villages for which panel data are available, namely Shirapur in Akola district in Maharashtra, the gender gap in wages narrowed between 1975 and 1984. A strong influence appears to have been wage parity between men and women in the Employment Guarantee Scheme, a government employment programme in the region.

33 On the impact of technological change, including mechanisation, on demand for labour, see Agarwal (1983), Paris (1998) and the review in Ramachandran (1990).

Table 1. Women's work participation rates, rural India, Census of India and National Sample Survey (in per cent)

Source of data	Work participation rate
Census of India, 1981	23.1
Census of India, 1991	26.8
National Sample Survey, 1983	39.3
National Sample Survey, 1993-94	32.8

Source: NSSO (1988, 1996) and Census of India (1981,1991).

Notes:

- (i) For Census of India data, the work participation rate is defined as the ratio of total workers (main and marginal) to the total population. Main workers are those involved in economic activity for more than six months (183 days) of the year. Marginal workers are those who worked for some time during the preceding year but not for the major part of the year.
- (ii) Work participation rates from the NSS, for comparability with the Census, are based on the usual status criterion (that is, with a reference period of one year).
- (iii) The NSS estimates refer to the population above the age of five and the Census estimates refer to
- (iv) The calculation of the work participation rate from the NSS covers all workers, that is, "principal status" workers (whose principal status is that of a worker) and "subsidiary status" workers (who pursued some economic activity in a subsidiary capacity during the reference period).

Table 2. Number of households, landless hired labour households and all households, by caste, Gokilapuram village, May 1999

Caste/caste group	Landless labour households		All households	
	Number	Per cent	Number	Per cent
Pallar	47	20.2	107	11.8
Parayar	25	10.7	64	7.0
Chakkiliyar	8	3.4	27	3.0
<i>All Dalit households</i>	80	34.3	198	21.8
Maravar	66	28.3	281	30.9
Kallar	40	17.2	171	18.8
Telugu Chettiar	9	3.9	81	8.9
Potter	9	3.9	43	4.7
Other artisan and service castes	18	7.7	73	8.0
Other caste Hindus	11	4.7	61	6.7
<i>All non-Dalit households</i>	153	65.7	710	78.2
<i>All households</i>	233	100.0	908	100.0

Source: Survey data, 1999

Note: The Dalit castes in the village are Pallar, Parayar and Chakkiliyar

Table 3. Literacy rates among women and men by category of household and by caste group, Gokilapuram village, May 1999

Category	Dalits		Non-Dalits		All households	
	Femlae	Male	Female	Male	Female	Male
<i>Landless hired labour households</i>						
(a) all workers in the set	33.0	58.7	31.8	51.7	32.3	54.4
(b) all persons in the set	38.1	69.0	41.2	61.1	40.1	64.1
<i>All households in the village</i>						
(a) all persons in the village	43.1	71.7	55.7	78.2	52.9	76.8

Source: Survey data, 1999

Note: This refers to all persons above the age of seven.

Table 4. Work participation rate among women and men by category of household and caste group, Gokilapuram village, May 1999

Category of household	Females		Males		All
	Dalit	Non-Dalit	Dalit	Non-Dalit	
<i>Landless hired labour households</i>					
(a) all persons in the set	65.0	62.0	54.7	57.2	56.2
(b) persons > 15 = 60	91.4	82.9	88.0	85.5	86.4
<i>All households in the village</i>					
(a) all persons	60.9	50.1	57.9	57.8	57.8
(b) persons > 15 = 60	88.8	66.0	84.4	79.7	80.8

Source: Survey data, 1999

Table 5. Work participation rate for women and men by category of household, 1977 and 1999, Gokilapuram village, May 1999

Category	Female		Male	
	1977	1999	1977	1999
All households	47.8	52.6	52.2	57.8
Landless hired labour households	65.7	63.1	59.8	56.2

Source: Survey data, 1999

Table 6. Indicators of the feminisation of the agricultural labour force, Tamil Nadu and India, 1981 and 1991

Indicator	Rural India		Rural Tamil Nadu		Gokilapuram	
	1981	1991	1981	1991	1981	1991
Number of female AL	27,401,225	28,432,997	3,321,160	4,313,975	558	596
(i) Ratio of female AL to total female workers (%)	47.7	46.4	61.4	61.5	49.0	61.0
(ii) Ratio of female AL to male AL (%)	80.7	84.0	109	110	95.3	109.3
(iii) Ratio of female AL to total female population (%)	11.1	12.4	20.6	23.7	28.8	29.5

Source: Census of India, different volumes.

Note: AL = agricultural labourer.

Table 7. Average number of days of employment per woman worker per year, landless hired labour households, by size category of number of days of employment, Gokilapuram village, 1998-99 (in days)

Size category of number of days of employment (1)	Number of workers in the category (2)	Percentage of (2) to column total (3)
1-60 days	34	12.6
61-120 days	67	24.8
121-180 days	63	23.3
181-210 days	29	10.7
211-240 days	21	7.8
241-270 days	24	8.9
271 days and above	32	11.9
All categories	270	100.0

Source: Survey data, 1999

Note: This includes employment at agricultural and non-agricultural tasks.

Table 8. Days of employment per woman worker per year, Gokilapuram village, 1976-77 and 1998-99

Category of worker/caste	Average number of days of employment in a year per woman worker	
	1977	1999
All workers	158	163
Dalit workers	184	177
Non-Dalit workers	133	154

Source: Survey data, 1977 and 1999

Note: For 1977, the data are for landless agricultural labour households and for 1999, the data are for landless hired labour households.

Table 9. Share of agricultural and non agricultural work in total days of employment of women workers, Gokilapuram village, 1976-77 and 1998-99

Type of activity	1976-77		1998-99	
	Days of employment	Share in total employment	Days of employment	Share in total employment
Agricultural	103	65	61	37
Non-agricultural				
All	55	35	102	63
Tamarind processing	28	18	75	46
Total	158	100	163	100

Source: Survey data, 1977 and 1999

Table 10. Days of employment, all rural labour households, all India, 1977-78 to 1993-94 (in days)

Year	Employment in agriculture		Total employment (agricultural & non-agricultural)	
	Male	Female	Male	Female
1977-78	286	221	293	232
1983	281	225	286	233
1987-88	293	190	296	254
1993-94			305	265

Source: Unni (2000) and Rural Labour Enquiry, various issues.

Table 11. Days of employment, all rural labour households and landless rural labour households, Tamil Nadu, 1977-78 to 1987-88 (in days)

Year/ category	Employment in agriculture		Total employment (agricultural & non-agricultural)	
	Male	Female	Male	Female
1977-78				
All	236	198	266	214
Landless	233	197	252	212
1983				
All	226	186	242	201
Landless	224	191	238	209
1987-88				
All	229	187	253	230
Landless	228	192	251	233
1993-94				
All	-	-	266	242

Source: Rural Labour Enquiry (GOI 1990a, 1990b, 1994a, 1994b, 1994c and 1994d)

Table 12. Real wage for men and women (rice purchasable with one day's wage, daily-rated cash-paid operations) Gokilapuram, 1976-77 and 1998-99, in kilograms

	Rice equivalent of daily wage	
	1976-77	1998-99
Women	1.31	2.17
Men	3.06	5.22
Women as % of men	42.8	41.6

Source: Survey data, 1977 and 1999

Table 13. Ratio of female to male wage rates, selected districts, Tamil Nadu, 1964-65 to 1994-95

Year	North Arcot	Coimbatore	Thanjavur
1964-65	0.95	0.87	0.25
1970-71	0.70	0.5	0.55
1979-80	0.80	0.65	0.51
1983-84	0.44	0.5	0.96
1988-89	0.36	0.6	0.56
1990-91	0.53	0.67	0.68
1991-92	0.43	0.61	0.53
1992-93	0.43	0.59	0.52
1993-94	0.33	-	0.58
1994-95	0.50	0.75	0.57

Source: From Ramakumar (1999).

Notes: For men and women, the wage rate for “field labour” was used if available. Otherwise the wage rate for the category “other agricultural labour” was taken for men, and the wage rate for weeding was taken for women. The annual wage is a simple average of the wage over the 12 months. The centre selected in each district was the one for which the longest continuous time series was available.

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