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What do Recent NSS Surveys of
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SSER Monograph 15/1



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Published by
Society for Social and Economic Research
S3/209, Saraswati Towers, Sector D6, Vasant Kunj, New Delhi 110 070, India
E-mail: office@sser.in

©SSER, 2015

ISBN: 978-81-937148-2-9

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1 Introduction

Employment trends in India, and in particular, trends of women's employment, have been an issue of considerable discussion in scholarly writings over the last few years. This literature is primarily based on results from the recent rounds of National Sample Survey (NSS) Organization's large-sample Employment and Unemployment Surveys. Some of these results have been counter-intuitive and have generated considerable controversy particularly on the question of women's employment.

The 2004-05 (61st round) survey showed a huge employment growth over the previous large-sample round (55th round for 1999-2000) fuelled mainly by an increase in employment of women (Ghosh, 2009; Ghosh and Chandrasekhar, 2007). At a time when there was widespread criticism of neoliberal policies of the national government and a great outcry about the agrarian crisis caused by it, these results came as a shot in the arm for proponents of economic reforms. Critics, on the other hand, argued that expansion of employment was primarily distress-driven as opportunities for wage employment had not grown (Chandrasekhar and Ghosh, 2007; Ghosh and Chandrasekhar, 2007; Raveendran and Unni, 2007). Neetha and Mazumdar (2011) pointed out that the increase in self-employment of women between 1999-2000 and 2004-05 was in fact primarily an increase in what is called "unpaid family worker" in NSS surveys. They argued that rather than a positive trend, this reflected a shift of female workforce from paid wage employment to unpaid family work as a helper. Abraham (2009) and Himanshu (2011) argued that a greater proportion of women started working on their own farms to hold up falling household incomes in agriculture in a period marked by agrarian crisis.

These explanations were not particularly satisfactory as there was no corroborative evidence – either from large-scale farm management surveys or from primary data-based studies – to suggest that there had been either an increase in labour absorption in agriculture or a relative shift towards greater use of family labour instead of hired labour. Incomes in agriculture are determined by a host of factors that are beyond the control of the household. These include agro-ecological constraints as well as economic factors like input and output prices, cost and availability of credit, and availability of basic infrastructure. Given that availability of formal-sector credit and public investment to agriculture had declined over this period, input prices had increased sharply, and agricultural extension systems were in a state of near collapse, increasing incomes by merely increasing deployment of female family labour on the farm held no promise.

While the 61st round of NSS survey showed a huge rise in women's employment, the 66th round survey (2009-10) showed an even more spectacular fall. Despite the implementation of the National Rural Employment Guarantee Scheme since 2007, the 66th round results exposed the hollow claims of an employment-led growth that were made when the 61st round results came out (Chandrasekhar and Ghosh, 2011). Now, those who had been lauding India's recent growth experience argued that the survey results were not reliable because 2009-10 was claimed to be a drought year and that a major part of the decline in labour force participation among women decline was because of increased enrolment of girls in schools (Mehrotra *et al.*, 2014; Rangarajan, Kaul, and Seema, 2011; Rangarajan, Seema, and Vibeesh, 2012). Also, while the increase in women's employment in agriculture between 1999-2000 and

In writing this paper, we have benefitted from discussions with Mridul Eapen and Yoshifumi Usami. We are thankful to both of them. Usual disclaimer applies.

2004-05 had been argued by some to be distress-driven, it was now argued that withdrawal of women from the labour force reflected an upward income mobility and was thus a positive trend (Abraham, 2013; Mehrotra *et al.*, 2014; Thomas, 2012). In this version of the story, it was asserted (with little evidence) that there had been an increase in household incomes, and then argued that, with a deeply entrenched patriarchy, rises in income meant that women did not need to work any more and withdrew from the labour force (Abraham, 2013). Raveendran and Kannan (2012) showed that bulk of the women who had dropped out of the labour force came from among the rural poor households. Using this, they argued that the data do not suggest that an improvement in economic conditions had led women to withdraw from the labour force. Neetha and Mazumdar (2011) argued that the decline in women's employment between 2004-05 and 2009-10 was in fact a trend that reflected a continuation of worsening scenario of employment for women and was a consequence of the policies of economic liberalisation.

Responding to the criticism that the 66th round survey was conducted in a drought year, NSSO conducted another large-sample survey of Employment and Unemployment in the 68th round (for reference year 2011-12). Results of this survey only went on to confirm the findings of the 66th round survey, and showed that there had indeed been a huge fall in the work participation and labour force participation rates of women (Chandrasekhar and Ghosh, 2013). While the results of this survey were broadly in line with the results of the 66th round survey, policy makers nonetheless sought relief in the slightly higher levels of absolute employment shown in the latest round (Mehrotra *et al.*, 2014; Rangarajan, Seema, and Vibeesh, 2012). Both the 66th and the 68th round data have provided weight to critics who had pointed at the lack of reliability of results from the 61st round.

This paper looks at trends in employment of women between 1999-2000 and 2011-12 using the 55th, 66th and 68th rounds of NSSO's Employment and Unemployment Surveys. Given that the results from the 61st round have been controversial, and no satisfactory explanation has been given for the results being at odds with other evidence, we decided to exclude the 61st round from the analysis.

In the context of this debate, this paper attempts to seek answers to following questions.

1. Which are the major economic activities/sectors where women are employed, and what have been the trends in levels of employment of women in these sectors?
2. What are the possible factors that explain low and declining levels of women's employment?

In addition, the paper looks at women who are primarily engaged in housework. In NSS surveys, principal status activity of a large proportion of women is recorded as housework. Most of these women are classified as non-workers, as only a small proportion of them have a subsidiary activity that may qualify them to be classified as a worker. However, work done by women principally engaged in housework is not only economically important indirectly (in terms of the implicit economic value of the care-work done by them) but also involves activities that are done to produce/acquire various commodities for use of their households. Work done to produce/acquire various commodities for household use has direct economic value for these households.

While the NSS Employment-Unemployment Surveys do not collect time-use data that may be used for quantifying the burden of such economic work on women who are classified as principally engaged in housework, they do provide data on how many women are engaged in various such activities. In Section 4, we use these data to examine the extent to which women classified as principally engaged in housework are engaged in activities that are not merely care-work but are activities that are done to acquire various commodities for use of their households?

For all the statistical work in this paper, we have focused on employment of persons in the age group 15 to 59 years. In many writings on women's employment based on NSS data, including on the recent trends, low/declining levels of employment among women have been explained on account of withdrawal of girl children from the workforce and increasing school attendance among girls. On the basis of such data, it has been argued by some scholars that a decline in women's employment is not necessarily a cause of worry. By limiting all our statistical work to the 15-59 years age group, we avoid confusing the trends in employment with trends in school attendance.

2 Overall Changes in Women's Employment

Historically, a major limitation of the NSS surveys has been that, given errors of sampling and shortfall in coverage, the total population size estimated from the surveys has been consistently lower than the population count and projections from the Censuses. Over the recent rounds of NSS surveys, this shortfall has increased slightly. In some recent writings based on these rounds of NSSO employment unemployment, a pro-rata adjustment is made to increase the number of employed persons by a factor equal to the ratio of population projections based on the Censuses and NSSO estimates of the population (Mehrotra *et al.*, 2014; Rangarajan, Seema, and Vibeesh, 2012). Such a pro-rata adjustment across all sections of the population (classes, States, for men and women, workers and non-workers) assumes that the shortfall is purely random and there is no systematic exclusion (because of non-coverage of some areas or exclusion of unavailable households).¹ Such a pro-rata adjustment inflates the increase in the absolute number of employed persons. This statistical artefact has been wrongly used by proponents of government policies to present inflated numbers on the job creation in the economy (Mehrotra *et al.*, 2014; Rangarajan, Seema, and Vibeesh, 2012).

Given this limitation, in this section and rest of the paper, we use worker to population ratios (work participation rates) rather than the absolute number of persons employed to look at trends in employment of women.

Table 1 presents work participation rates for men and women aged 15 to 59 years. For the purpose of this table, any person employed in usual principal or subsidiary status (UPSS) was considered a worker. Data presented in the Table

¹Similar problems of survey design and implementation also result in a shortfall in total estimates of consumption of NSS consumer expenditure surveys and the estimates of aggregate private consumption expenditure estimated in national accounts. Until the early 1990s, it was a practice for the Planning Commission to do a pro-rata adjustment across classes using a factor corresponding to this aggregate shortfall. D. T. Lakdawala Committee (1993) discussed this in detail and recommended that the pro-rata adjustment should be stopped as there was no basis for making a uniform pro-rata adjustment.

show that there was a steep decline in work participation rates of persons of 15-59 years age between 1999-2000 and 2011-12. The decline was entirely driven by contraction of employment among rural workers, and in particular, among women. Among rural women of working age, work participation rates declined from 48 per cent in 1999-2000 to only 39 per cent in 2009-10, and further to only 37 per cent in 2011-12.

It is almost a truism that a smaller proportion of working-age women are in the workforce than working-age men. But it is noteworthy that the gap between work participation rates among men and women increased significantly between 1999-2000 and 2011-12. In 1999, work participation rates among women were 44 percentage points lower than work participation rates of men in 1999; the difference grew to over 48 percentage points in 2011-12.

Collapse of rural employment has particularly hit rural women. This is because women are primarily – and even more so than men – employed in the rural areas and they do not have access to even the limited employment opportunities that are available in the urban economy.

Table 2 shows work participation rates for men and women in different social groups. The table shows that the Scheduled Tribes have the highest work participation rates for women, followed by the Scheduled Castes, other castes, and finally the Muslims. While these ranks were maintained between 1999-2000 and 2011-12, there was a sharp decline in work participation rates of working-age women in all social groups. For rural adivasi women, work participation rate fell from 71 per cent in 1999-2000 to 55 per cent in both 2009-10 and 2011-12. For rural dalit women, work participation rate fell from 53 per cent to about 41 per cent in 2009-10 and about 40 per cent in 2011-12. For each social group, the decline was steeper among rural women than among urban women, and steeper among women than among men.²

Table 3 shows disaggregated data on work participation rates of women for major economic activities in which women are involved. Table 4 shows corresponding numbers (in the same economic activities as in Table 3) for men. Following method was used for classification of workers by industry.

- We used the industry of their principal status activity for workers who were employed in their usual principal status.
- We used the industry of the subsidiary status activity for workers who were not employed in their principal status but had a subsidiary status employment.

Table 3 shows that contraction of employment among rural women was driven almost entirely by a drop in availability of employment in agriculture. In 1999-2000, about 41 per cent of rural working-age women were employed in agriculture. In 2011-12, this had fallen to less than 28 per cent. There was a small increase in employment of rural women in construction, in manufacture of textiles and apparels, and in education, but this was too minuscule to compensate for the steep decline in availability of work for women in agriculture.

In urban areas, the extent and composition of employment remained largely unchanged. In all, about 21 per cent of urban working-age women were employed.

²For a more detailed discussion employment trends across social groups, see Neetha (2014)

Of them about 12 per cent were employed in the service sector while about 6 per cent were employed in manufacturing sector.

In contrast, among men, decline in the availability of employment in agriculture was compensated in part by the expansion of employment in construction (both in rural and urban areas). Looking at rural and urban areas together, employment for men declined by 11 percentage points in agriculture and increased by about 6 percentage points in construction between 1999-2000 and 2011-12.

Table 5 shows the proportion of workers in population disaggregated by the type of employment. Among self-employed persons, NSS surveys make a distinction between “own account worker”, “employer” and “worked as helper in h.h. enterprise (unpaid family worker)”. As has been pointed out by Neetha and Mazumdar (2011), a large proportion of women self-employed persons are categorized as “unpaid family workers”. It is of note that NSSO does not make any conceptual distinction between “own account workers” and “worked as helper in h.h. enterprise (unpaid family worker)”. The instruction manuals for the survey simply list these categories without providing any explanation for how these are supposed to be distinguished. In such a context, enumeration of most women as unpaid helpers merely reflects prejudices of respondents and investigators and do not reflect a considered judgement of the part played by men and women in the economic activities of the household.³ In view of this, we have combined all these categories into a single category of self-employed workers. The table shows that there was a sharp decline in availability of self-employment, particularly in rural areas and particularly for women, between 1999-2000 and 2011-12. Availability of casual wage employment in activities other than public works also declined sharply. Proportion of persons employed as casual workers in public works increased slightly, presumably driven by MGNREGA in rural areas and expansion of employment for men in construction-related activities in urban areas. This increase was, however, too small in comparison with the decline in proportion of casual workers in other activities. In all the categories (men/women, rural/urban), only a minuscule fraction of persons have long-term salaried employment; there has been no significant increase in this proportion over the years.

3 Explaining the Decline in Work Participation Rates among Women

3.1 Employment in Agriculture: Relationship between Land and Women's Work

As shows in Table 5, between 1999-2000 and 2011-12, there was a sharp decline in proportion of women who were self-employed. This decline was primarily driven by a sharp increase in landlessness among rural household, which drove a large proportion of women who worked on their own lands out of the labour force.

A detailed analysis of the data on agricultural employment shows that there was a steep decline in both the proportion of working-age persons who were self-employed in agriculture and the proportion of working-age persons who worked as wage labourers in agriculture. Table 6 shows that between 1999-2000 and 2011-12, proportion of working-age women who worked on their own household landholdings declined from 22.8 per cent in 1999-2000 to 17.7 per cent in 2011-

³See Agarwal (1985) for a detailed discussion of biases in data collection on women's work.

12. On the other hand, proportion of working-age women who worked as wage labourers in agriculture declined from 18 per cent in 1999-2000 to less than 10 per cent in 2011-12.

Table 1. Proportion of workers (UPSS) in population, aged 15 to 59 years, by sex, rural, urban and total, India, 1999-2000, 2009-10 and 2011-12

Sex	Rural/Urban	1999-2000	2009-10	2011-12
Men	Rural	86.7	83.4	82.0
Men	Urban	78.5	78.5	78.4
Men	Total	84.3	81.9	80.9
Women	Rural	48.3	39.2	37.2
Women	Urban	20.9	19.8	21.0
Women	Total	41.0	33.6	32.3

Table 2. Proportion of workers (UPSS) in population, aged 15 to 59 years, by sex and social groups, rural and urban, India, 1999-2000 and 2011-12

Rural/ Urban	Social group	Men			Women		
		1999- 2000	2009- 10	2011- 12	1999- 2000	2009- 10	2011- 12
Rural	Scheduled caste	87.7	84.7	82.7	53.3	41.3	39.9
Rural	Scheduled tribe	90.4	86.6	86.0	71.2	54.9	55.0
Rural	Muslim	87.0	83.3	82.2	29.3	21.3	23.5
Rural	Others	85.5	82.2	80.9	45.4	38.7	35.6
Urban	Scheduled caste	78.9	79.8	79.0	28.5	26.0	24.8
Urban	Scheduled tribe	75.5	73.0	75.9	32.7	28.5	27.8
Urban	Muslim	81.0	79.4	80.7	15.8	13.9	15.6
Urban	Others	77.9	78.2	77.9	19.8	19.4	21.1

Notes:

1. Persons for whom social group was not reported were omitted.
2. Persons whose caste category was Scheduled Caste or Scheduled Tribe and religion was Muslim were categorised according to their caste category. Accordingly, the category "Muslim" refers to non-SC/non-ST Muslims.

Source: Authors' estimates based on NSS unit-level data

Table 3. Number of workers (UPSS) as a proportion of population, by broad classification of industries, rural, urban and total, women aged 15-59 years, 1999-2000 and 2011-12 (per cent)

Sector	Sub-sector	Rural			Urban		
		1999-2000	2009-10	2011-12	1999-2000	2009-10	2011-12
Agriculture	(all)	40.9	30.8	27.7	3.6	2.6	2.1
Construction	(all)	0.5	2.2	2.5	1.0	1.0	0.9
Manufacturing	Manufacture of food products & beverages	0.5	0.3	0.3	0.5	0.4	0.6
Manufacturing	Manufacture of tobacco products	1.1	1.0	1.1	1.0	0.7	0.8
Manufacturing	Manufacture of textile & apparel	0.9	1.0	1.4	1.7	3.0	3.3
Manufacturing	(all)	3.6	3.0	3.7	4.9	5.5	6.0
Services	Retail trade except motor vehicle	0.7	0.8	0.9	2.8	1.7	1.8
Services	Education	0.6	0.9	1.0	2.5	2.7	2.9
Services	Health care	0.2	0.2	0.2	0.8	0.9	0.9
Services	(all)	2.8	3.0	3.1	11.2	10.5	11.7
All workers	(all)	48.2	39.2	37.2	20.9	19.8	21.0

Table 4. Number of workers (UPSS) as a proportion of population, by broad classification of industries, rural, urban and total, men aged 15-59 years, 1999-2000 and 2011-12 (per cent)

Sector	Sub-sector	Rural			Urban		
		1999-2000	2009-10	2011-12	1999-2000	2009-10	2011-12
Agriculture	(all)	60.1	50.2	46.5	4.3	3.8	3.5
Construction	(all)	4.2	10.0	11.3	6.9	9.1	8.5
Manufacturing	Manufacture of food products & beverages	1.1	0.8	0.9	2.1	1.5	1.7
Manufacturing	Manufacture of tobacco products	0.2	0.2	0.2	0.3	0.2	0.1
Manufacturing	Manufacture of textile & apparel	1.4	1.5	1.5	3.9	5.1	5.3
Manufacturing	(all)	6.4	6.1	6.9	17.7	17.3	17.5
Services	Retail trade except motor vehicle	4.7	5.2	5.0	16.3	14.1	12.6
Services	Education	1.4	1.4	1.6	2.4	2.9	2.9
Services	Health care	0.3	0.3	0.3	1.2	1.2	1.2
Services	(all)	14.6	15.6	16.0	47.8	46.7	46.7
All workers	(all)	86.7	83.4	82.0	78.4	78.5	78.4

Table 5. Number of workers (UPSS) as a proportion of population, by type of employment, rural and urban, men and women aged 15-59 years, 1999-2000, 2009-10 and 2011-12 (per cent)

Sex	Rural/ Urban	Self-employed			Casual worker (public works)			Casual worker (others)			Long-term salaried worker		
		1999- 2000	2009- 10	2011- 12	1999- 2000	2009- 10	2011- 12	1999- 2000	2009- 10	2011- 12	1999- 2000	2009- 10	2011- 12
<9mid11>	<12mid14>												
Men	Rural	45.7	42.7	42.9	0.2	0.7	0.8	32.4	32.3	29.2	0.0	0.0	0.0
Men	Urban	31.4	31.1	31.7	0.2	0.3	0.3	13.0	13.1	11.3	0.1	0.1	0.2
Women	Rural	27.3	21.5	21.9	0.1	1.0	1.5	19.3	14.9	11.6	0.0	0.1	0.1
Women	Urban	9.2	7.9	8.8	0.1	0.1	0.0	4.4	3.7	2.9	0.2	0.2	0.3

The State-level data presented in Table 6 show considerable variations across States not only in terms of the levels of women's employment in agriculture but also in terms of the relative degree of decline in the availability of employment to women. Figure 1 shows that almost all the States that had relatively high levels of the proportion of women working on their household agricultural holdings saw a steep fall in the proportion of such women cultivators. States with low levels of decline in the proportion of self-employed cultivators were the States that had a very low base value to start with.

An increase in proportion of households that do not have any operational holding of land directly results in bringing down the proportion of workers who are self-employed in agriculture. Increasing concentration of landholdings can also indirectly contribute to decline in overall labour absorption (that is, not only reduce levels of self-employment in agriculture but also reduce levels of wage employment generated in agriculture) as, for a given cropping pattern, large landowners tend to deploy labour displacing technology to a greater extent. Greater adoption of labour displacing technology (in particular, increasing use of machines and weedicides), caused by increasing concentration of landholdings and increasing cost advantage of using labour displacing techniques among other factors, is likely to have been an important factor behind the decline in overall level of labour absorption in agriculture.

Until the 55th round, NSS treated households cultivating less than 0.01 hectares as landless. Starting from the 61st round, NSS started collecting data on land as small as 0.001 hectares. After correcting for this change, Rawal (2013) shows that proportion of households that did not cultivate any land increased from about 41 per cent in 1999-2000 to 49 per cent in 2011-12.

To analyse the relationship between the decline in the proportion of self-employed women and increase in the extent of landlessness, we mapped the data from the 68th round to the district and regional classifications used in the 55th round. This was then used to generate comparable estimates of landlessness and proportion of self-employed women at the level of NSS regions. Figure 2 shows the change in proportion of self-employed rural women and the change in proportion of households that did not cultivate any land for each NSS region. Each arrow in the figure corresponds to an NSS region. For each region, tail of the arrow shows the position in 1999-2000 while head of the arrow shows the position in the region in 2011-12. Negatively sloping lines for most NSS regions in the graph show that the decline in proportion of rural working-age women who were self employed was directly related to the increase in proportion of households that did not cultivate any land.

3.2 Barriers to Mobility of Women Workers

Barrier to mobility are another important factor behind the decline in employment of women. Given lack of decent housing and other basic amenities and serious problems of safety, rural women find it difficult to migrate or commute to make use of employment opportunities in urban areas.

In the Employment-Unemployment Surveys, NSSO collects data on location of workplace only for non-agricultural employment. Further, codes used for location of workplace are defined in such a way that they cannot be used to identify rural residents commuting/migrating from their villages to other villages, or urban

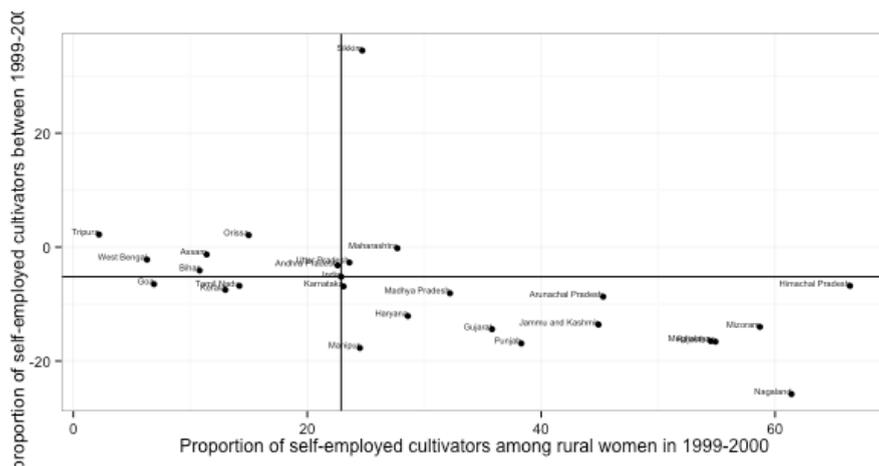
Table 6. Number of workers (principal or subsidiary activity status) in agriculture as a proportion of population, by type of employment, by State, rural women aged 15-59 years, 1999-2000 and 2011-12

State	Self-employed		Wage labour	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	22.6	19.4	37.1	27.7
Arunachal Pradesh	45.3	36.6	1.2	1.6
Assam	11.2	10.1	8.7	4.0
Bihar	10.7	6.7	14.8	4.0
Goa	7.0	0.4	3.1	1.5
Gujarat	35.8	21.4	24.1	12.9
Haryana	28.7	16.5	3.8	3.5
Himachal Pradesh	66.4	59.6	0.5	0.6
Jammu and Kashmir	44.9	31.3	0.1	0.1
Karnataka	23.1	16.2	28.3	16.0
Kerala	13.0	5.5	6.9	5.1
Madhya Pradesh	32.2	24.1	26.7	14.6
Maharashtra	27.7	27.5	36.1	22.7
Manipur	24.3	6.8	1.6	1.1
Meghalaya	54.5	38.0	8.0	7.2
Mizoram	58.7	44.7	0.2	0.1
Nagaland	61.4	35.6	n l	n l
Orissa	15.0	17.1	22.4	7.3
Punjab	38.3	21.4	2.2	3.4
Rajasthan	54.9	38.3	4.3	2.8
Sikkim	24.7	59.2	2.7	0.3
Tamil Nadu	14.2	7.4	31.3	17.6
Tripura	2.2	4.4	3.5	1.6
Uttar Pradesh	23.5	20.9	7.0	3.3
West Bengal	6.2	4.1	7.8	7.8
India	22.8	17.7	18.1	9.9

Table 7. Number of workers (principal or subsidiary activity status) in agriculture as a proportion of population, by type of employment, by State, rural men aged 15-59 years, 1999-2000 and 2011-12

State	Self-employed		Wage labour	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	30.0	26.3	35.7	24.1
Arunachal Pradesh	43.5	48.1	4.8	2.4
Assam	35.7	39.0	17.8	8.1
Bihar	34.0	29.4	33.1	19.8
Goa	9.4	1.8	4.6	0.2
Gujarat	35.2	37.7	28.5	21.5
Haryana	35.3	29.5	12.6	6.7
Himachal Pradesh	36.9	26.2	2.2	0.5
Jammu and Kashmir	48.6	21.9	4.5	2.6
Karnataka	36.3	32.1	33.1	21.0
Kerala	11.5	7.2	17.9	8.6
Madhya Pradesh	42.8	40.5	30.2	19.2
Maharashtra	27.3	32.3	33.8	22.0
Manipur	49.9	37.5	6.5	1.0
Meghalaya	66.5	38.9	11.3	8.8
Mizoram	72.9	66.3	1.2	0.1
Nagaland	45.4	44.8	2.5	0.3
Orissa	28.4	34.6	36.2	14.9
Punjab	31.6	21.0	20.9	12.6
Rajasthan	49.6	34.0	6.6	2.9
Sikkim	34.7	49.0	7.0	0.1
Tamil Nadu	17.7	11.9	33.7	26.3
Tripura	21.0	21.2	14.5	6.3
Uttar Pradesh	45.1	35.0	14.6	8.5
West Bengal	23.2	17.0	33.7	29.8
India	33.9	29.8	26.2	16.7

Figure 1. Level and change in proportion of self-employed cultivators among rural women, by State, 1999-2000 and 2011-12



residents commuting/migrating from their towns/cities to other towns/cities. These can be used only to examine the extent to which rural residents work in non-agricultural occupations in urban areas (Table 8) and the extent to which urban residents work in non-agricultural occupations in rural areas (Table 9). As seen in the Table 8, less than half a per cent of rural women did any work (either as their principal activity or as their subsidiary activity) in urban areas. Despite a massive decline in employment opportunities in rural areas, there was only a marginal increase in the proportion of rural working-age women who worked in urban areas, from about 0.22 per cent in 1999-2000 to about 0.46 per cent in 2011-12. There was a substantially higher rise in proportion of rural men who worked in urban areas, mainly on account of work in construction and services sector.

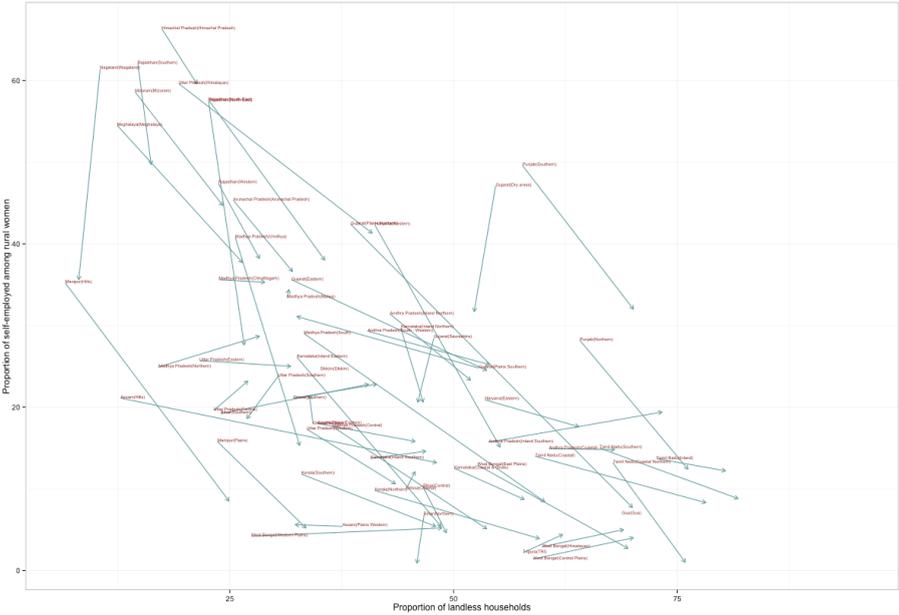
Table 9 shows that there was a sharp decline in the proportion of urban male residents who worked in rural areas, almost entirely on account of a decline seen in the services sector. In contrast, the proportion of urban women who worked in rural areas, although small, showed an increase between 1999-2000 and 2011-12. This increase is primarily on account of urban women working in rural manufacturing enterprises.

3.3 Level of Education and Technical Training among Women Workers

Indian workforce, male and female, is characterised by dismal levels of schooling and technical training. The problem is particularly severe when one looks at the female workforce. Employment opportunities for skilled work in the organized-sector are limited and have not grown significantly. Given that, lower levels of education and technical training have meant that women remain marginalised from the limited employment opportunities that are available.

In this section, we look at the relative levels of education and technical training received by women workers. In particular, we look at the proportion of women workers who have received at least secondary education and any technical/vocational training. We compare this ratio over time, across workers in

Figure 2. Change in proportion of rural self-employed women and proportion of households not cultivating any land, by region, 1999-2000 and 2011-12



Note: Each arrow corresponds to an NSS region. Tail of an arrow marks the position of the region in 1999-2000 while the head marks the position in 2011-12

different economic activities, between rural and urban workers, and between male and female workers.

Table 10 shows the proportion of women workers in different sectors and sub-sectors who have secondary education and at least some technical qualification. The table points to the huge deficit in terms of formal education and training among women workers. In 2011-12, only about 0.66 per cent of rural women workers and about 7.6 per cent of urban women workers had secondary-level school education and some technical training. Even among the manufacturing sector workers, only 0.14 per cent rural women workers and 2.14 per cent urban women workers had secondary school education and some technical training. Even in education and health-care, where a substantial proportion of women are employed and where education and technical training is directly relevant, majority of women workers did not have secondary-level education and technical training. A comparison of Tables 10 and 11 shows that the proportion of workers who have received secondary-level education and technical training is smaller for women workers than male workers in all the activities.

Table 8. Proportion of rural residents who worked in non-agricultural activities in urban areas, by sector and sex, persons aged 15 to 59 years (per cent)

Sector	Men		Women	
	1999-2000	2011-12	1999-2000	2011-12
Construction	0.40	1.50	0.05	0.15
Manufacturing	0.51	0.67	0.06	0.11
Others	0.04	0.24	0.01	0.03
Services	1.09	2.34	0.11	0.16
Total	2.04	4.75	0.23	0.45

Notes: The estimates include workers who commuted or migrated for their principal or subsidiary status activities.

Table 9. Proportion of urban residents who worked in non-agricultural activities in rural areas, by sector and sex, persons aged 15 to 59 years (per cent)

Sector	Men		Women	
	1999-2000	2011-12	1999-2000	2011-12
Construction	1.58	0.44	0.23	0.02
Manufacturing	2.54	2.41	0.53	2.74
Others	0.25	0.28	0.03	0.06
Services	9.41	3.70	1.78	1.20
Total	13.78	6.83	2.57	4.02

Notes: The estimates include workers who commuted or migrated for their principal or subsidiary status activities.

Table 10. Proportion of workers who have at least secondary education and some technical training, by sector and industry, women aged 15 to 59 years (per cent)

Sector	Sub-sector	Rural		Urban	
		1999-2000	2011-12	1999-2000	2011-12
Agriculture		0.11	0.11	0.15	0.70
Construction		0.08	0.26	0.23	3.23
Manufacturing	Manufacture of food products & beverages	0.00	0.02	0.89	0.49
Manufacturing	Manufacture of tobacco products	0.16	0.00	0.00	0.13
Manufacturing	Manufacture of textile & apparel	1.07	0.29	2.18	1.98
Manufacturing	All	0.34	0.14	2.98	2.14
Services	Retail trade except motor vehicle	0.27	1.43	2.02	3.10
Services	Education	14.51	10.59	14.04	15.77
Services	Health care	14.64	26.59	39.83	39.73
Services	All	4.65	6.47	8.47	12.01
All workers	All	0.38	0.66	5.31	7.58

Table 11. Proportion of workers who have at least secondary education and some technical training, by sector and industry, men aged 15 to 59 years (per cent)

Sector	Sub-sector	Rural		Urban	
		1999-2000	2011-12	1999-2000	2011-12
Agriculture		0.53	0.47	1.68	1.89
Construction		1.28	0.73	4.04	4.60
Manufacturing	Manufacture of food products & beverages	2.25	1.26	2.45	7.50
Manufacturing	Manufacture of tobacco products	0.06	0.00	0.68	0.00
Manufacturing	Manufacture of textile & apparel	1.92	2.67	2.18	2.17
Manufacturing	All	2.67	4.44	7.07	8.91
Services	Retail trade except motor vehicle	2.06	1.88	3.84	2.23
Services	Education	14.38	9.44	18.16	16.24
Services	Health care	32.36	28.46	35.30	42.04
Services	All	4.19	3.81	6.63	8.55
All workers	All	1.38	1.55	6.42	7.97

4 Economic Activities of Women Principally Engaged in Housework

Table 12 shows that, in 2011-12, about 61 per cent of rural working-age women and about 65 per cent of urban working-age women were principally engaged in housework (that is, their principal activity status was housework). Between 1999-2000 and 2011-12, the proportion of rural working-age women who were principally engaged in housework increased by about six percentage points and the proportion of urban working-age women who were principally engaged in housework declined by about two percentage points.

Among all States, the proportion of rural working-age women who were principally engaged in housework was highest in Bihar (81.5 per cent) and lowest in Sikkim (11.9 per cent). In Uttar Pradesh and Bihar over 73 per cent of urban working-age women were principally engaged in housework. Proportion of urban working-age women whose principal status activity was housework was lowest in Meghalaya (35.7 per cent).

Table 14 shows the extent to which women principally engaged in housework participate in various economic activities in their subsidiary activity status. This table shows that, in 2011-12, about 17 per cent of rural women who were principally engaged in housework and 4.2 per cent of urban women who were principally engaged in housework were employed in a subsidiary status activity.⁴ Rest of the women principally engaged in housework are classified in the NSS surveys as being out of the labour force.

The main change seen in the Table 14 is in respect of rural women houseworkers for whom, corresponding to the overall decline in agricultural employment, there was a decline in participation in agriculture as a subsidiary activity from about 17 per cent in 1999-2000 to about 13 per cent in 2011-12. With almost no expansion of subsidiary employment for rural women houseworkers in any other activity, this resulted in a three percentage point increase in rural women houseworkers who did not have any subsidiary employment.

In recording principal and subsidiary activity statuses in the NSS Employment Unemployment Surveys, two different categories are used for persons engaged in housework: persons who are only engaged in domestic work (activity status 92) and persons who combine domestic work with free collection of goods (food, fuel or fodder) or other economic activities to obtain various commodities for household use (activity status 93). However, NSS Employment-Unemployment Surveys do not make a clear conceptual distinction between activities that are classified as household work and additional activities that are used to classify a person under category 93. We did not find either a conceptual definition or any comprehensive list of activities that qualify a person to have activity status 93 in the NSS questionnaires or instruction manuals. In the codes for the blocks pertaining to usual activity statuses of household members, the NSS schedules define category 92 as “attended domestic duties only”, and category 93 as “attended domestic duties and was also engaged in free collection of goods (vegetables, roots, fire-wood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use”.

⁴It is noteworthy that a person whose principal activity status is 92 or 93 could be employed in a subsidiary activity. Such persons are considered workers when UPSS criterion is used to identify the employment status.

Table 12. Proportion of women aged 15 to 59 years with household work as their principal usual activity status, rural and urban, 1999-2000 and 2011-12 (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	28.40	32.90	62.30	59.70
Arunachal Pradesh	29.50	38.10	59.90	57.00
Assam	70.80	75.80	63.90	72.30
Bihar	71.80	81.50	72.30	73.20
Goa	60.60	57.60	64.30	60.40
Gujarat	45.20	62.20	69.60	70.10
Haryana	84.10	76.20	73.50	70.00
Himachal Pradesh	43.70	20.20	57.90	45.80
Jammu and Kashmir	82.40	72.00	73.30	63.70
Karnataka	39.60	49.50	62.90	62.30
Kerala	58.60	55.60	54.70	55.40
Madhya Pradesh	38.20	52.50	65.60	64.80
Maharashtra	30.20	44.90	65.60	62.00
Manipur	56.90	60.20	50.50	59.90
Meghalaya	17.90	21.00	43.20	35.70
Mizoram	31.40	36.80	39.40	41.20
Nagaland	44.40	41.50	44.80	50.80
Orissa	59.90	71.60	67.40	69.30
Punjab	83.50	78.60	72.80	70.20
Rajasthan	52.30	51.80	72.20	69.00
Sikkim	45.00	11.90	54.60	51.70
Tamil Nadu	36.60	45.90	59.90	57.10
Tripura	77.20	64.10	72.30	52.00
Uttar Pradesh	72.40	71.80	75.70	73.60
West Bengal	73.60	73.30	72.00	67.40
India	55.40	61.60	67.20	65.20

Notes: All women with principal status activity code 92 or 93 are included.

Source: Authors' estimates based on NSS unit-level data

In the UN System of National Accounts (SNA), activities in which certain commodities (goods) are produced by households for their own use are to be classified within the production boundary and considered economic activities. In contrast, activities through which certain services are provided by a member of the household for own use of the household are not considered a part of the production boundary and not considered economic activities (United Nations Statistics Commission, 1993, 2009). While the NSS schedules and instruction manuals do not provide such a conceptual basis for the distinction between activity statuses 92 and 93, following distinction based on the SNA production boundary seems consistent with the illustrations that are provided.

- Category 92 should include persons who are engaged only in activities aimed at providing services like cooking, washing, cleaning, child care, and tutoring children to their household. No payment is made for providing these services to their own household. No acquisition of commodities takes place as part of these activities.
- Category 93 should include persons who, in addition to providing various services to their own household, are engaged in activities that involve acquisition and production of various commodities for the use of the household. Such acquisition may take place through collection of goods or through productive activities.

In the NSS Employment Unemployment Surveys, illustrations of the activities that might be considered for classification of persons engaged in housework are provided in the block titled “follow-up questions for females with usual activity status code 92 or 93”. However, since this block is used for persons having both the activity status codes, it is not clear which activities are a part of the category 93 and which are a part of both the categories. In this block, following activities are listed.

- maintenance of kitchen gardens, orchards etc.?
- work in household poultry, dairy, etc.?
- free collection of fish, small game, wild fruits, vegetables, etc. for household consumption?
- free collection of fire-wood, cowdung, cattle feed etc. for household consumption?
- husking of paddy for household consumption?
- grinding of foodgrains for household consumption?
- preparation of gur for household consumption?
- preservation of meat and fish for household consumption?
- making baskets and mats for household use?
- preparation of cow-dung cake for use as fuel in the household?
- sewing, tailoring, weaving etc. for household use?
- bringing water from outside the household premises?

- tutoring of own children or others' children free of charge?

If we follow the conceptual distinction based on SNA, persons regularly engaged in any of the activities listed above except tutoring children should be classified under category 93 rather than 92. However, because of the conceptual ambiguity and lack of clear instructions, the distinction between these two categories is not maintained rigorously in the survey and, in the final data, several persons reported to be regularly engaged in these unremunerated activities are assigned activity status 92. It must also be pointed out that, typically, the care work done by women and participation in these unremunerated activities for obtaining various commodities for the household are so totally intermingled in terms of time allocation that it is impossible to have any assessment of relative importance of these two sets of activities in terms of the burden of work on a women. This may also be a reason that a rigorous distinction between categories 92 and 93 is not maintained in the survey.⁵

The only way to deal with the NSSO data on participation in the specified home-based unremunerated activities is to combine data for persons in Categories 92 and 93, and then identify women who work in the specified unremunerated economic activities in addition to the care-work (or the so-called “domestic duties” in the NSSO terminology).

In the analysis that follows, we examine the proportion of household-workers (women aged 15-59 years whose principal activity status is 92 or 93) who are engaged in specified unremunerated activities for obtaining various commodities for household use.

Table 15 shows the proportion of rural and urban working-age women household workers who regularly undertake different activities for obtaining various commodities for use of their households. For rural women household workers, obtaining fuel for household use was the most important economic activity. In 2011-12, about 58 per cent women household workers were engaged in activities to obtain fuel and fodder. Of them, about 42 per cent of rural household workers regularly made dung cakes and about 44 per cent of rural household workers regularly collected firewood, cowdung and fodder. About 45 per cent of the rural household worker women were engaged in various activities for obtaining food for the household. About 24 per cent rural household workers worked in maintenance of kitchen gardens for household use, about 22 per cent regularly

⁵Work done in these economic activities is not counted as “employment” because these goods are obtained only for household use. However, precisely because of invisibility of such work, ascertaining whether these activities are done solely for household use and if the household also sells some of these goods is also very difficult. In instructions provided for the survey, there is no guide about how to ascertain whether the household sells any produce obtained from these activities, and how much sale of the produce would make persons working on these activities employed in the corresponding industry instead of being a non-worker under category 93. For example, consider the case of a woman who collects firewood primarily for household use but has occasionally sold it to a neighbour. Would such a person be categorised as a non-worker with activity status 93 or as a worker (because she sold firewood)? Or, how would one differentiate between two women, one who works to maintain a buffalo the milk from which is used for household consumption, and another who similarly works to maintain a buffalo but sells a part of the milk for some time in the year. Whether the calf produced by the buffalo would eventually be sold by the household or kept for own use can be a matter of endless speculation.

worked to maintain household animal resources, about 19 per cent were engaged in collection of food, and about 14 per cent regularly worked in specified food processing activities. About 31 per cent of rural household worker women had to regularly fetch water from outside. About 30 per cent rural household worker women regularly worked to make or mend clothes for the household.

Among urban household worker women, the most important economic activities were related to making or mending clothes for the household. In 2011-12, about 25 per cent of urban household worker women were regularly engaged in this work. Making or mending clothing for the household. About 13 per cent of urban household worker women regularly worked in different activities for obtaining food.

Between 1999-2000 and 2011-12, there was an increase in the proportion of household worker women who regularly worked to maintain a kitchen garden as well as an increase in the proportion of household worker women who were regularly engaged in free collection of food. On the other hand, with rising inequality in ownership of animals, a fewer percentage of household worker women were engaged in maintenance of animals. This is likely to be on account of a falling proportion of rural households that maintain animals (Birwal, 2008). In rural areas, there was an increase in proportion of household worker women who were engaged in collection of fuel and fodder, while the proportion of women regularly engaged in making dung cakes fell between 1999-2000 and 2011-12.

It may also be pointed out that there are significant inter-State variations in the extent to which women are involved in different activities. Appendix Tables 19-27 show State-wise proportion of rural and urban household worker women who are engaged in different activities for obtaining various goods for household use. Table 19 shows that, in 2011-12, most north-eastern States had a very high proportion of women regularly working in the kitchen gardens while the proportion of such women was only 5 per cent in rural Maharashtra and 2.5 per cent in rural Punjab. In Arunachal Pradesh, Assam, Bihar, Himachal Pradesh, Jammu and Kashmir, Madhya Pradesh, Meghalaya, Mizoram, Nagaland, more than half the rural women household workers had to collect fuel or fodder in 2011-12. In Bihar, Haryana, Madhya Pradesh, Rajasthan and Uttar Pradesh, more than half the rural women household workers regularly made dung cakes.

Of all the specified unremunerated activities, tutoring children comprises a service, and by the SNA classification, does not constitute an economic activity. For the sake of comparison with other specified unremunerated activities, we have also presented the proportion of women who were regularly engaged in tutoring children without any remuneration in Table 28. In 2011-12, about 16 per cent of urban women and about 5 per cent of rural women regularly tutored children without any remuneration.

Table 13. Proportion of women aged 15 to 59 years with household work as their principal usual activity status, by social group, rural and urban, 1999-2000 and 2011-12 (per cent)

Social group	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Scheduled caste	52.6	61.6	64.2	62.3
Scheduled tribe	33.4	46.7	55.5	56.9
Muslim	73.0	73.1	75.0	74.1
Others	57.7	62.1	66.8	64.1
All	55.5	61.6	67.2	65.2

Table 14. Number of women having subsidiary employment in different sectors as a proportion of all women principally engaged in housework, women aged 15 to 59 years, rural and urban, India, 1999-2000 and 2011-12 (per cent)

Sector	Type of employment	Rural		Urban	
		1999-2000	2011-12	1999-2000	2011-12
Agriculture	Self-employed	14.0	10.5	1.3	0.8
Agriculture	Long-term worker	0.0	0.0	0.0	0.0
Agriculture	Casual worker	3.1	2.5	0.3	0.2
Agriculture	Total	17.1	13.0	1.6	1.1
Construction		0.1	1.7	0.1	0.1
Manufacturing		1.4	1.8	1.3	1.8
Services		0.5	0.5	1.6	1.3
Non worker		80.8	83.0	95.4	95.8
All women principally engaged in housework		100.0	100.0	100.0	100.0

Notes: All women with principal status activity code 92 or 93 are included.

Source: Authors' estimates based on NSS unit-level data

Table 15. Proportion of women who regularly performed various activities of economic importance for use of their households among women who were principally engaged in housework, rural and urban, women aged 15 to 59 years (per cent)

S.No.	Activity	Rural		Urban	
		1999-2000	2011-12	1999-2000	2011-12
1	Various activities to obtain food	55.3	45.0	20.0	12.8
1.1	Maintenance of kitchen garden	14.1	24.2	3.4	7.9
1.2	Maintenance of household animal resources	32.7	22.2	4.5	2.5
1.3	Free collection of food	15.2	19.4	1.2	1.8
1.4	Food processing for household use	26.3	13.6	14.5	3.8
2	Various activities to obtain fuel and fodder	61.9	57.7	8.8	7.4
2.1	Free collection of fuel and cattle feed	39.6	44.1	5.4	5.3
2.2	Preparation of cow-dung cake	48.8	41.8	5.8	4.8
3	Fetching water from outside the household premises	50.9	31.3	23.3	10.0
4	Making or mending clothing	28.6	29.6	28.4	25.1
5	Making baskets and mats	10.1	5.0	6.3	1.6
6	Tutoring own children or other children for free	6.2	7.6	13.9	13.3

Notes:

1 There were a few cases of non-response in the 68th round data. Such observations were omitted.

2 Food processing activities included in the NSS questionnaire include husking of paddy, grinding grain, making gur, and activities related to preservation of meat and fish.

3 Although tutoring children is a service, estimates for this activity have been included in this table for the sake of providing complete data.

Source: Authors' estimates based on NSS unit-level data

5 Revised Estimates of the Unemployment Rate

A vast majority of women principally engaged in housework are engaged in specified unremunerated activities for household use and are not considered a part of the labour force in official statistics on employment in India. This results in misleading estimates of the size of the labour force and of the extent of open unemployment that exists in India. This issue is the focus of discussion in this Section.

Since the 1993 Edition of the UN System of National Accounts (United Nations Statistics Commission, 1993, 2009), activities through which certain commodities (goods) are produced by households for their own use (unlike activities through which *services* are produced by households for their own use) are supposed to be classified within the production boundary. Accordingly, persons engaged in these activities should be considered a part of the labour force. The following text quoted from United Nations Statistics Commission (2009) elaborates the concept and lists activities that should be considered within the production boundary even if they were done for household use.

Although services produced for own consumption within households fall outside the boundary of production used in the SNA, it is nevertheless useful to give further guidance with respect to the treatment of certain kinds of household activities which may be particularly important in some developing countries. The SNA includes the production of all goods within the production boundary. The following types of production by households are included whether intended for own final consumption or not:

- a. The production of agricultural products and their subsequent storage; the gathering of berries or other uncultivated crops; forestry; wood-cutting and the collection of firewood; hunting and fishing;
- b. The production of other primary products such as mining salt, cutting peat, etc.;
- c. The processing of agricultural products; the production of grain by threshing; the production of flour by milling; the curing of skins and the production of leather; the production and preservation of meat and fish products; the preservation of fruit by drying, bottling, etc.; the production of dairy products such as butter or cheese; the production of beer, wine, or spirits; the production of baskets or mats; etc.;
- d. Other kinds of processing such as weaving cloth; dress making and tailoring; the production of footwear; the production of pottery, utensils or durables; making furniture or furnishings; etc.;
- e. The supply of water is also considered a goods-producing activity in this context. In principle, supplying water is a similar kind of activity to extracting and piping crude oil.

Source: United Nations Statistics Commission (2009), *System of National Accounts, 2008*, United Nations Statistics Division, New York, URL: <http://unstats.un.org/unsd/nationalaccount/docs/SNA2008.pdf>

The Indian System of National Accounts only partially deals with production for own final use (National Statistical Commission, 2001). As per the Indian System of National Accounts, activities related to production in agriculture and allied sectors (crop production, maintenance of animals, fish production, and collection of agricultural products), even if for household use, are covered under economic activities. Other activities for production of goods for household use, although covered in the production boundary as per United Nations Statistics Commission (2009), are not covered under economic activities in the Indian System of National Accounts National Sample Survey Organisation (NSSO) (2014).

Official estimates of the size of the labour force in India based on the NSS Employment Unemployment Surveys do not include persons engaged in specified unremunerated activities that fall within the production boundary as defined in the UN System of National Accounts. Various activities discussed in Section 4 involve production and acquisition of commodities for household use. Persons engaged in these activities but not in any other economic activity are not considered a part of the labour force in the official estimates of employment. Doing this results in a very large under-estimation of labour force in India. Table 16 shows that there were a total of 55 crores persons aged 15-59 years in the labour force. Inclusion of persons engaged in specified unremunerated activities (and no other economic activity) resulted in a 28 per cent increase in number of persons in the age group 15-59 years who were in the labour force.

While it is important to include this economically-active population in the labour force, it is also important to recognise that such work is unremunerated and is minimally productive. In an attempt to correct the error caused by exclusion of such persons from the labour force, National Sample Survey Organisation (NSSO) (2014) included them not only in the labour force but also treated them as employed. Given that the work done by these persons is unremunerated and minimally productive, treating them as employed, as done in National Sample Survey Organisation (NSSO) (2014), is a statistical travesty as great as excluding them altogether from the labour force.⁶

In the official statistics on employment in India, only those persons are considered unemployed who, during the reference period, actively sought work but did not find any. This is incorrect since a vast number of people, particularly women, do not seek work simply because, from past experience and their observation of the labour market, they know that getting remunerative employment is not possible. Not making an attempt to seek work does not reflect a lack of interest or inability to work. With no means of obtaining remunerated employment, a vast number of such people, predominantly women, resign themselves to the unremunerated and minimally productive forms of labour like collecting food, fuel and fodder, and mending clothes for the use of their household.

⁶National Sample Survey Organisation (NSSO) (2014) divides the specified activities into three categories: i) activities involving production (and collection) activities in agriculture and allied sectors, ii) activities involving processing of food, and iii) remaining activities (including making of dung cakes, sewing and tailoring work, and tutoring children). The report presents estimates of labour force participation rates and work force participation rates after including categories (i) and (ii) in the labour force and work force. As has been noted in the Report, some of the activities in Category (iii) are also a part of the production boundary as per SNA 2008. As a result, estimates provided in the Report are not consistent with the concept of production boundary and economic activities specified in SNA 2008.

Table 16. Number of persons in the labour force, aged 15 to 59 years, by sex, rural and urban, 2011-12 (crores of persons)

Sector	Men	Women	All
Rural	21.5 (0.4)	19.0 (99.1)	40.5 (30.8)
Urban	9.5 (0.1)	4.9 (104.8)	14.4 (21.4)
Total	31.0 (0.3)	23.9 (100.3)	55.0 (28.2)

Notes: Figures in parentheses show the percentage change in the number of persons on account of inclusion of women only engaged in specified unremunerated economic activities for household use.

Source: Authors' estimates based on NSS unit-level data

Given that such work remains unremunerated and minimally productive, persons engaged in these activities should be considered a part of the labour force but treated as unemployed. Doing this provides more meaningful estimates of the open unemployment rate than the current official estimates do.

Table 17 shows that, in 2011-12, the open unemployment rate among working-age persons in India as a whole was as high as 23.8 per cent. This is over 20 percentage points higher than the estimates based on methodology used in the official estimates.

Revised estimates of unemployment presented in Table 17 also show that, while rural unemployment rate was lower than urban unemployment rate in 1999-2000, a huge increase in rural unemployment resulted in rural unemployment rate surpassing the urban unemployment rate in 2011-12.

As per the revised estimates, over 50 per cent of working-age women in the labour force were unemployed in 2011-12. Corresponding estimate of open unemployment among men was only 2.5 per cent.

Table 18 shows the levels of unemployment across different social group. The Table shows that in both rural and urban areas, unemployment rates are higher among Muslims than among other social groups. This is particularly the case among women, with a considerable gap between unemployment rates of Muslims and others.

Table 17. Estimates of unemployment rate among men and women aged 15 to 59 years, without and after taking into account unremunerated home-based work, rural, urban and total, 1999-2000 and 2011-12 (per cent)

Sector	Men		Women		All	
	1999-2000	2011-12	1999-2000	2011-12	1999-2000	2011-12
Conventional:						
Excluding persons engaged in unremunerated specified activities						
Rural	1.9	1.9	1.1	1.7	1.6	1.8
Urban	4.7	3.1	6.1	5.5	4.9	3.6
Total	2.6	2.2	1.8	2.5	2.4	2.3
Revised:						
Including persons engaged in unremunerated specified activities						
Rural	1.9	2.2	43.7	50.7	22.4	24.9
Urban	4.7	3.2	61.7	53.9	26.0	20.6
Total	2.6	2.5	47.1	51.3	23.2	23.8

Notes:

1 In the revised estimates presented in the table, persons engaged in specified unremunerated activities (other than tutoring children) were classified as part of the labour force and unemployed.

Source: Authors' estimates based on NSS unit-level data

Table 18. Estimates of unemployment rate among men and women aged 15 to 59 years, after taking into account unremunerated home-based work, by social group, rural, urban and total, 2011-12 (per cent)

Social group	Rural		Urban		Total	
	Men	Women	Men	Women	Men	Women
Scheduled caste	2.5	49.3	3.4	51.9	2.7	49.7
Scheduled tribe	2.0	36.4	3.6	51.4	2.2	37.6
Muslim	2.5	67.3	3.9	62.2	3.1	66.0
Others	2.1	51.0	3.0	52.6	2.4	51.4

6 Summing up

This paper is a contribution towards understanding reasons behind declining female employment in India as indicated by recent rounds of large-sample Employment and Unemployment Surveys conducted by the National Sample Survey (NSS) Organisation. The analysis presented in this paper is based on working age population (15 to 59 years) in both rural and urban areas. The paper uses three rounds of the NSS Employment and Unemployment Surveys – 55th Round (1999-2000), 66th Round (2009-10), and 68th Round (2011-12). The paper excludes the 61st round (2004-05) because results from this round have been controversial and no satisfactory explanation has been given for the results being at odds with other evidence.

Following points emerge from the analysis presented in the paper.

There was a sharp decline in female workforce participation rate from 41 per cent in 1999-2000 to 32 per cent in 2011-12. This decline was sharper in rural areas (from 48 per cent in 1999-2000 to 37 per cent in 2011-12), and can be primarily attributed to massive contraction of employment opportunities in agriculture, which was not compensated by rising employment opportunities in rural non-farm sector. In contrast, among men, decline in the availability of employment in agriculture was compensated in part by the expansion of employment in construction. Looking at rural and urban areas together, employment for men declined by 11 percentage points in agriculture and increased by about 6 percentage points in construction between 1999-2000 and 2011-12.

The paper identifies three important factors that are likely to have contributed to a decline in the levels of employment of women.

- Proportion of households that did not have any land to cultivate increased from about 41 per cent in 1999-2000 to about 49 per cent in 2011-12. Women are primarily employed in agriculture. Decline in proportion of households that cultivated land directed resulted in a decline in proportion of women who were self-employed in agriculture. With a clear cost advantage in mechanisation over use of animals for draught power, there has been an increasing adoption of labour displacing technology in agriculture. Increased concentration of operational holdings is also likely to have contributed to a greater adoption of labour displacing technologies in agriculture as large cultivators deploy labour displacing technology to a greater extent. Adoption of labour displacing technology results in a decline in overall labour absorption in agriculture.
- Lack of access to basic amenities and serious problems of safety for women impede physical mobility of women. Very few rural women migrate or commute to urban areas to take advantage of whatever non-agricultural employment is available in the towns and cities. Proportion of rural women who did some work in urban areas is minuscule, and increased only marginally from about 0.22 per cent in 1999-2000 to only about 0.46 per cent in 2011-12. Although small in magnitude, the direction of change in the proportion of urban women working in rural areas is noteworthy. Mainly driven by a small increase in absorption of women in manufacturing enterprises located in rural areas, the proportion of urban women doing some work in rural areas increased from 2.57 per cent in 1999-2000 to 4.02 per cent in 2011-12.

- Finally, with dismal levels of education and technical training, women are marginalised from the limited opportunities for more remunerative skilled work. In 2011-12, only 0.66 per cent of rural working-age women workers and only 7.6 per cent of urban working-age women workers had received secondary-level education and some technical training. Even among women employed in education and health care services, a vast majority did not have secondary-level education and technical training.

As per the UN System of National Accounts, persons engaged in activities that result in production of different commodities for household use should be considered a part of the labour force. However, in the NSSO Surveys of Employment and Unemployment, women engaged only in housework are considered out of labour force even if the housework involves regular participation in activities for producing/acquiring food, fuel, fodder, clothing and other commodities. With contraction of employment opportunities for women, proportion of rural working-age women who were principally engaged in housework increased from about 55 per cent in 1999-2000 to about 62 per cent in 2011-12. Data presented in Section 4 show that, in addition to care-work for the household, a substantial proportion of women who were reported to be principally engaged in housework were also engaged in activities for obtaining different commodities for household use. This was particularly important for rural women. In 2011-12, about 58 per cent of rural working-age houseworker women regularly worked to obtain fuel or fodder for household use. Similarly, about 45 per cent of rural houseworker women regularly worked to obtain food for the household. About 31 per cent of rural houseworkers had to regularly fetch water from outside, and about 30 per cent had to regularly work to prepare clothing for household use. Among urban working-age women who were principally engaged in housework, about 25 per cent worked to make clothing for household use, and about 13 per cent worked to obtain food for household use.

In Section 5 of the paper, we argue that women engaged in these specified activities for home use should be considered a part of the labour force. We show that by doing this, the size of labour force in the age group 15 to 59 years increases by 28 per cent. Further, we argue that, because these activities are unremunerated and minimally productive, women engaged in only these activities other than care-work for their own households should be treated as unemployed. By accounting for this, the paper shows that, in 2011-12, the open unemployment rate among working age persons was 23.8 per cent. Unemployment rates were particularly high among women and had increased from about 47 per cent in 1999-2000 to over 51 per cent in 2011-12.

To sum, data on employment conditions of women workers from recent NSSO surveys show an extremely dismal picture. There has been a steep decline in the availability of work for women. With rising landlessness and declining labour absorption in agriculture, there has been a sharp contraction in availability of employment in agriculture. Given lack of basic amenities and serious problems of security, most women are unable to access urban non-agricultural employment. This has resulted in a significant increase in proportion of rural working-age women who were engaged in housework. A very large proportion of such women are engaged in unremunerated work to obtain different commodities for their households. Accounting for such women as unemployed shows that unemployment rate in India is extremely high and has risen significantly over the last decade.

Appendix Tables

Table 19. Proportion of women who regularly worked in maintenance of kitchen garden and orchards among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	5.2	8.2	1.9	6.1
Arunachal Pradesh	74.6	79.7	50.2	65.1
Assam	56.6	85.5	13.5	38.3
Bihar	19.8	34.4	8.5	15.3
Goa	10.2	21.5	3.1	19.4
Gujarat	1.9	13.7	1.3	6.8
Haryana	0.4	11.0	0.2	4.9
Himachal Pradesh	33.7	42.7	7.9	11.9
Jammu and Kashmir	33.5	71.7	13.3	22.2
Karnataka	6.0	12.5	3.4	13.0
Kerala	22.5	16.6	16.1	11.3
Madhya Pradesh	12.4	33.0	2.5	13.4
Maharashtra	7.0	5.0	1.0	2.1
Manipur	68.0	67.6	40.8	45.8
Meghalaya	71.9	77.5	21.8	30.0
Mizoram	26.8	64.5	23.6	34.6
Nagaland	72.1	87.6	39.4	52.5
Orissa	25.4	32.6	8.2	15.5
Punjab	2.6	2.5	1.9	2.4
Rajasthan	1.8	15.8	1.2	5.1
Sikkim	31.8	40.0	1.8	1.7
Tamil Nadu	11.5	11.3	4.5	9.1
Tripura	24.6	33.4	4.8	17.5
Uttar Pradesh	10.4	14.4	2.1	5.0

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 20. Proportion of women who regularly worked for maintenance of household animal resources among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	14.1	3.1	1.2	0.6
Arunachal Pradesh	44.2	62.9	42.0	22.0
Assam	64.9	70.6	8.5	12.0
Bihar	26.5	16.9	10.8	4.4
Goa	3.6	5.6	1.2	3.2
Gujarat	27.9	20.1	1.3	0.9
Haryana	57.4	37.1	13.9	3.0
Himachal Pradesh	47.7	27.7	6.8	2.6
Jammu and Kashmir	73.2	62.0	12.6	6.5
Karnataka	16.3	10.4	1.9	0.8
Kerala	31.9	14.5	13.9	4.8
Madhya Pradesh	26.2	19.4	2.6	3.4
Maharashtra	15.9	6.0	0.5	0.1
Manipur	42.7	43.8	16.9	16.0
Meghalaya	55.4	43.6	5.0	6.7
Mizoram	50.7	73.5	26.5	43.1
Nagaland	64.6	61.9	36.5	44.4
Orissa	36.0	28.1	9.1	2.4
Punjab	45.0	23.8	4.8	2.4
Rajasthan	42.6	21.7	10.8	4.3
Sikkim	22.3	10.2	3.4	1.4
Tamil Nadu	15.1	5.7	2.8	1.8
Tripura	26.0	30.7	3.3	8.9
Uttar Pradesh	36.9	22.3	7.4	4.0

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 21. Proportion of women who were regularly engaged in collection food for household consumption among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	2.3	3.5	0.2	0.4
Arunachal Pradesh	73.2	67.3	29.7	35.2
Assam	39.9	67.9	1.8	8.0
Bihar	17.7	22.1	3.9	4.8
Goa	2.7	5.9	0.7	4.4
Gujarat	7.6	10.3	0.4	0.8
Haryana	21.4	12.8	10.2	1.4
Himachal Pradesh	18.1	12.0	0.3	2.2
Jammu and Kashmir	11.5	39.5	1.8	3.0
Karnataka	7.4	8.2	0.3	0.3
Kerala	2.2	2.1	1.1	0.5
Madhya Pradesh	18.9	25.4	1.1	3.8
Maharashtra	7.2	7.3	0.1	0.2
Manipur	52.4	44.2	17.4	18.5
Meghalaya	51.5	53.9	0.1	15.7
Mizoram	44.6	56.8	13.6	14.0
Nagaland	80.0	72.8	12.6	35.0
Orissa	25.4	26.8	4.6	2.3
Punjab	7.5	3.3	1.3	0.1
Rajasthan	10.3	20.7	0.7	2.5
Sikkim	20.8	16.2	1.3	0.7
Tamil Nadu	3.1	3.4	0.6	1.0
Tripura	15.2	25.6	0.3	5.6
Uttar Pradesh	9.6	8.3	0.7	1.4

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 22. Proportion of women who were regularly engaged in collection fuel and fodder for household consumption among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	22.6	17.8	2.3	1.7
Arunachal Pradesh	73.0	63.1	33.7	30.4
Assam	34.8	60.7	3.7	5.2
Bihar	43.3	50.0	12.4	9.4
Goa	23.6	18.0	5.4	9.5
Gujarat	55.0	48.5	6.3	4.6
Haryana	39.5	43.8	15.9	4.8
Himachal Pradesh	62.0	51.1	6.4	7.4
Jammu and Kashmir	47.6	54.0	5.6	5.5
Karnataka	31.3	35.9	2.7	5.0
Kerala	20.4	16.5	10.0	3.7
Madhya Pradesh	49.2	64.9	7.1	12.9
Maharashtra	36.9	30.3	2.0	1.2
Manipur	52.7	38.9	16.4	10.0
Meghalaya	50.4	60.4	0.7	10.8
Mizoram	74.4	66.9	18.8	13.6
Nagaland	69.6	60.1	17.2	19.2
Orissa	40.4	44.4	9.2	4.9
Punjab	32.0	18.7	6.1	1.4
Rajasthan	51.4	61.0	11.2	9.2
Sikkim	34.9	11.2	0.9	1.7
Tamil Nadu	37.5	23.6	5.1	3.9
Tripura	22.5	35.4	1.2	7.1
Uttar Pradesh	31.8	36.9	3.6	7.3

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 23. Proportion of women who regularly made baskets and mats for household use among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	2.5	1.6	2.4	1.6
Arunachal Pradesh	25.9	22.7	9.1	13.1
Assam	10.7	9.5	8.2	3.7
Bihar	14.8	10.3	11.7	5.2
Goa	0.0	0.2	2.4	0.7
Gujarat	1.9	1.8	1.4	0.3
Haryana	5.2	2.6	1.9	1.9
Himachal Pradesh	10.7	2.0	1.1	1.1
Jammu and Kashmir	15.8	7.3	24.7	4.4
Karnataka	7.2	2.0	5.8	1.6
Kerala	4.6	1.6	6.1	1.4
Madhya Pradesh	11.6	4.0	6.0	2.7
Maharashtra	4.2	1.5	1.2	0.4
Manipur	15.5	16.1	10.7	5.4
Meghalaya	8.5	16.4	5.9	7.6
Mizoram	3.5	11.2	12.4	2.8
Nagaland	12.2	17.1	4.2	10.0
Orissa	4.6	4.1	3.8	1.9
Punjab	6.3	1.6	3.6	0.0
Rajasthan	4.6	4.3	3.0	0.7
Sikkim	4.9	0.7	0.2	0.0
Tamil Nadu	4.2	0.7	8.3	1.3
Tripura	8.6	3.4	12.5	0.8
Uttar Pradesh	17.9	6.2	15.6	2.7

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 24. Proportion of women who regularly made dung cakes for household consumption among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	10.6	3.2	1.2	0.2
Arunachal Pradesh	9.2	4.5	3.0	2.3
Assam	20.9	22.9	4.8	2.4
Bihar	58.9	53.7	17.5	11.3
Goa	7.0	17.7	0.9	6.3
Gujarat	47.0	35.0	4.3	3.0
Haryana	78.1	64.1	16.9	7.3
Himachal Pradesh	21.3	24.8	1.6	5.0
Jammu and Kashmir	42.6	39.5	7.9	6.6
Karnataka	22.0	10.3	2.8	2.4
Kerala	0.9	0.4	0.1	0.2
Madhya Pradesh	72.8	72.5	10.9	13.9
Maharashtra	35.4	18.7	1.8	0.8
Manipur	20.4	13.5	12.1	8.1
Meghalaya	5.2	7.0	1.5	4.3
Mizoram	0.5	0.1	0.3	1.0
Nagaland	4.3	0.6	0.9	2.6
Orissa	30.4	27.0	7.7	3.9
Punjab	64.0	38.1	8.6	5.0
Rajasthan	59.0	54.8	9.5	10.0
Sikkim	2.4	0.0	0.0	0.0
Tamil Nadu	10.6	2.7	1.9	0.0
Tripura	10.7	4.5	2.3	1.5
Uttar Pradesh	65.3	54.9	8.6	9.3

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 25. Proportion of women who were regularly engaged in making and mending clothes for household use among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	4.8	5.8	9.9	5.5
Arunachal Pradesh	58.8	57.2	33.0	29.9
Assam	50.9	55.8	40.9	48.3
Bihar	34.4	37.1	47.2	49.0
Goa	21.4	21.6	24.6	23.2
Gujarat	8.4	9.3	13.7	13.4
Haryana	33.7	43.3	37.5	29.6
Himachal Pradesh	55.8	50.5	58.3	38.4
Jammu and Kashmir	32.3	23.6	20.9	21.6
Karnataka	5.7	6.6	9.9	8.8
Kerala	10.3	11.3	12.6	13.2
Madhya Pradesh	15.6	22.2	30.8	30.0
Maharashtra	11.9	6.0	15.0	9.6
Manipur	26.5	42.0	25.3	28.9
Meghalaya	25.3	37.0	21.4	36.3
Mizoram	53.4	40.9	60.0	45.7
Nagaland	76.0	54.6	74.3	43.5
Orissa	9.4	11.1	11.1	15.8
Punjab	56.0	48.1	56.9	45.3
Rajasthan	24.3	30.1	34.2	33.6
Sikkim	42.5	30.9	49.8	46.7
Tamil Nadu	5.8	1.9	11.4	6.3
Tripura	15.4	17.4	19.8	8.4
Uttar Pradesh	34.2	36.6	47.2	47.2

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 26. Proportion of women who were regularly engaged in fetching water from outside the homestead among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	64.2	25.3	33.5	7.5
Arunachal Pradesh	49.7	35.7	29.3	16.0
Assam	37.0	14.9	12.3	12.6
Bihar	45.1	19.6	19.3	9.3
Goa	39.1	1.8	29.4	0.9
Gujarat	46.2	19.6	13.2	2.9
Haryana	57.3	14.7	23.0	2.1
Himachal Pradesh	60.2	15.1	12.3	5.7
Jammu and Kashmir	75.6	34.9	14.5	8.0
Karnataka	62.7	42.9	27.5	17.4
Kerala	22.4	7.9	13.3	6.4
Madhya Pradesh	70.4	58.0	30.2	16.7
Maharashtra	59.4	15.5	22.1	3.1
Manipur	57.2	73.0	51.4	58.0
Meghalaya	66.8	52.5	46.0	21.3
Mizoram	85.0	78.2	57.5	33.6
Nagaland	82.7	43.5	67.9	33.7
Orissa	76.5	68.9	50.2	33.7
Punjab	6.9	3.5	2.9	0.3
Rajasthan	62.8	40.8	12.2	5.7
Sikkim	41.5	5.9	25.3	0.7
Tamil Nadu	65.1	20.1	39.5	13.3
Tripura	62.2	62.2	33.4	26.0
Uttar Pradesh	36.2	23.5	14.0	7.4

Notes: There were a few cases of non-response in the 68th round data. Such observations were omitted.

Source: Authors' estimates based on NSS unit-level data

Table 27. Proportion of women who were regularly engaged in specified food processing activities among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	25.5	6.2	11.5	4.0
Arunachal Pradesh	64.4	70.0	21.6	34.0
Assam	54.5	50.1	27.1	17.4
Bihar	41.5	21.4	21.4	8.3
Goa	5.8	2.1	11.6	1.4
Gujarat	7.5	4.0	5.2	1.1
Haryana	11.3	8.4	4.3	2.4
Himachal Pradesh	10.3	5.7	0.7	0.3
Jammu and Kashmir	28.9	25.1	24.8	7.6
Karnataka	18.0	3.7	12.4	1.3
Kerala	37.4	4.4	39.9	7.0
Madhya Pradesh	26.6	15.2	8.2	4.3
Maharashtra	8.6	4.0	4.6	0.4
Manipur	55.5	50.6	24.1	18.0
Meghalaya	53.7	42.6	10.1	35.9
Mizoram	52.4	45.1	23.6	14.9
Nagaland	82.5	74.7	57.4	51.7
Orissa	44.9	40.5	24.1	24.2
Punjab	7.9	1.9	4.3	0.7
Rajasthan	13.0	12.4	3.6	2.0
Sikkim	25.5	4.9	6.3	0.0
Tamil Nadu	36.6	7.5	46.6	9.2
Tripura	24.8	9.2	18.0	2.9
Uttar Pradesh	20.8	7.2	17.2	2.7

Notes:

1 There were a few cases of non-response in the 68th round data. Such observations were omitted.

2 Food processing activities included in the NSS questionnaire include husking of paddy, grinding grain, making gur, and activities related to preservation of meat and fish.

Source: Authors' estimates based on NSS unit-level data

Table 28. Proportion of women who were regularly engaged in tutoring their own or other children for free among women who were principally engaged in housework (principal activity status 92 or 93), by State, rural women aged 15 to 59 years (per cent)

State	Rural		Urban	
	1999-2000	2011-12	1999-2000	2011-12
Andhra Pradesh	4.2	3.7	10.4	7.3
Arunachal Pradesh	11.8	19.6	22.7	23.1
Assam	7.8	15.6	19.7	23.0
Bihar	4.5	5.6	14.7	16.8
Goa	4.7	16.8	11.4	23.5
Gujarat	5.5	4.8	11.7	11.2
Haryana	4.1	8.1	15.4	15.1
Himachal Pradesh	17.4	22.6	32.7	24.4
Jammu and Kashmir	6.1	7.9	11.6	12.0
Karnataka	5.6	7.4	10.1	13.3
Kerala	14.6	14.3	17.2	16.3
Madhya Pradesh	2.4	7.3	14.5	19.3
Maharashtra	8.3	5.4	11.4	7.8
Manipur	9.7	15.8	16.8	19.8
Meghalaya	18.6	29.0	17.5	41.7
Mizoram	45.9	44.8	41.9	43.1
Nagaland	23.8	21.6	41.4	16.8
Orissa	4.0	8.5	10.5	14.6
Punjab	10.4	9.0	20.4	15.9
Rajasthan	3.1	3.9	12.7	11.4
Sikkim	21.1	11.9	25.6	32.7
Tamil Nadu	6.3	4.9	13.8	9.5
Tripura	13.7	10.0	16.8	11.9
Uttar Pradesh	4.7	5.3	15.2	15.8

Notes:

1 There were a few cases of non-response in the 68th round data. Such observations were omitted.

2 Food processing activities included in the NSS questionnaire include husking of paddy, grinding grain, making gur, and activities related to preservation of meat and fish.

Source: Authors' estimates based on NSS unit-level data

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There was a sharp decline in female workforce participation rate in India between 1999-2000 and 2011-12. This decline can be primarily attributed to massive contraction of employment opportunities in agriculture, which was not compensated by rising employment opportunities in rural non-farm sector. In contrast, among men, decline in the availability of employment in agriculture was compensated in part by the expansion of employment in construction.

The paper identifies three important factors that are likely to have contributed to a decline in the levels of employment of women: increase in the proportion of landless households, poor and unsafe living conditions for migrants in urban areas, and lower levels of education among women workers than men workers.

The paper also shows that the Indian estimates of labour force are inconsistent with accepted international practices. Making corrections in these estimates using the NSSO data, the paper shows that, in 2011-12, the open unemployment rate among working age persons was 23.8 per cent. Unemployment rates were particularly high among women and had increased from about 47 per cent in 1999-2000 to over 51 per cent in 2011-12.

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Key words

employment, women, work, India, labour

Recommended citation

Rawal, Vikas and Saha, Partha (2015), "Women's Employment in India: What do Recent NSS Surveys of Employment and Unemployment Show?", SSER Monograph 15/1, Society for Social and Economic Research, New Delhi (available at: <http://archive.indianstatistics.org/sserwp/sserwp1501.pdf>).

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