

Estimating Work Force Using Time Use Statistics in India and its Implications For Employment Policies

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The total work force in any economy, conceptually, includes all those who contribute to the gross domestic product (GDP) of the economy. That is, there is always a correspondence between the GDP generated in the economy and the total workforce that constitutes to its generation. One of the major functions of labour force statistics is to net all the workers in the workforce statistics comprehensively. Some how, this simple looking point does not get translated into reality, particularly in developing countries, due to various conceptual, definitional and methodological problems.

One important aspect of the history of labour statistics in India is the continuous efforts made for netting comprehensively the workforce in the country. Though considerable successes have been achieved in these efforts, the fact remains that even today the size of the workforce in India, and particularly of women workers, is underestimated. As shown by Table 1 the workforce participation rates (WPR) of men and particularly of women are as low as 15% in urban India and 28.6% in rural India (1993-94)! It is difficult to accept these rates for women in an economy which is predominantly agricultural and where the incidence of poverty is still significant (around 36 to 37%).

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Table 1

India: Worker Population Ratios by Sex and Rural-Urban Residence, 1951 to 1993-94

Year/Source/ (NSS Round)	India Rural India			Urban India					
	Per- sons	Males	Females	Per- sons	Males	Females	Per- sons	Males	Female
1951 Census	39.1	53.9	23.4	39.5	53.5	25.0	37.1	56.4	14.7
1955 NSS (9)	-	-	-	43.2	59.2	26.6	32.4	51.4	11.6
1961 Census	43.0	57.1	28.0	45.1	58.2	31.4	33.5	52.4	11.1
1971 Census	34.0	52.7	13.9	36.1	53.6	15.5	29.6	48.9	7.1
1972-73 NSS (27)	41.3	53.5	28.2	43.5	54.5	31.8	33.1	50.1	13.4
1977-78 NSS (32)	42.2	54.2	29.3	44.4	55.2	33.1	34.4	50.8	15.6
1981 Census@	36.8	52.6	19.8	38.9	53.8	23.2	30.0	49.1	8.3
1982 NSS (38)	42.2	53.8	29.6	44.6	54.7	34.0	34.3	51.2	15.1
1987-88 NSS (43)	41.1	53.1	28.1	43.4	53.9	32.3	33.9	50.6	15.2
1989-90 NSS (45)	41.2	53.9	27.6	43.7	54.8	31.9	33.9	51.2	14.6
1990-91 NSS (46)	40.4	54.3	25.4	42.7	55.3	29.2	33.8	51.3	14.3
1991 Census*	37.5	51.6	22.3	40.0	52.5	26.7	30.2	48.9	9.2
1992 NSS (48)	41.2	54.3	27.0	43.8	55.6	31.3	33.6	50.7	14.6
1993-94 NSS (50)	42.0	54.5	28.6	44.4	55.3	32.8	34.7	52.0	15.4

@ Excludes Assam

* Excludes Jammu & Kashmir

Sources : Censuses of Population, NSSO Rounds, Government of India

Efforts For Netting Work and Workers in India

As is well known, there are two major sources of work force data in India, the decennial Census of Population and the quinquennial surveys of the National Sample Survey Organization (NSSO). Since the independence 4 Censuses (1951 to 1991) and 5 quinquennial NSSO surveys (1972-73 to 1993-94) have been conducted (the results of the last NSSO survey are not yet available) in the country.

In the case of Census of Population the term 'work' has been defined as "any productive work for which remuneration is paid and is market related", and "worker" is a person employed in "work". If a person worked for a major part of the reference year he/she was a "main worker", and if he/she worked for less than half a year he/she was a "marginal worker". In the case of the NSSO surveys a person is a worker if he/she is engaged in any "economically meaningful activity". This includes general activities of women done within the sphere of household activities, such as livestock, fodder collection, foodgrains processing etc. A Census investigator is expected to ask a

respondent whether he was a worker or not, while the NSS investigator asks about the activity that the person is engaged in. As a result, the NSSO statistics are able to capture

“workers” in a much better way and the size of the workforce as well as the workforce participation rates under the NSSO are higher than the same under the Census of Population, particularly for women (Table 1).

The Census authorities in the 1991 Census made an attempt to capture women’s work in a comprehensive way. The major changes introduced in the 1991 Census of Population were:

1. A longer reference period has been used to capture women’s seasonal and intermittent work in agriculture and informal sectors.
2. In order to identify the status of women in the labour market correctly, the term “seeking work” has been replaced by “availability for work if it is available.
3. In order to reflect the earning capacity of the self employed, a distinction has been made between recipients of incomes and unpaid family workers,
4. A gender wise break up of data on “Head of the Household” has been included for tabulation, and
5. The clause “including unpaid work on form or family enterprise” has been inserted in parentheses to the question, “Did you work any time at all in the last year?” in the Individual Slip that classifies the population into workers and non-workers.

Census enumerators were given special institutions and training on these points. They were asked not to accept “house work” as an answer from women respondents before probing the details about their activities. They were also told not to ask direct questions in the exact form as given in the Individual Slip of the Census, but to ask probing questions to get correct information about women' work. In order to help investigators the census authorities made a list of all those activities, which are home based or are usually carried out at home by women. The enumerators were told that if a woman reports as not working, attempts should be made to find out whether she looked for work or was available for work during the last year. The Census authorities used media – newspapers, radio and television to generate awareness among women and collaborated with NGOs in training investigators and in extension activities.

The Census results were examined by scholars carefully under a UNIFEM – Academic Project (Premi and Raju 1993, Hirway 1993). The major conclusion of the studies was that “the efforts made for improving the statistics on female workers cannot be rated as successful. Though some regions and pockets showed an increase in the

workforce participation rates of women, the macro data could not show a significant increase. The reasons for this were stated as:

1. It is difficult to raise awareness of women about their work status on a large scale in a country like India, particularly when one has to first of all train about 1 M. investigators for the purpose!, and
2. In the given Socio-cultural milieu and the levels of literacy, it is not easy to get the right responses from women, even in selected pockets about their work status. For example in the case of Gujarat Kheda district showed a higher workforce participation rate for women thanks to SEWA, an NGO, which worked in this district. However, even in this district, the rate has not gone beyond 30!!

In short, the 1991 Census failed to give proper estimates of women workers in the country.

The NSSO also has tried persistently to collect accurate data on women workers in the country. In its 32nd round (1977-1978) the NSSO added some probing questions on those who reported activity status codes 92 (domestic work) and 93 (domestic work with free collection) as their main activity. These questions attempted to collect details of the activities conducted by the respondents and to get information whether they were willing to work at home if work is available. In the later rounds also the NSSO continued the efforts in different ways.

In order to capture the data on the strength of the informal sector and the workers engaged in it, the Department of Statistics, Government of India initiated first Economic Census in 1977. The Census attempted to capture details of small non-agricultural enterprises in the non-agricultural sector. This first Economic Census was followed by (a) Survey on Un-organized Manufacturing Enterprises 1978-79 (NSS 33rd Round) and (b) Survey of Enterprises covering Trade, Hotels and Restaurants, Transport and Services Sector (1979-80). The Second Economic Census was carried out in 1980, and the third in 1990. Both these Censuses were followed by Enterprise Surveys in manufacturing, trade, hotels, mining etc. The forth-Economic Census has been conducted during 1998-99 independently by the CSO in collaboration with Directorate of Economic & Statistics of States and Union Territories. It has been delinked from the population Censuses mainly with a view to building up a time series with shorter intervals which is suitable for unorganized activities. The forth Economic Census is expected to generate frames separately for different types of membership, viz. private non-profit institutions, private, others and cooperatives, giving activity wise information on number of enterprises as well as employment for each primary unit, i.e. village and UFS block.

The 55th Round of NSSO covers informal non-agricultural Enterprises (other than industrial categories “mining and quarrying” and “electricity, gas and water supply) during July 1999 – June 2000. In fact, this will be an integrated survey on household consumer expenditure, employment – unemployment and informal non-agricultural enterprises. For the purpose of this survey, all unincorporated enterprises, which operate

on either proprietary or partnership basis, will be considered to constitute the “informal sector” The informal sector enterprises covered in the 55Round is restricted: It excludes other types of enterprises of the unorganized sector which are owned by either cooperative societies, or by limited companies, or by other types of institutions. In this round attempts are being made for the first time, to ascertain from the sample households whether the workers from the sample households work in informal sector. Thus we will have two sets of estimates of the size of the informal sector, one based on the employment – unemployment survey and the other based on enterprise survey. In addition, data on the employment particulars are also being collected from the informal enterprises. This will help in identifying and subsequently estimating home workers in the country. It is expected that the survey will generate data on employment – unemployment in non-agricultural enterprises. This will help in generating data on workforce/labour force participation rates according to usual status, current weekly status and current daily status.

Though NSSO has made considerable advances in surveying small and tiny units in the informal sector, there are certain limitations of enterprise surveys. They do not cover several informal workers such as servants, plumbers, and persons engaged in petty services. The mixed surveys, namely household cum enterprise surveys can help here. A SEWA – GIDR study conducted using this method got some positive results in terms of slightly higher work force participation rates. For example, according to this survey the worker population ratio was 56% for males and 40% for women. (Unni 1999). However, the data are not likely to be radically different as the basic causes of underestimation are not answered satisfactorily by these surveys.

Why Is There Under Estimation of (Women) Workers?

Let us try to understand carefully why workers, and particularly women workers are under counted and why women’s work is invisible.

To start with, women’s work is predominantly seasonal, intermittent and uncertain. Also, they frequently work as unpaid workers on family farms/enterprises or in informal sector activities, which are not properly recorded. Again, their household work and economic work frequently gets mixed and it is difficult to demarcate between the two at the conceptual level. Even at the operational level it is not easy to capture their work and net them as workers due to methodological problems. The available methods of investigation do not seem to capture the workers in the economy.

Secondly, under the prevailing Socio-cultural values in many developing economies women are not expected to involve themselves in paid employment outside the home, and working women are frequently held in low esteem in society. The highest prestige is assigned to conventional domestic work for the family inside the home and the lowest to women’s manual work for outsiders. As a result, women tend not to report or under report

Thirdly, investigators also tend to be biased while reporting women's work. They tend to view women's work as household work and thereby underestimate women's work.

In short, there are conceptual and definitional as well as methodological problems which make it difficult to net (women's) work through the conventional survey methods. As a result, the efforts made in the Census of Population and in the NSSO Rounds do not seem to have not been able to address these problems adequately.

Major Problem Sectors

The underestimation of women's work is particularly observed in four general areas of activity covered under labour statistics: (1) subsistence production, (2) informal paid work, (3) domestic work and (4) voluntary work.

Subsistence Sector : Subsistence production or production for self consumption is not marketed, but it cannot be excluded from national income accounts, particularly in a developing economy where subsistence production is significant. The International Conference on Labour Statistics therefore included "all persons of either sex who furnish the supply of economic goods and services" in the work force. The System of National Accounts also (1993) has included this production in national income accounts. The justification of this inclusion is the view that subsistence production is just a step short of being exchanged through the market, and its exclusion from national accounts and labour force statistics undervalues a country's GDP and distorts economic information about its growth and living standards. Subsistence production in agriculture is covered under national income accounts in many countries now. However, other subsistence production is not included through the SNA 1993 has recommended it.

Despite the conceptual and practical progress to include subsistence production, however, the statistical information on the work force engaged in subsistence is difficult to collect. The data on women workers particularly are difficult to collect mainly due to the limitations of the methods of data collection as discussed above.

Another related issue with respect to subsistence production is to determine the norms for the distinction between the subsistence goods to be covered under the SNA and the subsistence goods not to be covered under the SNA. There is a need to develop such norms systematically.

Informal Sector : Informal sector is another sector where women's work is underestimated. As we have seen above, the Government of India has worked considerably in this field through Economic Censuses and Informal Sector Surveys. Though these surveys are likely to give better results, the question remains whether they will give accurate results. This is because the methodology of data collection may not remove the barriers of netting women's work in statistics.

Domestic Work : In the case of production and related activities, the problem is of different nature. This type of work was not viewed as a substitute of market oriented goods and services and was not defined as an economic activity. The 1993 SNA, however, has included domestic production of goods, and not services, into SNA and its enumeration as well as the enumeration of the work force engaged in it is a challenge that is to be faced. Some of the activities which are important here are collection of food items, manufacturing of textile, baskets, mats etc for home consumption. It is not easy to collect data on the out put and workers for this sector mainly because of the definitional problems as well as the likely biases of respondents and investigators.

Voluntary Work : Though voluntary work of people results in the production of goods and services that are not different from the same produced in the market, the convention was not to include this in the national income accounts as well as in workforce statistics. Voluntary work usually consists of a range of tasks the data for which are not collected through conventional data collection systems. Considering the rising importance of such work in society, the 1993 SNA has covered this in the purview national income statistics. Collection of the data on this work is an important challenge faced today.

Time Use Survey:

Time use survey as a statistical tool has several advantages in this context.

To start with, the data collection under a time use survey does not have any socio-cultural bias as the data is to be collected about how the respondent spends time. Since the data refer to comprehensive information about all the activities conducted by the respondent in the last 24 hours, no activity is likely to be missed out. As a result, proper coding and suitable classification of activities can generate fairly accurate data on the labour force / workforce in an economy. To put it differently, the time use method can remove methodological hurdles in data collection, and if the conceptual and definitional problems are sorted out systematically, time use data can easily generate the required data on labour force/ work force.

Another major advantage of time use studies is that it collects data on unpaid activities falling under the General Production Boundary. The information on unpaid work within the household indicates (a) the unequal sharing of unpaid work by men and women, (b) the drudgery of women's work and (c) the crippling control of patriarchy over women – all of which put women in a disadvantageous position in the labour market. In other words, it puts women's work in the right perspective. It should be noted that analysis of the status of women workers in the labour market requires data not only about what they do in the labour market, but also what they do outside the labour market. Such data can prove to be extremely useful in planning for employment for women.

It is now widely accepted that unequal sharing of domestic work, which the HDR 1999 calls "care" by men and women results in the denial of opportunities to women in life. If women have to get equal opportunities in life, this care should be shared by the

state , the society and by men. Without incorporating this important aspect of human development , planning for employment for men and women will not be fair and just. Time use surveys can be very crucial in this context.

Results of the Pilot Time Use Survey

The pilot time use survey was conducted in six states of India. One state was selected from each of the major regions: Meghalaya from the North-East, Orissa from the East, Tamil Nadu from the South, Haryana from the North, Madhya Pradesh from the Central part and Gujarat from the West. In all, 52 districts and about 18,380 households were selected for the survey. The survey was conducted in four rounds to capture the seasonal aspects of the time use. Since the survey methodology and its operationalising has already been discussed else where this paper will discuss some major results regarding the workforce in the states.

Table 2

Sr. No.		No. of Districts Selected	Approx. No. of H.H. to be Surveyed	Percentage to total H. H. to be Surveyed
1.	Madhya Pradesh	15	5027	27.34
2.	Gujarat	7	3174	17.26
3.	Meghalaya	4	520	2.83
4.	Tamil Nadu	10	5588	30.39
5.	Hariyana	6	1320	7.18
6.	Orssia	10	2758	15.00
	All India	52	18387	100.00

Source : Time Use Survey, 1998-99, India

Table 3
Number of Households in the Sample

STATE	NUMBER OF HOUSEHOLDS		
	Rural	Urban	Total
Haryana	984	360	1344
Madhya Pradesh	3801	1260	5061
Gujarat	1676	1485	3161
Orissa	2244	552	2796
Tamil Nadu	3637	2016	5653
Meghalaya	408	168	576
Combined States	12750	5841	18591

Source : Time Use Survey, 1998-99, India

Workforce / Labour Force Estimates

Table 4 presents the data on participation by men and women in SNA activities in rural and urban areas in the six states put together. (We call this Combined States for convenience) The table shows that 76.44% of males, 62.85% of females and 69.85% of the total (sample) population participated in SNA activities. The corresponding rates for rural and urban areas are 79.39, 72.59 and 76.08 for rural areas and 70.04, 41.28 and 36.20 for urban areas. The data thus show that many more persons actually participate in

SNA activities than what is revealed by the conventional data. Also, a much higher percentage of women participate in rural areas than in urban areas.

The average hours of work put in by women, however, is much less. For combined states men spent about 41.96 hours of work on an average, while women put in 18.72 hours of work per week. The average hours put in per person is 30.75 in a week (Table 4). Rural women put in more work, 22.53 hours per week, than urban women who put in 9.16 hours of work. To put it differently, women spend 11.14% of their time on SNA activities while men spend about 24.98% of their time on SNA activities.

This implies that men put in about 74.33% of total SNA time while women put in 25.67% of the total SNA time in the economy. That is, though women's share in the total persons who participate in SNA activities is 43.63, their share in the total SNA time is much less, only 25.67%. Women work on SNA activities in large number but for shorter time.

Table 5 presents the similar data for the participants in the SNA activities. Though the main trends of the results do not vary much, the table shows that the share of women in

the total SNA time in the country is slightly higher, 33.61% for rural areas, 18.71 % for urban areas and 29.35 % for rural and urban areas put together.

It should be noted, however, that the participation of men and women in SNA activities in the survey is not strictly comparable with the NSS or census participation rates for the simple reason that the norm of minimum one hour of work per week has not been incorporated in the analysis of the time use data. Introduction of the norm in the time use data, however, may bring down the participation rate only marginally as reflected in our raw tables.

Activity wise Participation in SNA Activities

Tables 6 and 7 present activity wise data on the participation by men and women in different SNA activities in terms of persons and time devoted to these activities.

As far as participation in terms of persons is concerned, as expected, the predominant sector is the primary sector in rural as well as rural and urban areas put together. Table 6 shows that about 71.34% workers are engaged in the primary sector, 9.48% in the secondary sector and 19.18% in the tertiary sector. The corresponding percentages as per the 1991 Census of Population (1991 – the late Census in India) are 67.37%, 12.13% and 20.15%., This indicates good matching of the two data sets. (Table 8). The only major differences are regarding the share of urban workers, and particularly women workers, in the primary sector. This share of women workers is 52.99% as per the time use survey while it is 22.94% as per the Census data. As a result, the share of urban women workers is much less in the secondary and tertiary sectors as per the time use data. This perhaps implies that women workers, particularly in small and medium town, participate in primary activities such as free collection of goods (fuel, water etc). About 32% women workers are engaged in this.

Table 8

Percentage Distribution of Workers						
Combined States			India			
	Time Use Survey			Census of Population 1991		
Rural	Male	Female	Total	Male	Female	Total
Primary	76.97	87.01	81.73	80.36	89.80	82.75
Secondary	8.73	5.47	7.19	7.29	5.54	6.84
Tertiary	14.30	7.52	11.08	12.35	4.66	10.41
Urban						
Primary	17.46	52.99	30.57	13.26	22.94	14.52
Secondary	18.96	17.68	18.49	31.06	24.97	30.27
Tertiary	63.58	29.33	50.94	55.68	52.09	55.21
Total						
Primary	63.20	81.38	71.34	63.37	81.09	67.37
Secondary	11.16	17.68	18.49	31.06	24.97	30.27
Total	63.58	29.33	50.94	55.68	52.09	55.21

Source: Time Use Survey, 1998-99, India
: : Census of Population, 1991, India.

Table 7 presents the data on the distribution of time by men and women workers across the different categories. The table shows that as far as the distribution of time among the SNA activities is concerned, men spend less, 55.20% , of their time, on primary sector (63.20% men workers engaged in the primary sector) and more time on secondary activities 15.11% (against 11.16% share of men workers) and on tertiary activities, 29.65% time (against 25.64% share of men workers). This implies that men work for longer hours in the secondary and tertiary sectors than in the primary sector. In the case of women also they spend smaller part of their time (78.47%) on the primary sector activities than the share of women workers in the sector (81.38%). As a result, the share of their time spent on the secondary and tertiary sectors is more, 9.83% and 11.75% respectively, than the share of women workers in these activities, 5.47% and 7.52% respectively.

Some of the interesting aspects of the time disposition by men and women in SNA activities are discussed in the following paragraphs.

1. Within the primary sector, about 38.54% of men and 25% of women workers (of the total workers) are in crop farming, 24.56% of men workers and 25.83% women workers are engaged in animal husbandry and 3.76% of men workers and 3.12% of women workers are in fishing, forestry, horticulture etc. Animal husbandry emerges as an important sector of employment for both, men and women.

2. In the case of collection of fuel, fodder, water, etc. 7.82% men workers are engaged in these activities against 28.40% of women workers. In other words, the most important activity (in terms of persons engaged) for men is crop farming, followed by animal husbandry while for women it is collection of free goods, crop farming as well as animal husbandry.
3. In terms of the distribution of time, however, for both men and women crop cultivation is the most important activity on which they spend more than 40% of their time. The other activities for women workers are animal husbandry and collection of goods, while for men workers it is animal husbandry.
4. Women spend considerable time on collection of fuel, fodder, water, fruits, raw materials etc from forests or nearby open lands / command lands. Women spend 14.80 hours on this (rural women spend 15.62 hours); while men spend 2.17 hours on these activities. Within this group, collection of fuel wood seems to be one of the most important activities for women. Women workers who are engaged in this activity spend 10.66 hours in a week on these activities. The share of men workers (particularly children) is 20% in this activity and they spend about the same time on collecting fuel wood, things etc.
5. Another important activity within the group is collection of water. In fact, in terms of number (of women) who go out to collect water this is the most important activity within this group. About 20% of women workers are engaged in this activity and they spend 5.27 hours on this work.

In short, the activity distribution in the primary sector clearly reflects the drudgery of women's work.

6. In the tertiary sector, services is the most important activity for both men and women. Against the 9% of women workers engaged in this activity, about 16.96% of men workers are engaged in this. About 1527 men and 1563 women are engaged in petty services, and they spend about 19.44 hours and 11.25 hours per week on this. This implies that on an average petty services does not provide enough work to men and women. The share of women workers engaged in petty services is larger in the case of women (1005) than men (956) in rural areas while in the case of urban areas the share is marginally higher for male workers. Petty trading is another activity of men and women. About 624 men and 155 women spend 46.51 hours and 29.38 hours respectively on this work. Petty traders work of larger period (not necessarily with higher productivity or higher remuneration) than those working in petty services.

Children's Participation in Work

Using the information about the time use pattern of children, we have computed the number of children participating in SNA activities. Table 9 provides information on this. The table shows that in the age groups 6-9 years about 22.21% children (20.83% boys and 23.86% girls) participate in SNA activities. They spend about 7.05 hours on SNA work (6.70 hours by boys and 7.41 hours by girls). This incidence is much higher when one moves to 6-14 age group. In this age group about 33.11% children (34.68% boys and 31.29% girls) participate in economic activities. They work for 14.14 hours (boys 12.74 hours and girls 15.62 hours) in a week. Major SNA activities undertaken by children are crop cultivation, animal husbandry, cultivation of goods like fodder, fruits, fuel, petty trade and services etc.

One cannot, however, treat these rates as the incidence of child labour. The data in the present form do not also provide data regarding the children who work full time on SNA activities. However, the data definitely suggest that children, and even young children do contribute to SNA activities in the country.

Table 9

Participation of children in SNA Activities.

	Total Children		Children in SNA Activities	
	6 – 9	6 – 14	6 – 9	6 – 14
Male	2362	6049	492	2098
			(20.83)	(34.68)
Female	1978	5212	472	1631
			(23.86)	(31.29)
Total	4340	11261	964	3729
			(22.21)	(33.11)
		Hours of SNA Work		
	6 – 9	6 – 9		
Male	6.70	12.74		
Female	7.41	15.62		
Total	7.05	14.14		

Source: Time Use Survey, 1998-99, India.

The data on the number of children going to school, however, show that in the age group 6-14, about 69.87% boys, 63.94% girls and 67.13% children went to school. To put it differently, almost 33% children in that age group did not go to school!

Distribution of Time by Men and Women in SNA, Extended SNA and Non-SNA activities.

In order to understand the relative status of men and women in the labour market, it is important to understand how men and women share extended SNA activities falling in the production boundary and non-SNA activities falling in the general production boundary. Extended activities include mainly (a) household maintenance and management, (b) care for children, the sick, elderly and disabled of own household and (c) community services and help to other households. As shown in Table 10 while 76.44% males participate in SNA activities, only 46.61% males participate in extended SNA activities. The corresponding data for females are 62.85 per cent and 88.72 per cent respectively. This shows that only 11 per cent of women, mainly very small girls and very old women, do not participate in extended SNA activities. As against this, about 54 per cent men do not participate in the extended SNA activities at all.

It is interesting to note that in urban areas the percentage of men participating in extended SNA activities is slightly higher (48.73) than the same in rural areas (45.62). In the case of women, however, about 89.17% women participate in extended SNA activities in rural areas compared to 87.72 per cent in urban areas.

In terms of hours, the data show that women spend about 38.99 hours per week on extended SNA activities against only 8.06 hours by men. The corresponding percentages for rural and urban areas are 37.9 hours and 8.3 hours, and 41.86 hours and 7.47 hours respectively.

The table shows that while urban women spend much less hours on SNA activities (9.16) than rural women (22.53) they spend much more time on extended SNA activities. They spend about 41.86 hours per week on extended SNA activities against 37.9 hours by rural women. The overall burden of work, on SNA and extended SNA activities put together is much higher on rural women than on urban women. Rural women spend 60.43 hours on these activities against 51.02 hours by urban women. Clearly, rural women bear heavier burden of work (in time) than urban women in the six states put together.

When one compares the work load of men and women (which includes SNA and extended SNA activities) it becomes clear that men spend about 50 hours on work in a week, while women about 58 hours on work. The difference between the work load on men and women is much higher in rural areas where men work for 50 hours in a week

while women work for 60 hours, than in urban areas where men work for 48.53 hours while women work for 51.46 hours.

This is reflected in terms of the time that women get for themselves: Women spend 68.20 hours for personal care activities while men get 72.90 hours for this purpose. Once again, rural women are in a worse position with 66.36 hours that they get for personal care. Rural men get about 72.61 hours for personal care. In the care of urban areas the difference between the time men and women get for personal care is much less, while men get 73.49 hours, women get 72.88 hours in a week! Perhaps urbanization has some kind of gender equalizing effect on the time use pattern of men and women.

From the point of view of understanding the constraints to women's work in the labour market, it is useful to understand women's non-SNA activities as well as extended SNA activities at a disaggregated level:

1. Only about 16.67 per cent women spend time on learning and education (of any type), while a higher percentage, 20.90 per cent men spend time on learning and education. While men spend about 9.54 hours on learning, women spend 7.25 hours. In the case of rural areas the percentage of persons as well as the time spent on learning are much lower. It is to be noted that urban women spend more time on learning (20.63 hours) than rural men (19.78 hours). In short, learning – studies, training, non formal education do not seem to be very favourable with our population almost half of which is illiterate.
2. As far as the allocation of time within extended SNA activities is concerned, out of the total time of 3.65 hours (that men spend on these activities), men spend 2.55 hours on household management and maintenance, 0.98 hours on care (of children, elderly, sick etc.) and 0.12 hours on community work. Women, on the other hand, spend 29.89 hours (out of the total 34.63 hours spent on extended SNA activities) on household maintenance and management, 4.65 hours on care and 0.09 hours on community services.

An important observation of the time use pattern in India is that people have a lot of spare time. This indeed came as a surprise to us! About 76.28% men and 72.11% women spend 9.92 hours and 9.71 hours respectively on talking and gossiping. About 87.57% men and 85.5% women spend 11.39 hours and 12.37 hours doing nothing, that is, this is their leisure time. And about 1.45% men and 1.48% women say that they are enjoying forced labour (that is, they are unemployed) for about 14.56 hours and 14.34 hours respectively. It should be noted that the code 962 (forced leisure) was added only during the second round, and since it was a difficult question, the response to it was not very good during the early rounds. We, however, hope to get better results when we examine the results of the last (4th) round separately.

Table 11

Time Available For Leisure and Forced Leisure

	MALE	FEMALE	TOTAL
Talking & Gossiping	24862 (76.28)	22124 (72.11)	46986 (74.26)
Hours	9.92 (5.90)	9.71 (5.81)	9.82 (5.84)
Doing nothing	28541 (87.57)	26233 (85.50)	54774 (86.57)
	11.39 (6.77)	12.37 (7.36)	11.86 (6.88)
Available for work forced leisure	473 (1.45)	456 (1.48)	929 (1.46)
	14.56 (8.66)	14.34 (8.53)	14.46 (8.60)
TOTAL	32590 (100)	30679 (100)	63269 (100)
Total time	168 (100)	168 (100)	168 (100)

Source: Time Use Survey, 1998-99, India.

A part of this time clearly reflects under employment of the population. It is interesting to note that this leisure time is significantly more in rural areas in terms of persons with leisure time as well as hours of leisure time. In rural areas the leisure time is much more about 23 houses than in urban areas, about 18 hours. This confirms the view that there is a high incidence of under employment in rural areas due to the intermittent, uncertain and scattered nature of employment in these areas.

Inferences For Employment Policies

1. One major contribution of the time use survey, with regard to labour and employment policy, is that it clearly shows that both men's and women's participation in SNA activities is much more than what is brought about by the Census and the NSSO data. This increase is much larger in the case of women. It is worth noting that the increase is observed in all the sectors of the economy (since the distribution of men and women workers across the three sectors of the economy is quite similar to the distribution as per the Census data) which implies that under estimation is there in all the sectors of the economy. A large proportion of the population is engaged in SNA activities in our economy which is predominantly agricultural and which has 36% to 37% people living below the poverty line. Policy makers should take note of this while planning for employment and skill training.
2. Though women work in large number in SNA activities, the number of hours they put in is much less. This seems to be due to the large burden of extended SNA activities they carry on their shoulders as well as the limited scope that they have in formal labour market. An important implication of this is that women cannot operate on equal footing with men in the labour market as they have a larger burden of work at home. Women can be encouraged to participate for larger hours if their extended SNA work is reduced by better sharing of this work between men and women.
3. This also means that the present focus on designing and implementing employment programmes for women's empowerment, without any arrangement for work sharing in extended SNA activities, will only increase their burden. Such programmes are not likely to be successful. It is necessary that the government focuses on reducing the burden of extended SNA activities of women by (1) ensuring adequate supply of fuel, fodder, water etc. at the doorstep, (2) setting up baby care and child care centers and (3) by directing policies to reduce the stronghold of patriarchy in the country.
4. The summary results clearly show that women spend a lot of time in collecting not only fuel, fodder and water, but also leaves, bamboo etc. forest produce fruits, vegetables etc. With the increasing degradation of environment in the country they seem to be travelling long distances, which has implications for their health and safety also. Men also spend considerable time on these collection activities. This has all important implications for protecting and regenerating environment in the country not only to reduce drudgery but also to protect and promote livelihood of people. Such environment works are highly labour intensive capable of generating massive employment for people in the country.

5. There seems to be a significant incidence of under employment in rural as well as urban areas. The incidence is relatively higher in rural areas as reflected in the very large leisure time. Employment policy and program should take note of this.
 6. The involvement of children in SNA activities is much more than what is presented by the Census and the NSSO data. The study shows that more than 33 % of children in the age group 6-14 do not seem to be going to school. More details of the nature of the problem of child labour will be known after we have further analysed the data on the time use pattern of child labour.
 7. Finally, the paper has shown that it is possible to make invisible work of the poor, and particularly of women visible through a well designed time use survey. The time use survey technique has the potential of generating useful statistics on workforce in the country. Going beyond the conventional statistics, to the area of unpaid activities of people helps in designing better employment policies as well as better empowering programmes for women.
 8. This also means that the time use survey is a useful statistical survey tool for netting the workforce in our economy. That is, it seems to be possible to make invisible work of both men and women visible through a well designed time use survey.
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