



**The Time-use Survey of Rural Punjab: Measuring the Unmeasured**

Danhua Harpreet (Punjabi University, India)

Uppal Anupama (Punjabi University, India)

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By:

Harpreet Dhanoa

Researcher

Dr. Anupama Uppal

Professor

Department of Economics,

Punjabi University, Patiala

Punjab, India

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### I. Introduction

**1.1 The Context:** In today's world importance of anything is measured in terms of money. The worth of work is judged from the payment made for it. Looking in this lens, the unpaid work is not productive, or say has no worth because it is not paid for. For the purpose of calculating national income, market value of goods and services which are sold in the market only are taken into consideration. Much of the household and community work which is not marketed and thus has no market value attached to it remains unvalued. Hence, a significant portion of the invisible work being done in the society remains unknown and a large number of people, especially women who are engaged in this work are deprived of recognition or monetary benefits.

The distribution of paid and unpaid work is highly gendered both in terms of time spent on paid and unpaid work by women and men and in terms of the types of unpaid work carried out by men and women. Women's total workload is somewhat higher than men's, with women working on average longer per day than men including paid and unpaid labour (Frances and Russel, 2005). Women worldwide perform most of the of domestic tasks, including both household maintenance and childcare, even when they are employed part or full time, the mean time spent on unpaid care work by women is more than twice of that for men (Kulshreshtha, and Singh, 2005). A general assessment of law and practice on domestic work across the world is that it is "undervalued, underpaid, unprotected and poorly regulated" in spite of the contributions that domestic workers make to the care and welfare of millions of households (ILO, 2010). Since this type of work mainly falls in female domain, we can easily infer that much of the women's work is undervalued and underpaid. Moreover, the labour force participation rate of the women or say, their participation in paid activities, mainly depends upon the time spent in the domestic responsibilities. Various surveys by National Sample Survey Organisation (NSSO) of India on 'Employment and Unemployment Situation in India' reveal that 90 per cent of women who did not participate in the workforce attributed a "pressing need for domestic work" as the primary cause for their non-participation (Hirway and Jose, 2011). Thus, we can easily find a clear connection between the household responsibilities of the women and their labour force participation as well as the type of work in which they are employed in the job market. But the traditional labour force surveys fail to reveal this fact. From these surveys we can find lower participation of the women in the labour market but not the work burden of men and women. However, the time use surveys would reveal that even though, the labour force participation rate of the women are lower than that of the men, the women spend more time on work and less on leisure as compared to men. This may be due to the involvement of women in family owned farms and enterprises, their family responsibilities, reproductive roles etc. (UNDP, 1995). But the big question is if these activities of the women are really unproductive in true sense of the words? If we focus on the welfare aspects of productive efforts of the society, there is no doubt that it would include not only market production but also household non-market production. But the latter largely goes unreported in the accounting framework of System of National Accounts (SNA) even though the households derive significant amount of utility from these activities. There are many arguments against the measurement of non-SNA activities in monetary terms and their inclusion in national accounts. The critics are sceptical about the clear definition of such activities and the methods of their valuation. Still, there is no doubt that these activities have a great importance in an individual's life. Their contribution to the well being of the individuals/ households and therefore, the society, is immense. This calls for the need of a time use survey and the valuation of these activities

in to monetary terms. In this perspective, this paper is an attempt to chart out the labour force participation of women, their time use pattern and the type of domestic activities in which they are mainly involved and to find out the monetary value of these activities. The study area is the Punjab State of India.

**1.2 The Statement of the Problem:** Punjab state, located in northern region of India, is predominantly an agrarian economy. In mid sixties, this state experienced a revolutionary change in productivity of agriculture due to use of new agricultural technology. This period in the state is popularly termed as 'Green Revolution'. The advent of green revolution not only brought prosperity in the state but it also ensured food self-sufficiency for the country as a whole. Known as 'Food Basket of India', the Punjab state has 1.54 per cent of total geographical areas of the country where 2.29 per cent of total population lives. During 2011-12, 38.7 per cent wheat and 22.1 per cent rice to the central pool of the country came from Punjab. In 2011-12, about 37 per cent of its population was engaged in agriculture and this share in rural areas is 52.47 per cent. Outside agriculture, the rural Punjab is dominated by very small sized home based manufacturing enterprises. Due to the dependence of the country for food-grains on this state, the structural transformation of the economy has not taken place as rapidly as it should be, particularly after the increase in agricultural productivity in mid sixties. Moreover, being a border state (with the international border with Pakistan, with whom the political relations had never been peaceful), the industrialists are reluctant to invest in long term capital-intensive industrial projects. Due to these reasons, the rural populations continue to earn their living from agriculture and small scale manufacturing units, both of which belong to the informal sector and mainly use the family labour. In such a society women's work participation is mainly unpaid in nature. In this state, in rural areas, the women are engaged in agriculture, cooking for family members as well as the farm labour, housekeeping, childcare, care of livestock, storing grains and other related activities along with extending a helping hand in artisanship and handicrafts in family enterprises. Much of this work is not recognised as 'work' in employment surveys as well as national income statistics. Therefore, the present paper will address this question by showing the gaps in the secondary data and then supplementing it with the primary survey of time use by women in rural Punjab. This study is primarily aimed at understanding women's work in rural Punjab in terms of labour force participation, domestic duties and the household work which come under both the SNA and extended SNA activities.

**1.3 Database and Methodology:** This study is based upon both the primary as well as the secondary data. For measuring the labour force participation rate, the work participation rate, women's involvement in unpaid activities and domestic duties, the information has been extracted from the household level data of NSSO on 'Employment and Unemployment Situation in India', the 68<sup>th</sup> Round (2011-12). For the time use survey, Fatehgarh Sahib District of Punjab has been selected. The selection of this district is based upon the average value criterion as the average agricultural productivity, per capita income and other indicators of human development in this district are close to the average values for the state as a whole. A sample of 200 households has been taken from the five administrative blocks of the district. The selection of the households is based upon the multi-stage random sampling method. At the first stage, four villages from each development block have been selected randomly and then from each village a sample of 10 households has been taken. Further, at least two members from each household have been interviewed through a detailed socio-economic structured questionnaire method. The focus of the study is basically to understand the household work, workforce participation, division of labour in paid and unpaid activities and estimating the women's contribution in the rural economy.

**II. Participation of Women in Labour Market in Punjab:** The participation of a person in the labour market is considered to be an indicator of the economic contribution of a person or the group of the persons as well as their own economic well being. It also shows the degree of their integration to the economy. Normally, we assume that the empowerment of a particular group, community or an individual is based upon their respective economic status in the society. Since, the participation in the labour market is an indicator of the economic status, it also defines the level of empowerment of a group or community in question. Thus, the participation of the women in labour market shows their economic position in the society and also gives a reflection of the gender relations in the economy as well as the households. Of course in a sex-segregated society, we cannot imagine equal distribution of work. Table 1 shows the participation of men and women in labour market in Punjab during 2011-12.

**Table 1: Labour Force Participation Rate, Worker Population Ratio, Proportion Unemployed and Unemployment Rate (per thousand) for Persons of Age 15-59 years According to Usual Status (Principal + Subsidiary) in Punjab (2011-12)**

	Rural		Urban		All (Rural+Urban)	
	Usual Principal Status	Usual Principal +Subsidiary Status	Usual Principal Status	Usual Principal +Subsidiary Status	Usual Principal Status	Usual Principal +Subsidiary Status
	Male					
LFPR	826	831	818	820	823	827
WPR	805	811	794	798	801	806
PU	21	20	24	22	22	21
UR	25	24	29	27	27	25
	Female					
LFPR	71	334	142	201	98	284
WPR	66	329	135	194	92	278
PU	05	05	07	07	06	06
UR	70	15	52	37	60	21
	All (Male+Female)					
LFPR	458	588	501	530	475	566
WPR	445	576	485	515	460	552
PU	13	12	16	15	15	14
UR	29	22	32	29	30	24

Source: NSSO, 68<sup>th</sup> Round.

LFPR: Labour force participation rate; WPR: Worker Population Ratio; PU: Proportion Unemployed; UR: Unemployment Rate.

In table 1, the data has been shown for the age group 15-59 years that is the productive segment of the population. All the ratios are shown at the usual as well as subsidiary status (see appendix for definition of these concepts). We can see from the table that, the female labour force participation rates as well as the work participation rates are much lower than that of the males. The main noticeable point in this table is that the difference in the usual principal status and the principal plus subsidiary status is much higher in case of females than the males indicating that women's participation in labour force as well as the work force is more of the subsidiary status while for men it is mainly of principal status. This is true particularly for rural women whose LFPR and WPR are hardly 71 and 66 per thousand, respectively at the principal status while at the principal and subsidiary status, it immediately jumps to 334 and 339 per thousand. On the other hand the difference of both of the LFPR and

WPR at principal and subsidiary status is hardly 5 and 6 per thousand. Further, if we look at the proportion of unemployed (PU) (which is defined as the per thousand figure of unemployed persons in total population in the same age group), it is much lower for the females as compared to males in both the rural and urban areas at principal as well as principal plus subsidiary status. This is not due to higher employability for women vis-à-vis men but due to lower labour force participation rate of women. The true picture comes to the fore if we look at the unemployment rate which again shows a very interesting picture and gives an idea about the distribution of work at home with its reflections in the labour market. The unemployment rate of the women at the principal plus subsidiary status is lower in case of females as compared to males while at the principal status the females have much higher unemployment rate as compared to males. This shows that the temporary and short period works are quickly offered to the women and they readily agree to work in these types of jobs due to their own family responsibilities which spare a little time that they can offer in the labour market. On the other hand, if the women are ready to work in full time regular jobs and are willing to undertake it as their principal activity, they are offered fewer opportunities as compared to their male counterparts. This can be observed from the fact that the unemployment rate for the females in rural areas is 70 per thousand as compared to merely 25 per thousand for males. Similarly, in urban areas, these figures are 52 per thousand for females and 20 per thousand for males. Thus, at the principal status, the unemployment rate for the females in rural areas is not only higher than the males but also higher than the males and females in urban areas. For further exploration of this issue of the participation of women in the labour market, we may see the distribution of men and women in various types of activities in table 2.

**Table 2: Distribution (per 1000) of Workers According to Usual Status (ps+ss) by Broad Employment Status in Punjab (2011-12)**

	Rural			Urban			All (Rural + Urban)		
	Self Employed	Regular/ Salaried Persons	Casual Labour	Self Employed	Regular/ Salaried Persons	Casual Labour	Self Employed	Regular/ Salaried Persons	Casual Labour
Male	46.0	20.1	33.9	45.2	46.5	8.3	45.7	30.0	24.3
Female	77.8	8.6	13.6	41.1	54.3	4.6	68.9	19.7	11.4
All	54.8	17.0	28.2	44.5	47.8	7.6	51.3	27.5	21.2

**Source:** NSSO, 68<sup>th</sup> Round.

Ps+ss – Principal plus Subsidiary Status.

Table 2 shows mainly two categories of workers – the self employed and the hired workers and the latter can be further classified in to the regular salaried persons and the casual labour. The table reveals that in both the rural and urban areas, the work force in Punjab is mainly employed in self-employment category in which about half of the work force is employed. However, this proportion is higher for females than males. In rural areas, about 77.8 per cent of the women are self-employed and hardly 22 per cent are hired workers. Ideally, a self employed worker is an independent one who has all the powers on earnings and the production decisions. This may lead us to think that women have better employment status as they are less employed in other's enterprises. But this category of self-employed workers is very heterogeneous. It includes the employers, the own account workers and the unpaid family workers. While the employers and own account workers have control over the earnings, the unpaid family workers do not get anything in lieu of their work. Out of these self-employed categories, more of the men are employed as employers while the women are involved in small scale own account operations or in family enterprises as unpaid workers. Table 3 shows the proportion of unpaid family workers for both men and women out of the

self-employed workers. It is clear from the table that the proportion of women working as unpaid family workers out of the total self-employed workers is higher than men. It is 28.71 per cent for females as compared to 23.31 per cent for males. In rural areas this proportion is 29.08 per cent for females as compared to 25.81 per cent for males.

**Table 3: Proportion of Unpaid Family Labour Out of Total Self-employed in Punjab (2011-12)**

	Rural	Urban	All
Male	25.81	20.35	23.31
Female	29.08	27.61	28.71
All	26.81	21.40	24.60

**Source:** Calculated from Unit Level Records of NSSO 68<sup>th</sup> Round (2011-12)

The main reason behind the greater involvement of women in unpaid activities and lower one in open labour market is that they have greater family responsibilities and want to balance their economic activities with these responsibilities. As we have seen in table 1 that the LFPR of the women is very low, the natural corollary is that more of them are involved in domestic duties. The NSSO survey has identified two categories of the women who are involved in domestic duties. These are – the women in domestic duty only and the women involved in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use along with their domestic duties. The latter category is purely an extended SNA activity as in absence of these activities, the households have to purchase these goods and services from the market. Therefore, these activities save the household expenditure and thus have an economic value even though no income is earned from these activities. Table 4 shows that about 63 per cent of women are engaged in domestic duties and out of the total women involved in domestic duties, about 54 per cent engage themselves in free collection of goods, sewing, tailoring, weaving, tutoring children etc. for households use. Interestingly, while the proportion of women in all domestic duties (i.e. domestic duty only plus domestic duty and free collection of goods, sewing, tailoring, weaving, tutoring children etc. for household use), is higher in urban areas as compared to the rural ones, the proportion of women in the second category i.e. the women who also perform some activities for household consumption along with their domestic duties is higher in latter than the former. This shows that the involvement of women in extended SNA activities is quite significant (59.01 per cent) even among the women who are recognised as engaged in domestic duties only and so are not stated to be involved in any income generating, productive economic activity.

**Table 4: Proportion of Women in Domestic Duties in Age Group 15-59 Years in Punjab (2011-12)**

	Rural	Urban	All
Domestic Duty	60.10	65.60	62.73
Proportion of those Engaged in Free Collection of Goods and other Activities for Household Use	59.01	49.68	54.35

**Source:** Calculated from Unit Level Records of NSSO 68<sup>th</sup> Round (2011-12).

The NSSO survey on ‘Employment-Unemployment Situation in India’ also poses the questions on the reason of the involvement of the women in domestic duties, type of activity in which they are involved apart from the routine household chores, whether they are ready to undertake any work if it is provided in the home itself?, what type of work they are willing to

accept?, whether they have the requisite skill to perform that work? and what type of assistance they need to perform that work?. These questions are basically asked to find out the strategies of integrating the women with the economy, to empower them economically and raise their social status. This information from the 68<sup>th</sup> Round of the NSSO has been displayed in table 5 and table 6. Table 5 shows that for about 46 per cent of the females, the main reason for being in domestic duty and not participating in the labour market is the absence of any other member to carry out the domestic duty; another 24 per cent cite the social and religious constraints which do not allow the women to work outside their homes. In rural areas, the proportion of women in domestic duties due to absence of any other member to perform the same activities is lower than their urban counterparts while for those due to social and religious constraints, it is higher in rural areas than the urban ones. Further, the distribution of these women by the type of activity in which they are involved shows that 45 per cent of women are involved in sewing, tailoring and weaving for the household consumption and this percentage is about 47 per cent for rural areas. Another 37 per cent of the rural women are also involved in preparation of cow-dung cakes for fuel. Although, the use of cow-dung cakes for fuel has been gradually declining in rural households but it is still prevalent in the poor segments, where this activity of the women is very important as other sources of fuel are less affordable for these households. Through these activities, the women are instrumental in saving money which would have been spent if these goods/services were purchased from the market and we can easily see that all the three activities mentioned in this table are not avoidable as households need cow-dung cakes for keeping the kitchen hearth burning, children need regular assistance in their studies and the clothes are to be stitched for wearing.

**Table 5: Distribution of Women in Domestic Duties according to the Reasons and Type of Activity in Punjab (2011-12)**

	Rural	Urban	All
<b>Reasons</b>			
No Other Member to Carry Out the Domestic Duty	42.54	51.31	46.48
Cannot Afford Hired Help	9.43	9.66	9.53
Social and Religious Constraints	27.85	19.84	24.26
Others	13.50	15.65	14.46
<b>Type of Activity*</b>			
Preparation of Cow-dung Cakes for Fuel	37.30	5.47	23.00
Sewing, Tailoring, Weaving etc. for Household Consumption	46.78	43.84	45.46
Tutoring of Own Children	8.34	13.02	10.44

**Source:** Calculated from Unit Level Records of NSSO 68<sup>th</sup> Round (2011-12).

\* the sum is not equal to hundred as only main activities are displayed here. Moreover, a female in domestic duty may be involved in more than one activity.

Further, the NSSO survey asks the women in domestic duties if they are willing to accept work if the work is provided at the home place. We can see from table 6 that about 29 per cent of them are willing to accept work and this proportion is higher in rural areas where about 32 per cent of women in domestic duties are willing to accept work as compared to about 26 per cent in urban areas. Interestingly, out of those who have shown their willingness to accept work, about 77 per cent want it of part-time nature on regular basis and merely 17 per cent have shown their willingness to accept regular full time work. The proportion of those willing to accept regular part time work is higher in rural areas (about 79 per cent) as compared to the urban ones (about 73 per cent). Most of these women have shown their



willingness to accept the work related to tailoring in rural as well as urban areas. In rural areas about 27 per cent of the women have also shown their interest in starting an activity related with dairy. Thus in rural areas, about 76 per cent of the women have shown their interest to involve in income earning activities in the sectors of tailoring and dairy. These are the activities which they are already performing in their households without any remuneration and so already have the requisite skills. The table also shows that about 78 per cent of the women willing to accept some work already have the requisite skill for the work of their choice.

**Table 6: Distribution of Women in Domestic Duties according to the Nature and Type of Work Acceptable in Punjab (2011-12)**

	Rural	Urban	All
<b>Willing to Accept Work</b>	31.99	25.70	29.16
<b>Nature of Work Acceptable</b>			
Regular Part Time	78.81	73.30	76.63
Regular Full Time	15.11	19.46	16.83
Occasional Part Time	5.19	7.01	5.91
Occasional Full Time	0.89	0.23	0.63
<b>Type of Work Acceptable</b>			
Tailoring	49.93	56.33	52.46
Dairy	26.81	2.94	17.33
Spinning and Weaving	3.85	5.88	4.66
Poultry	0.30	0.23	0.27
Food Processing	1.93	4.75	3.04
Other Animal Husbandry	2.52	1.36	2.06
Manufacturing of Wood and Cane Products	0.00	0.23	0.09
Manufacturing of Leather Goods	0.15	0.68	0.36
Others	14.52	27.60	19.70
<b>Proportion of those having the Requisite Skill</b>	78.22	69.23	74.66
<b>Type of Assistance Required</b>			
No Assistance	4.30	6.56	5.19
Initial Finance	42.37	25.34	35.63
Working Finance	16.30	14.48	15.58
Easy Availability of Raw Materials	3.41	4.75	3.94
Assured Market	14.07	18.33	15.76
Training	14.96	21.27	17.46
Accommodation	2.07	3.85	2.78
Others	2.52	5.43	3.67

**Source:** Calculated from Unit Level Records of NSSO 68<sup>th</sup> Round (2011-12).

Further, table 6 also shows that about 95 per cent of the women in domestic duties need some type of assistance for starting an income generating activity. More than 50 per cent of them ask for financial assistance (initial as well as working finance). They also ask for assistance in obtaining raw material as well as assured market for their products. In rural areas, 42 per cent of these women need assistance in initial finance, another 16 per cent need working finance; 14 per cent need assistance in marketing of the product while about 15 per cent need it for procuring the required raw materials.

Thus, we have observed that the national surveys do tell us about the participation or non-participation of the women in labour market and that the reason behind the non-

participation can be the pressing needs of the domestic duties. It also shows the type of activity in which they are involved and whether they are willing to accept some work if it is provided at their home. But these surveys fail to throw light on the time value and the money value of these activities. For this purpose a time use survey of a sample of 200 households has been conducted. The details of this survey are given below:

**III. Main Findings of the Time-Use Survey of Rural Punjab:** There is increasing recognition that time is a resource, and that its allocation has important economic implications. Time use survey data are an important input to policy analysis. They provide information on the allocation of time to household production of substitutes for market output, as well as on the allocation of time to leisure activities. Time use survey data indicate that, in most countries, women work longer than men when the time they spend on domestic work is added to the hours they work outside the home and in family enterprises (Patrica Apps, 2002).

In an economic perspective, human activities can be grouped in three broad categories namely, (a) Non SNA (personal) activities, as defined by the third party criteria, i.e., the activities whose performance cannot be delegated to a person other than the one benefited from them. These activities could be termed as ‘non-economic activities’ and they would basically include physiological, education and recreational activities; (b) recorded economic activities, i.e., those falling within the SNA production boundary which could be termed as the ‘SNA activities’; and (c) unrecorded economic activities which essentially generate goods and services produced and consumed by the households without undergoing monetary transactions and which are not recorded in labour statistics and in national accounts. These activities could be termed as ‘extended SNA activities’. Here an attempt has been made to find the gender differences in time spent in SNA, Non-SNA and Extended SNA activities in rural Punjab.

**Table 7 Distribution of Time in SNA, Non-SNA and Extended SNA Activities by Gender (in hours/minutes per day)**

Activities	Male	Female
SNA hours	5.42	1.18
%	22.58	4.92
Non-SNA hours	16.42	13.18
%	71.04	56.58
Extended SNA hours	1.36	9.24
%	5.67	38.5
Total hours	24	24
%	100	100

**Source:** Primary Survey.

The table shows that women spend more time on extended SNA activities and less time to SNA activities as compared to men, who spend more time on SNA and non-SNA and less on extended SNA activities. We can observe from the table that out of total 24 hours, the males devote only 5.67 per cent (1.36 hours) time in a day to the unpaid extended SNA activities while the females spend 38.5 per cent (9.24 hours) of the same. In case of SNA or paid activities male devote 22.58 per cent (5.42 hours) time per day as compared to only 4.92 per cent (1.18 hours) per day by females. In case of personal care or Non-SNA activities males devote 71.05 per cent (16.58 hours) time per day as compared to females who devote 56.58 per cent (13.18 hours) time to Non-SNA activities. The argument that easily gain the currency is that since fewer of the women offer themselves to the labour market, it would be but natural that they would be spending more of their time in non-SNA and extended SNA

activities. But for women in employment also, the burden of household responsibilities does not reduce much and they have to bear the double burden, popularly termed as ‘double shift’. Therefore, it is necessary to look at the distribution of time among the employed males as well as females. This can be observed from table 8. A comparison of table 8 with table 7 shows that, for employed persons, the time spent in SNA activities increases while in extended SNA and non-SNA activities falls. Two interesting facts come out of these two tables – firstly, the time spent by employed males in extended-SNA activities is not different from the overall average time (by working as well as non-working males) spent by the males in these activities while in case of females, the participation in active work force reduces the time spent in extended SNA activities by merely 54 minutes which shows that the increase in SNA time is mainly on basis of the reduction in non-SNA time which reduces sharply at 9.30 hours from the overall average time of 13 hours and 18 minutes for females in non-SNA activities. This clearly shows that since there is no respite from the extended SNA activities for the employed females, participation in the labour market eats into their time for personal care, self grooming and social-cultural activities.

**Table 8: Distribution of time in SNA, Non-SNA and Extended SNA Activities of Employed Persons (in hours/minutes)**

Activities	Male	Female	Total
SNA (hours)	8	6	7
%	33.33	25	29.17
Non-SNA	14.24	9.30	12
%	59.08	38.75	50
Extended SNA (hours)	1.36	8.30	5
%	5.67	34.58	20.83
Total (hours)	24	24	24
%	100	100	100

Source: Primary Survey.

The distribution of time by males and females in different activities may also differ according to the nature and type of employment. If we consider all the hired and self-employed workers at both the principal and subsidiary status, we may observe from table 9 that the time spent on extended SNA activities is higher for those men and women who are not in labour force as compared to the persons employed in regular and casual jobs, again the regular workers spend less time in extended SNA activities as compared to the casual workers. The women who are not in the labour force spend about 9.30 hours of their day in extended SNA activities and thus are indirectly helping their family in saving some of the household expenses but same cannot be stated about men who are not participating in the labour market. These men are spending most of their time in non-SNA activities and in extended SNA activities they merely spend about 3 hours as compared to 9.30 hours by women in the same category. The gender differences in allocation of time in extended SNA do not differ much by employment status. This difference is that of about 6.30 hours for both the regular employed men and women and for those ‘not in labour force’ while in casual employment women spend about 7.20 extra hours in extended SNA activities than men in the same category.

**Table 9: Distribution of Time (in hours/minutes per day) in SNA, Non-SNA and Extended SNA by Employment Status**

Nature of Work	Male				Female			
	SNA	Non-SNA	Extended SNA	Total	SNA	Non-SNA	Extended SNA	Total
Regular	6.45	16.21	0.54	24	6.10	10.18	7.32	24

%	26.87	70.87	2.25	100	25.42	44.08	30.5	100
Casual	7.54	15.06	1	24	5.23	10.57	8.20	24
%	31.42	64.42	4.17	100	21.79	44.04	34.17	100
Not in Labour Force	2.25	18.41	2.54	24	2	12.30	9.30	24
%	9.37	80.04	10.58	100	8.33	51.25	38.75	100

Source: Primary Survey.

Further, the differences in time allocation can also be found by the type of occupation. The agricultural sector and the tiny units of manufacturing sector or say, the family enterprises are known to employ more of the family labour as compared to the hired labour. In these sectors, though the formal system of accounts recognise the men as workers, the work done by female family members often remain unrecognised but the time use of men and women would clearly show that a significant proportion of a day's time is spent in extended SNA activities by the female members. Since we are studying the case of rural areas of an agrarian economy, the domestic sphere and market production appear to be more intertwined and therefore unrecorded in official accounts. Table 10 shows the allocation of time spent by the men and women in agriculture and non-agricultural occupations.

**Table 10: Distribution of Time in SNA, Non-SNA and Extended SNA by Occupation (in hours/minutes per day)**

Occupation	Male				Female			
	SNA	Non-SNA	Extended SNA	Total	SNA	Non-SNA	Extended SNA	Total
Agricultural (hours)	4.30	17.36	1.54	24	0.38	11.42	11.40	24
%	17.92	75.66	6.42	100	1.58	50.91	47.5	100
Non-Agricultural (hours)	6.54	15.46	1.20	24	2	14.52	7.08	24
%	27.25	67.75	5	100	8.33	60.58	29.5	100
Total (hours)	5.42	16.42	1.36	24	1.18	13.18	9.24	24
%	22.58	71.04	5.67	100	4.92	56.58	38.5	100

Source: Primary Survey.

The table shows that males and females in non-agricultural occupations devote comparatively more time on SNA and less time on Non-SNA and Extended-SNA activities than the males and females in agricultural occupation who devote more time to Extended SNA and Non-SNA activities, the comparative analysis also shows that males in both types of occupations devote more time on SNA and Non-SNA activities than females who devote more time to Extended SNA activities. The focus of attention here again should be the extended SNA activities in agriculture in which, the females spend close to 12 hours. Thus, even though, they are not directly involved in cultivation or related productive activities in agriculture, their indirect contribution in shape of extended SNA activities cannot be ignored, particularly when male participation in these activities is merely about 2 hours. Thus, such activities in the agricultural sector are the sole responsibility of the females.

Another important determinant of the time allocation can be the level of income of the households. In poorer households women bear greater burden of household responsibilities on their own shoulders than to hire a help from outside. Moreover, in such households since people have fewer resources to spend on human capital, the girls are often marginalised and lesser investments are made in their education and health. This further restricts their

probabilities of getting an employment in the labour market. Since, due to poverty they can not afford to sit idly in their homes, a greater proportion of them are in the labour force as compared to higher income groups. Therefore, the time spent by the women belonging to lower income groups in SNA activities would be higher than those of the women belonging to higher income groups but within SNA activities the former are placed in very low paid insecure/informal jobs. A comparison of time use by men and women in different income groups has been shown in table 11. The table shows that as income increases, the time spent by both the men and women fall in SNA activities and extended SNA activities fall while that of the non-SNA increases. Thus, the hours spent by the poorest group of the population in SNA activities are the highest among all other income groups while their time spent in non-SNA activities is the lowest one. The women belonging to the lowest income group not only spend more times than the males in their own income category but also higher than the women in higher income groups. It seems that the time use by the women does not undergo any significant changes along with the changes in income. However, there is a difference of two hours spent in extended SNA activities between the lowest income group and the top income group shown in the table. But important thing to note here is that for the women in both of these two income groups, the difference of time spent in non-SNA activities is at least of 4 hours while the SNA activities is merely of 2 hours.

**Table 11: Distribution of Time in SNA, Non-SNA and Extended SNA Activities by the Monthly Income Levels of Households (in hours/minutes per day)**

Income level in Rs. (in PPP \$ terms per day*)	Male				Female			
	SNA	Non-SNA	Extended SNA	Total	SNA	Non-SNA	Extended SNA	Total
5000-10000 (10-21)	8	14.30	1.30	24	3	11.06	9.54	24
%	33.33	60.08	5.41	100	12.5	47.75	45.75	100
10000-15000 (21-31)	7.30	14.36	1.54	24	1.45	11.21	10.54	24
%	30.42	62.91	6.41	100	6.04	50.04	43.91	100
15000-20000 (31-42)	6.40	15.35	1.45	24	1.15	12.15	10.30	24
%	26.67	67.29	6.04	100	4.79	51.87	42.91	100
20000-25000 (42-52)	4.30	17.30	2	24	0.54	14.36	9.30	24
%	17.92	72.58	8.33	100	2.25	62.54	38.75	100
25000-30000 (52-63)	4	18.06	1.54	24	1	14	9	24
%	16.67	76.91	6.41	100	4.17	58.33	37.5	100
30000-35000 (63-73)	4.15	18	1.45	24	0.54	14.21	8.45	24
%	17.29	76.67	6.04	100	2.25	60.5	35.20	100
Above 35000 (73 and above)	4	19.15	0.45	24	0.48	15.12	8	24
%	16.67	81.45	1.87	100	2	64.66	33.33	100
Total	5.42	16.42	1.36	24	1.18	13.18	9.24	24
%	22.58	71.04	5.67	100	4.92	56.58	38.5	100

\*based on PPP \$ rate of Indian National Rupee in 2012 at I\$ 1 = Rs. 15.9 (www.worldbank.org/table/4.16).

Source: Primary Survey.

Thus, the burden of extended SNA activities does not differ much by the status of employment, nature of job, occupation and income level. The burden of work in these activities has to be borne by the women in rich as well as poor households, working as well as non-working women. But ironically, these activities are not enumerated and therefore have no economic value for the households as well as the society/economy as a whole. But the fact is that the regular performance of these activities may not gain any importance in the eyes of household members but not performing the same means a lot. There is an old adage 'it is only after the mother dies that one comes to know how much burden she was carrying'. Thus, one realizes the importance of a lady's work after she herself is no more. Emotions apart, coming to the crude facts, pricing a women's work is again a tedious task. In literature on valuation of women's extended SNA activities, we can find two main methods – one is the replacement cost method and another is the opportunity cost method. The opportunity cost method tries to calculate the wages foregone as a result of opting not to offer services in the market. The valuation will change depending upon the type of work a woman may chose, the skill level as well as the availability of jobs for the women. This method is less used due to the difficulty in determining the type of job and the wages offered had the woman been in employment rather than in domestic duties. Our analysis has shown that the employment status hardly brings any significant changes in the hours spent by women in extended-SNA activities. Moreover, it is not realistic to imagine that women are either working in the 'job market' or in the 'home'-she may be working at both the places. Therefore, the replacement method is considered more accurate method to price the contribution of the women in the households. The replacement cost again be estimated by using the minimum wages as a lower bound and the prevailing median wages as the upper bound. This estimation would depend upon the total hours spent on these activities in a week, the number of persons engaged in those activities and the wage rate. Then these figures are adjusted in annual figures to find the percentage of the same in state domestic product. The formula for this estimation procedure is given below:

$$\begin{aligned} \text{Value of unpaid work} &= (\text{average time spent for activity}) \times (\text{wage rate}) \times (\text{no. of persons}) \\ &= (\text{total time spent for activity}) \times (\text{wage rate per unit of time}) \end{aligned}$$

For estimating the value of unpaid activities by women in the age group 15-59 years in rural Punjab, first of all let us have a look at the type of activities in the category of extended SNA. This is shown in table 12. The table shows that the average wages per week range between Rs 75 and Rs 500 for different activities and total 92.16 hours of an average woman are spent on these activities in a week. If these activities would have been performed through a hired help, about Rs 4050 would have been spent by the household which means about Rs 44 per hour and Rs 352 per day (assuming an 8 hour working day). Further, these values are converted in to annual figures by using these average wages as well as the minimum wages and are displayed in table 13.

**Table 12: Distribution of Time in Different Domestic Activities by Women per week and Median Wages (per day) monetary values of work**

Time and Wages	Cooking	Cleaning	Utensils	Washing clothes	Pet care
Weekly time	17.36	7	4.54	7	1.45
Median Wages	250	150	75	125	100

<b>Time devoted</b>	<b>House maintenance</b>	<b>Tending animals</b>	<b>Milking</b>	<b>Collection of dung</b>	<b>Making Dung cakes</b>
Weekly time	4.40	3.30	3.30	3.30	2.10
Median Wages	75	500	150	150	75
<b>Time devoted</b>	<b>Sale and purchase activities</b>	<b>Collection of grass</b>	<b>Fetching of water</b>	<b>Collection of vegetables</b>	<b>Collection of Forest miner</b>
Weekly time	1.45	1.45	1.10	1.52	1.24
Median Wages	75	300	125	75	100
<b>Time devoted</b>	<b>Collection of fuel</b>	<b>Collection of fodder</b>	<b>Physical care of children</b>	<b>Teaching to own children</b>	<b>Accompanying children to places</b>
Weekly time	1.10	1.45	7	3.51	1.45
Median Wages	100	250	500	125	100
<b>Time devoted</b>	<b>Physical care of sick, elders</b>	<b>Supervising children</b>	<b>Taking care of guest/visitors</b>	<b>Total</b>	
Weekly time	3.30	4.54	9.30	92.16	
Median Wages	250	100	300	4050	

Source: Primary Survey.

**Table 13: Value of Extended SNA Activities by Rural Women (aged 15-59 years) and their Share in SDP**

<b>Lower and Upper Bounds</b>	<b>Hourly Wages (in Rs)</b>	<b>Total Annual Value in Extended SNA activities (in Rs Million)</b>	<b>Percentage of State Domestic Product at current prices (2012-13)</b>
<b>Upper Bound</b>			
Median Wages	43.94	1050556	35.49
<b>Lower Bound (Minimum Wages)</b>			
Unskilled Workers	30.08	719179	24.29
Semi-Skilled	33.83	808838	27.32
Skilled	38.14	911945	30.81

Source: Primary Survey.

In table 13 the upper bound estimates have been calculated on basis of prevailing market wages in the survey area while the lower bounds are estimated on basis of the officially announced average minimum wages in these activities (for the stipulated minimum wages see <http://m.paycheck.in/main/salary/minimumwages>). The estimates show that the contribution of rural women in the age group 15-59 years is as high as 35.49 per cent of the state domestic product (SDP) in the year 2012-13. Even if these women get the wages at the rate of minimum wages for the unskilled workers, this contribution is nearly 24 per cent. Since we

have seen that many of the activities, mentioned in table 12 also need special skills (e.g. care activities, teaching children etc.), therefore we have also tried to estimate the contribution of women in extended SNA activities on basis of the minimum wages for the skilled as well as semi-skilled workers. These estimates show that the contribution of women in SDP would have been respectively, about 27 per cent and 31 per cent of the SDP. Thus we have seen that the contribution of women in extended activities varies from about a quarter of the state domestic product to more than one-third of the same. This contribution must be imputed and it does not lose its importance just because it has no market value.

**IV. Summing Up:** Above discussion shows that although, the labour force rate of the women is lower than males, yet they spend long hours on non-SNA and extended-SNA work. Actually, the time spent in productive and unproductive (non-remunerative) activities are closely related with each other. Since women have greater family responsibilities vis-à-vis men, their participation in the labour market is reduced. Our data has shown that for about 47 per cent of the women, there is no other member who can share their domestic responsibilities and further adding the social and religious factors that refrain women to work outside, this proportion comes to about 75 per cent of the women in domestic duties. Still, these women are supplementing to the family well being by indirectly contributing through extended SNA activities. We have observed that on an average, about 39 per cent of the day's time of an average woman is spent in extended SNA activities and this proportion does not vary significantly according to the employment status, nature of job, occupation and the income level. It seems that the women who do not get the opportunity to prove their worth in the job market, try to prove it within the four walls of their homes. The estimates based on the replacement method by using the median wages as well as minimum wages show that the contribution of extended SNA activities of the women ranges between one-fourth to one third of the state domestic product. This calls for the need to conduct time use surveys to acquire more accurate estimates and improved understanding of the work force in India otherwise, the contribution of the women would always be underestimated and therefore delegating them to an inferior position in the society. Moreover, this study has also indicated that about 25 per cent of the women in domestic duties have shown their interest to involve themselves in some remunerative work if the work is provided at the home itself and more than three fourth of them already have the requisite skill for their chosen work. Since most of them need assistance in initial and working finance as well as in marketing of the product, these issues should be duly addressed, particularly at the village level where women have lower access to the financial and physical inputs along with the information regarding the marketing of their product. For the rural women, special efforts are needed to improve their access to credit, skills, marketing, and other infrastructure facilities. Besides, to save the women from the drudgery of the household work, there is a need to enhance the provisions of basic services such as water supply, cooking fuel, universal childcare facilities, including daycare, at affordable prices through cooperation between the government, employers, the market, and civil society organizations. Designing any employment program for women without paying attention to their unpaid work will only increase their burden of work, which can have a negative impact on women's well-being and human capital in particular and society in general.



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## Concepts and Definitions

**Labour force participation rate (LFPR):** Labour force refers to the population which supplies or offers to supply labour for pursuing economic activities for the production of goods and services and, therefore, includes both 'employed' and 'unemployed' persons/person-days. Labour-force participation rate (LFPR) is defined as the proportion of persons/person-days in the labour-force to the total persons/person-days. These ratios are given in per 1000 of persons/person-days.

**Proportion Unemployed (PU):** PU is the ratio of number of unemployed persons/person-days to the number of persons/person-days in population of the same age group.

**Unemployment rate (UR):** Unemployment Rate (UR) is the ratio of number of unemployed persons/person-days to the number of persons/person-days in labour force.

**Usual Status:** In Employment and unemployment surveys of India, the persons surveyed were classified into various activity categories on the basis of the activities pursued by them during certain specified reference periods. There were three reference periods for these surveys. These are: (i) one year (ii) one week and (iii) each day of the reference week. Based on these three periods, three different measures of activity status are arrived at. These are termed respectively as usual status, current weekly status and current daily status. The procedures adopted to arrive at the usual status, current weekly status and current daily status are elucidated below.

**Usual Principal Activity Status:** The usual activity status relates to the activity status of a person during the reference period of 365 days preceding the date of survey. The activity status on which a person spent relatively long time (i.e. major time criterion) during the 365 days preceding the date of survey is considered as the usual principal activity status of the person. To decide the usual principal activity of a person, first a two stage dichotomous classification was followed for determining the broad usual principal activity status (employed or unemployed or not in labour force) of the person. At the first stage, persons were first categorised as those in the labour force (either employed or unemployed) and those not in the labour force depending on the major time spent during the 365 days preceding the date of survey. Persons thus adjudged as not belonging to the labour force were assigned the broad activity status 'neither working nor available for work' (not in the labour force). At the second stage, for persons belonging to the labour force, the broad activity status of either 'working' (employed) or 'not working but seeking and/or available for work' (unemployed) was ascertained based on the same criterion viz. relatively long time spent in accordance with either of the two broad statuses within the labour force during the 365 days preceding the date of survey. Within the broad activity status so determined, the detailed activity status of a person pursuing more than one such activity was determined once again on the basis of the relatively long time spent on such activities.

**Usual Subsidiary Economic Activity Status:** A person whose usual principal status was determined on the basis of the major time criterion could have pursued some economic activity for a shorter time throughout the reference year of 365 days preceding the date of survey or for a minor period, which is not less than 30 days, during the reference year. The status in which such economic activity was pursued was the subsidiary economic activity status of that person. It may be noted that engagement in work in subsidiary capacity may arise out of the two following situations:

(i) a person may be engaged in a relatively long period during the last 365 days in some economic (or non-economic) activity and for a relatively short period (but not simultaneously), which is not less than 30 days (not necessarily for a continuous period), in another economic activity (any economic activity). The economic activity, which was pursued for a relatively short period was considered as his/her subsidiary economic activity.

(ii) a person may be pursuing an economic activity (or non-economic activity) almost throughout the year in the principal status and also simultaneously pursuing another economic activity (any economic activity) for a relatively shorter time in a subsidiary capacity. The economic activity, which was pursued for a relatively short time, was considered as his/her subsidiary economic activity.

**Usual Activity Status Considering Principal and Subsidiary Status Taken Together:** The usual status, determined on the basis of the usual principal activity and usual subsidiary economic activity of a person taken together, is considered as the usual activity status of the person and is written as usual status (ps+ss). According to the usual status (ps+ss), workers are those who perform some work activity either in the principal status or in the subsidiary status. Thus, a person who is not a worker in the usual principal status is considered as worker according to the usual status (ps+ss), if the person pursues some subsidiary economic activity for 30 days or more during 365 days preceding the date of survey.

**Worker Population Ratio (WPR):** WPR is the ratio of number of employed persons/person-days or work force to the number of persons/person-days in population in the same age group.

**Activity classification under Time Use Survey :**

The activities were grouped into following categories: (<http://unstats.un.org> as assessed on September 12, 2013)

**SNA ( Productive and Economic) Activities**

- I. Primary production activities
- II. Secondary activities
- III. Trade, business and services

**Extended SNA Activities**

- IV. Household maintenance, management and shopping for own households
- V. Care for children, the sick, elderly and disabled for own household
- VI. Community services and help to other households

**Non-SNA Activities**

- VII. Learning
- VIII. Social and cultural activities, mass media etc.
- IX. Personal care and self maintenance