Time Spent on Paid Work in India: Issues Emerging From Measuring Paid Work Using Time Use Statistics[1]

Indira Hirway[2]

Introduction:

Estimates of the workforce in developing economies are likely to suffer from two major weaknesses: (1) the estimates tend to underestimate informal workers, the size of whom is difficult to capture through established labour force surveys and (2) they exclude subsistence workforce, which is not covered at all under the established labour force surveys. Underestimation of the workforce tends to create obstacles in designing suitable policies for improving productivity as well as well being of workers on the one hand, and gives wrong signals to policy makers in designing employment policies on the other hand. It is important therefore to improve estimates of workforce in these economics by using appropriate concepts and survey techniques.

The Time Use Survey technique is likely to be useful here, as it is likely to remove some of the weaknesses of the established labour force surveys. This paper shows how time use surveys provide improved estimates of the workforce in a developing economy and how it can throw useful light on the characteristics of the work force. The paper is divided in to two sections: Section One discusses how time use surveys are likely to provide improved estimates of workforce, while Section Two shows how the time use survey data of the first national TUS in India provide improved estimates of workforce for India.

1

Time Use Studies and Workforce Estimates

Conceptually speaking, the total workforce in any economy covers 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 work force that contributes to its generation. One major function of the workforce statistics therefore is to net comprehensively all the workers who participate in the production of goods and services covered under the national product statistics. This simple looking task is not easy, particularly in developing countries, due to various conceptual and methodological problems.

---

[1] Paper prepared for IATUR Conference 2007

[2] Centre for Development Alternatives, Ahmedabad, India.

The concept of informal employment has traveled a long distance since its first use in 1972 by an ILO mission in Kenya. This mission used the term 'informal sector' to denote a wide range of tiny economic units working in production of goods and services but whose activities are not recognized, recorded, protected or regulated by public authorities. In 1993 the Fifteenth International Conference on Labour Statistics (ICLS) adopted an international statistical definition of the Informal Sector that was subsequently included in the revised international system of National Accounts (SNA 1993). The term 'informal sector' was defined in terms of characteristics of production units (enterprises) in which the activities take place, rather than in terms of the characteristics of the persons involved or of their jobs. That is, informal sector enterprises are (1) private unincorporated enterprises, i.e. enterprises owned by individuals or households that are not constituted as separate legal entities independently of their owners, or for which no separate financial accounts are available,[3] (2) all or at least some of the goods or services produced are meant for sale or barter, (3) the employment is below a certain threshold limit determined by the national circumstances or legislations, and (4) are engaged in non-agricultural activities (by definition, agriculture is included in the informal sector, but for practical reasons, it may be appropriate to present separate statistics). Informal enterprises operating in the informal sector include not only production units, which employ hired labour, but also production units that are owned and operated by single individuals working on own account as self-employed persons.

It was felt that the enterprise-based definition is likely to miss out certain forms of informal employment observed under the increasing informalization in several countries. This informal employment would be of persons engaged in very small scale or casual activities, single person own account enterprises, or other non standard or precarious employment. Similar problems may arise in respect of persons, whose activity is at the borderline between self-employment and wage employment, such as outworkers, sub-contractors or free-lancers, as it is difficult to identify such workers as enterprises. For example, people engaged in cooking and selling food on a street, domestic workers, gardeners, watchmen etc are likely to be excluded from the 1993 ICLS definition of informal sector. It was therefore concluded that the definition and measurement of employment in the informal sector needed to be complemented with a definition and measurement of informal employment. The Seventeenth ICLS defined informal employment as comprising the total number of informal jobs, whether carried out in formal sector enterprises, informal sector enterprises, or household during a given reference period. Thus the enterprise-based concept of employment in the informal sector is broadened to cover the total informal employment in an economy.

One important characteristic of employment in the informal economy is its highly heterogeneous nature. One observes large differences in the characteristics of the variety of activities carried out in the informal economy in developing as well as developed countries. These differences are in technology, productivity, wages and remuneration, location of work, terms of work etc. It is important to understand the heterogeneity and

[3] Private unincorporated enterprises include unincorporated enterprises owned and operated by individual household members or by several members of the same household as well as unincorporated partnerships and cooperatives formed by different households, if they lack complete set of accounts.

measure its diversity to be able to use the information in policy making. It is important to understand the composition and dynamics of the informal economy so as to understand its role and its contribution to the total economy as well as to understand the issues of poverty, gender based inequalities, child labour etc, which are closely associated with the informal economy.

This heterogeneity has been described by Chen (2003) as a pyramid of different economic activities. There is a kind of continuum of economic relations, of production, distribution and employment relations, on the one pole of which is activities with pure formal relations (regulated and protected), while on the other pole are the activities with pure informal relations, least regulated and least protected informal economic activities. Chen shows that at the top of the pyramid are employers and micro-entrepreneurs, followed by own account workers, wage workers and then by industrial outworkers and home workers at the bottom. Based on a large number of micro studies, she observes that (1) the top is over represented by men while the bottom is over represented by women and (2) the average income or earnings declines as one moves from the tip of the top to the wide base at the bottom. The informal economy consists of a variety of enterprises and workers, like family businesses, micro-enterprises, single person operators, causal wage workers, industrial outworkers, unpaid contributors, subsistence workers and so on.

The job of statisticians is to net all these activities within the data system so as to get an accurate estimate of the size of the informal economy on the one hand and to throw light on the composition and the characteristics of the informal economy on the other hand. It is also important to have harmonized survey techniques that enable cross-country comparability of the data on the informal economy. Jacques Charmes (2004) has done a comprehensive review of the concepts and methods used by countries in data collection on the informal sector since the adoption of an international definition of informal sector and examined the comparability of these data. His review shows that the different methods used by countries are (1) labour force surveys, (2) other household surveys (3) establishment censuses and surveys and (4) mixed surveys, i.e. establishment cum household surveys. He has observed that labour force surveys are the most popular surveys, followed by mixed surveys, other household surveys and then by establishment surveys. He has carefully examined the informal sector surveys conducted by a large number of countries and has done in depth analysis of the definitions and methods used by them. This review has revealed a lack of data on total employment and on secondary activities (multiple activities) and brought out inconsistencies in methods of computation of the indicators. He concludes that compilation and calculation of harmonized indicators and estimates still remain different and hazardous. In other words, the present survey techniques used by different countries are not good enough to estimate and understand informal employment. It is not enough to have an international definition, but it is also necessary to develop an international / harmonized methodology to measure informal employment.

Some of the reasons why informal work is not captured adequately through established surveys are (1) it is not always easy to distinguish between informal work and household work at the conceptual level (for example, cooking for hired farm workers and cooking

for the family are not easy to separate from each other), as a result women's production activities are thus frequently hidden behind their household work, (2) frequently, there are socio-cultural biases on the part of respondents, particularly women, who fail to report themselves as workers, (3) there are also socio-cultural biases on the part of interviewers or investigators who collect the data from respondents. The interviewers frequently fail to report women's economic work correctly, (4) the nature of informal work is frequently temporary, seasonal or of short duration; it is scattered and sporadic; and it is irregular and mobile. Consequently, it is difficult to net this work through conventional surveys, and (5) women (and also the poor) are frequently engaged in multiple jobs, most of which are frequently of short duration and scattered. Conventional surveys find it difficult to capture these multiple jobs accurately, mainly because there is no provision in schedules to capture these jobs. Informal work and workers are therefore frequently uncounted or undercounted. Unpaid family workers, home workers or home-based workers, street vendors, self-employed workers etc. are many times undercounted; and subsistence work, i.e. production of goods for self-consumption, is usually uncounted, as in some countries this work is not even included in the definition of informal economy when it refers to non-agricultural activities. Even when included it is usually undercounted because it is frequently confused with domestic work and taken as a part of domestic work.

It is argued that the problems mentioned above can be resolved by improving the present survey designs. For example, it is argued that a well-designed household survey can capture all small / tiny enterprises or single person enterprises (such as gardeners, watchman, domestic maid servants etc) and a well-designed enterprise survey can capture the other details of these tiny enterprises. It is also argued that probing questions under a household survey may help in getting the right response from household members regarding their economic activities. In fact, this is a major approach adopted by countries like India, Brazil and Mexico in estimating size of the informal economy that includes informal sector as well as informal employment. Though the household cum enterprise approach is now used by a few countries, there are several limitations of this approach as discussed below.

Netting Informal Work and Employment: The first major question is whether the establishment cum household surveys are able to net all informal workers. That is, (a) whether the household survey, with the probing questions, will remove the biases on the part of the respondents (mainly women) and raise their response level to near cent percent, (b) whether the investigators will remove their biases to report the size of the workforce accurately and (c) whether the improved survey will be able to net all informal workers employed in sporadic, short term, scattered, temporary or mobile work adequately. Though probing questions and improved survey methods may improve the level of response, it is doubtful whether it will remove the biases altogether and will not miss out on tiny, scattered, sporadic and short duration economic activities.

Collecting Information on Subsistence Work: Subsistence work is the production of goods for self-consumption. According to the UN system of National Accounts (1993), the subsistence work covered in the Production Boundary includes (a) household

production of crops and livestock production of other goods for own consumption (including water fetching and collecting firewood), and own account fixed capital formation, (b) owner occupied dwelling services, and (c) paid domestic services, i.e. by employing paid domestic staff. Conventional surveys, including the household surveys / employment unemployment surveys are not likely to net subsistence work. This is because these surveys are not equipped to collect these data: it is not easy for respondents to distinguish between domestic services and domestic production of goods self consumption, with the result that it is not easy for them to identify such production and report it as work. However the inclusion (by the 1993 SNA) of all goods produced for own consumption makes the measurement of these activities easier.

Multiple Jobs Performed By Respondents: It is frequently observed that persons engaged in the informal economy perform multiple jobs with multiple employment status. For example, a typical woman in a rural household will collect water by walking to the common source of water; clean the animal shed, milk the animal and feed it; will go to own farm as helper or to an outside farm as a hired worker. She may also collect fodder and fuel wood for the family and may stitch clothes for the family. The household survey is likely to net the main job (some times there are no main jobs, as there are many small jobs), and one or two secondary jobs. But it is not likely to net the small multiple jobs carried out for short duration as hired workers, own account worker or as family worker.

Work Time Arrangements and Time Spent on Job: Under the process of informalization, induced by neo liberal policies, multiple work time arrangements are emerging in the flexible labour market. (Hoffmann 2003, Hoffmann and Harvey 2002). Some of the new patterns of work time arrangements emerging are compressed week, part time work, flexi work time etc. Also, home based work and homework is frequently performed during different timings depending on the convenience of workers. It is important to collect this information to understand the flexible nature of the labour market. The household surveys discussed above are not likely to capture these data. Another area of interest of labour economists is about how workers spend their time while on job, i.e. what kind of work they perform, the breaks they take, the time they spend on different activities etc. on the job. Again, household surveys do not provide any details on this. In fact, household surveys do not provide details on the time spent by different categories of workers on work. For example, they do not provide data on how much time women spend on collecting fodder or water, or how much time they spend on each of their multiple jobs. The absence on data on the time spent by workers on different economic activities can be considered as an important limitation of workforce statistics.

In short, household surveys, even when well designed, are not able to throw light on the variety of informal work that exists and is increasing under the process of informalization induced by the neo liberal policies in developed and developing countries.

Time Use Survey for Better Estimates of Workforce

Time use surveys is a relatively new survey tool for developing countries, many of which have conducted their first national time use survey in the 1990s or the early tears of the

new century. Getting improved estimates of the national workforce has been an important objective of most of these countries. The results of the surveys have produced improved estimates of workforce in most countries. This is because time use surveys provide comprehensive information on how individuals spend their time, without any socio-cultural bias or any other biases. Since information is collected about all the 24 hours, no activity is likely to be missed out. As a result, a proper coding and a suitable system of classification of activities can generate fairly accurate data on workforce. In other words, the time use method can remove the methodological hurdles in data collection and with a proper classification of time use activities, one can generate reliable estimates of workforce (Hirway 1999).

Time use data are always collected along with a background schedule that provides basic socio-economic information about the selected households and individuals. The background schedule also provides data on age, sex, education, occupation, employment status etc of household members. In addition, time use information is always presented along with selected contextual variables, which present the time use in a proper context and in the process enhance the value of information on time use. These contextual variables could be situation determined (where, for whom, with whom etc.), activity determined (paid or unpaid, technology used, production-organization-household unit, government, corporation etc) or other contexts like whether the production is for sale or for self-consumption etc. Again, classification of time use activities adds significantly to the information collected. A proper classification puts the activities in a proper framework (i.e. SNA framework), and gives details about the tasks carried out. In short, time use surveys, along with the background information, contextual variables and suitable scheme of classification of activities, can provide a wealth of information that no other survey can provide.

Time use surveys can also be linked to different types of major surveys to get added advantages of the survey. For example, Nepal linked its labour force survey with a time use module; Mexico and Madagascar conducted their time use surveys with their expenditure survey, Tunisia is currently carrying out a time-use survey embedded in its budget-consumption survey and South Korea connected its time use survey with asset survey. Time use surveys are thus much more than “information on how people spend their time”

Improved Understanding of Informal Economy By Understanding Unpaid Economy: Time use surveys can help in understanding the status of informal workers in the labour market in another way also. Since time use surveys collect comprehensive information on how workers spend their time, they provide data on the burden of unpaid or non-economic work (that falls outside the SNA Production Boundary but within the General Production Boundary) of workers, mainly poor women workers, when they enter the labour market. And since this huge burden of unpaid work, does not allow level playing field to women with men (who carry, if at all, minimum burden of unpaid work), it has important implications for improving productivity and wages as well as the overall status of women in the labour market. It is important to collect details of the unpaid work of

informal workers in order to design interventions that address the burden of unpaid work on women.

In short, time use survey can remove many of the limitations of the ongoing surveys on informal economy / employment, and can net informal work and workers in a comprehensive manner.

2

Improved Estimates of Workforce through Time Use Data in India

As seen above, several developing countries have conducted their first time use survey, to get improved estimates of their workforce. Nepal used a special time use module in its National Labour Force Survey to capture details of the informal economy (CBS 1999); Thailand conducted its time use survey in 2001 with a view to getting correct estimates of the growing informal sector in the economy (NSO 2001) and Mongolia conducted its first time use survey to get accurate estimates of the growing informal sector after the end of the centralized economy (Noov 2003). Similarly, many other developing countries like South Africa, Benin, Madagascar, Nigeria, Philippines, Mexico, Argentina etc. conducted their first survey to get improved estimates of their respective work force. Though many of these countries have not been able to get the required details of their informal workforce through their time use surveys, their experiences have clearly shown that the time use survey technique has clear advantages in terms of estimating the size of the informal employment in the economy.

India conducted its first national time use survey (it was a pilot survey that covered six major states in India) in 1998-99. A careful analysis of the participation of men and women in SNA activities as per the Indian time use survey throws useful light on the nature of the work that is likely to have been missed out in the conventional surveys.

Workforce Participation Rates: Table 1 presents data that compare the estimated Workforce Participation Rates (WPRs) calculated from the time use survey and the labour force survey of the National Sample Survey Organization. It shows that the WPRs based on the time use data are higher than the WPRs based on the NSSO data (for Current Weekly Status) for both rural and urban areas and for men and women in all the six states. For all the states put together, the male WPRs based on time use survey are 63.26 and 59.29 for rural and urban areas respectively as against 51.00 and 50.90 WPRs as per the NSSO data. In the case of women the gaps between the two sets of rates are much bigger. The WPRs for women as per the time use data are 58.20 and 30.90 for rural and urban areas respectively as against 25.30 and 12.80 WPRs as per the NSSO data. It is clear that the time use survey has been able to capture better estimates of workforce in the country!

Table 1
Comparison of Estimated work Force Participation Rates From Different Sources

State	NSSO, 1999-2000 *						TUS,1998-99					
	Rural			Urban			Rural			Urban		
	Male	Female	Person	Male	Female	Person	Male	Female	Person	Male	Female	Person
Haryana	46.20	17.70	32.80	50.20	10.00	31.30	58.72	61.47	59.96	54.50	39.08	47.55
Madhya Pradesh	51.20	30.70	41.30	47.30	12.10	30.50	61.83	54.62	58.58	57.50	30.68	44.98
Gujarat	57.10	35.50	46.40	52.90	12.50	33.60	63.40	58.48	61.05	56.90	25.78	42.34
Orissa	52.70	23.30	37.90	45.70	11.60	29.30	61.65	58.34	60.00	58.37	30.97	45.77
Tamil Nadu	56.60	38.10	47.40	55.20	20.10	38.10	68.38	60.62	64.52	63.84	34.21	48.88
Meghalaya	55.60	42.00	48.70	39.30	19.70	29.70	58.55	59.35	58.91	53.80	35.06	43.84
Combined State / All India	51.00	25.30	38.40	50.90	12.80	32.70	63.26	58.20	60.82	59.29	30.89	45.69

* For NSSO, the WPR according to Current Weekly Status approach are taken

Some questions have been raised regarding the comparability of the two WPRs as (1) the definition of economic work and worker under the Time Use Survey is much wider (that includes collection of free goods like water, fodder, fruits, leaves etc.) and (2) the time use classification includes travel time in the economic work if the person has traveled to or from work. In order to remove these problems, new WPRs were computed after removing these activities from economic work. The results show that these new WPRs also are higher for the time use survey than the WPRs based on the Current Weekly Status of the NSSO (Table 2).

Table 2
State-wise Estimated Workforce Participation Rates (WPR) obtained Using the Time Use Survey Results with and without considering certain specific activities

State/Combined State		Rural			Urban			Combined		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Haryana										

WPR	58.72	61.47	59.96	54.50	39.08	47.55	57.98	57.59	57.80
Modified WPR	58.00	58.02	58.01	54.39	35.22	45.76	57.37	54.07	55.88
Madhya Pradesh									
WPR	61.83	54.92	58.58	57.50	30.68	44.98	60.99	50.26	55.94
Modified WPR	61.30	53.87	57.80	56.28	29.57	43.81	60.32	49.20	55.09
Gujarat									
WPR	63.40	58.48	61.05	56.90	25.78	42.34	60.96	46.55	54.12
Modified WPR	62.97	58.17	60.68	56.51	25.77	42.13	60.55	46.35	53.81
Orissa									
WPR	61.65	58.34	60.00	58.37	30.97	45.77	61.02	53.68	57.41
Modified WPR	61.56	58.09	59.83	58.37	30.97	45.77	60.95	53.46	57.27
Tamil Nadu									
WPR	68.38	60.62	64.52	63.84	34.21	48.88	66.76	51.01	58.88
Modified WPR	67.60	54.00	60.83	62.66	24.73	43.52	65.83	43.34	54.58
Meghalaya									
WPR	58.55	59.35	58.91	53.80	35.06	43.84	57.77	55.05	56.44
Modified WPR	56.58	53.26	54.91	48.90	26.44	36.92	55.35	48.51	51.96
Combined States									
WPR	63.26	58.20	60.82	59.29	30.89	45.69	62.16	50.75	56.67
Modified WPR	62.73	55.88	59.43	58.53	27.05	43.45	61.58	48.01	55.05

Note: Modified WPRs refer to the rates that do not include travel time and collection of free goods.

The higher WPRs according to the time use survey clearly indicate that the time use survey has been able to net economic work of men, and particularly women in a much better way. Table 3 presents WPRs according to the different age groups.

Table 3
Combined States/ All India

		6-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60 & Above
Rural													
Male	NSS	0.80	8.80	47.20	80.40	90.80	94.70	95.80	95.60	95.20	95.50	89.10	60.40
	TUS	17.00	36.00	72.00	91.00	97.00	97.00	98.00	98.00	98.00	97.00	94.00	74.06
Female	NSS	0.90	8.20	25.20	32.60	40.60	47.00	50.60	51.30	48.90	43.90	38.90	18.20
	TUS	20.00	43.00	69.00	78.00	82.00	85.00	87.00	86.00	88.00	85.00	79.00	54.80
Persons	NSS	0.80	8.60	37.00	55.60	64.90	69.80	73.50	74.10	72.90	69.00	63.90	39.40
	TUS	19.00	39.00	71.00	84.00	89.00	91.00	93.00	92.00	93.00	91.00	87.00	65.20
Urban													
Male	NSS	0.60	5.20	30.60	64.20	86.60	95.00	96.00	96.20	95.70	92.40	78.40	37.80
	TUS	10.00	15.00	43.00	74.00	92.00	97.00	97.00	96.00	96.00	93.00	84.00	48.95
Female	NSS	0.30	3.70	9.40	14.00	17.60	21.80	25.40	26.30	24.60	24.70	19.20	8.50
	TUS	8.00	16.00	34.00	37.00	39.00	44.00	50.00	46.00	50.00	44.00	39.00	22.32
Persons	NSS	0.50	4.50	20.90	40.40	52.60	58.50	61.40	64.90	62.90	62.00	49.70	22.40
	TUS	9.00	15.00	39.00	56.00	64.00	74.00	73.00	71.00	76.00	71.00	64.00	34.90
Combined													
Male	NSS	0.70	8.00	42.60	75.40	89.60	94.80	95.80	95.80	95.40	92.50	86.40	55.30
	TUS	16.00	31.00	63.00	86.00	95.00	97.00	97.00	97.00	97.00	95.00	91.00	68.40
Female	NSS	0.70	7.10	20.80	27.60	34.50	40.30	43.60	44.50	42.50	39.20	34.20	15.90
	TUS	17.00	36.00	58.00	66.00	69.00	74.00	76.00	74.00	78.00	75.00	69.00	46.00

Persons	NSS	0.70	7.60	32.50	51.30	61.50	66.70	70.10	71.50	70.10	67.20	60.40	35.50
	TUS	16.00	33.00	61.00	76.00	82.00	86.00	87.00	86.00	88.00	86.00	81.00	57.80

Note: Time Use Survey, 1998-99

Estimates of age specific WPRs in Table 3 show that in the case of men, the gap between the two WPRs, is the least in the age group 25-35 years (though the WPRs based on the time use data are still higher than the NSSO based estimates). The gap, however, is highest for 6-14 and 50+ age groups. In the case of women, however, the gap between the two sets of rates is high for all the age groups, which implies that women's work is underestimated for all the groups by the conventional surveys.

***Paid and Unpaid SNA Work of Men and Women*:** Table 4 below presents data on males and females engaged in paid and unpaid SNA activities and the weekly hours put in by them in these activities. Unpaid work is defined as that work for which there is no direct remuneration received by the worker. Unpaid workers are usually unpaid family workers or helper or self employed. The table shows that about 57.11 percent men and women are engaged in unpaid SNA activities to a smaller or greater extent; and they spend 38.29 percent of their time on unpaid SNA work. Unpaid SNA activities are, thus, significant in our economy in terms of the share of workers participating in these activities as well as the share of SNA time spent on these activities.

Table 4 State wise Distribution of time spent (in hours) in SNA activities by mode of payment & sex (Participants)

States	**Male**			**Female**			**Total**		
	Paid	**Unpaid**	**% time on Unpaid Activities**	**Paid**	**Unpaid**	**% time on Unpaid Activities**	**Paid**	**Unpaid**	**% time on Unpaid Activities**
Haryana	33.09	18.12	35.38 (53.90)	4.13	25.34	85.99 (87.41)	20.06	21.37	51.58 (67.51)
M.P	29.41	23.34	44.25 (54.60)	14.31	15.75	52.40 (58.83)	22.99	20.12	46.67 (56.26)
Gujarat	44.37	14.17	24.21 (49.60)	17.18	13.87	44.67 (59.26)	33.26	14.05	29.70 (53.01)
Orissa	31.25	22.42	41.77 (55.17)	8.00	18.18	69.44 (84.73)	20.55	20.47	49.90 (68.43)

Tamil Nadu	41.42	13.36	24.39 (46.33)	21.8	10.32	32.45 (58.51)	32.74	12.04	26.89 (51.33)
Megha laya	17.34	35.39	67.12 (66.42)	7.83	25.34	76.39 (77.92)	12.65	30.44	70.64 (71.52)
Combi ned States	36.54	18.12	33.15 (51.67)	14.87	15.18	50.52 (65.27)	27.16	16.85	38.29 (57.11)

Note: Figures in the brackets indicate the numbers of men and women engaged in SNA activities.
Source: Report of the Time Use Survey, Central Statistical Organization, Government of India (2000).

Table 4 shows that in unpaid SNA work is much higher for women workers than for men workers in terms of their share in number as well as hours spent on these activities. While 65.27 percent of women engaged in SNA activities in India (combined states) participate in unpaid and put in more than 50 percent of their SNA time on unpaid work, about 51.67 percent of men engaged in SNA activities participate in unpaid SNA work, and they spend 33.1 percent of their SNA time on unpaid work.

The interstate variations are very revealing which broadly indicates that relatively commercialized states, such as Tamil Nadu and Gujarat have low participation as well as low hour of time spent on unpaid activities.

It is clear that the share of unpaid component is significant in the SNA work in India, and that this can be measured better by time use surveys. The conventional surveys do not seem to be able to capture this.

Sectoral Distribution of Workforce: A comparison of the TUS data and NSSO data on sectoral distribution of workers further shows that the major differences between the two data are observed in “difficult to measure” sectors like subsistence sectors and informal sectors.

Table 5 presents data on percentage distribution of workers as per the TUS (1998-99) and the NSSO Round (1999-00). The table indicates that that the share of the primary sector employment is higher for persons (men + women) as per the TUS, than the same of the NSS. The gap is much larger in the case of women workers. The share of women workers in the primary sector is 79 percent as per the TUS (combined state) and 70 percent as per the NSS (1999-2000). In the case of men workers this gap is somewhat less, 56.00 as per the TUS and 47.00 as per the NSS. This difference in the NSS and TUS data is likely to

be due to the relatively large share of unpaid work in several primary sector activities like crop cultivation, animal husbandry, forestry, collection of water and fuel wood, etc., where women workers are observed to be predominant.

Table 5 Percentage distribution of workers in Time Use Survey and NSSO by Industrial Categories

State	Industrial Category	TUS, 1998-99			NSSO, 1999-2000		
		Male	Female	Total	Male	Female	Total
Combined States	Primary	56.00	79.00	66.00	47.00	70.00	53.80
	Secondary	14.00	10.00	12.00	20.20	13.50	18.40
	Tertiary	30.00	11.00	22.00	32.80	16.50	27.80
	Total	100	100	100	100	100	100

Source: R.N. Pandey Estimating workforce Participation Rates using Time Use Survey Data and its comparison with the Usual Labour Force Survey – Indian Experience: NSSO Rounds, National Sample Survey Organization, New Delhi

Table 6 Percentage Distribution of Persons Engaged in SNA Activities in India according to the NSS Rounds and the TUS (Rural Areas)

Sr. No		As per TUS			AS per the NSSO Round
	SNA Activities	% Male	% Female	% Total	% Work Force 1999-00
1	Crop Farming, Kitchen Gardening etc	30.96	22.03	26.86	59.92
2	Animal Husbandry	19.55	22.62	20.91	
3	Fishing, Forestry, Horticulture, Gardening	3.40	3.01	3.22	
4	Fetching of fruits, water, plants, etc. storing and hunting	7.03	29.15	17.04	
5	Processing and storage	0.95	4.07	2.36	
6	Mining, quarrying, digging, cutting etc.	1.31	0.50	0.94	0.57
	Primary Activities	**63.20**	**81.38**	**71.34**	**60.49**
7	Construction	4.16	1.17	2.80	4.44

	Activities				
8	Manufacturing Activities	7.01	6.33	6.69	11.37
	Secondary Activities	**11.16**	**7.49**	**9.48**	**15.81**
9	Trade and Business	8.62	2.02	5.62	15.40
10	Services	16.96	9.00	13.49	8.44
11	Community Organized Constructions and Repairs, building	0.06	0.10	0.08	
12	**Tertiary Sector**	**25.64**	**11.13**	**19.18**	**23.84**
	Total SNA	**100.00**	**100.00**	**100.00**	**100.00**

Source: Time Use Survey, 1998-99, India

Table 6 throws additional light on the nature of unpaid work that eludes conventional surveys. It presents data on males and females engaged in SNA activities classified into major industry groups. The table shows that about 71.34 percent of the workers are engaged in the primary sector as per the TUS, against 60.49 percent as per the NSS. The table also show that within the primary sector, the most important activities for women are fetching water, fuel wood, etc., (29.15 percent women workers are engaged in this activity), animal husbandry (22.62) and crop cultivation (22.03), followed by processing and storage (4.07 percent) and fishing, forestry etc. (3.01). In the case of men workers the most important activity within the primary sector is crop cultivation (30.96 percent men workers are engaged in this), followed by animal husbandry (19.55), collecting water, fuel wood etc (7.03 percent), and forestry, fishing etc. (3.40 percent). It is quite possible that the better netting of work by the TUS in these activities has contributed, to a significant extent, towards raising the WPR of men and women in the economy.

Another activity where the TUS seems to have better netted the work is “services”. About 13.49 percent workers engaged in “services” as per the TUS against 8.44 percent as per the NSS round. The three digit classification of workers under the TUS shows that petty services (such as, domestic services, informal sector services etc.) are important for men and women both in the India States (Hirway 1999). The other SNA activities likely to be underestimated by the NSS are petty trade, rural artisan work, etc.

Distribution of time Between SNA and Non-SNA work by Men and Women in India.

The time use survey has thrown useful light on the distribution of time by men and women between SNA and non-SNA work. The table shows that while men spend more time on non-SNA work. However, the total work time of women is much higher than that of men. This indicates that women share a higher burden of total work in the economy. What is more important is that women enter the labour market with a huge burden of unpaid non-SNA work, and this does not provide them a level playing field in the labour

market. In fact, this unequal sharing of non-SNA work is an important cause for the inferior status of women workers in the labour market.

In other words, unequal sharing of non-SNA work by men and women is responsible for the unequal access of men and women to the opportunities in the labour market.

Table 7
Sharing of SNA and non-SNA work by Men and Women in India (Combined States)

% Time Spent on	**Men**	**Women**	**Total**
SNA	90.47	35.68	62.07
Non-SNA	9.53	64.32	37.82
Total Work	100	100	100
Average Hours Spent (Weekly) on			
SNA			
Non-SNA			
Total Work			
Total			

Source: Time Use Survey, India 1998-99.

To sum up, the results of the time use survey in India indicates that the time use survey technique is a better survey technique in netting SNA work performed by men and women, particularly in the informal sector. The time use survey also provide additional insights into the nature of the SNA work conducted in the economy. By providing information on the participation of men and women in non-SNA work, the survey shows the higher burden of total work on women, and explains to a considerable extent the overall low status of women workers in the labour market.

Estimating and Understanding Informal Sector Using TUS Statistics

Though the time use survey clearly indicates that it can net SNA work in a much better manner much more information is needed to estimate and to understand informal sector activities as well as subsistence work.

Issues in Classification of Activities: Informal workers need to be classified according to industry groups so as to understand their industry composition, which is necessary for formulating employment policy. This requires that the time use classification of activities in comparable with the established classification of workforce/labourforce. The Trial Classification developed by UNSD in 1997-98, the revised classification, again developed by UNSD on a trial basis (2000) as well as the elaborate classifications developed by countries do not match with the ILO classifications. The International Standard Classification of Activities developed by Harvey and Niemi (1993) also is not adequate.

It needs to be added that the information provided in the background schedule on the economic activities performed by the household or the individual is not adequate, as it is possible that this information is not correct or complete. For example, a non-worker reported in the background scheduled way turn out to be a worker when his / her time use is revealed in details. It is important therefore to include the required classification of economic activities in the time use activity classification.

The Indian classification adopted for the pilot time use survey tried to balance between the comparability with the established classifications of time use activities on the one hand and specific needs of the survey on the other hand. In the process, a compromise was made, which did not help much in establishing full comparability between the TUS classification and the established workforce/labour force classification. In the absence of appropriate classification of activities as well as suitable contextual variables, the Indian survey could not estimate accurately the size of the informal sector in the economy.

In fact, a suitable global classification of time use activities is not yet available. The Trial Classification developed by UNSD in 1999 (Bediako and Vanek 2000), the International Classification of Time Use Activities (ICTUS) developed by UNSD in 2002 (UNSD 2002), the established classifications developed by industrialized countries (for example, the classifications developed by EUROSTAT, USA, Australia, Canada etc) do not seem to be adequate for our purpose. A major challenge is to develop an international classification, that matches with the established ISIC (and ICIS), that meets the needs of developing and developed countries and is comparable with the established time use classifications. The recent Time Use Classification designed by the Expert group in India is important in this context. It tries to meet all these requirements. This classification is developed in the SNA framework and it ensures comparability with the established industry classification in India.[4]

Context Variables: It is observed that different countries use different context variables, as a result of which the required details of informal workers are not collected on the one hand, and cross-country comparability of time use data is lost on the other hand. In order to net informal employment, along with its major characteristics, the following context variables will be useful:

For whom: This variable will provide information about the type of the enterprise (government / public sector, organization, private corporate unit, private proprietary / partnership units, non-profit organization, cooperative, household unit, other work) for which work is done.

With Whom and Where: Both these contexts will provide information on whether the activity is undertaken inside or outside home, or where else. ‘With whom’ will help in knowing the partner with whom the activity is carried out.

Paid / Unpaid and For Sale / Self-Consumption: These contexts are very important for capturing details of informal economic activities. It will also collect information on subsistence activities.

Stable Employment Status: Another important aspect is that the status of employment recorded under the time use survey should be stable, in the sense that it should not be once a year status. Many times countries conduct only one round of the survey, under which information about a person is collected once in a year. It will not be valid to estimate the work force of the economy using this information! (For example, Thailand conducted the survey only once in the reference year, in August 2001, or Mongolia conducted the survey only once, in June 2000. So did Benin in 1998 and Madagascar in 2001). This one-day information is far from adequate to arrive at any meaningful data on workforce. What is needed is that (1) the data collection is spread over a week systematically with randomization of the selection of persons and (2) four rounds of the survey are conducted to capture the seasonal fluctuations in the employment scene (or – even better – a rotating sample is surveyed as it is usual in budget-consumption surveys where a representative sample spread over the country is surveyed each month of the year, as in Tunisia 2005-2006). This will allow us to estimate "weekly employment status" of respondents.

Summing Up:

The above discussion has shown that the time use survey method has clear advantages for getting improved estimates of informal employment. The survey can also throw useful light on the heterogeneity of the informal employment along with its characteristics. The empirical experiences also have shown that the advantages of the time use survey technique can be translated into practice successfully. However, a lot is to be done to use the survey as a major tool for estimating and understanding informal employment.

Some of the steps that may help here are: (1) re-orientation of time use activity classification to make it comparable with the established workforce classifications, (2) developing and standardizing relevant contextual variables to understand the informal economy better, (3) linking up the survey with the labour force survey and (4) standardizing the concepts and methods to make the data sound and comparable across countries.

Time use surveys are not expected to replace labour force surveys. In fact, they are expected to supplement the labour force survey, as they provide additional information on the workforce: they provide improved estimates on the one hand and better understanding of the characteristic of the workforce on the other hand. It is extremely important to use a time use module in a labour force survey.

Selected References:

Bediako, Grace and Joann Vanek (1999) "*Trial International Classification of Activities For Time Use Studies"* in Proceedings of the International Seminar on Time Use Studies Central Statistical Organisation Government of India December 7-10,New Delhi.

Central, Bureau of Statistics (1999*)"Nepal Labour Force Survey*" in Report on the Nepal Labour Force Survey 1998/99 Central Bureau of Statistics Government, Nepal.

Charmes, Jacques (2004) "*Data Collection on the Informal Sector: a Review of Concepts and Methods Use Since the Adoption of an International Definition Towards a Better Comparability of Available Statistics*" in Delhi Group on Informal Sector Statistics ILO- Bangkok, February.

Charmes J. (2006), 'Gender and time poverty in sub-Saharan Africa: a review of empirical evidence', in Blackden M. and Wodon Q. eds. *Gender, Time Use and Poverty in sub-Saharan Africa*, World bank Working Paper.

Chen, Alter Martha (2003)"*Rethinking the Informal Economy*" in India Seminar

Chen, Martha et.al (2005)"*Progress of The World's Women*"2005 in Unifem, New York

Delhi Group on Informal Sector, (2005) *"Report of the Delhi Group on Informal Sector"* Report Submitted to the Statistical Commission 8th Meeting of the Delhi Group held at Fiji, 5th December.

Hirway (2000), *Estimating Workforce Using Time Use Data: Preliminary Analysis*, in Proceedings of the International Seminar on Time Use Studies, CSO, Government of India, New Delhi

Hirway, Indira (2003) "*Using Time Use Data for Estimating Informal Sector in Developing Countries: Conceptual and Methodological Issues with Reference to South Asia*", Paper presented at the IATUR conference at Brussels.

Hoffmann Eivind and Adriana Mata Greenwood (2003), *Statistics on Working Time Arrangement: An Overview of Issues and Some Experiences* in Proceedings of the National seminar on Application of Time Use statistics, CSO, Government of India and UNIFEM, South Asia Regional Office,New Delhi

Hussmanns, Ralf (1993) *"Defining and measuring informal employment*" in Bureau of Statistics International Labour Office Geneva, Switzerland.

Hussmanns, Ralf (2004) "*Statistical definition of Informal Employment*" Guidelines endorsed by 17th ICLS (2003) in Delhi Group on Informal Sector ILO Geneva, February

Jhabvala, Renana, et.al (2003)"*Informal Economy Centrestage*" Sage publications India Pvt Ltd, New Delhi.

Kulshreshtha, A.C and Gulab Singh (2001) *" Informal Sector in India: Its Coverage and Contributions"* in Amitabh Kundu and Alakh N. Sharma (editors), "Informal Sector in India", Indian Institute of Human Development and Institute of Applied Manpower Research, New Delhi.

OECD (2002) "*Measuring the Non-Observed Economy*" A Handbook Published by

OECD, ILO, IMF, 2002.

Radcliffe, and WIEGO, (2000) *"Rethinking the Informal Economy: A dialogue between Academics and Activists*", Radcliffe Public Policy Centre & Women in Informal Employment: Globalization and Organizing, Harvard University

Shah, Jayashree and R.G Nambiar (2004)"*Informal Sector in India Pathways to Viability and Growth"* Sardar Patel Institute of Economic & Social Research, Ahmedabad.

UN-ESCAP (1997) *"Integrating Paid and Unpaid Work into National Policies*" An Agenda for Action Seoul, Call No: 390 INT 3239.