

Time Use Studies: Conceptual and Methodological Issues with Reference to the Indian Time Use Survey

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Conventional statistics on labour force and national income are expected to provide information on the productive time use by people (in economic activities) and the welfare level enjoyed by people, both of which present a basis for economic policy and planning. Since the market is viewed as the core of economic activity, participation in the labour force as well as the inclusion of production into national income accounts has been defined in relation to their connection to the market or to the performance of some “work for pay or profit.” (as defined by the International Conference on Labour Force Statistics, ILO, 1954)

The reason for this is the notion that unremunerated work is not to be included in national income, and the person performing it not to be counted as a member of the labour force because they were not a part of the market or paid/exchanges of goods and services, and therefore not viewed as economically significant. In other words, though remunerated and unremunerated or marketed and non marketed activities contribute to human welfare, the economic data include only the remunerated activities exchanged in the market. Conventional economic statistics cover only these aspects of the society.

Recently, however, there is a growing realization that unpaid non market activities are also equally important for human welfare as they contribute significantly to the well being of people. A need is therefore felt to collect information on these activities. However, the conventional data collection tools such as census of population, labour force surveys or enterprise surveys are not capable of providing this information. Time use survey is emerging as a very useful tool in this context as this survey provides detailed information on how individuals spend their time, on a daily or weekly basis, and reveal the details of an individual’s daily life with a combination of specificity and comprehensiveness not achieved in any other type of social survey.

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Rationale of Time Use Surveys :

Time use surveys can contribute to the understanding of the economy and society in several ways :

1. To start with, countries need to arrive at a better estimate of value of goods and services produced in order to construct a more complete national income account. A more complete measurement and imputation of GDP provides an indicator of how much a country produces not just for the market but for sustenance of the society.

Conventional data on GDP do not include the goods and services produced for self consumption within the household. However, it has been estimated that the value of such goods and services can be very high, upto 50 percent to 60 percent of the national GDP! (Ironmonger 1998, Luisella Goldschmidt – Clermont 1995). This means that by excluding the value of unpaid goods and services, the conventional data on GDP underestimate considerably the total income of a nation.

Exclusion of unpaid services and non marketed products also reduces the cross country comparability of the national income data. Since developing countries have the culture of producing several goods and services within the household, the conventional national income data underestimate the income and overestimate the poverty of these countries (Boserup 1970, Beneria 1992).

In short, it is necessary to estimate the time spent on unpaid domestic activities through a well designed time use survey and compute its value at least in a satellite account to start with.

It is now widely recognized that the development of a society should be judged not by the average income of people, but by people's capability to lead the life they value. As UNDP has defined, development is the process of expansion of choices in life through improved capabilities (UNDP 1999). Since these capabilities such as health, education, nutrition etc are improved not only by economic activities but also by unremunerated activities of men and women in the family in the form of care, it is important to include this "care" in the total welfare of the society (UNDP 1999).

2. Countries need to develop better measures of welfare and well being particularly in the context of time. Existing aggregate indicators such as real GDP per capita are not a good measure of welfare. It is important to examine not only the level of incomes people earn but also the ways in which processes of work and leisure affect people's well being. Dimensions of time use such as the length of paid and unpaid work and the intensification of work convey important information on the quality of life that existing measurements of living standards do not. The occurrence of "double day" for many people, particularly women and the incidence of overlapping of work activities or "high work intensity" can be measured only through a time use survey. For

example, in Hungary time use data are used to develop social indicators on these lines.

Impact of reduction in food subsidies, or rising prices of health facilities can be clearly seen in the changes in the time use pattern of the poor, and particularly poor women who struggle hard to make the two ends meet. Existing welfare indicators do not take into account of the serious implications of prolonged periods of work intensity and long working hours.

3. It is also important to have a total view of the labour inputs that go into economic and non-economic activities in a country. Current labour statistics give only a partial view of the total labour use in a society.

It is to be noted that paid and unpaid work do not operate independently of each other. In fact, they are closely inter connected. The division of the total labour force in a household into paid and unpaid work generates the hierarchy within the household that is reflected in the lower status of women in the household as well as in the labour market. To put it differently, the roots of gender inequity in the society lie, to a considerable extent, in the division of paid and unpaid work in the household. In order to address the issue of gender inequality, which is a common feature of developed as well as developing economies, it is important to collect data on paid as well as unpaid work in the society. Since this unpaid work of women is invisible in conventional statistics, women's work remains invisible, which has implications for employment and welfare policies which tend to neglect women's needs. Time use surveys can make the invisible work of women visible and thereby help in designing policies for gender equality.

Unpaid work has been identified as a key source of policy intervention by United Nations through its platform for Action, Beijing. The PFA has called for developing "suitable statistical means to recognize and make visible the full extent of the work of women and all their contributions to the national economy including their contribution in the unremunerated and domestic sectors..." and stressed the need "to develop a more comprehensive knowledge of work and employmentthrough efforts to measure and better understand the type, extent and distribution of unremunerated work, particularly in caring for dependents" (UN Beijing Declaration, Platform For Action, 1995)

4. Macro economic policies should include unpaid work in their scope of enquiry, formulation and appraisal to achieve greater efficiency and economy. Effects of transformations taking place in the global economy through trade liberalization, rapid technological changes, rapid capital flows on individual's well being – men and women, and long term economic growth, employment and welfare can be better assessed by making the link between paid and unpaid work economy. Shifts in employment patterns, for example, have a significant impact on both the supply of

unpaid care services and/or the total work time spent by women. There is substantial evidence which shows that the cost of child care has a significant effect on women's labour force participation, which has important implications for minimum wage legislation and employment policies.

As Ironmonger (Ironmonger 1998) puts it, time use studies, along with satellite accounts of unpaid household work present a bigger and a more comprehensive picture of the economy. This helps in policy making and monitoring of the economy as (a) they provide insight into how social and economic systems operate and (b) measure and explain the impacts of policies on households and people.

In short, time use studies has emerged as an important statistical survey for measuring and monitoring human well being and for policy formulation in different areas.

Time Use Surveys in Developed and Developing Economies

Time use studies were first used in the early 1900s as a means for analyzing various social phenomena and provided comprehensive information on lifestyles of families and patterns of social life as revealed by the allocation of time among several different human activities. Over the years, however, time use studies are increasingly used for estimating the value of household production, allowing for more objective comparison with the overall value of national production.

Though time use surveys are useful to both developed and developing economies in improving their statistics on labour use and national income; there is a difference between the objectives of time use studies in developed and developing economies. In developed countries where official statistics provide fairly reliable information on market oriented activities, time use studies are used mainly as a source of information on activities not covered by official statistics, such as leisure, household work, family care etc. Time use statistics here are used mainly for measuring unpaid activities performed at home, to analyze the relationships between market and domestic labour, and to serve as a basis for quantifying domestic work in monetary terms comparable to production included in national accounts.

The objectives of time use surveys in developed countries range considerable from country to country within this broad objective. For example, the objectives of the time use surveys, 1997 in Australia were laid down as (ABS, 1997).

1. To study paid – unpaid work and work force,
2. To estimate the value of goods and services not included in GDP,
3. To study daily life pattern of vulnerable such as, the elderly, unemployed and the disabled to assess their support needs
4. To estimate time and value of voluntary work, leisure and

5. To study the issues relating to transportation (travelling time), communication (time spent on telephone), time stress etc.

Similarly, the fourteen countries in the North and Eurostat have identified the following as the objectives of their time use studies:

1. estimate the time spent on unpaid work of men and women,
2. to estimate the value of this time in a separate satellite account,
3. to estimate the leisure time enjoyed by men and women, and
4. to estimate the time spent on voluntary work and compute its value.

(Eurostat 1998, Goldschmidt-Clermont and Pagnossin – Alligisakis 1995)

Sometimes time use surveys are conducted with a specific focus also. For example, as seen above, the time use study, 1993 of Hungary was designed mainly to provide a better knowledge of the direct impacts of the post 1990 socio-economic transformation on people's daily life (CSO, Budapest 1995).

In developing countries where work, including market oriented work and workers are grossly underestimated because of the inadequacy of the prevalent concepts and methods to capture these satisfactorily, the main objective of time use studies would be to provide realistic statistics on economic production and work force. The other uses, such as estimation of the time and value of domestic work, of course would remain as an important objective of such studies. The major objectives of time use surveys in developing countries are likely to be as follows:

To start with, time use studies are expected to provide the following data for these economies:

1. Market oriented economic activities not included in labour force and /or a national income accounts due to the inadequacy of concepts and methods of conventional surveys,
2. Non-market oriented economic activities covered under the Production Boundary of the UN-System of National Accounts (UN-SNA 1993): These activities would be production of goods for self consumption, collection of water, fuel, fodder etc., construction and repair of buildings etc.
3. Non-market oriented non-SNA activities which fall under the General Production Boundary as per the UN-SNA: These activities would be mainly related to domestic and voluntary services
4. Personal care services that cannot be delegated to others.

The above data can contribute towards improving labour statistics and national income statistics, can throw useful light on the distribution of paid and unpaid work of men and women as well as can present data relating to the time and value of different unpaid activities carried out in the economy.

As a result, time use data can be very useful in developing countries for planning for employment and skill training programmes for the poor including poor women as these data can provide (a) information about the time available with the poor for undertaking skill training and new employment and (b) the nature of work undertaken by the poor. Time use data can also be useful in designing welfare and empowerment programmes for the poor including women as (a) the data can throw light on the drudgery of the poor (for example, time spent on collecting fuel, fodder, water etc.), their overburden of work and high intensity of work, (b) can provide information about the pattern of the use of child labour and (c) can provide information about sharing of work by men and women within the household which can explain why and how women are over burdened.

Information about what happens within the household is not available through the usual sources of data in any economy, and particularly in developing economies. Time use studies can be a rich source of information for this lesser known area as they can provide ample information about the various socio-economic and cultural aspects of the life of people. For example, the data can provide information about the burden of work and leisure time enjoyed by men and women; time spent by them in participating in community activities; mobility of women and girls outside the household; travelling done by household members in general; survival strategies and livelihood patterns of people and particularly the poor including women etc.

In short, time use studies can be important means of understanding the life of the poor and status of women within and outside the household, which, in turn, can provide useful input for policy and programme interventions by the government and NGOs for the development and empowerment of the poor and poor women.

Time use studies, however, is still a new survey technique in most countries, including developed countries. For example, Australia conducted its first national time use survey in 1987, and the second in 1997 survey which allows first time a comparison of the time use pattern between 1992 and 1997 (ABS, Australia 1997). Eurestat has conducted its first harmonizing survey only recently (NIEMI 1998), and USA has only now conducted its first national time use survey. It must be added, however, that countries in the North have developed the time use survey methodology as well as the methodology of compiling satellite accounts for unpaid work fairly well.

Time Use Surveys in India

Several scholars in India have experimented with small scale time use surveys covering a small number of villages and households. The prominent studies among these are (a) Time Allocation Study in some villages of Rajasthan and West Bengal by Jain and Chand (Jain and Chand 1982), (b) Time Allocation study in Tamil Nadu by Directorate of

Economics and Statistics, Tamil Nadu (1996), (c) Time Use study by NCAER in a few villages and (1980s) (d) a study on the Time Use of children by Ramesh Kanbargi in Karnataka (1990). These studies have experimented with methodologies of conducting the survey and classification of activities. The study by Jain and Chand which is the most important of the studies, observed interesting results about the time use of women and showed that their participation in economic activities was higher than what is presented in the Census of Population and National Sample Survey statistics.

Though these studies made interesting observations about the time use of people in some micro situations, they had several methodological lacunas. Also, they could not present any results relevant at the regional / state / national level due to their small size, and therefore could not be used either for correcting labour statistics and national income statistics or for formulating macro policies in the economic and social fields.

Government of India in the Department of Statistics therefore decided to organize a pilot time use study at the national level. A Technical Committee was set up to undertake the following specific tasks (refer to Appendix – 1) :

1. To advise the Government on designing, planning and related matters leading to conducting a time use survey,
2. To suggest appropriate definitions and concepts, schedule of inquiry and a suitable reference period for the purpose of data collection through a survey,
3. To suggest an appropriate methodology for building up the annual estimates of time disposition based on the survey data, and
4. To advise on any other matter referred to the Technical Committee by the Department of Statistics in respect of time-use survey.

The Committee started its work some time in the later part of the year 1997. After developing a suitable conceptual framework and methodology, it conducted the pilot time use survey in six states of India during July 1998 to June 1999. The major results of the survey are just available, and the report is in the process of being drafted.

Objectives of the Pilot Time Use Survey

The TC (Technical Committee) laid down the following as the objectives of the pilot time use survey:

1. To develop a conceptual framework and a suitable methodology for designing and conducting time use studies in India on a regular basis. Also, to evolve a methodology to estimate labour force / work force in the country and to estimate the value of unpaid work in the economy in a satellite account.
2. To collect and analyze the time use pattern of people in the selected states in India in order to have a comprehensive information about the time spent by people on marketed and non-marketed economic activities covered under the UN-SNA 1993,

non-marketed non-SNA activities covered under the General Production Boundary and on personal care and related activities that cannot be delegated to others.

3. To use the data in generating more reliable estimates on work force and national income as per SNA 93, and in computing the value of unpaid work through separate satellite account,
4. To infer policy / programme implications from the analysis of the data on (a) distribution of paid and unpaid work among men and women in rural and urban areas, (b) nature of unpaid work of women including the drudgery of their work and (c) sharing of household work by men and women for gender equity
5. To analyze the time use pattern of the poor to understand the nature of their work so as to draw inference for employment and welfare programmes for them.
6. To analyze the data of the time use pattern of the weaker sections including the poor, the child and women to draw inferences for welfare policies for them.

Specific Characteristics of India With Respect to Time Use Studies

It was felt at the outset that the available concept and methodology of time use surveys from the developed countries will not be suitable to the Indian needs due to certain specific characteristic of our country:

1. To start with, the objectives of the proposed time use study in India would be, as discussed above, much different at least in terms of its focus. The approach and the methodology of the study therefore would differ significantly from the same used in developed economies.
2. As far as the appropriate methodology of conducting such a survey is concerned, India has several constraints. To start with, the level of literacy is low in India, the urban, rural and total literacy rates being 73.1 percent, 44.7 percent and 52.2 percent respectively (1991). The literacy rate of women is particularly very low at 39.3 percent (1991). As a result, we could not think of using the established diary system of data collection. Since the observation method was found of a limited use (persons become conscious while being observed), we had no alternatives but to use the one day recall for data collection.
3. Time pieces and clocks are not followed religiously by people in India, particularly in rural areas. It was not possible therefore to measure the exact time of the occurrence of different activities of people and the time taken by people in the slot of every 10 minutes. We had to depend on the broad sense of time of people who could tell us how much time they took but had to be helped to know about the time of the occurrence of events. Investigators asked the chronology of activities carefully while questioning the respondent about the time spent on each of the activities.

4. It was not always possible to get the right response from women respondents due to social customs and taboos. Frequently, men offered to reply for women which was rejected by investigators due to the likely male bias. In some regions we had to hire women investigators and train them properly to undertake investigation.
5. Men and women in developing countries frequently take up multiple jobs or perform multiple economic activities to make the two ends meet. Since many of these activities are frequently in the informal sector, it is not easy to get the right response from respondents. Careful investigation was necessary to get the right response.
6. It is frequently difficult in a developing economy to demarcate between SNA and non SNA activities. For example, it is frequently difficult to distinguish between food processing (economic activity) and cooking food for the family. It is also difficult to distinguish between the two activities when the food is cooked for hired workers (economic activity) and for the family (non SNA activity). One had to be very careful about classifying and coding economic activities.
7. Many times men and women in a developing country perform multiple jobs simultaneously. For example women do cooking or cleaning while looking after kids, or men watch the television while have food. It is important to collect this information carefully during investigation.
8. As agriculture happens to be the main occupation of people in India, agricultural seasons have a significant impact on the pattern of time use in India, particularly in rural areas. In the busy agricultural season, there is a good demand for labour on farms but the demand declines considerably in the lean season. It is important therefore to organize a time use survey in four rounds to capture the seasonal variations in the time use.

The above points were used as important inputs while designing the schedules and the methodology of data collection, while preparing the Instruction Manual, designing the training programme for investigators and monitoring the survey.

Organization of the Survey

Since the proposed time use survey was a methodological survey, the government decided to organize it in a way that would allow inputs from academics, activists as well as the national statistical bodies. The Technical Committee at the apex consisted of all the three categories of people. The survey work, however, was carried out by the official statistical bodies at the state level, under the guidance and supervision of the state level Expert Committees as well as the national level Technical Committees as to assure that the future surveys become a part of the statistical system in the country.

In order to make the sample broadly representative of the country, the Committee decided to select six states from the six different regions, namely, Gujarat from the west, Haryana

from the north, Orissa from the east, Madhya Pradesh from the central region , Meghalaya from the north-east and Tamilnadu from the south. Another reason for selecting the states was to test the new survey in six different situations in the country to ultimately develop a national approach and methodology.

Classification of Activities:

A primary objective of the classification of time use activities is to provide linkages of time use activities with the existing standard classifications in economic and labour statistics with a goal of integration of time use statistics within the field of social and economic statistics. Another objective is to ensure the full measurement of the paid and unpaid work of men and women.

Classification of time use activities in developed countries primarily focuses on non-market oriented activities as market oriented activities are covered by official statistics in these countries. For example, the classification of time use activities adopted by Australia, Eurostat, Canada or other developed countries focus mainly non-SNA activities.

The activity classification in the Eurostat time use survey (Eurostat 1999) focuses mainly on household and family care (i.e. food preparation, household upkeep, making and care of textiles, gardening and pet care, construction and repairs, shopping and services, child care, adult care and household management), civil and religious activities, social life and entertainment, sports participation, hobbies and games, mass media, travel and personal care. (Appendix 3). Similarly, the activity classification in Australia focuses mainly on domestic activities, child care, voluntary work, shopping, social life and entertainment, active and possible leisure and personal care (Appendix 4), and the Canadian classification also focuses on similar activities.

The above classifications are obviously of not much use to developing countries where several SNA activities are undertaken within the household. Some of these countries which experimented with small scale pilot studies tried to use activity classifications that reflected the activities conducted by their population. In Nepal, for example, a time use study divided activities into four broad classes, namely, conventional economic activities, expanded economic activities, domestic activities and social maintenance / leisure.

In order to combine the needs of developed and developing countries and to develop and a global classification, UNSD had called an Expert Group Meeting to discuss the Trial International Classification that it had developed (UNSD 1997). The main rationale for the “Trial Classification” was the growing interest to have a comprehensive knowledge and understanding of the use of time in different societies. This classification therefore different from the classifications used in developed countries in three main ways:

1. The System of National Accounts (SNA) was used as the basic framework for determining the economic nature of activities;

2. Activities of non-marketed production which are an important part of production in developing countries, had been assigned to one major group with detailed specifications at two and three digit levels; and
3. “On the job” activities which are normally not specified in detail, had been given more detailed breakdown and classified primarily by employment status category.

The trial classification has 10 activity groups under your conceptual categories as follows (Appendix 8)

A. SNA (Productive and economic) activities

1. Market-oriented economic activities
2. Non-market economic activities within SNA production boundary

B. Non-SNA (Productive but non-economic) activities

3. House work
4. Child and family care
5. Shopping for household
6. Community service and organizational volunteer work

C. Personal (Non-Productive) activities

7. Education, training and Study
8. Social, arts and culture (media use)
9. Personal care, religion and personal maintenance

D. Travel

10. Travel

This classification attempts to ensure correspondence with the existing standard classifications in labour and economic statistics as well as the integration of time use statistics within the field of social and economic statistics. The categories are to the extent possible linked with the definitions and categories used in ISIC, ISCO and ISCE.

This classification has also put more emphasis on economic activities than most other time use classification used in developed countries. It also takes into account the different cultural and geographic contexts in which activities are generally carried out.

The trial classification, however, had too many activities as instead of using contextual variables, it added to the number of activities. This results in duplications of activities, which, in turn results in confusion.

The Expert Group found other issues also pertaining to the classification: (a) How much specific one can go while describing activities like care of children, old and the disabled, (b) to what extent one can go while describing “on the job” activities (such as, tea breaks, private phone calls, lunch breaks etc.), and (c) what contextual variables should be used in our activity classification of time use studies.

The International Labour Organization had presented an “Alternative Time Use Classification” as an alternative to the Trial Classification (Hoffmann and Mata 1997). This alternative classification tried to avoid duplications of the trial classification and presented a set of contextual variables such as, for what purpose, for whom and where (Appendix 9). Though this classification had several advantages, it was viewed as having limited comparability with the present activity classifications used by developed countries.

The Expert Group therefore arrived at a new classification (Expert Group Classification) which was tentative in nature (Appendix 10). It was recommended that the countries should stick to the broad classification of the Expert Group for their respective time use surveys.

The Expert Group Classification was designed to provide the basis on which data from time use surveys would be coded and presented in categories that would be meaningful in the assessment of national labour inputs into production of all goods and all types of services, in the compilation of household satellite accounts, and in examining trends in the broad uses of time. The two main principles underlying the classification are:

1. To provide a structure which is consistent with the conceptual framework of SNA and which allows for creating satellite accounts.
2. Ensure comparability with other time use classifications.

This Expert Group Classification divided the activities into the following major groups: (Appendix 10)

1. Employment for Establishments
2. Primary production activities (not for establishments)
3. Services for income and other production of goods (not for establishments)
4. Household maintenance, management and shopping for own household
5. Care for children, the sick, elderly and disabled for own household
6. Community services and help to other households
7. Learning
8. Social and cultural activities
9. Mass media use
10. Personal care and self maintenance

It is clear that 1 to 3 major groups will be within the SNA production boundary, 4 to 6 outside SNA boundary but within the general production boundary and 7 to 9 and 10 will be non-production activities.

This classification has certain advantages :

1. It has the SNA framework
2. It has comparability with the Standard Time Use Classification used in Europe, America and Australia
3. It avoids duplications, both internal and external
4. It attempts to meet the specific needs of developed and developing economies, and
5. It provides a classification that can be used at the global level.

In spite of these positive points, however, we found several problems with it at the conceptual and operational level.

To start with, the first group on Employment For Establishments is vague as the definition of establishment as “fixed structure and large holdings irrespective of industrial sector of the activity is not only confusing but also not relevant and valid for developing economies.

The term “large holding” is again a vague term. If the intention is to catch those holdings which sell their products, this concept will not help because several small holdings – even very small holdings sell their crops if they are growing cash crops or marketable crops. “Seeking employment” which is included in this group essentially refers to employment status and not to an economic activity. In developing countries where unemployment is defined as persons “seeking or available for work” and these persons do not necessary look for work (as it is not available).

In short, the term “establishment” is very confusing and it does not seem to be relevant to the developing countries. It neither includes all SNA activities nor includes all formal activities.

Another major problem with the Expert Group classification is that it fails to describe comprehensively all the activities – SNA and Non – SNA of developing countries. For example, peasant farms and subsistence farms are not one and the same thing as peasant farms can have a surplus to sell while the subsistence farms will not. Also, there are varieties of services carried out in developing economics which need to be divided into public and private services and traditional petty services. It is necessary therefore to replace the first three groups by primary, secondary and tertiary sector activities.

Activity Classification in Indian Time Use Studies:

In order to meet the specific needs of India we have developed our own classification for the Indian time use study. We call it Indian Classification of Time Use Activities. This classification attempts to meet the needs of developing countries on the one hand, and maintains the international comparability of time use data on the other hand.

We have tried to develop this classification such that

1. if follows the conceptual framework of SNA and Non-SNA activities provides linkages with the existing standard classifications in economic and labour statistics so as to help in improving labour statistics on the one hand and compilation of satellite accounts of unpaid work on the other hand.
2. The classification is comprehensive to include all groups of activities
3. It is flexible enough to be adaptable to difficult user needs and interests in developed and developing economies, and
4. Is consistent with other historical data sets of time use.

The India classification divided activities into the following major groups:

1. Primary production activities
2. Secondary sector activities
3. Trade, business and services – the tertiary sector activities
4. Household maintenance, management, shopping for own household
5. Care of children, elderly, disabled for own household
6. Community services
7. Learning
8. Social and Cultural activities
9. Personal care and self maintenance

The further two digit and three digit divisions of the activities is done keeping in mind the specific needs of India. In all, about 155 activities have been identified in this classification.

We have used two contextual variables for the classification, namely, (1) inside and outside of house and (2) paid and unpaid activities. We have not included any other contextual variables as the classifications takes care of these.

Also, we have related the activity classification with the household characteristics and personal characteristics in the tabulation schemes to understand the relationship of the time use pattern with these characteristics.

We believe that this classification could cover comprehensively all the activities in India and could present meaningful data to reach the objectives of the time use study.

Tabulation Scheme

The principles underlying the tabulation scheme (in the first stage) are as follows:

1. the tables contribute to the strengthening of labour statistics,
2. the tables throw light on the SNA status of the activities
3. the tables help in valuation of activities and to compile satellite accounts of unpaid activities

4. the time use patterns are related to household characteristics (such as, main occupation, consumption expenditure, size of the family, caste and religion, land owned, male / female head of the family etc.) and to personal characteristics (employment classification, employment status, age, sex, education level, etc.)

The tables help at not only in measuring but understanding the time use pattern of the population.

Valuation and Compiling Satellite Accounts

Time use studies in India are likely to add to the value of GDP in two ways: Addition of the value of products covered under SNA activities but not covered under the present GDP, and addition of the value of services – domestic and voluntary – provided. In addition, the time use study can also modify the estimates of income of some sectors by providing the correct data on the number of workers working in these sectors.

The production boundary defined under the 1993 SNA includes the goods produced for self consumption, but it does not include services produced for self consumption (provided within the household) except for the services of owner occupied dwellings, i.e. imputed housing services for own consumption produced by the owner occupiers in their capacity as un-incorporated enterprises and domestic services produced by paid employees who are to be treated as independent un-incorporated enterprises serving households. Goods produced for self-consumption are of different types. Some of the examples are (a) agricultural produce and their subsequent storage, gathering of uncultivated crops for self consumption, wood cutting, collection of fire wood, hunting and fishing etc., (b) mining salt, cutting peat, (c) supply of water which is a kind of activity similar to extracting and piping of crude oil, (d) processing of agricultural produce, production of dairy products, (e) production of baskets and mats, weaving of cloth, tailoring etc. and (f) production of footwear, production of pottery, utensils, making furniture and furnishings and all other productive activities of similar type. All these are to be included in the production boundary of 1993 SNA.

Since we have collected information on production of goods for self consumption, free collection of water, fodder, fuel etc and construction / repair of one's own building, a satellite account is planned to measure the value of these products.

Another satellite account is planned for unpaid services provided by the households, using the time use data.

How do we find the value of household production of goods and services? The SNA 1993 suggests that the goods and services should be valued at the basic prices at which they could be sold if offered for sale in the market. In order to value them in this way, goods and services of the same kind must actually be bought and sold in sufficient

quantities on the market to enable reliable market prices to be calculated which can be used for valuation purposes. When reliable market prices can not be obtained, a second best procedure must be used in which the value of the output of the goods or services produced for own use is deemed to be equal to the sum of their cost of production, i.e. as the sum of intermediate consumption of fixed capital (CFC), other taxes (less subsidies) on production.

It follows that there are two approaches for estimating the value of non-market household production, namely, the output approach and the input approach. The output approach consists of imputing a money value to household production, based on market prices of goods or services of the same kind. Value of the intermediate consumption is then subtracted to arrive at gross value added. By further subtracting CFC and other taxes (less subsidies) on production, one arrives at an estimate of "mixed income". In the input approach, on the other hand, output of the goods or services produced for own use is deemed to be equal to their sum of their cost of production: that is, as the sum of intermediate consumption, compensation of employees, consumption of fixed capital (CFC) and other taxes (less subsidies) on production. When the input approach is used the net operating surplus is missing from the gross output, value added and mixed income. That is why the output approach is preferred.

Though the output approach has certain advantages, there are serious problems about the data. The use of the input approach is therefore gaining more acceptances. This approach requires information on the time put in household activities and the rate of the valuation of this time. Since we do not have the data on the value of the services we impute a value using the opportunity cost of this time. The opportunity cost of time approach is derived from the micro economic theory of time allocation and it rests on several assumptions such as, rational behaviour of utility maximizing well informed individuals, having choices and choosing freely in a market, reaching equilibrium conditions etc. In practice these assumptions are rarely met because of labour market conditions and household functioning constraints. Another problem of using opportunity cost for valuation is that persons performing the same activity can have different opportunity costs depending on who is performing the activity. Some compromises have to be made here, and we have decided to use the rural/agricultural /urban manual wage rate under the valuation scheme.

We have therefore collected data in each round, at the district level/local level, about the prevailing wage rates so as to estimate the value of the unpaid services performed by men and particularly women. In the case of goods we are using both input and output methods by using the output method as and when possible.

It is clear that we are not in a position to use sophisticated methods of valuation as used in some developed countries (Ironmonger 1990, Goldshmidt 0 Clermont 1995, J. Varjonen, Iris Neimi et al 1999). However in the context of a developing economy where the percentage of population paying direct taxes or getting social security measures is very low and where the use of consumer durables and capital intensive household gadgets is not very common, our methods appear to be appropriate for valuation.

Skepticism and Doubts

Several scholars have expressed doubts regarding the utility of the time use approach for data collection in a country:

1. It is argued that the time use estimates of people do not consider the efforts and efficiency of people. For example, a slow person who is doing his job slowly is not distinguished from a person who is doing his job fast under the survey. However, the same argument is applicable to the labour statistics where time is the unit of counting the participation and measuring the intensity of work. However, it is true that the domestic work and the market oriented work are done in different environment and using the same set of prices for valuation may not be proper. We have therefore used lower – unskilled wages rates to avoid overestimation of unpaid work.
2. It is also argued that the time use does not consider the energy used or the hazards of work. For example, cooking with a smokey stove is definitely different from cooking in a modern kitchen. However, again, these aspects of the production are not collected even in labour statistics. Time use measures the time spent on activities just as workforce data collects data on the time spent on economic activities.
3. Another argument made against the time use approach is that there are no reliable methods of valuation of time use activities, such as household services. For example, it is argued that the generalist method may give a low estimate, while a specialist method may give a high estimate, and the opportunity cost approach may give a widely variable estimate. This argument is valid to an extent as in the absence of the relevant data on wages of different kinds of services one will have to depend on some approximations. However, there are reasons to believe that the situation will improve with improved data and more experience.
4. There are doubts raised regarding getting the right response to the time use questions from people in a developing country where the level of literacy is low and where the work is organized in a complex way. It must be remembered that this argument is applicable to the other data , such as the data from census and sample surveys.. Visaria, for example, has argued vehemently that the Census of Population in India do not give reliable data on workforce in India as the method of investigation, including the quality of investigators is far from desirable. He has also argued in the same paper that even the NSSO data fail to give correct estimates of industrial distribution of workers. (Visaria 1998)

In short, the problems of data collection are common in all the methods of data collection. As time use method is relatively new, it is bound to throw up problems. In fact, we would like to state that during the pilot time use survey in India a lot of lessons have been learnt about the methods of data collection in India.

Concluding Observations

The pilot time use survey in India is a methodological survey. Since it is the first of its kind in developing economies, it had to develop a suitable conceptual framework,

sampling design, schedules, methodology for data collection, classification of time use activities, tabulation schemes and valuation methods.

The paper shows that India has been successful, at the conceptual level, in determining the role of a time use survey for improving labour force / work force statistics and national income statistics on the one hand and for understanding the distribution of paid and unpaid work by men and women in the society as well as the valuation techniques of this work on the other hand.

India has also developed a system of classification of activities for time use studies in a way that it has the conceptual framework of SNA as well as comprehensive coverage of activities done by people. It is flexible, adaptable and consistent with other time use classifications.

In spite of the relative pre-dominance of unpaid activities, it has been possible to determine valid methodology for valuation of unpaid work. The framework of the two satellite accounts appear to be sound for providing additional information on national income in India.

In short, the time use approach appears to be relevant and valid at the conceptual and methodological level in India.

Appendix 1

List of Members of Technical Committee on Time Use Survey

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APPENDIX 2

ACTIVITY CLASSIFICATION IN AUSTRALIAN TIME USE SURVEY, 1997

CLASSIFICATION	CODING ADVICE
0 NO ACTIVITY	
00 No activity	001 No recorded activity between episode 02 No further recorded activity
1. PERSONAL CARE ACTIVITIES	
10 Personal care activities n.f.d.	
12 Sleeplessness	
13 Personal hygiene	
14 Health care	
15 Eating/drinking	
2. EMPLOYMENT RELATED ACTIVITIES	
20 Employment related activities n.f.d.	
22 Other job	
23 Unpaid work in family business or Farm	
24 Work breaks	
25 Job Search	
27 Associated communication	
28 Associated travel	
29	
29 Employment related activities n.e.c.	
3 EDUCATION ACTIVITIES	
30 Education activities n.f.d.	
31 Attendance at educational courses	
32 Job related training	
33 Homework /study/research	
34 Breaks at place of education	

- 37 Associated communication
- 38 Associated travel
- 39 Education activities n.e.c.
- 4 DOMESTIC ACTIVITIES
- 40 Domestic activities n.f.d.
- 41 Food and drink preparation/cleanup
- 42 Laundry and clothes care
- 43 Other housework
- 44 Grounds/ animal care
- 45 Home maintenance
- 46 Household management
- 47 Associated communication
- 48 Associated travel
- 49 Domestic activities n.e.c.
- 5 CHILD CARE ACTIVITIES
- 50 Child care activities n.f.d.
- 51 Care of children
- 52 Teaching /helping/reprimanding
Children
- 53 Playing/reading/talking with child
- 54 Minding children
- 55 Visiting child care
Establishment/ school
- 57 Associated communication
- 58 Associated travel
- 59 Child care activities n.e.c.
- 6 PURCHASING GOODS AND SERVICES
- 60 Purchasing goods and services n.f.d.
- 61 Purchasing goods

- 62 Purchasing services
- 67 Associated communication
- 68 Associated travel
- 69 Purchasing goods and services n.e.c.

- 7. VOLUNTARY WORK AND CARE ACTIVITIES
- 70 Voluntary work and care n.f.d.
- 71 Caring for adults
- 71 Caring for adults continued
- 72 Helping/doing favours
- 72 Unpaid voluntary work
- 77 Associated communication
- 78 Associated Travel
- 78 Voluntary work and care n.e.c.

- 8. SOCIAL AND COMMUNITY INTERACTION
- 81 Socialising
- 82 Visiting entertainment and cultural Venues
- 83 Attendance at sports event
- 84 Religious activities/ritual ceremonies
- 85 Community participation
- 86 Negative social activities
- 87 Associated communication
- 88 Associated travel
- 89
- 89 Social and community interaction n.e.c.

- 9 RECREATION AND LEISURE
- 90 Recreation and leisure n.f.d.
- 91 Sport and outdoor activities
- 92 Games /hobbies/arts crafts

- 93 Reading
- 95 Attendance at recreational courses
- 96 Other free time
- 97. Associated communication
- 98 Associated travel
- 99 Recreation and leisure n.e.c.

Appendix 3

DAILY ACTIVITY CODES, 1992 - CANADA

- A. Paid work and related activities**
 - 1. Paid work
 - 2. Activities related to paid work
 - 3. Commuting

- B. Household work and related activities**
 - 4. Cooking/washing up
 - 5. Housekeeping
 - 6. Maintenance and repair
 - 7. Other household work
 - 8. Shopping for goods and services
 - 9. Child care

- C. Social support, civic and voluntary activity**
 - 10. Civic and voluntary activity

- D. Education and related activities**
 - 11. Education

- E. Sleep, meals and other personal activities**
 - 12. Night sleep
 - 13. Meals (excl. Restaurant meals)
 - 14. Other personal activities

- F. Socializing**
 - 15. Restaurant meals
 - 16. Socializing (in homes)
 - 17. Other socializing

- G. Television, reading and other passive leisure**
 - 18. Watching television
 - 19. Reading books, magazines, newspapers
 - 20. Other passive leisure

- H. Sports, movies and other entertainment events**
 - 21. Sports, movies and other entertainment events

- I. Active leisure**
 - 22. Active sports
 - 23. Other active leisure

- J. Residual**
 - 24. Missing time

Appendix 4
STUDY OF AMERICA'S USE OF TIME-1981, SRC, ISR ANN ARBOR

- 0. Work & other income producing activities
 - 01. Paid work
 - 02. Job search
 - 05. Second job
 - 09. Travel to/fro work
- 1. **Household activities**
 - 1.1 Indoor
 - 1.2 Outdoor
 - 1.3 Miscellaneous household chores
- 2. **Child care**
 - 2.1 Child care for children in hh
 - 2.2 Other child care
- 3. **Obtaining goods and services**
 - 3.1. Goods
 - 3.2. Services
- 4. **Personal needs and care**
 - 4.1 Care to self
 - 4.2 Help and care to others
 - 4.3 Other personal and helping
- 5. **Education and professional training**
 - 5.1 Fulltime studies
 - 5.2 Other education
- 6. **Organizational activities**
 - 6.1 Volunteer, helping organizations
 - 6.2 Religious practice
 - 6.3 Religious groups
 - 6.4 Professional/union organizations
 - 6.5 Child/youth/family organizations
 - 6.6 Fraternal organizations
 - 6.7 Political party and civic participation
 - 6.8 Special interest/identity organizations
 - 6.9 Other miscellaneous organizations
 - 6.10 Travel related to organizational activities
- 7. **Entertainment/social events**
 - 7.1 attending spectacles, events
 - 7.2 Socializing
- 8. **Sports and active leisure**
 - 8.1. Classes/lessons for active leisure
 - 8.2. Competitive sports--children only
 - 8.3 Active sports
 - 8.4 Out of door sports
 - 8.5 Walking, biking
 - 8.6 Hobbies
 - 8.7 Domestic crafts
 - 8.8 Arts and literature
 - 8.9 Music/theatre/dance
 - 8.10 Games
- 9. **Passive leisure**

Appendix 5

PROPOSED FRAMEWORK FOR ISAC, 1993-HARVEY & NIEMI

1. Personal needs
 - 1.1 Sleep
 - 1.2 Eat
 - 1.3 Toilet
 - 1.4 Wash, dress
 - 1.5 Rest, relaxation
2. **Paid work**
 - 2.1 Primary
 - 2.2 Non-primary
3. **Study**
 - 3.1 Attend classes/homework/study
 - 3.2 Library/lab work
 - 3.3 Travel
4. **Household and family care**
 - 4.1 Household production
 - 4.2 Household upkeep
 - 4.3 Maintenance and repairs
 - 4.4 Child care
 - 4.5 Adult care
 - 4.6 Pet care
 - 4.7 Shopping
 - 4.8 Other household
5. **Voluntary, organizational and community participation**
 - 5.1 Religious ceremonies and practice
 - 5.2 Meetings
 - 5.3 Voluntary community work
6. **Socializing**
 - 6.1 Entertaining visitors
 - 6.2 Visit
 - 6.3 Make or receive phone call
 - 6.4 Talk with someone
 - 6.5 Write or read correspondence
 - 6.6 Communicate electronically, ie. Via computer, ham radio
 - 6.7 Playing sports
7. **Sports participation**
 - 7.1 Outdoor recreation and walking
 - 7.2 Hunting and gathering
 - 7.3 Organized sports
 - 7.4 Unorganized sports/physical exercise
8. **Hobbies and crafts**
 - 8.1 Wood/metal crafts
 - 8.2 Handicrafts
 - 8.3 Arts (music, writing, painting)
 - 8.4 Collection/research (stamps, historical, genealogy)
 - 8.5 Computer programming, analysis
 - 8.6 Other hobbies

9. Entertainment and culture

- 9.1 Movies
- 9.2 Performance events
- 9.3 Historical, artistic exhibits, tours
- 9.4 Library, archives
- 9.5 Sports events
- 9.6 Other

10. Mass media

- 10.1 Reading
- 10.2 Watching
- 10.3 Listening

Appendix 6

ACTIVITY LIST IN EUROSTAT'S TIME USE SURVEY AND PRODUCTION BOUNDARY

S = Activities within the SNA production boundary

S* = Activities in practice excluded from the ESA production boundary

G = Activities within the general production boundary, not the ESA

O = Non-productive activities

0	Personal care	O
1	Employment	S
2	Study	O

3 Household and family care**31 Food preparation**

311	Meal/ Snacks	G
312	Baking	G
313	Dish washing	G
314	Preserving	S*
319	Other food preparation	G

32 Household upkeep

321	Cleaning, dwelling, cellar, garage	G
322	Cleaning yard	G
323	Waste Disposal	G
324	Heating and water	S*
325	Various arrangements	G
329	Other household upkeep	G

33 Making and care of textiles

331	Laundry	G
332	Ironing	G
333	Care of clothes and shoes	G
334	Producing textiles	S*
335	Handicrafts	S*
339	Other making/ caring textiles	G

34 Gardening and pet care

341	Tending Plants	
3411	Tending edible plants	S
3412	Tending ornamental plants	G
342	Tending animals	
3421	<i>Tending domestic animals</i>	S
3422	Caring for pets	G
343	Walking the dog	G
349	Other gardening or pet care	G

35 Construction and repairs	
351 House construction, repair	
3511 House construction and renovation	S
3512 Repairs to dwelling	G
	(Partly S)
352 Repairing equipment, furniture, household goods	G
353 Vehicle maintenance	G
354 Production of household goods	S*
359 Other construction and repairs	G
36 Shopping and services	
361 Purchases	
3611 Consumer goods	G
3612 Capital goods	G
362 Commercial services	G
363 Administrative services	G
364 Vehicle services	G
365 Medical services	O
366 Other personal services	O
367 Veterinary services for pets	G
369 Other shopping and services	G
37 Household management	
3701 Computing for household management	G
379 Other household management	G
38 Child care	
381 Physical care	G
382 Supervision	G
383 Reading or playing	G
384 Talking with the child	G
385 Teaching the child	G
386 Accompanying child	G
387 Visiting school/ nursery	G
389 Other activities of child care	G
39 Adult care	G
4 Civic and religious activities	
41 Organisation work or services	
411 Organisational work	G
	(partly S)
412 Caring for people via an organisation as voluntary service	G
413 Environmental and animal protection	G
419 Other organisation work or services	G
42 Participate activities	O
5 Social life and entertainment	O

6 Sports participation	
61 Physical exercise	O
62 Productive exercise	
621 Hunting, Fishing	S
622 Picking berries, mushrooms	S
629 Other productive activities	S
63 Sports related activities	O
7 Hobbies and games	O
8 Mass media	O
9 Travel (By purpose)	
932 Household care	G
934 Gardening/ pets	G
935 Repairs	G
936 Shopping and services	G
938 Child care	G
939 Adult care	G
941 Organisational work	G

Appendix 7

HUNGARIAN TIME USE SURVEY

Codes of Activities:

- 01 Earning activity, work done as main occupation (*mostly work done in a work organization, in working place bond*)
- 02 Participation in any systematic educational institute (*regular, evening-, correspondence-, pupil or student*)
- 03 Talk, discussion, consultation at the working place, school, mass organization
- 04 Education, extension training at the working place, school, mass organization-recommended or compulsory
- 05 Individual learning, preparing linked to organized (*regular, evening, correspondence*) education
- 06 Intellectual (*non-manual*) work
- 07 Construction skilled works (*bricklayer, carpenter, roofer, flooring-worker, tiler, parquetry inlayer, building carpenter, building ironworker, glazier, stove setter work*) as well as purchase and transportation of building materials
- 08 House painting, wall-papering
- 09 Plumbing (*water, gas*) and fitting central heating equipment
- 10 Electrical fitting
- 11 Unskilled and auxiliary works in construction and fitting (*bringing in building material, bringing out waste, earth moving with building of foundations, with laying pipes, with building cesspool, mixing concrete, mortar, etc.*)
- 12 Wood industry, joiner and upholstery works (*except building joiner, carpenter, timber man, paneling, parqueting work*) Making furniture, consumer goods as well as repairing, fitting them
- 13 Assembling, repairing, maintaining motor-vehicles (*motorcycle, auto, truck, motor boat*)
- 14 Repairing, maintenance of household equipment, tools, telecommunication equipment
- 15 Making, repairing clothing, complementary articles of clothing, household textile materials
- 16 Other skilled work of industrial or services character
- 92 Other machine industry and factory manual skilled work
- 17 Other auxiliary and unskilled work needing no special qualification. Exceptions: unskilled work done in construction, in the course of plumbing, electrical fitting as well as in agriculture
- 18 Agricultural manual works (*linked to the main codes 18-24: in household and auxiliary farm of their own, or of somebody else, in garden, hobby-garden, etc.*)
Types of work in pig and poultry breeding
- 19 Types of work in cattle-breeding and horse-breeding
- 20 Breeding of other animals (*sheep, rabbit, pigeon, bee, nutria etc.*)
- 21 Hardy plant cultivation works, Preparation of soil, sowing, planting
- 22 Plant cultivation works done in hothouse, folia camp, closed place including related activities
- 23 Works relating to the operation, repairing and maintaining machines, equipment and tools of animals husbandry and plant cultivation
- 24 Purchase, administration, selling the products of the farm, conveyance and other works at the farm

- 25 Other agricultural manual work of occasional character (*including work done in forestry and water management*)
- 26 Cooking, baking, warming up food, dishing up, packing (*except special cooking for infants and old or sick persons*)
- 27 Washing up, drying, placing vessels, tableware in order
- 28 Preservation of food, canning
- 29 Cleaning the flat, room, living environment, making order
- 30 Cleaning, ordering, caring the garden, courtyard, as well as auxiliary rooms (*non-agricultural*) and outbuildings belonging to the residential building
- 31 Heating, preparing the heating material, bringing in
- 32 Carrying water (*except watering animals*)
- 33 Washing, ironing (*except baby wear*)
- 34 Physical care, supplying old or sick person
- 35 Buying food, everyday commodities and consumer goods, search for, and selecting the goods wanted
- 36 Buying durable and consumer goods, looking for selecting the goods wanted, carrying it home
- 37 Utilizing personal services
- 38 Invoking health service
- 39 Utilizing other public services
- 40 Administration
- 41 Nursing an infant or child aged under 3 years
- 42 Care, nursing, attending older children
- 43 Telling of fairy tales, projection, playing with the child
- 44 Learning with the child, controlling the tasks
- 45 Other activities in connection with the child, other way of dealing with the child
- 46 Other, exactly not classified working (*mainly income-supplementing*) activities
- 47 Sleeping
- 48 Personal physical hygiene
- 49 Main meals, with drinking related drinks
- 50 Drinking coffee, tea, soft drink, nibble
- 51 Consuming alcoholic drinks, independently of meals
- 52 Relaxation, laying in walking state
- 53 Lying because of sickness, treating own illness
- 54 Talking, talking by phone
- 55 Receiving guests, saying good-bye - entertaining guests, in general
- 56 Writing letters, diary, reading them
- 57 Dancing, disco
- 58 Playing, not with children
- 59 Couple-relation, paying court, intimacy
- 60 Family - and other common feasting activities
- 91 Other activities of family character
- 61 Religious activity
- 62 Maintenance of tombs, visiting cemetery, making a nosegay
- 63 Reading newspaper (*daily*)
- 64 Reading weekly paper, journal, periodical, magazine etc.
- 65 Reading a book (*except compulsory literature*)
- 66 Participation in a lecture, course, language school (*not in the frame of an educational organized by the working place or school*)
- 67 Individual self-education on other ways
- 68 Watching the TV

- 69 Watching video, projection at home
- 70 Listening to the radio
- 71 Listening to music from tape, record, making tape recording
- 72 Hobby activities, solving riddles
- 73 Care for indoor plants, pets
- 74 Independent or amateur artistic activities, hobbies
- 75 Traditional women's needle-craft: needlework, crochet (*not for sale*)
- 76 Cinema
- 77 Visiting other cultural and entertainment institutions
- 78 Spending time at a public place, amusement place, entertainment
- 79 Walking, window-shopping, sightseeing
- 80 Bathing on the beach, sun-bathing
- 81 Angling
- 82 Hunting
- 83 Sporting without racing (*and if it is not clear whether racing, or not*)
- 84 Pursuing sports competitively
- 85 Other activities, joining to activities of movement, gymnastics
- 86 Pre- and after- activities in relation with travelling
- 87 Idleness, loafing, loitering
- 88 Emotional activities
- 89 Communication, travelling - by destination
- 90 Waiting, queuing - according to aims
- 99 Unknown, or unclassified activities

Appendix 8

UNSD –TRAIL CLASSIFICATION OF TIME USE ACTIVITIES

List of Major Groups and Divisions within groups

Major group 1. Market-oriented economic activities (income earning, wage/salary labour, family/household enterprise) and related activities

- 10 Wage and salary employment
- 11 Outworkers/home based work
- 12 Self-employment or income-generating activities
- 13 Unpaid work (market oriented family enterprise, agricultural holdings, etc.)
- 14 Domestic and personal services (produced by domestic staff)
- 15 Secondary, tertiary jobs
- 16 Breaks and interruptions from work
- 17 Job search
- 18 Job search
- 19 Other time related to employment

Major group 2. Non-market economic activities within SNA production boundary

- 20 Crop farming
- 21 Animal husbandry
- 22 Hunting and gathering
- 23 Mining and quarrying
- 24 Processing of food products and beverages
- 25 Making textiles and other non-food products
- 26 Purchase and sale of goods
- 27 Household construction services
- 28 Other services

Major group 3. Housework

- 30 Cooking/washing up
- 31 Animal husbandry
- 32 Hunting and gathering
- 33 Mining and quarrying
- 34 Processing
- 35 Home improvements, maintenance and repair
- 36 Pet care
- 37 Children's participation in housework
- 38 Other housework

Major group 4. Child and family care- care of children, the sick, disabled and elderly

- 40 Physical care, training and instruction of children
- 41 Accompanying children to places
- 42 Physical care of sick, inform or elderly adult
- 43 Family care (excluding housework)
- 44 Child receiving care
- 45 Adult receiving care

Major group 5. Shopping for household goods and services

- 50 Purchase of food and various household supplies
- 51 Purchase of household appliances, articles and equipment
- 52 Shopping for capital goods
- 53 Services
- 54 Household management

Major group 6. Community service, organizational and volunteer work

- 60 Community service – participation in community organized work
- 61 Volunteering with an organisation (which does not involve working directly for individuals)
- 62 Volunteer work with organisations extended directly to individuals and groups
- 63 Professional/union, fraternal and political organisations

Major group 7. Education, study and training activities

- 70 School/university attendance
- 71 Studies and course review
- 72 Additional study and courses during free time
- 73 Other education
- 74 Attending courses for hobbies and sports related activities

Major group 8. Social, arts and culture (media use)

- 80 Socializing at home
- 81 Socializing outside the home
- 82 Arts and culture (as hobby or pass-time)
- 83 Television, reading and other passive leisure
- 84 Technical hobbies
- 85 Sports participation
- 86 Outdoor sports
- 87 Games
- 88 Spectator to sports

Major group 9. Personal care and maintenance – meeting physiological and spiritual needs

- 90 Sleep and related activities
- 91 Eating and drinking (meals and snacks, not in restaurants)
- 92 Personal hygiene and health
- 93 Receiving professional medical and personal care
- 94 Recreation and renewal – rest and relaxation
- 95 Religious activities
- 96 Religious group activities
- 97 Other religious practices and spiritual experiences

Major group O. Travel (by purpose)

- 01 At work
- 02 Non-market/unpaid economic activities
- 03 Housework
- 04 Care of children, the sick, disabled and elderly
- 05 Shopping for household goods and services

- 06 Community service, organisational and volunteer work
- 07 Education, study and training
- 08 Social, arts, sports and culture
- 09 Personal care and religious activities
- 00 Unspecified travel and residual activities

Appendix 9

AN ALTERNATIVE CLASSIFICATION OF TIME USE ACTIVITIES (ACTUA) (INTERNATIONAL LABOUR ORGANISATION)

- 1. Primary Production Activities**
 - 11 Primary, Harvesting, Picking, Weeding
 - 12 Tending Animals
 - 13 Hunting, Fishing, Forestry
 - 14 Digging, Cutting
 - 15 Gardening
 - 16 Collecting Water
- 2. Craft-related Activities**
 - 21 Laying bricks, cutting glass, plumbing, painting, engraving, carpeting, printing, packing, maintaining and repairing buildings
 - 22 Fitting, installing, tool setting, maintaining and repairing tools and machinery
 - 23 Food processing activities: butchering, baking, confectionery making, preserving, curing
 - 24 Textile and related trades activities: weaving, knitting, sewing, shoemaking, tanning
- 3. Operating plants and machines and assembling activities**
 - 31 Operating/conducting fixed machines and assembling activities
 - 32 Driving vehicles and mobile plants
- 4. Cleaning, sweeping, ordering**
 - 41 Cleaning
 - 42 Ironing
 - 43 Ordering, sorting
- 5. Trading Activities**
 - 51 Buying
 - 52 Selling, soliciting markets for products
- 6. Food preparation and serving activities**
 - 61 Cooking, making drinks
 - 62 Setting and serving tables
- 7. Business activities**
 - 71 Management activities: Discussing, negotiating, representing, organising, supervising, inspecting
 - 72 Clerical activities: Storing, filing, sorting, classifying, calculating
 - 73 Collecting materials, delivering goods/services
 - 74 Organizing and attending meetings

8. Caring activities

- 81 Teaching, guiding. Coaching, leading
- 82 Giving medical care

9. Creative Activities

- 91 Thinking, researching, analyzing, programming, synthesizing, designing
- 92 Reading, writing
- 93 Talking, socializing, hosting
- 94 Drawing, painting, creating and performing music, acting, photographing, collecting objects, dancing
- 95 Physical exercise, playing and walking

0. Personal care and maintenance, entertainment and passive activities

- 01 Eating, drinking and personal hygiene
- 02 Learning, studying
- 03 Receiving care
- 04 Watching, listening
- 05 Relaxing, sitting, doing nothing, sleeping and **J © © R**
- 06 Attending events (museums, sports, religious)
- 07 Waiting
- 08 Being driven

Appendix 10

EXPERT GROUP CLASSIFICATION OF TIME USE ACTIVITIES

1 Employment for establishments

Time used for:

- 11 First Job or Employment – primary employment
- 12 Second, Third and other jobs – secondary and others
- 13 Working in apprenticeship, internship and related positions
- 14 Short breaks and interruptions from work
- 15 Seeking employment in related activities
- 18 Travel to/ from work and seeking employment in establishments
- 19 Employment in establishments not elsewhere classified

2 Primary production activity not for establishments

Time used for:

- 21 Crop farming and market/kitchen gardening: planting, weeding, harvesting, picking, etc.
- 22 Tending animals and fish farming
- 23 Hunting, fishing, gathering of wild products and forestry
 - 24 *Digging, stone cutting, splitting and carving*
- 25 Collecting water
- 26 Purchase of goods used for and sale of outputs arising from these activities
- 28 Travel related to primary production activities (not for establishments)
- 29 Primary production activities (not for establishments) not elsewhere classified

3 Services for income and other production of goods not for establishments*

Time used for:

- 31 Food processing and preservation activities: grain processing, butchering, preserving, curing
- 32 Preparing and selling food and beverage preparation, baking, confectionery and related activities
- 33 Making and selling textile, leather and related craft: weaving, knitting, sewing, shoe making, tanning, products of wood
- 34 Building and extension of dwellings: laying bricks, plastering, thatch, bamboo, roofing, maintaining and repairing buildings
- 35 Petty trading, street / door-to-door vending, shoe cleaning and others
- 36 Fitting, installing, tool setting, maintaining and repairing tools and machinery
- 37 Provision of services for income such as computer services, transport, hairdressing, cosmetic treatment, baby-sitting, massages, prostitution
- 38 Travel related to services for income and other production of goods (not for establishments)
- 39 Services for income and other production and other production of goods (not for establishments) not elsewhere classified

***In each activity buying of inputs and selling the products are included and may be disaggregated at the third digit level**

4 Household maintenance, management and shopping for own household

Time used for:

- 41 Cooking food items, beverages and serving
- 42 Cleaning and upkeep of dwelling and surroundings
- 43 Care of textiles: sorting, mending, washing, ironing and ordering clothes and linen
- 44 Shopping for goods and non-personal services: capital goods, household appliances, equipment, food and various household supplies
- 45 Household management: planning, supervising, paying bills etc.
- 46 Do-it-yourself home improvements and maintenance, installation, servicing and repair of personal and household goods
- 47 Pet care
- 48 Travel related to household maintenance, management and shopping
- 49 Household maintenance, management and shopping not elsewhere classified

5 Care for children, the sick, elderly and disabled for own household

Time used for:

- 51 Physical care of children: washing, dressing, and feeding
- 52 Teaching, training and instruction of own children
- 53 Accompanying children to places: school, sports, lessons, PHC, doctor etc.
- 54 Physical care of the sick, disabled, elderly household members: washing, dressing, feeding, and helping
- 55 Accompanying adults to receive personal care services: such as hairdresser's, therapy sessions, temples and religious places etc.
- 56 Supervising children and adults needing care – with or without other activities
- 58 Travel related to care of children, the sick, elderly and disabled in the household
- 59 Taking care of guests/ visitors

6 Community services and help to other households

Time used for:

- 61 Community organised construction and repairs: buildings, roads, dams, wells, ponds etc. and community assets
- 62 Community organised work: cooking for collective celebrations etc.
- 63 Volunteering with for an organisation (which does not involve working directly for individuals)
- 64 Volunteer work through organisations extended directly to individuals and groups
- 65 Participation in meetings of local and informal groups/ caste, tribes, professional associations, unions, fraternal and political organisations
- 66 Involvement in civic and related responsibilities: voting, rallies, attending meetings etc.
- 67 Informal help to other households
- 68 Travel related to community services
- 69 Community services not else where classified

7 Learning

Time used for:

- 71 General education: school/ university attendance
- 72 Studies, homework and course review related to general education
- 73 Additional study, non-formal education under adult education programmes

- 74 Non formal education for children
- 75 Work-related training
- 76 Training under government programmes such as TRYSEM, DWCRA and others
- 77 Other training/ education
- 78 Travel related to learning
- 79 Learning not elsewhere classified

8 Social and cultural activities

Time used for:

- 81 Participating in social events: wedding, funeral, births and other celebrations
- 82 Participating in religious activities: church services, religious ceremonies, practices, rehearsals etc.
- 83 Socialising at home and outside the home
- 84 Participating in community functions in music, dance etc.
- 85 Arts, making music, hobbies and related courses
- 86 Indoor and outside sports participation and related courses
- 87 Games and other pass-time activities
- 88 Spectator to sports, exhibitions/ museums, cinema/ theater/ concerts and other performances and events
- 89 Travel related to social, cultural and recreational activities
- Social, Cultural and recreational activities not elsewhere classified

9 Mass media use

Time used for:

- 91 Reading
- 92 Watching television and video
- 93 Listening to music/ radio
- 94 Accessing information by computing
- 95 Visiting library
- 96 Reading newspapers, magazines etc
- 98 Travel related to mass media use and entertainment
- 99 Mass media use and entertainment not elsewhere classified

0 Personal care and self-maintenance

Time used for:

- 01 Sleep and related activities
- 02 Eating and drinking
- 03 Personal hygiene and health
- 04 Receiving medical and personal care from professionals and household members
- 05 Doing nothing, rest and relaxation
- 06 Individual religious practices and meditation
- 07 Seeking work
- 08 Available for work/ more work
- 09 Travel related to personal care and self-maintenance

Appendix 11

TIME USE SURVEY - CLASSIFICATION USED IN THE INDIAN TIME USE SURVEY

I Primary Production Activities

- 11 Crop farming, kitchen gardening, etc.
 - 111 Ploughing, preparing land, cleaning of land
 - 112 Sowing, planting, transplanting
 - 113 Application of manure, fertilizer, pesticides and watering, preparing organic manure, harvesting, threshing, picking, winnowing
 - 114 Weeding
 - 115 Supervision of work
 - 116 Kitchen gardening – backyard cultivation
 - 117 Stocking, transporting to home, guarding or protection of crops
 - 118 Sale and purchase related activities
 - 119 Travel to the work
- 12 Animal Husbandry
 - 121 Grazing animal outside
 - 122 Tending animals – cleaning, washing shed, feeding, watering, preparation of feed
 - 123 Caring for animal : breeding, shearing, medical treatment, grooming, shoeing, etc
 - 124 Milking and processing of milk collecting, storing of poultry products
 - 125 Making dung cakes
 - 126 Poultry rearing – feeding, cleaning
 - 127 Other related activities
 - 128 Sale and purchase related activities
 - 129 Travel to the work
- 13 Fishing, Forestry, Horticulture, Gardening
 - 131 Nursery – seedings
 - 132 Planting, tending, processing of trees
 - 133 Collecting, storing & stocking of fruits, etc
 - 134 Wood cutting, chopping & stocking firewood
 - 135 Fish farming, cleaning sea-bed, feeding fish catching fish, gathering other aquatic life
 - 136 Care of house plants, indoor and outdoor garden work
 - 137 Flower gardening – landscaping, maintenance, cutting, collecting, storing
 - 138 Sale and purchase related activities
 - 139 Travel to the work
- 14 Fetching of fruits, water, plants etc. storing and hunting
 - 141 Fetching of water
 - 142 Fetching of fruits, vegetables, berries, mushrooms etc. edible goods
 - 143 Fetching of minor forest produce, leaves, bamboo, etc.
 - 144 Fetching of fuel/fuel wood/twigs
 - 145 Fetching of raw material for crafts
 - 146 Fetching of building materials

- 147 Fetching of fodder
- 148 Sale and purchase related activities
- 149 Collection of other items
- 15 Processing and Storage
 - 152 Milling, husking, pounding
 - 153 Parboiling
 - 154 Sorting, grading
 - 155 Grinding, crusting
 - 156 Any other related activities
 - 157 Sale and purchase related activities
 - 158 Travel to the work
- 16 Mining quarrying, digging, cutting, etc.
 - 161 Mining/extraction of salt
 - 162 Mining / digging / quarrying of stone, slabs, breaking of stones for construction of building road, bridges, etc.
 - 163 Digging out clay, gravel and sand
 - 164 Digging out minerals – major and minor
 - 165 Transporting in vehicles
 - 166 Storing and stocking
 - 167 Any other related activities
 - 168 Sale and purchase related activities
 - 169 Travel to the work

II Secondary Activities

- 21 Construction Activities
 - 211 Building & construction of dwelling (laying bricks, plastering, thatching, bamboo work, roofing) and maintenance and repairing of dwelling.
 - 212 Construction and repair of animal shed, shelter for poultry etc.
 - 213 Construction of well, storage facilities, fencing, etc. for farms, irrigation work
 - 214 Construction of public works / common infrastructure – roads, buildings, bridges, etc.
 - 217 Any other activity related
 - 218 Sale and purchase related activities
 - 219 Travel to the work
- 22 Manufacturing Activities
 - 221 Food processing and cooking for sale – making pickles, spices and other products; canning fruits, jams & jellies; banking; beverage preparation; selling readymade food, etc.
 - 222 Butchering, curing, processing, drying, storing, etc. of meat, fish, etc.
 - 223 Manufacturing of textiles – spinning, weaving, processing of textiles; knitting, sewing, garment making of cotton, wool and other materials
 - 224 Making handicrafts, pottery, printing and other crafts made primarily with hands (wood based, leather based crafts, embroidery work, etc.)
 - 225 Fitting, installing, tool setting, tool and machinery – moulding, welding, tool making
 - 226 Assembling machines, equipment and other products

- 227 Production related work in large and small factories in different industries – as production workers, maintenance workers paid trainees and apprentices, sales administration and management activities
- 228 Sale and purchase activity
- 229 Travel for the work
- III Trade, Business and Services**
- 31 Trade and Business
 - 311 Buying and selling goods – such as capital goods, intermediate goods, consumer durable, and consumer goods – in the organized and formal sectors.
 - 312 Petty trading, street and door to door vending, hawking shoe cleaning, etc.
 - 313 Transporting goods in trucks, tempos and motor vehicles
 - 314 Transporting in hand carts, animal carts, cycle rickshaws, etc. or manually
 - 315 Transport of passengers by motorized and non-motorized vehicles
- 32 Services
 - 321 Services in government and semi-government organizations (salaried)
 - 322 Services in private organizations (salaried)
 - 323 Petty services: domestic servants, sweepers, washers, priest, cobbler, gardener, massaging, prostitution, (wages) watching and guarding
 - 324 Professional services: medical and educational services (private tuition, non-formal teaching, etc.) financial services and management and technical consultancy services
 - 325 Professional services: computer services, xerox/photocopying services, beauty parlors, hair cutting saloons, etc.
 - 326 Technical services: plumbing, electrical and electronic repair and maintenance and other related services
 - 327 Others
 - 328 Travel to work
- IV Household maintenance, Management and shopping for own Household**
- A
 - 411 Booking food items, beverages and serving
 - 421 Cleaning and upkeep of dwelling and surroundings
 - 422 Cleaning of utensils
 - 431 Care of textiles: sorting, mending, washing, ironing and ordering clothes and linen
 - 441 Shopping for goods and non-personal services; capital goods, household appliances, equipment, food and various household supplies
 - 451 Household management: planning, supervising, paying bills, etc.
 - 461 Do-it-yourself home improvements and maintenance, installation, servicing and repair of personal and household goods
 - 471 Pet care
 - 481 Travel related to household maintenance, management and shopping
 - 491 Household maintenance, management and shopping not elsewhere classified

- V Care for children, the sick, elderly and disabled for own household**
- B**
- 511 Physical care of children: washing, dressing, feeding
 - 521 Teaching, training and instruction of own children
 - 531 Accompanying children to places: school, sports, lessons, etc. /PHC/doctor
 - 541 Physical care of sick, disabled, elderly household members; washing, dressing, feeding, helping
 - 551 Accompanying adults to receive personal care services such as hairdresser's therapy sessions, temple, religious places, etc.
 - 561 Supervising children, needing care with or without other activity
 - 562 Supervising adults, needing care with or without other activity
 - 571 Travel related to care of children
 - 572 Travel related to care of adults and others
 - 581 Taking care of guests / visitors
 - 591 Any other activity not mentioned above
- VI Community services and Help to other Households**
- C**
- 611 Community organized constructions and repairs; buildings, roads, dams, wells, ponds, etc. community assets
 - 621 Community organized work: cooking for collective celebration, etc.
 - 631 Volunteering with/for an organization (which does not involve working directly for individuals)
 - 641 Volunteering work through organizations extended directly individuals and groups
 - 651 Participation in meetings of local and informal groups / caste, tribes, professional associations, union, fraternal and political organizations
 - 661 Involvement in civic and related responsibilities; voting, rallies, attending meetings, panchayat
 - 671 Informal help to other households
 - 681 Community services not elsewhere classified
 - 691 Travel related to community services
- VII Learning**
- D**
- 711 General education: school / university / other educational institutions attendance
 - 721 Studies, homework and course review related to general education
 - 731 Additional study, non-formal education under adult education programs
 - 741 Non-formal education for children
 - 751 Work – related training
 - 761 Training under government program such as TRYSEM, DWCRA and others
 - 771 Other training / education
 - 781 Learning not elsewhere classified
 - 791 Travel related to learning

VIII Social and Cultural Activities, Mass Media, etc.**E**

- 811 Participating in social events: wedding, funerals, births and other celebrations
- 812 Participating in religious activities: Church services, religious ceremonies, practices, kirtans, singing, etc.
- 813 Participating in community functions in music, dance, etc.
- 814 Socializing at home and outside the home
- 821 Arts, making music hobbies and related courses;
- 822 Indoor and outdoor sports participation and related courses
- 831 Games and other past-time activities
- 832 Spectator to sports, exhibitions / museums, cinemas / theater / concerts and other performances and events
- 841 Other related activities
- 851 Reading other than newspaper and magazines
- 852 Watching televisions and video
- 853 Listening to music / radio
- 861 Accessing information by computing
- 862 Visiting library
- 863 Reading newspaper and magazine
- 871 Mass media use and entertainment not classified elsewhere
- 891 Travel related to social, cultural and recreational activities, social cultural and recreational activities not elsewhere classified, mass media use and entertainment

IX Personal Care and Self-Maintenance**F**

- 892 Travel related in search of job
- 911 Sleep and related activities
- 921 Eating and drinking
- 922 Smoking, drinking, alcohol and other intoxicants
- 931 Personal hygiene and health
- 932 Walking, exercise, running, jogging, yoga, etc
- 941 Receiving medical and personal care from professional
- 942 Receiving medical and personal care from household members
- 951 Talking, gossiping and quarreling
- 961 Doing nothing, rest and relaxation
- 962 Forced leisure of forced rest & relaxation-willing and available for work
- 971 Individual religious practices and meditation
- 981 Other activities
- 982 Resting / convalescing due to physical illness and physical unwell persons
- 991 Travel related to personal care and self-maintenance

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