Evaluating Non-Market Services of the Households in India through SAM

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I. Introduction: The non-market services of the households include both the SNA activities which fall in the production boundary and also the non-SNA activities which fall outside the production boundary. While the former can be included in the national income estimates, the latter remains outside the national income accounts. It includes the routine household chores and the care work. This work remains unrecognised but has a great importance for the well being of the households. On the other hand, since this category of work is unequally distributed among the men and women it also has a huge impact on the participation of the women in market activities (Hirway and Jose, 2011). These services never lose their importance at any level of economic development but they are particularly more important in the developing countries where the public services are weak (Hirway, 2015). The recognition of these services is specially important as the consumers of these services are highly benefited while the producers are involved in non-remunerative, unregulated, never ending dead end activities. These services contribute immensely to the human capital formation on the cost of the individuals who simply sacrifice their marketable abilities for producing these services for the household members. This creation of capabilities takes place mostly as unmeasured production which has multi-year efforts by persons to build up person-specific human capital (Nakamura, 2015). Only sectoral outcomes aggregated to the nation-level are observed. The economic accounts of the households aggregate only the transaction (market) information while the non-transaction information is more valuable for analytic purposes, especially for analysing the well being. Over a period of time although several activities of unpaid nature, especially the goods produced for household consumption has been included in the SNA boundary but ironically, the non-market services have not yet able to be part of this evolution of SNA boundary (UN, 1993, 2008). Hirway (2015, 2016) strongly argues that the non-market services should necessarily be included in the production boundary as the market work has strong linkages with non-monetary flows of the non-market services. She also rejected the argument that inclusion of these services may imply a full-employment condition as she states that in the labour force surveys of developing countries, especially India and Pakistan, the concepts of work force and labour force are required to be modified rather than excluding the non-market services of the households from the national income

accounts. Since the contribution of the non-market services to the individual's quality of life as well as the macro economy is immense, it must be recognised. Its valuation in money terms is one of several ways of integrating it with the mainstream economy. But this valuation argument has more of skeptics than the believers. The debates center around selecting the activities (i.e which services have a market price and which don't) as well as the method of evaluating it (whether it should be input method based on replacement cost or the opportunity cost or it should be the output method). Interesting fact about all such debates is that when the skeptics dominate, every non-market activity/service and every method has a problem big enough to reject the idea while in a group of the believers we can find ourselves with some solutions that show a path to go on with the process of integrating the non-market services with the mainstream economy. Among the believers, the consensus is on creating the satellite accounts of non-market services of the households until a generally accepted method is devised to include the non-market services in the main national income accounts (Hamunen et al., 2012; Duran, 2007; Landefeld et al., 2009). The need of recognising the non-market services by this school of thought is never denied. The emphasis is more generally on the choice of appropriate methodology to do it. In this context the first step is to recognise the time spent in non-market services within the households. Use of building a social accounts matrix (SAM) can be an important step in evaluating the non-market services of the households as the SAM has the ability to introduce alternative disaggregation of existing flows or new types of flows, provided the use and resources of these flows balance in the usual way. Thus SAM can go further than a matrix to include the extensions, especially that of the household sector (UN, 2008, p507). Expanding the accounting matrix of the sequence of accounts to incorporate the disaggregation of households is the usual form of a satellite account known as a social accounting matrix (SAM) (*ibid* p.520). In this perspective, present paper has been divided in to four sub-sections. Apart from this introductory section, section II discusses about building a SAM for non-market services with special reference of India; Section III the methods of evaluating non-market services of the households have been discussed and section IV conclude the paper by discussing the undeniable relevance of evaluating the non-market services of the households in the national income accounts.

II. Building a SAM with Non-Market Services: SAM in its conventional form, shows the inter-relationship among various productive activities, factor incomes, household income distribution, balance of payments, capital accounts at a given point of time. In a matrix form, it consists rows and columns showing the receipts and expenditure indicating that for every unit of income there is a corresponding expenditure so as to balance each other. A conventional SAM mainly contains five accounts - production, factors, institutions, capital and rest of the world accounts. By incorporating gender in the conventional SAM, half the battle can be won. Through this we can analyse the role of different types of activities of production and income generation. Dividing the factors as males and females may help in understanding inter-sectoral linkages of the non-market work (Sinha, 2008). This further requires identification of all types of work so that most of the work performed by women is adequately captured. It is also generally recommended that for a rich gender model, all types of activities i.e. market work, non-market work as well as leisure should be included (Fontana and Wood, 2000). In Indian context, the National Sample Survey Organisation (NSSO) provides data on all types of workers and non-workers. Among the non-workers one can easily identify the persons engaged in domestic duties only and those engaged in free collection of goods and providing services for household consumption. The households can also be identified with children, adult sick members and the elderly which are out of labour force. This may help in estimating the number of persons involved in non-market services. In Indian labour force surveys we have following categories of workers and the non-workers:

Table 1: Workers and Non-workers in National Sample Surveys

Activity Code	The Activity
11	worked in household enterprise (self-employed): own account worker
12	worked in household enterprise (self-employed): employer
21	worked in household enterprise (self-employed): unpaid family worker
31	worked as regular salaried/ wage employee
41	Worked as casual wage labour in public works other than NREG (national rural employment guarantee programme) works
42	worked as casual wage labour in NREG works
51	in other types of work (the casual labour)
61	had work in household enterprise (self-employed) but did not work due to: sickness
62	had work in household enterprise (self-employed) but did not work due to: other reasons
71	had regular salaried/wage employment but did not work due to: sickness

72	had regular salaried/wage employment but did not work due to: other reasons
81	did not work but was seeking and/or available for work
82	did not seek but was available for work
91	attended educational institution
92	attended domestic duties only
93	attended domestic duties and was also engaged in free collection of goods (vegetables, roots, firewood, cattle feed, etc.), sewing, tailoring, weaving, etc. for household use
94	rentiers, pensioners , remittance recipients, etc.
95	not able to work due to disability
97	others (including begging, prostitution, etc.) -97.
98	did not work due to temporary sickness (for casual workers only)

Thus, we can see that the National Sample Survey (NSS) on 'Employment and Unemployment Situation in India', apart from showing the employed and unemployed labour force, also has a broad category of population which is termed as 'neither working nor available for work (or not in labour force), which includes, the population attending the education institutions (code 91); attending domestic duties only (code 92); attending domestic duties and are also engaged in free collection of goods such as water, firewood, cattle feed, vegetables etc. along with sewing, tailoring, weaving, tutoring own children etc. (code 93); rentiers, pensioners, remittance receivers etc. (code 94); persons not able to work due to disability (code 95); beggars, sex workers etc. (code 97); did not work due to sickness (code 98) and children of age 0-4 years (code 99). It is very evident that Codes 92 and 93 involve the production of goods and services that are potentially marketable and are therefore economic in nature, and would be classified as work in the new ICLS definition (ILO, 2014). Code 97 also falls in same category. The matter is further complicated by the fact that the NSSO also includes some unpaid work in its definition of work, by including "unpaid helpers in household enterprises" among those defined as working while some of the households do not report their members, especially women as workers, even though they are engaged in same type of work as performed by those who are being reported as 'unpaid family workers' or 'unpaid helpers in household enterprise'. Including the codes 92, 93 and 97 in the definition of work dramatically changes the work participation rate, especially of women. Interestingly, using this broader category of workers, the participation of women becomes higher than that of the men, while by the traditional methods, reverse is the case. By the narrow definition of work,

that has been used by NSS, the work participation rate by the women in age group 15 years and above was about 31 per cent during 2011-12 as compared to 79.7 per cent for the men in the same age group in India (GoI, 2013). However, including above codes 92, 93 and 97 in the definition of workers increases the work participation rate to 86.2 for women and a little above 80 per cent for men (the impact of inclusion of code 93 on LFPR of men and women in India can be seen from Appendix Table A1). This is a very different picture from the conventional one that sees most women in India as "not working". The enormity of the size of the female population in categories 92 and 93 itself speaks for the importance of incorporating non-marketing services in national income accounts through SAM. While the NSS gives a detailed list of activities under code 93 but it does not give account of the time spent in it and in case of code 92 all the activities have been covered under the broader category of 'domestic duties'. Hence, for inclusion of non-market services, nation wide time-use surveys are urgently needed which the country never had (the largest time use survey in the country so far is a pilot time use survey of 6 states that was conducted for the year 1998-99). Building a SAM requires compiling different types of statistical data from multiple sources and reconciling data from these sources.

The purpose of incorporating non-market services in SAM is to focus attention on the part of production that is not defined in the system of national accounts. These activities are carried out by the families by using their own capital and unpaid work of their members for producing goods for their own use (OECD, 1995). A clear definition of household production expands the concept of production and gives due recognition to the productive roles of the families. Thus, the non-market household production includes unpaid work, family care and capital formation in own account. Indian statisticians also need to consider the ESA (2010) which has identified different principal functions under non-marketed household production and these are: housing, nutrition, clothing, care (children, adults and pets) and volunteer work. Most of the ESA studies (e.g. Montella, 2012) suggest that household satellite accounts can be integrated with main accounts by institutional sector, the supply and use table and uses account to obtain the measures of household extended production boundary. She suggests the following satellite account of household production for including the non-market non-SNA works.

Table 2: The Satellite Account of Household Production

Non-Market Household Production (SNA)	Value	Household Production (Non-SNA)	Value	Total (SNA + Non-SNA)
Production of goods and services for their own use (final goods and services)		**Production of goods and services for their own final**		
Housing services consumption		HH1 Housing		
Domestic services paid		HH2 Nutrition/preparing meals		
		HH3 Clothing/laundary		
		HH4 Care - adult, children and pets		
		HH6 Transport on own		
Another production of goods and services non-market		Another production of goods and services non-market		
Volunteer goods		HH5 Volunteer services		
Total production SNA non-market		**Total production Non-SNA non-market**		

Source: Montella (2012).

In Indian context, by including different types of workers and identifying non-workers, following matrix (Table 3) may also seem to be an appropriate one. But there are many questions that are yet not addressed properly. These are related with the scope and design of the non-market accounts. While defining the scope of the non-market accounts, initially, the 'third party' criteria (Reid, 1934) as suggested by many studies, seems to be an ideal one as the distinctions between production and consumption and between substitutable and nonsubstitutable services differs according to the social norms and is somewhat arbitrary (Abraham and Mackie, 2005). Therefore, for sake of conceptual clarity, such account will be a limited scope account of non-market services of the household as it would be excluding the time spent on own education and health even though these activities enhance our cognitive skills and improve our health (Abraham and Mackie, 2006). Still, in the the initial phases of building a SAM in India such exclusions can be tolerated. Once an appropriate SAM is constructed, it will automatically give way to the computable general equilibrium (CGE) models.

Table 3: Schematic SAM including Non-Market Work and Non-Market Services

	Labour Casual – Female	Labour Casual – Male	Labour Regular – Female	Labour Regular – Male	Capital Owner	NMWP-FEMALE	NMWP-MALE	HOUSEHOLDS	Government	Industry sectors	Care (Household) Sector	CAPTAL Accounts	Rest of World	TOTAL
Labour Casual – Female														
Labour Casual – Male														
Labour Regular – Female														
Labour Regular – Male														
Capital Owner														
NMWP-FEMALE														
NMWP-MALE														
Households														
Government														
Industry sectors														
Care (Household) Sector *SNA non-market *non-SNA non-market														
Capital Accounts														
Rest of World														
TOTAL														

Source: with inputs from Sinha (2008).

Due to many practical difficulties and related institutions not being well in place to bear the additional responsibilities of collecting extensive data, the satellite accounts of the non-market services in the country are yet much far away from taking the center stage. Designing an appropriate SAM in this country needs an extensive research as well as practical experience. Several concepts has to be given a clear-cut definition e.g whether a particular service is a work activity (on basis of third party criterion) or a leisure one; has a market equivalent or a near market good and service; is a private good/service or a public good/service. Whereas the SAM for non-market services holds promise for generating meaningful and useful data to inform policy and to inform research, its feasibility, accuracy and reliability will always be demanded. It demands more of the responsible behaviour of the national statistical agencies rather than their hitherto followed escapist strategies in this regard.

III. Evaluating the Non-Market Services of the Households:

Next issue arises in evaluating this non-market work. While the accounts for market goods and services have complete information on prices, incomes and expenditures, similar

information is hard to get in case of the non-market accounts and there are number of issues regarding the choice of method of valuing the non-market services of the households. The issues are least severe in valuing near-market goods, moderately severe for private but "personal" goods, and extremely severe for public goods (Nordhaus, 2005). First issue in this regard is to measure the output (or input) and then there is issue of estimating the value of labour use in provision of final services. While there are hot debates on input method and the output method and then the replacement cost method and the opportunity cost method, between the replacement cost and the opportunity cost method, the latter is generally rejected for valuation of the non-market services in the households as it may yield different results for similar activity depending upon the professional status of the person who performs the task. There are many studies which have compared the results of different methods used in evaluating the non-market services (e.g. Goldchmidt-Clermont, 1982 and Varjonen et al., 1999). As far as the output method is concerned, the value of non-market services can be estimated through finding their market price equivalents but these have to be adjusted for the differences in the quality and second way of estimating the value of the non-market services is the value added approach which requires the exact data of the cost of the intermediate goods and services required to produce the services and the cost of labour and the cost of capital services used in production of non-market services. Whereas, the value of intermediate goods and services used in the production of non-market services is readily available as it generally appears in the final consumption expenditure of the households, finding the value of labour is an important issue.

Valuing the labour time still hovers around the debate on type of wages to be used to measure the replacement cost - the generalist's wages or the specialist's wages? Varjonen et al. (1999) emphasise that the repititive work in the households turn the men and women in to experts of their own activity while the critics often point out that there can be certain activities which are not performed on routine basis in which they may require a hired help but try to manage temporarily e.g. mending a leaking tap (UN, 2008). A middle way between these two extremes of using a specialist's wage and a generalist's wage, is suggested to use a quality adjusted replacement cost(Abraham and Mackie, 2005). Through this method, the home production is valued at their replacement cost adjusted to reflect skill differences of the producers between home and market production. But in a

segmented labour market like India where, the informal market dominates and the formal sector is conspicuous by its absence in most of the household services, using the generalist's wages is the only answer as even calculating the adjustment multiplier showing the skill differences of market production and home production is difficult to calculate. In an attempt to evaluate the non-market services of the households through micro-data of about 300 households selecting at least two members from each of the household in Punjab state of India and using the replacement cost method, it was found that the non-market work of the women constitute about 35 per cent of the state domestic product, when evaluated on basis of prevailing median wages and varies between 25 per cent and 30 per cent when evaluated on basis of minimum wages of the unskilled workers, semi-skilled workers and the skilled workers (Dhanoa and Uppal, 2015). These estimates do not take in to account the prevailing wages of the organised sector as only 7 per cent of Indian labour force is employed in the organised sector of India and moreover, for last many years, the organised sector is creating more of the informal jobs than the formal ones (IHD, 2014), therefore, using these wages will not be an appropriate method in Indian context, particularly when there are noticeable differences in wages in the formal employment and informal employment (Uppal, 2016).

Another problem is related with the concept of working time. As paid working time is used as the basis for hourly wages, it must be kept in mind that it includes the holidays, sick leaves, coffee and lunch breaks. But the time use data includes only the actual working time and this may create the problems in proper valuation of the non-market services of the households (Hamunen et al., 2012).

Further, valuing the capital services is also equally important as in the households, the electric/electronic gadgets reduce the drudgery, substitute labour and save the labour time. But many of the consumer durables in the household are not used in production of services but are part of the leisure activities which can not be delegated to others and hence have no market price equivalents. Some of the capital services can be used both for production purposes as well as leisure. The use of cars, computers and mobile phones may fall in this category and hence, it is important to separate only that part of the capital services which is used in producing the non-market services within the household. Using the method suggested by Jorgenson and Griliches (1967), the value of the capital services can be

measured as the price of capital services per unit of the net capital stock multiplied by the units of net capital stock. However, while making the international comparisons, it has to be kept in view that the use of capital services in producing a particular non-market service within the household may use different units as well as quality of capital services in different countries. A country with a relatively lower use of capital services may have a higher share of non-market services relative to another country where use of capital services is higher. Like in a market individuals in the households make rational choices of a production method given the time and capital resources they have combined with their production capabilities. With high opportunity cost of time for the professionals, the labour time consumed in production of any non-market service in the household can be substituted with capital services. This fact further adds to the importance of valuating the use of capital services in production of non-markets services. At the same time it also indicates/assumes that people behave in a rational manner when they reallocate their time from the non-market services to the market ones as they move up the professional ladder. This assumption holds true if the distribution of work among the men and women in the domestic sphere has the economic rationality and the women have a free choice to withdraw themselves from domestic duties to participate in the labour market. But if the scope of home production changes with greater use of capital services as the market opportunities for the households change, ignoring it in measuring income will bias conclusions about how inequality changes across income groups and within the same household (Abraham and Mackie, 2005). Another important issue related with the capital services is that in the satellite accounts of home production, these are termed as intermediate goods but as we proceed to integrate the accounts of home production with main national income accounts, the capital services are final goods which have already appeared in the household expenditure on consumer durables so due care will have to be taken to avoid this double counting as valuing of non-market services graduates from satellite accounts to the main accounts.

In the Indian context any debate among the statisticians regarding the method of valuing non-economic services and/or valuing the labour and capital services used in this production (irrespective of the fact wherever they reach) would actually show some rays of hope as it would at least show some currents in the still waters of the statistical agencies

which have long been showing no interest in conducting the time use surveys at the first place and there is no exaggeration in saying that no such serious debates have ever taken place in the realm of Indian statistical agencies! Whatever has been done so far has too slow pace of change to be noticed. On the other hand, there is noticeable reluctance to consider household as a production unit.

IV. The Undeniable Relevance:

Valuating the non-market services of the households undoubtedly allows the evaluation of the contribution of households to the national economy, by giving a value to the production of household services not included in standard measurement of GDP. Along the growth path of the economy, the evolution of the distribution of hours spent in market and non-market work also shows the hidden cost of economic growth in terms of reduced household non-market output (Hamdad, 2003).

It provides a more accurate assessment of the impacts of cutbacks in social services. Shifting of the resources from the non-market to the market sector lead to growth of the market economy at the expense of non-market unrecorded economy. The non-market services are generally contracyclical in nature which increase during the phases of contraction and fall during the phases of boom in the economy. This gives a clear connection of the market work to non-market work. During the periods of slump, the non-market services actually substitute several services that the governments are expected to provide to its citizens such as elderly care, thus reducing the burden of the state during the periods of economic contraction. Through several other activities e.g by fetching water, collection of fuels etc. the time spent by women in non-market work actually subsidises the government of many public provisions (Hirway, 2015).

Through SAM for non-market services of the households, we can improve our understanding about different roles of women and men in the generation and distribution of income and the interactions between households and the market economy. But making the process of making the household services visible, accounting the inter-relationships between the household activities and the market activities is highly data-demanding and often methodologically difficult which becomes an excuse for the opponents in the developing economies who try to hide their intentions under the name of conceptual ambiguities and inadequacy of funds required to collect the data on such a big scale. The

attempts in this direction are also weakened by the arguments that evaluating the non-market services may inflate the GDP figures in general and income of the poor households in particular who perform more of the non-market services in their households. But this criticism is based on the spurious assumption as if when India will be incorporating the non-marketing services in its national accounts, things will remain unchanged for rest of the countries. The international comparisons will be made only if all the countries will be following the same methodology of defining and evaluating market and non-market production. Moreover, by building SAM for non-market services, we will be able to clearly tell the proportion of the non-market services in aggregate national income - definitely, a greater share of the former in the latter will be an indicator of poverty, economic slump, poor public services and undeveloped market sector among many other inefficiencies of the institutions. Are we afraid of inflated GDP or of unveiling the realities of poor public infrastructure?

Despite all these criticisms and the fears, it can not be denied that through evaluating the unpaid work by recognising the households as production units and constructing household production accounts, more relevant information on the unpaid domestic work can be provided; various unmeasured aspects related with quality of life that change along with economic growth and macroeconomic policies can be described statistically (or say translated in statistical language for understanding of the hardcore analysts who understand the language of data only); the relative importance of household production vis-a-vis the income produced in a territory can be well understood; and it may also allow analysing and understanding the private consumption in a better way.

International comparisons of economic activity can be made more meaningful if broader and comparable measures of economic activity are available. Moreover, it is also being recognized internationally that an appropriate accounting of household production would support the definition and adoption of policy measures in support of a more harmonious development. Since most of the essential goods and services that contribute to the well being of the masses are produced at home, all nations should construct the household accounts on a continuous basis to incorporate them in to public policy decisions. It also needs a regular collection of time-use data.

References

Abraham, Katharine G. and Mackie, Christopher (2006). A Framework for Non-Market Accounting. In Jorgenson, Dale W., Landefeld, Steven J. and Nordhaus, William D. (eds). A New Achitecture for the U.S. National Accounts. University of Chicago Press.

Abraham, Katharine G. and Mackie, Christopher (eds.) (2005). Beyond the Market: Designing Nonmarket Accounts for the United States. Panel to study the Design of Nonmarket Accounts, National Research Council. Washington D.C.: National Academies Press.

Danhoa, Harpreet & Uppal, Anupama (2014). The Time-use Survey of Rural Punjab: Measuring the Unmeasured. Paper Presented in the IARIW 33rd General Conference. Rotterdam, The Netherlands.

Duran, M. A. (2007). The Satellite account for unpaid work in the community of Madrid. La Suma de Todos, Community de Madrid 36.

ESA (2010). Manual European System Accounts 2010, part II.

Fontana, M. and Wood, A. (2000). Modelling the Effects of Trade on Women, at Work and at Home. World Development. 28(*7*): 49-80.

Goldschmidt-Clermont, L. (1982). Unpaid Work in the Household: A Review of Economic Evaluation Methods, ILO, Geneva.

Hamdad, Malika (2003). Valuing Household's Unpaid Work in Canada, 1992 and 1998: Trends and Sources of Change. Statistics Canada Economic Conference. Ottawa.

Hamunen, E., J. Varjonen, and K. Soinne (2012). Satellite Accounts on Household Production: Eurostat Methodology and Experiences to Apply It. Paper prepared for the 32nd General Conference of the International Association for Research in Income and Wealth, August 5–11, Boston USA.

Hirway, Indira (2015). Unpaid Work and the Economy: Linkages and their Implications. Working Paper No. 838. Levy Economic Institute of Bard College. New York.

_____ (2016). Gender Justice through the 3-R Approach. Paper presented at The 38th International Association for Time Use Research Conference. Seoul. July 20-22.

Hirway, Indira & Jose, Sunny (2011). Understanding Women's Work Using Time-Use Statistics: The Case of India, *Feminist Economics,* 17(*4*): 67-92.

ILO (2014). Resolution Concerning Statistics of Work, Employment and Labour Underutilisation, International Labour Organisation, Geneva.

Jorgenson, Dale W. and Zvi Griliches (1967). The Explanation of Productivity Change, Review of Economic Studies. 34(*3*): 249-283.

Landefeld, J.S., Fraumeni, B.M. & Vojtech, C.M. (2009). Accounting for household production: A prototype satellite account using the American time use survey. Review of Income and Wealth, 55 (*2*): 205-225.

Montella, M. (2012). The Household Production in National Accounts Italy's Study. Task Force UNICEF Geneva. November 26-27.

https://www.unece.org/fileadmin/DAM/stats/.../ge.../5._Italy_-_country_practice.ppt

Nordhaus, William D. (2005). Principles of National Accounting for Non-market Accounts. CRIW conference. Architecture for the National Accounts. January 6.

OECD (1995). Household production in OECD countries. Data sources and measurement methods, OECD Paris

Reid, Margaret (1934). The Economics of Household Production, New York, Wiley.

Sinha, A. (2008). Social Accounting Matrix Analysis with Market and Non-Market Work: A Gender Perspective. presented at VATT, Helsinki, Finland, June. Available at www.vatt.fi/file/torstaiseminaari%20paperit/2008/sinha-nmw-vatt-june08r.pdf

United Nations (1993). System of National Accounts. Washington, D.C: Inter-Secretariat Working Group on National Accounts.

_____ (2008). System of National Accounts. Washington, D.C: Inter-Secretariat Working Group on National Accounts.

Uppal, Anupama (2016). Unequal Jobs, Uequal Outcomes in Indian Labour Market. A Paper presented in 11th Forum of World Association of Political Economy. Punjabi University. Patiala. June 17-19.

Varjonen, J., Niemi, I., Hamunen, E., Sandström, T. & Pääkkönen, H. (1999). Proposal for a Satellite Account of Household Production, Eurostat Working Papers; 9/1999/A4/11.

Appendix Table A1

Labour Force Participation Rate (LFPR) for Age Group 15+ (Usual Principal and Subsidiary Status - UPSS)

Year	Traditional Definition of LFPR						LFPR by including the persons involved in free but economically gainful activities (Code 93)					
	Rural		Urban		Total		Rural		Urban		Total	
	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males	Females	Males
1994-95	49.0	87.6	23.8	80.1	42.7	85.6	80.8	87.9	45.2	80.2	71.8	85.9
1999-2000	45.4	85.3	20.8	78.7	38.9	83.4	77.1	85.3	38.5	78.7	66.8	83.4
2004-05	49.4	85.9	24.4	79.2	42.7	84.1	76.3	86.2	39.1	79.3	66.4	84.3
2009-10	37.8	82.5	19.4	76.2	32.6	80.6	70.1	82.8	35.9	76.3	60.3	80.9
2011-12	35.8	81.3	20.4	76.4	31.2	79.7	66.8	81.6	32.1	76.4	56.4	80.0

Source: NSSO (various Rounds).