

Developing Poverty indicators Using Time Use Statistics

A study in India¹

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Introduction

The main objective of the paper is to examine the time use patterns of the poor and the non poor in India with a view to answering the following questions:

- Are there any significant differences between the ways in which the poor and the non poor spend their time?
- What do these differences indicate about the nature of poverty?
- Do we get any additional insights on poverty that can have implications for poverty reduction strategy?

The paper has used the statistics of the first Indian time use survey that was conducted in the six states of India in 1998-99. The survey was conducted in the selected six states of India located in the six different regions in India. These states are Gujarat (western India), Tamilnadu (southern India), Madhya Pradesh (central India), Meghalaya (north-east India) and Haryana (north India). The sampling design was stratified random sampling design, as followed in the national sample surveys. The total households selected were 18628, which covered 77593 persons (6 + population). The survey was conducted in four rounds of the year to capture the seasonal variations in the time use patterns of the population.

Table 1
Sample selected for the time use survey

States	Rural			Urban			Total		
	Male	Female	Persons	Male	Female	Persons	Male	Female	Persons
Haryana	2463	2030	4493	830	675	1505	3293	2705	5998
Madhya Pradesh	8953	8035	16988	2807	2410	5217	11760	10445	12205
Gujarat	3991	3651	7642	3488	3109	6597	7479	6760	14239
Orissa	5026	5008	10034	1130	1026	2156	6156	6034	12190

¹ Paper prepared for the Conference on Time Use and Measures of Well Being, Levy Economics Institute, 28 – 29 October 2005

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Tamil Nadu	6466	6420	12886	3690	3715	7405	10156	10135	20291
Meghalaya	997	941	1938	346	386	732	1343	1327	2670
Combined States	27896	26085	53981	12291	11321	23612	40187	37406	77593

There were three schedules used for data collection: House listing schedule, background schedule to collect background information on the selected households and the members, and the time use schedule. Two context variables were used, namely, whether the activity was conducted within or outside the house and whether the activity was paid (directly) or unpaid.

Poverty line and Incidence of Poverty: Using the state level poverty lines determined by the Planning Commission, Government of India for the year 1998-99, the incidence of poverty for the selected states was calculated as follows:

Table 2
Incidence of poverty in the selected states

State	Rural Poverty Line (Rs)	Rural % of poor popu.	Rural Total popu (in m)	Urban Poverty Line (Rs)	Urban % of poor popu.	Urban Total Popu (in m).
Haryana	363	19.67	15.0	420	10.98	6.1
Madhya Pradesh	311	38.80	44.4	482	38.92	15.9
Gujarat	319	15.19	31.7	474	24.05	18.9
Orissa	324	53.73	31.3	473	40.06	5.5
Tamil Nadu	308	25.46	14.9	476	24.48	27.5
Meghalaya	365	17.71	1.9	344	13.19	0.4

Note: For Meghalaya the poverty line of Assam is used

It needs to be noted that the poverty data for the late nineties are highly controversial data for different reasons. (Tendulkar and Sundaram 2001, Datt 2001, Mehendra Dev 2002, Ravallion 2002, Bhalla 2002, Dreze 2003 etc). Without going in to this controversy, it will be enough to state here that though the data are not perfect, they broadly indicate the ranking of the states with respect of the incidence of poverty. We have also computed the percentages of people living in ultra poverty using the data on the distribution of incomes among the non poor.

Additional Information through Time Use Statistics: The additional information about the poor and the non poor that is likely to be available through the time use survey can be listed as follows:

To start with, time use data provide improved information on economic participation of the poor and the non poor. It is observed that conventional surveys, the Census of Population and the NSSO (National Sample Survey Organization) surveys on employment and unemployment do not capture adequately the total workforce of the economy, particularly the informal workers, as this work is frequently scattered, sporadic, short term, temporary or seasonal. Also there are biases which prevent workers and particularly women from reporting their work as work. There are also biases on the part of investigators that come in the way of full reporting of this work. As a result, home based work, subcontracted work, unpaid family work and other informal work frequently is observed to be under reported. Time use surveys can capture this work adequately, as these surveys collect comprehensive information on how people spend their time, and with a proper classification system it will be possible to capture this work.

Another reason for the under reporting of work under the conventional surveys is that these surveys have not adopted the 1993 concept of work, particularly the non market work, such as collection of free goods from common property resources and subsistence is not included in the concept of work. The time use survey data can capture this work and can provide the estimates of workers engaged in these activities.

In addition, time use surveys can also throw light on the following activities of the poor and the non poor:

- The time spent by men and women on household upkeep and management as well as on care of children, the sick and old members of the household
- The time spent on voluntary work for other households, the community etc.
- The time spent on personal care, rest, sleep and relaxation,
- The time spent on personal health, education etc
- The time spent on sports, games, entertainment, hobbies, etc
- The time spent without doing any thing or idle time, which could be forced unemployment.

The above information on the poor and the non poor is likely to provide some new insights on poverty in the country. This paper analyses this information to acquire additional insights on poverty in India.

Broad Time Use Patterns of the Poor and Non-poor

The poor and the non poor spent considerable time on economic work (the work that falls in the production boundary of the UN SNA) as well as on extended economic work

(work that falls outside the production boundary but within the general production boundary). We will call the formal work as SNA work and the latter as ESNA work.

Table 3
Participation of persons in SNA and Ext SNA Activities (%)

State	Activity	Poor Male	Poor Female	Poor Total	Non Poor Male	Non Poor Female	Non Poor Total
Haryana	SNA	70.67	52.59	63.24	78.40	33.85	58.40
	ESNA						
Madhya Pradesh	SNA	50.00	26.44	41.97	53.26	18.13	35.40
	ESNA						
Gujarat	SNA	49.80	30.90	31.54	61.74	24.50	33.00
	ESNA						
Orissa	SNA	46.30	22.00	35.06	53.62	17.05	38.07
	ESNA						
Tamil Nadu	SNA	66.11	22.23	37.05	61.99	21.67	35.62
	ESNA						
Meghalaya	SNA	59.51	19.05	34.75	54.47	18.73	30.24
	ESNA						

Source : The Indian Time Use Survey

The above table indicated that the participation of the poor and the non poor is significant in both SNA and ESNA work, both of which contribute to the well being of these households.

As far as the economic participation is concerned, men's participation is higher than the same of women in all the states, for the poor as well as for the non poor. However, among men, non poor men's participation is higher than the same of the poor men. This implies that the men from poor households suffer from lower employment avenues in the labour market as compared to the non poor. The assumption that the poor fall back on the residual agricultural sector is no more relevant now, perhaps because of the increased landlessness as well as the reduction in the size of the average holding in the rural economy that does not have many employment avenues, even at low productivity, for the poor.

Another important observation emerging from the table is that the WPR of poor women is much higher than the same of the non poor women. As we will see later on, this is largely because women have the responsibilities of collecting fuel wood, fodder, water,

fruits, vegetables etc products, mainly from common property resources. That is, they are engaged on a significant scale in low productivity and strenuous activity like collecting free goods for their respective households.

The overall WPR of the poor is not necessarily higher for the poor households. In fact, in two of the six states the WPR for the poor is lower for the poor than for the non poor.

Table 4
Average Weekly Time Spent by the Poor and the Non Poor in SNA and ESNA Activities

State	Activity	Poor Male	Poor Female	Poor Total	Non Poor Male	Non Poor Female	Non Poor Total	ESNA as % of total work Poor	ESNA as % of total work Non poor
Haryana	SNA	43.75	20.22	36.09	29.20	13.79	28.52		
	ESNA	8.46	35.83	21.79	10.38	28.61	18.38		
		52.21	56.05	54.88	39.58	42.40	46.90		
Madhya Pradesh	SNA	54.09	45.47	46.47	57.52	37.01	42.50		
	ESNA	15.10	27.65	24.86	8.15	32.70	20.95		
	Total work	69.19	73.12	71.33	66.67	69.71	62.25		
Gujarat	SNA	51.41	48.82	49.43	55.51	43.76	50.45		
	ESNA	12.31	37.43	25.61	11.41	30.17	20.09		
	Total work	63.72	86.25	75.04	66.92	73..93	70.54		
Orissa	SNA	83.44	58.80	70.63	84.33	46.14	70.41		
	ESNA	9.89	35.09	21.09	8.30	25.48	15.13		
	Total work	93.33	83.89	91.72	92.63	71.62	85.54		
Tamil Nadu	SNA	72.30	62.84	64.07	77.47	58.95	65.27		
	ESNA	7.85	28.46	20.66	6.47	22.42	15.63		
	Total work	80.25	91.30	84.73	83.94	81.17	80.90		
Meghalaya	SNA	58.29	37.34	52.18	62.58	39.13	51.68		
	ESNA	19.49	40.23	25.67	10.41	33.84	21.28		
	Total work	77.78	77.56	77.75	72.99	72.97	72.96		

Source: The Indian time use survey

How much time do the poor spend on SNA (economic) and ESNA (extended economic work)? Table 4 presents these data. The table shows that

- Both the poor and the non poor spend considerable time on SNA and ESNA work. The time spent on total work varies from 45 to 55 hours in Haryana (the richest state) to 85 to 90 + hours in Orissa (the poorest state). This comes to 6.5 hours to almost 12 to 13 hours per day. Since the time spent on both the activities
- The poor spend more time on total work than the non poor. However, they spend considerable less time on SNA work as compared to the non poor. That is, the poor have lesser access to the labour market than the non poor. Also, they spend relatively more time on ESNA activities.
- The general division of work between men and women is such that men spend more time on economic work and women spend more time on ESNA work. However, women's participation in SNA work is significant while the participation of men in ESNA work is very low. As a result, women invariably spend more time on (total) work as compared to men, particularly in the case of the poor households. In the case of the non poor households, however, men spend more time on total work in the case of Orissa, Tamil Nadu and Meghalaya. Women spend less time on economic work than men in poor as well as non poor households.
- The major burden of ESNA work is carried out by women, the distribution of ESNA work being highly unequally distributed between men and women. Women from non poor households spend less time on ESNA work, may be because they get hired help for this work.

In short, the major difference between the work pattern of the poor and the non poor is that the poor are overburdened by work compared to the non poor, but a significant part of this work is ESNA work, such as domestic work like processing of food and cooking, washing and cleaning, upkeep of the house etc and care of children and other household members. This burden is carried out mainly by women in the unequal society of rural India.

Economic Work Performed by the Poor and Non Poor

The following table presents the details of the participation of poor and the non-poor in the different economic activities. The table shows that the poor have a poor diversification of economic activities as compared to the same of the non poor.

Table 5
Participation Rates of Poor and Non-poor in Economic (SNA) Activities

State	Activity	Poor Male	Poor Female	Poor Total	Non-poor	Non-ppor	Non-poor
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					Male	Female	Total
Haryana	Primary	67.72	51.62	61.10	69.89	30.50	52.19
	Secondary	1.01	0.98	1.00	3.60	3.12	3.39
	Tertiary	1.94	0.00	1.14	4.91	0.23	0.23
	WPR	70.67	52.59	63.24	78.40	33.85	58.40
Madhya Pradesh	Primary	40.78	23.93	36.36	43.97	15.67	29.38
	Secondary	3.36	1.30	2.25	2.97	1.17	2.04
	Tertiary	5.86	1.20	3.36	6.82	1.39	3.79
	WPR	50.00	26.44	41.97	53.26	18.23	35.20
Gujarat	Primary	44.37	29.01	29.45	53.72	23.52	30.41
	Secondary	0.84	0.67	0.71	3.52	0.36	1.08
	Tertiary	4.58	1.22	1.38	4.49	0.62	3.50
	WPR	49.50	30.90	31.54	61.74	24.50	33.00
Orissa	Primary	39.66	19.71	30.43	40.90	15.30	30.03
	Secondary	1.36	1.07	1.23	4.19	0.55	2.62
	Tertiary	5.28	1.22	3.40	8.53	1.21	5.42
	WPR	46.30	22.00	35.06	53.62	17.05	38.07
Tamil Nadu	Primary	45.90	15.60	25.83	38.95	15.56	23.65
	Secondary	4.27	2.42	3.04	6.54	1.36	3.15
	Tertiary	15.94	4.22	8.18	16.50	4.75	8.82
	WPR	66.11	22.23	37.05	61.99	21.67	35.62
Meghalaya	Primary	49.04	19.05	30.46	39.55	14.55	22.47
	Secondary	6.17	0.00	1.74	7.35	1.87	3.64
	Tertiary	4.29	0.00	1.94	7.56	2.51	4.13
	WPR	59.51	19.05	34.75	54.47	18.73	30.24

Source: The Indian time use survey

An important observation emerging from the table is that the poor are basically tied up to primary sector employment. Except for Tamil Nadu, all states have around 90 percent or more workforce engaged in the primary sector. In the case of Tamil Nadu this percentage is slightly less than 80 percent. The major activities in the primary sector are crop cultivation and related activities like horticulture, kitchen gardening etc, animal husbandry, forestry, fishery etc and collection of free goods like fuel wood, fodder, vegetables, water etc. Majority of people in rural areas are engaged in these activities, but the poor are almost exclusively engaged in these activities.

Among the non primary sectors, tertiary sector seems to be more important than the secondary sector for employment for the poor. That is, the poor are mainly in to petty trade and businesses and petty services when they are employed in the non primary sectors. The limited diversification of the economic activities of the poor indicates that (1) the livelihood of the poor is basically tied up to natural resources. For example, agriculture, forestry, animal husbandry, fishery etc all depend on natural resources, (2) it also means that depletion and degradation of natural resources in the country is having a highly adverse impact on the poor and (3) natural calamities like droughts, floods,

cyclones etc, which are not infrequent in the country are likely to make the poor highly vulnerable. Economic diversification on the other hand reduces risks and uncertainty as failure of one activity can be compensated by other activities. The poor do not enjoy this protection against risks due to their high reliance on the primary sector.

The risk and vulnerability of women is much higher, as more than 95 percent (100 percent in some cases) of women workers from the poor households depend on the primary sector. Women workers from the non poor households also suffer from poor diversification as compared to men workers from the non poor households.

Table 6
Percentage of workers engaged in the primary sector RURAL

State	Ultra poor Male	Ultra Poor Female	Poor Male	Poor Female	Non-poor Male	Non-poor Female	Rich Male	Rich Female
Haryana	100	100	95.83	98.14	89.50	90.00	88.51	92.67
Madhya Pradesh	84.51	83.3	81.55	84.77	82.55	85.99	78.90	80.34
Gujarat	100	100	89.11	96.43	87.01	96.00	86.25	95.65
Orissa	94.20	77.54	85.65	89.58	76.28	89.97	95.67	92.87
Tamil Nadu	60.38	72.35	69.43	70.16	62.83	71.80	57.82	68.80
Meghalaya	99.90	99.90	82.41	99.90	72.62	76.63	76.10	75.32

Note: The poor are divided in to two categories, ultra poor (households belonging to the lowest income category) and poor and the non poor are further divided in to non poor and rich (households belonging to the highest income category)

When the poor and the non poor households are further divided in to more categories as per their incomes, the importance of diversification of economic activities becomes very clear. In fact, the diversification increases consistently with the increasing income levels. Again, the diversification of women's activities is much less than the same of men in all the categories except in the 'rich' category where women's participation in work is much less.

It is important to note however that the diversification of economic activities is quite low even in the case of the 'rich'. For example, more than 80 percent of the rich men workers are engaged in the primary sector in Haryana, Madhya Pradesh, Gujarat and Orissa. The percentage is also high in Meghalaya (76 percent). It is low only in Tamil Nadu where 38 percent of non poor men workers and 42 percent of rich men workers are engaged in non primary sectors. This high percentage of workers in the primary sector seems to be due to several reasons: (1) the concept of work under the time use survey includes collection of fuel wood, water, fodder, fruits, vegetables etc by people, usually from common property resources. Since this is a widely spread activity in rural areas, it has raised the

participation rate of households in primary sector and (2) many of the rich households in rural areas are large land holders and have agriculture as their main economic activity.

Working Poor:

A careful look at the time use of the poor reveals that there are many economic activities of the poor that are stressful, have a low productivity and low income. These can be listed as follows:

- Collection of water, fuel wood, twigs, fodder etc from village commons
- Animal (sheep and goat, cattle, camel etc) grazing in open grounds
- Collecting forest produce – grass, flowers, wood for craft and construction, fruits, fish and other forest produce, particularly from degraded forest lands (no collection is allowed from protected forests)
- Food processing – milling, husking, par boiling and other food processing etc

Collection of Fruit, Water, Plants etc and Storing & Hunting: One major observation emerging from the time use data is that households in rural areas spend considerable time, in terms of the persons engaged as well as in terms of time spent, on collecting free goods from community owned common property resources. This information is not captured adequately by the Census and the NSSO rounds, firstly because they fail to capture adequately the persons engaged in these activities and secondly because they do not collect any data on how much time is spent by men and women on these activities.

Major items collected by rural households are as follows:

- Edible goods like fruits, vegetables, berries etc
- Other consumption goods like fuel wood / twigs etc
- Products related to their livelihoods, like fodder for animals or animal grazing on common lands, material for craft (wood, leaves etc), building material for sale or for self use, water for animals
- Water for domestic use

Table 7

Persons (% of workers) engaged in collection of free goods in Poor and Non-poor households

State	Poor	Poor	Poor	Non-poor	Non-poor	Non-poor
	Male	Female	Total	Male	Female	Total
Haryana	31.01	51.11	37.88	21.93	40.97	26.94
Madhya Pradesh	9.32	15.61	10.76	5.93	14.68	8.33
Gujarat	7.06	13.27	13.19	8.34	15.73	12.58
Orissa	17.02	45.99	25.43	15.21	43.33	20.55
Tamil Nadu	8.64	37.57	20.13	5.04	39.42	18.72
Meghalaya	11.27	64.53	33.18	20.81	42.53	29.93

The table shows that a significant percentage of workers from both the poor and the non poor households are engaged in collection of a variety of goods like fuel wood, fodder, water and other materials. It needs to be noted here that they do not spend full time on these activities. Though men are engaged in this activity, it is largely performed by women and children. The participation of men here is usually of children (Hirway and Thakar 2005). In addition to the above, the poor in Orissa, Madhya Pradesh and Meghalaya are engaged in collection of free forest produces like fruits, leaves, vegetables wood etc for their own consumption and their livelihood.

The time spent on these activities depends on (1) the ecological health of common lands, where these products grow, (2) the availability of these goods on private farms if owned, (3) the access of households to private farms or forests for the purpose of collection of these goods and (4) the supply of these goods by the state or by the market. The poor therefore are likely to spend more time on the collection than the non poor as they usually depend on common lands, which are depleting and degrading fast in most parts of the country due to the general neglect and illegal encroachment. The provision of these goods (except for water in some cases) by the state is limited and the poor frequently can not afford to buy these goods in the market.

Our analysis shows that the poor spend about 10 to 20 percent of their working time on collection of free goods. In the case of women these percentages are much higher, going up to 28 percent in the case of Orissa. The corresponding rates of the non poor are much lower, reaching up to 8 percent. In the case of women again the percentages are higher than the same of men.

It is important to understand the implications of these data. Firstly, it means that the poor are forced to spend considerable time on acquiring basic needs like water and fuel wood and other products. This leaves limited time for them to undertake other productive work, which can earn some income for them. Secondly, this work is strenuous and is a drudgery, which leaves them with limited energy to do other productive work. With the increasing depletion and degradation of natural resources in several parts of the country, this work is becoming increasingly time consuming and strenuous. And thirdly, children's employment in these activities tends to affect children's education and health

adversely. In short, this work tends to become a major drain on the poor. These goods constitute an important part of the public provisioning and need to be provided to all by the state at affordable prices.

It is indeed note worthy that even the non poor spend considerable time of their economic work time on these activities.

Animal Grazing in Open Lands: The following table shows that a significant number of workers, of whom children constitute an important part, are engaged in animal grazing. Except for buffaloes and good quality cattle, most animals are taken for grazing in the open common lands. Since these animals are expected to spend long time in the open, animal grazing can become a very time consuming activity. Frequently young boys are engaged in this activity. It is a low productivity activity as the commons are unprotected and are degraded, and therefore do not provide rich fodder to the animals, and long time spent on grazing.

Table 8
Percentage of workers engaged in animal grazing in poor and non poor households

State	Activity	Poor male	Poor female	Poor total	Non poor male	Non poor female	Non poor total
Haryana	Animal Grazing	8.09	0.18	5.39	2.80	0.17	1.17
Madhya Pradesh	Animal Grazing	10.35	3.10	8.35	4.52	1.31	3.36
Gujarat	Animal Grazing	8.47	1.13	4.22	2.84	2.02	2.08
Orissa	Animal Grazing	5.04	2.44	3.86	3.90	1.41	2.09
Tamil Nadu	Animal Grazing	6.31	2.32	4.72	3.38	1.19	2.51
Meghalaya	Animal Grazing	8.03	2.20	5.23	4.31	1.34	3.07

The table shows that though animal grazing is done by the poor and non poor households, the poor, and mainly poor men are engaged on a significant scale in this activity. About 5 percent (orissa) to 10 per cent (Madhya Pradesh) of men workers are engaged in this activity. As is shown in another study of ours, most of these are young boys and some of them are not able to go to school due to the burden of this work (Hirway and Thakar 2005).

In short, as far as economic participation of the poor and non poor households is concerned, the following seem to emerge as important characteristics of poor households:

- The overall participation of poor households in economic activities is lower (in terms of persons and the time spent) than the same of the non poor. That is, they have a relatively lower access to employment opportunities,
- The poor have less diversified sources of income as compared to the non poor,
- The poor participate on a significant scale in the activities that are dependent on community owned natural resources like common lands, village forest lands, common water resources etc. These activities are time consuming, have low productivity and stressful. They pose a major constraint on the poor, as they leave limited time and energy for them to undertake other productive activities.
- Women in poor as well as in non poor households are in a disadvantageous position than men in diversification of economic activities as well as in participation in collection of free goods. That is, women constitute a separate group that is less favoured within poor as well as non poor households.

In other words, the poor are putting in hard, but their work takes away long hours and produces low earnings. It is clear that if the poor could save time on these goods, (1) they will get more time for productive work that would increase their incomes, (2) the quality of the products will improve (for example, water provided by the state will be potable, fuel provided by the state will be more efficient and not harmful to health, fodder will be more nutritious for animals etc), (3) children will be relieved for school and (4) the poor and mainly women will have less time stress and will get more leisure / rest.

Household Characteristics and Economic Participation of Poor and Non poor

The major characteristics of the households that are likely to affect their nature of participation in economic activities are their occupation, income levels, land holding size, social group, (i.e. whether the household belongs to the scheduled tribes or scheduled castes, which are socially and also economically backward) and education of the head of the household.

Participation in collecting free goods: Our analysis shows that the income level of a household has a significant impact on the participation of households in these activities. It is observed that the higher the income level, the less is the participation of household members in collecting free goods. This seems to be because (1) households with higher income can hire help for collecting these items (like water), (2) they have better substitutes for free goods (they use kerosene or cooking gas as fuel) or (3) they produce their own goods (like fodder, vegetables etc from their own farm).

The size of the landholding also seems to be affecting the participation of the household in collecting free goods as long as the size of the holding is associated with the income levels. However, this is not always the case. A household with a small holding but with higher diversification of income sources and higher income levels does not have to be

engaged in free collection of goods on any significant scale, as they can afford to hire help for the collection or can buy better alternatives from the market.

The social group, however, is an important factor determining the engagement of the households in collection of water, fodder etc. Our analysis shows that a households belonging to the scheduled castes and the scheduled tribes participate on a larger scale, in terms of numbers as well as the time spent, in collection of free goods, as (1) the localities where they live (which are usually in the out skirts of the village) are poorly served in terms of water supply and other infrastructure, (2) the tribal regions, i.e. the areas where tribal population lives, have scattered settlements, each of which is not served adequately by water supply, and tribal regions are usually degraded environmentally and (3) the incidence of poverty is higher on these households. The educational status of the head of he household does not seem to be an important factor determining whether the household will depend on collection of free goods. The education level matters only after the household head has education beyond high school level. But this is because of the high income level and not the education level per se. Education gives high returns to a household only after a certain level of education.

Our multivariate analysis showed that the single most factor forcing households to participate in free collection of goods and animal grazing is poverty expressed in terms of income level, followed by the social group of the household.

Occupational Diversification:

Table 9

Diversification of economic activities of households with less than 0.50 ha land

State	Sector	Poor	Poor	Poor	Non-Poor	Non-Poor	Non-Poor
		Male	Female	Total	Male	Female	Total
Haryana	P	96.08	97.47	96.50	43.01	42.78	72.02
	S	1.63	2.53	1.90			8.82
	T	2.29	0.00	1.60			19.16
Madhya Pradesh	P	78.41	82.22	79.55	70.46	76.52	81.81
	S	7.49	8.74	7.93	8.21	10.61	9.59
	T	14.01	9.04	12.52	21.33	12.57	8.60
Gujarat	P	81.87	92.23	87.77	66.27	90.14	64.26
	S	3.58	5.94	4.93	22.24	2.81	7.56
	T	14.54	1.83	7.30	11.49	7.05	28.18
Orissa	P	78.10	83.96	79.86	58.63	88.49	57.69
	S	5.13	7.36	5.80	9.32	0.00	11.79
	T	16.77	8.68	14.34	32.05	11.51	30.52
Tamil Nadu	P	58.94	65.75	62.16	48.57	69.02	70.88
	S	10.47	13.12	11.73	16.47	5.98	10.33

	T	30.59	21.13	26.11	34.96	25.00	18.79
Meghalaya	P	85.16	99.98	93.31	67.72	77.52	70.88
	S	14.81	0.00	6.67	15.17	0.14	10.33
	T	0.03	0.02	0.03	17.11	22.32	18.79

Note: P= Primary Sector, S= Secondary Sector. T= Tertiary Sector

The above table shows that diversification of economic activities is an important characteristic of the non poor. This is because (1) such a diversification reduces the risk of loss of income and (2) allows households to get work in non primary activities, which are usually more remunerative.

Our analysis shows that the level of the diversification of sources of incomes of a household depends on (1) the education of the head of the household (after the head has acquired education beyond higher secondary level), (2) land holding of the household (beyond 6 + hectares) and (3) the social group (for the households belonging to the scheduled castes and the scheduled tribes). The education of the head of the household (and other members) helps in diversification of income sources when the education level improves the access of the household to better employment opportunities. Similarly, larger land holding helps the household to diversify its income sources. Since the poor usually lack in all the three aspects, they have a relatively poor diversification of the sources of incomes.

Participation in ESNA Activities by the poor and non Poor

There are several significant differences in the patterns of participation of the poor and non poor households in ESNA activities:

- Both men and women from poor households spend more time on ESNA activities than their counterparts from the non poor households. As a result, poor households end up spending more time on ESNA work than the non poor households. This perhaps indicates that the poor try to make up for their lower participation in SNA activities by participating more in ESNA activities.
- The gap between the time put in by poor and non poor women, however is much bigger than the gap between the time put in by poor and non poor men. This perhaps indicates that poor women struggle hard to make the two ends meet by undertaking more ESNA work.
- As far as household up keep is concerned, the general pattern of sharing of ESNA work by men and women is more or less the same for the poor and the non poor: men work much less on this work than women; men's participation is the highest in shopping for the family and travelling for shopping and the main burden of cooking, cleaning, washing and household upkeep etc falls on women. One does not find any significant differences in this patterns of the poor and non poor,

except that men's participation is marginally more in this group of activities in poor households as compared to the non poor households.

- As far as care of children, the old, the disabled and the sick in the household is concerned, men's share is very low compared to their share in household up keep and management. The main burden of this work seems to be falling on women. Men's participation is mainly in two activities, namely supervising children and some times accompanying children to health care or other outings. As far as women are concerned, their maximum participation is in physical care of children and care of other members (those who are old, sick, disabled etc) of the households.
- One major difference between the poor and the non poor is that the poor women spend time on taking care of the old, sick etc members of the household, while women from non poor households do not have to spend much time on this. This perhaps implies that poor women have a limited access to medical care facilities, as they can afford to pay for the services.

Participation in Community Work / Voluntary Services: A striking difference between the poor and the non poor is that the participation of the non poor in voluntary services and community work is much more – in terms of numbers participating and in terms of time spent on it – than the same of the poor.

Table 10

Average Weekly Time spent by Poor and non poor on community work and voluntary services

State	Activity	Poor Male	Poor Female	Poor Total	Non poor Male	Non poor Female	Non poor Total
Haryana	Community Voluntary Work	0.58	0.00	0.58	2.45	1.00	2.05
Madhya Pradesh	Community Voluntary Work	2.06	0.33	1.96	5.21	4.73	5.07
Gujarat	Community Voluntary Work	5.90	1.14	4.93	5.22	7.33	6.27
Orissa	Community Voluntary Work	1.30	2.08	1.66	2.88	4.01	3.33
Tamil Nadu	Community Voluntary Work	4.23	1.00	3.23	8.12	8.04	8.07

Meghalaya	Community Voluntary Work	3.09	4.19	3.65	5.64	3.61	5.54
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The above table indicates that the lowest participation in voluntary work / community services is by women from poor families. Men from poor households come the next, followed by women from non poor households. Men from the non poor households spend the highest time on voluntary work and community services. A careful look at the data reveals that the participation of the poor in this work is usually for mutual help and some times may be for their interactions with the caste people, while the participation of the non poor is in village organizations and in other community work.

The limited participation of the poor reflects their limited interactions with community organizations and their limited social capital.

Participation in Non SNA Activities by the Poor and the Non poor

The non SNA activities are broadly divided in to three categories: activities relating to learning, reading and education; social and cultural activities including activities relating to the use of mass media; and activities related to personal care including talking, gossiping, rest and leisure.

As far as the activities relating to learning and education are concerned, the main activities are learning (mainly for students) and other studies / training. It appears that there is only a marginal difference in the participation of children in education from poor and non poor households. However, when we divide the poor in to ultra poor and poor, and the non poor in to non poor and rich, the difference between the ultra poor and the rich becomes quite striking. This is because it is the extreme poverty (which makes education non affordable) and richness (rich parents want their children to go to school as the returns to education are high for them) which seem to affect the educational status of children. For the rest of the households, school infrastructure, distance to school (particularly secondary schools), quality of education, ability to cope with school education etc also matter (Hirway and Thakar 2005).

Among social and cultural activities, the most common activities for the poor as well as the non poor are TV watching and games / sports. Though the participation by the poor is less in these activities, these activities appear to be popular among the poor and the non poor. These activities are followed by religious activities, reading news papers etc and socializing. Though the poor and the non poor are engaged in these activities, the participation of the poor is much less than the non poor.

Table 11
Participation of the poor and non poor in socio cultural activities

State	Activity	Poor male	Poor female	Poor total	Non poor male	Non poor female	Non poor total
Haryana	Social and cultural activities	10.74	7.71		12.78	11.23	
Madhya Pradesh	Social and cultural activities	4.64	3.65		6.20	5.31	
Gujarat	Social and cultural activities	5.41	4.33		6.46	5.21	
Orissa	Social and cultural activities	4.60	5.06		10.41	8.63	
Tamil Nadu	Social and cultural activities	3.99	3.62		6.07	5.44	
Meghalaya	Social and cultural activities	3.50	2.87		6.60	4.92	

Participation by the poor and non poor in personal care and related activities.

The activities related to personal care are broadly divided in to personal care and personal hygiene, personal health / medical care, walking and exercise, smoking etc, religious activities, gossiping and ‘doing nothing’.

Major observations that follow from the data are as follows:

- All persons spend time on sleep and rest, eating and personal care, but poor women seem to be spending the least time on these activities, followed by non poor women.
- Non poor seem to be spending some time on religious activities, while the poor do not seem to spend any time on formal or explicit religious activities.

- Surprisingly, poor as well as non poor spend good amount of time on gossiping, talking and on ‘doing nothing’. About 10 to 15 percent of people reported that they spend some time on gossiping and talking. There is not much difference between the poor and the non poor in this respect.

Doing nothing and Forced leisure: ‘Doing nothing’ turns out to be an important activity for the poor and the non poor, as reported by them. The question whether it was forced leisure was not always replied. But when replied, in most cases it was forced leisure.

Table 12
Percentages of the poor and non poor reporting ‘Doing nothing’

State	Activity	Poor male	Poor female	Poor total	Non poor male	Non poor female	Non poor total
Haryana	Doing nothing	12.71	13.60	12.99	11.60	11.41	11.54
Madhya Pradesh	Doing nothing	9.73	9.87	9.79	9.44	9.18	9.34
Gujarat	Doing nothing	5.19	7.06	5.96	8.19	7.83	8.04
Orissa	Doing nothing	9.36	8.83	9.16	10.07	8.78	9.63
Tamil Nadu	Doing nothing	7.26	7.52	7.36	7.84	8.80	8.24
Meghalaya	Doing nothing	15.07	13.41	14.28	12.45	12.66	12.54

It is interesting to note that both the poor and the non poor report that there are times when they are doing nothing. This is either leisure or forced leisure. Since the response to this question was not uniform, it is difficult to say whether it was forced leisure or not. The limited response however indicated that it was forced leisure at least in the case of the poor.

The time reported as forced leisure however is not much, varying from 3 hours to 5 hours per week. The lowest time was reported by poor women, followed by non poor women. In general, men enjoyed more leisure than women.

Poverty Indicators and Concluding Observations

The time use survey has provided some new insights in to the activities of the poor and the non poor in India. These insights are about their SNA (economic) activities, unpaid domestic and community / voluntary work (ESNA work) and other activities (non SNA activities). It appears that poverty of the poor is reflected not only in their economic activities, but also in their extended economic activities and in their personal activities. Looking at poverty from the point of view of economic activities alone therefore will not be adequate. Again, the poverty of the poor need not be seen only in terms of time poverty or time stress, as the poverty is also a consequence of the pattern of allocation of their time. The poor suffer form several constraints, which make it necessary for them to spend the time the way they spend. There is a need to look at all the activities of the poor to have a comprehensive view of their poverty.

The time use survey has shown that the poor and the non poor participate in market work as well as non market work, and both of the works contribute to their well being. While the non poor lead in economic work, the poor seem to participate more in extended economic work. Though the non poor seem to be participating more in economic work, the total burden of work (economic and extended economic work) is larger on the poor households than on non poor households. It seems that 'working poor' are working not only in economic work, but also in extended economic work.

As far as SNA activities are concerned, our analysis shows that (1) the participation of poor and the non poor in work is much more than what is presented by the conventional surveys, i.e. the Census of India and the NSSO surveys on employment and unemployment, (2) the poor suffer from relatively poor diversification of sources of income, as they are to a considerable extent tied up with primary sector activities, which include crop cultivation, forestry, animal husbandry etc, (3) they seem to be bogged down by some activities which have low productivity and which are closely linked with the degraded and depleted environment in the country (for example, collection of free goods for consumption, sale or for production; animal grazing), and (4) their diversification out side the primary sector is mainly in petty trade, petty services and petty / traditional manufacturing activities.

It is important to diversify economic activities in to more productive and preferably non primary sectors. However, it is not easy for them to diversify their income sources. They have no / low assets, their main asset being common property resources, which are usually degraded or encroached upon by the rich and the powerful. They also have poor skills / education. As a result, they have a poor access to the labour market and they earn poor wages / remunerations, which also makes them cash poor. They frequently belong to low social groups – castes and tribes, which restricts their access to opportunities in life. They therefore spend considerable time on collection of free goods from community owned property (which is not well looked after), and as a result, they get less time for other productive work, which have higher earnings. This work is a drain on the poor as well as on the non poor. If the poor have to diversify in to more productive activities, it is important to provide their basic needs through proper public interventions.

As far as ESNA activities are concerned, men from poor households seem to be spending marginally more time on this work than the men from non poor households. It is the woman, who spends more time on these activities to make the two ends meet. That is, the burden of poverty in terms of increased ESNA work mainly falls on women. They spend more time on cooking (may be by doing elaborate processing, by using less efficient fuel wood), on taking care of sick / old people at home, etc to help the family cope with poverty.

However, the poor have less time for social networking or for developing social capital. This is perhaps because they have no time or no access to community / village level organizations. Their main social interaction is in terms of helping each other, in a limited way, and in some participation in caste related activities. It is the non poor who have the time, the energy and the access to community / village level or other organizations.

The poor do enjoy the TV, which has reached almost all villages in India. They also get free time, forced or other wise, to do nothing or to gossip.

Gender Dimension of Poverty

An important observation of the paper is relating to the gender dimension of poverty. This is reflected in two major ways: Firstly, in terms of the high burden of total work of women in poor families, and secondly in terms of the high burden of work on women of non poor households. Women from poor households seem to suffer from the following:

- Women have lower access to the labour market as reflected in their lower work force participation
- Women suffer from very low occupational diversification, as they are engaged mainly in primary sector activities
- Even in economic activities, they spend considerable (in some cases up to 25 percent of their work time) on collection of free goods – an activity which is a drudgery and where the productivity and earnings are low
- They carry a highly unequal and large burden of ESNA work, mainly in the upkeep of the household and caring activities, but their participation is low in community work and in sales / purchase.
- They get less rest / leisure and enjoy less time for relaxation and socialization.

Looking to the above, it appears that women constitute a separate category among the poor in poor. Their gender based constraints have put them in a situation, where they suffer more than men from deprivation, time stress as well as from limited prospects of getting out of poverty. The two activities that tend to intensify their poverty are their predominance in ESNA activities and their predominance in collection of free goods like fuel wood, fodder, water, vegetables etc from community owned lands / forests.

It is worth noting that women from non poor households also suffer from above characteristics. If poverty is measured in terms of time stress and prospects of getting integrated with the main stream economy, women from non poor households also can be considered deprived and poor.

Indicators of Poverty

Some indicators of poverty can be developed based on our analysis of the time use data. These are based on time stress as well as on the time use pattern of the poor and the non poor. They are as follows:

- Burden of total work
- Burden of ESNA work
- Percentage of the time spent on collection of free goods
- Time spent on rest and relaxation
- Measures of gender inequality

Burden of Total Work: The burden of total work on people indicates the time stress of people. It indicates the time constraint of the poor in terms of (1) the stress of work they suffer from and (2) the feasibility of their taking up extra work to get out of poverty. There is a limit of the time that a person can spend on work. If a person works beyond this limit, he is likely to suffer in terms of physical and mental ill being. This limit is likely to be much power for the poor who are usually less nourished than the non poor. The total burden of work should be seen in terms of this limit.

Burden of ESNA Work: There is a hierarchy of SNA (economic) work and ESNA (unpaid) work. The former work is recognized, is remunerated, has fixed hours, has higher productivity and higher earnings, has better prospects for upward mobility and frequently has retirement benefits. The latter work does not have these benefits. The people engaged in this work also have a poor exposure to the outside world and limited human capital. As a result, persons engaged in ESNA work have poor recognition and have poor developmental opportunities. The level of participation of people in ESNA work therefore is a good indicator of deprivation.

Time Spent on Collection of free Goods: As seen earlier, the work of collecting free goods, usually from community owned land and property, which are usually degraded, is a drain on the poor. This work is time consuming, is a drudgery, has low productivity and has an adverse impact on the well being of the people engaged in it. It also restricts

prospects of these persons to do some thing more productive and more remunerative. It is a drain on the poor. It is important to use the time spent on it as a measure of poverty.

Time Spent on Rest and Relaxation: Leisure time is considered to be an important measure of well being of people. However, in the context of developing countries, where people are ‘doing nothing’ because no work is available, and where they are not engaged in looking for work actively when there is no work, leisure time can not be considered to be an indicator of well being. The leisure time here can be measured by the time spent on rest and relaxation.

Measures of Gender Inequality: It is clear that there are significant differences between the time use pattern of men and women of the poor and non poor households. In fact, as seen above, women need to be considered as a separate category within poor and non poor households. The gender dimension of poverty can be measured by using indicators that present male female inequalities in the time use patterns discussed above.

The major indicators are presented in the following table. They show that the division of households based on the standard poverty line is not an adequate measure of poverty. It does not reveal adequately some of the important dimensions of poverty.

The new indicators have some important implications for poverty reduction. These are relating to (1) providing basic infrastructure and facilities to the poor, (2) reducing drudgery of the poor by introducing relevant technological innovations, (3) providing child care facilities for infants and children and (4) increasing and diversifying employment avenues for the poor. It needs to be noted that these measures have important implications for the fiscal policy (allotting more funds in infrastructure and basic services), environmental policy and for promoting development that integrates environment in to the process of development.

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