CHAPTER 3

Economic Attainments and Well-Being

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Economic attainments of individuals and their well-being have conventionally been captured through indicators like per capita income or per capita GDP of an economy. This is also partly true of attempts that view development in terms of broader set of social indicators/attainments or for that matter even within the human development approach. While there are well known limitations in the use of per capita income in evaluating social well-being, it's use to measure economic attainments and well-being of individuals is also not free of conceptual and methodological ambiguities. In the context of developing countries, the exclusive dependence of these indicators, which rely mainly on market-mediated transactions for capturing economic activity and, hence economic attainments, significantly undermines the reliability in capturing overall economic well-being of people. This is more so when one takes note of externalities in the process of production, distribution and consumption; the prevalence of inter-personal and inter-regional inequalities; as well as the issue of inter-generational sustainability of resources. Nonetheless, such indicators serve a conceptual purpose even in the human development approach, where an important concern is to identify indicators and build composite indices that capture social and personal well-being more directly and adequately.

The inclusion of economic indicator(s), such as per capita income or GDP of an economy, in composite human development indices is generally explained on the ground that they are indirect but good measures of other valued attainments. These economic indicators are also useful in capturing the stock of available resources or means that, in a sense, facilitate other attainments for individuals and the society at large. Thus, despite such indicators capturing only the means, though perhaps the most critical one, they are included with indicators capturing valued outcomes of development process or indicators that are ends in themselves for the majority of people.

To capture an individual's command over resources, as well as the opportunities and attainments that it facilitates in other aspects of well-being, this Report uses per capita consumption expenditure instead of per capita income. The choice of this indicator is governed as much by the consideration of having an indicator that is potentially available at State and sub-State levels of disaggregation, as by the conceptual requirement of having an indicator, which is a direct and better measure of economic well-being for the population. Moreover, for a population with low per capita income levels, a large segment of people living below a subsistence poverty line and with significant inter and intra-regional economic disparities, average consumption estimates at individual or household level are perhaps a better indicator of the economic well-being of people than income estimates for a number of reasons.

Average consumption expenditure is direct and better measure of economic well-being than per capita income.

The first one, purely functional, relates the stated level of disaggregation desired for this Report. Income estimates are not directly available at sub-State level or for rural and urban areas. Though, in the recent past, attempts have been made, for instance, in case of the State Human Development Report of Madhya Pradesh, Karnataka (and also some other States) to estimate district level estimates of per capita income, the conceptual, as well as the methodological approach followed in these cases is open to debate. Moreover, data on household consumption expenditure through the NSSO, is available at sub-regional level (at present at the level of NSS regions) separately for rural and urban areas on a regular basis and can be pooled potentially to generate more accurate district level estimates of per capita consumption expenditure.

Secondly, as an indicator of an individual's command over resources, per capita consumption expenditure has some advantages over per capita income in the context of developing countries like India. This includes considerations like:

- the consumption data allows for smoothening of income fluctuations. This may be important when an overwhelming proportion of the workforce is engaged in the agriculture sector or in the informal (unorganised) sector, where income levels may fluctuate almost on a daily/seasonal basis;

- it allows inclusion of non-monetised transactions, which may have a significant weightage in the economies of poor, backward rural areas;

- inclusion of non-SNA (System of National Accounting) accounting transactions such as those involving common property resources in villages or transactions which, though are outside the National Accounts framework, may nonetheless influence a person's or household's consumption levels, and command over resources;

- depending on the nature of the survey, the consumption data covers, to some extent, the influence of social and public provisioning on an individual's availability of resources and economic attainments; and

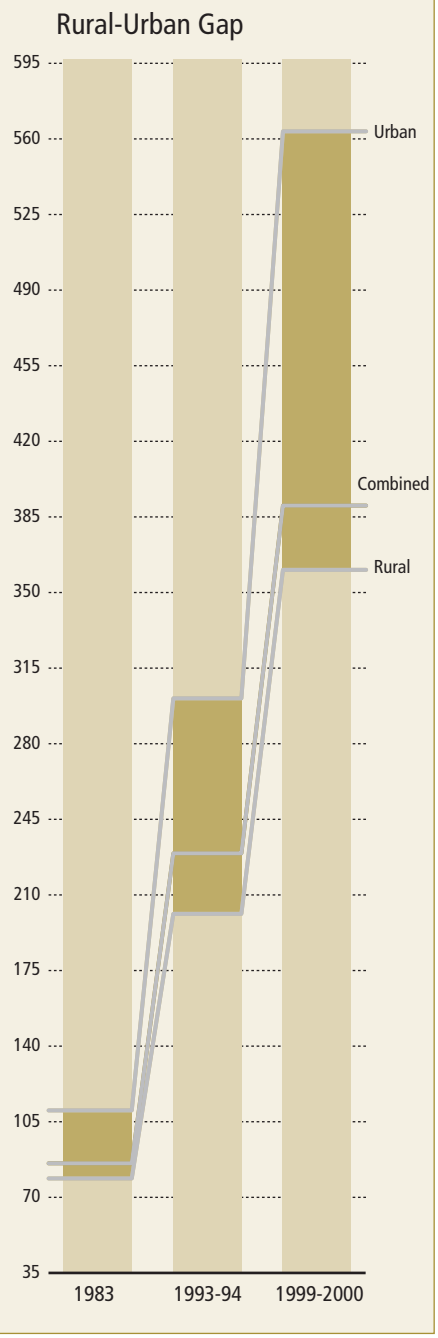
- given large-scale under-reporting of income data in developing countries, use of consumption data may capture an individual's command over resources more accurately.

Thirdly, the NSSO consumption data is based on a direct survey unlike the residually derived income estimates from the national accounting framework. This is an important property for an indicator in the context of the human development approach. Moreover, the average per capita consumption expenditure data is amenable to adjustments that correct for the prevailing level of inequality in consumption expenditure of the population even at sub-regional level.

In addition to the personal consumption expenditure, an individual's economic attainment and well-being is influenced by his/her access to social and public transfers, as well as access to and consumption of publicly provided goods and services. For poor developing areas and in certain social contexts, the latter could amount to significant proportion of the resources available to an individual. To the extent the estimates of average consumption expenditure through direct surveys are able to capture the influence of social transfers and public provisioning, they are better than income estimates in capturing overall economic well-being of individuals. However, such estimates could also be supplemented by indicators on access of the population to various amenities, particularly to those for which provisioning and access of the population is largely dependent on public effort. These could include indicators, such as those capturing access of population to basic amenities of life including shelter, safe drinking water, sanitation and a healthy living environment.

In this Report, an attempt has been made to put together indicators on economic attainments that reflect an individual's personal means, namely, per capita consumption expenditure or employment indicators, as well as outcome measures on the availability and access to basic amenities that capture the public development effort at improving the economic well-being of people. Indicators that have been put together to reflect the latter include, access to availability of shelter, sanitation, safe drinking water, electricity and road connectivity. The deprivational aspect of economic attainments has been presented through Head-Count estimates of incidence of poverty anchored in a basic food adequacy norm. In addition, estimates of households without electricity, safe drinking water and sanitation have also been presented.

Inequality Adjusted Per Capita Consumption Expenditure (Rs.)



Per Capita Consumption Expenditure

Per Capita Consumption Expenditure data has been taken from the NSSO quinquennial rounds for the years 1983, 1993-94 and 1999-2000. The estimates have been presented State-wise for rural and urban areas. The consumption expenditure has been adjusted for inequality using Gini Ratios estimated from the respective consumption distribution for each of the three years. It is not only the average level of expenditure that is important for assessing economic attainments, but it is also desirable to know how it is distributed across the population in the State or the region. A State may have high average per capita consumption expenditure only because of high expenditure levels in the top income decile of the population. On the other hand, the same average consumption level can be obtained from a more equitable distribution of expenditure levels, for instance, for the bottom 5

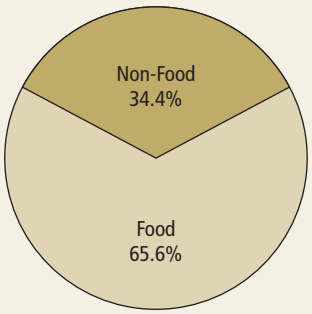
deciles of the population. The second case is more desirable from the point of human development. The adjustment for inequality allows this consideration to be incorporated in the indicator. Adjustments have also been made for inflation using deflators derived from State-specific poverty lines for each of the years to arrive at Inflation and Inequality Adjusted Per Capita Consumption Expenditure. It permits the use of this indicator for inter-temporal analysis.

At the national level, the inequality in consumption expenditure as captured by the Gini Ratio, has declined in rural areas from 0.298 in 1983 to 0.258 in 1999-2000. The decline has been faster between 1993-94 and 1999-2000 in comparison to the earlier period. In case of urban areas, the consumption inequality has increased marginally from 0.330 in 1983 to 0.341 in 1999-2000. There is, however, no uniform pattern over the period at State level. Among the major States, in case of rural areas, Gini Ratio has been on the lower side in case of Bihar, Gujarat and Orissa, whereas it has been high in case of Kerala and Tamil Nadu. For States like Punjab, Haryana, Andhra Pradesh, Uttar Pradesh and West Bengal, the Gini Ratio has been just below the national average. In the more recent years, inequality both in rural and urban areas has been the least in Manipur, Meghalaya, Mizoram, Nagaland and in Jammu and Kashmir. Rural Rajasthan and urban Kerala have recorded a significant decline in consumption inequality, whereas in case of urban Tamil Nadu, there has been a significant increase.

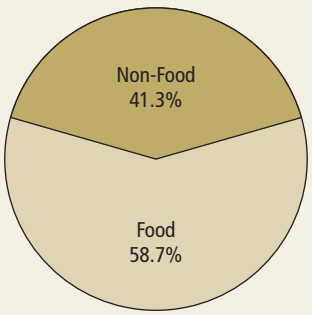
Inequality adjusted monthly per capita consumption expenditure has increased, in real terms at national level, by nearly 25 per cent in rural areas from Rs.78.90 to Rs.98.49 and over 29 per cent in urban areas from Rs.111.01 to Rs.143.49 between 1983 and 1999-2000. Among the major States in rural areas, Bihar, Madhya Pradesh and Uttar Pradesh had per capita consumption expenditure at levels lower than the national average for all the years, whereas in Punjab, Haryana, Kerala and even in Rajasthan it has been higher. There is no clear trend in case of other States. In urban areas, per capita consumption expenditure in Uttar Pradesh, Bihar, Madhya Pradesh and Orissa has been significantly below the national average in all the three years. In case of Karnataka, it has been around or below the national average.

Distribution of consumption expenditure between food and non-food items also reflects the economic well-being of the population. In general, poor households are expected to spend substantially more on food items as against the non-food. One expects the proportion of expenditure on food to decline with development and economic prosperity. At the national level, the share of expenditure on food declined from 65.6 per cent in 1983 to 59.4 per cent in 1999-2000 in rural areas. There was a corresponding increase in expenditure on non-food items from 34.4 per cent to 40.6 per cent in this period. In States like Assam, Bihar and Orissa the share of food items in total expenditure continued to be over 65 per cent of the total expenditure even in 1999-2000. In case of urban areas, the share of expenditure on food declined from 58.7 per cent in 1983 to 48.1 per cent in 1999-2000 at the national level. In States like Bihar, Orissa, Assam, West Bengal, Uttar Pradesh and Gujarat, this share continues to be over 50 per cent of their expenditure on food even in 1999-2000. The share of expenditure on food items among the Scheduled Castes and Scheduled Tribes is consistently higher than for the total population in both rural and urban areas in 1983 for which the data is available.

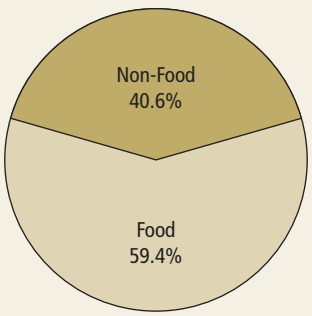
Composition of Consumption Expenditure



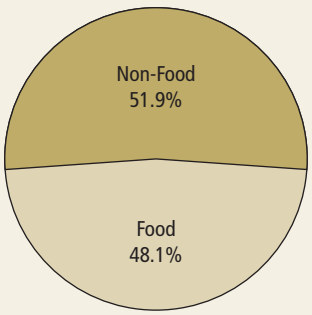
Rural – 1983



Urban – 1983



Rural – 1999-2000



Urban – 1999-2000

Employment Indicators

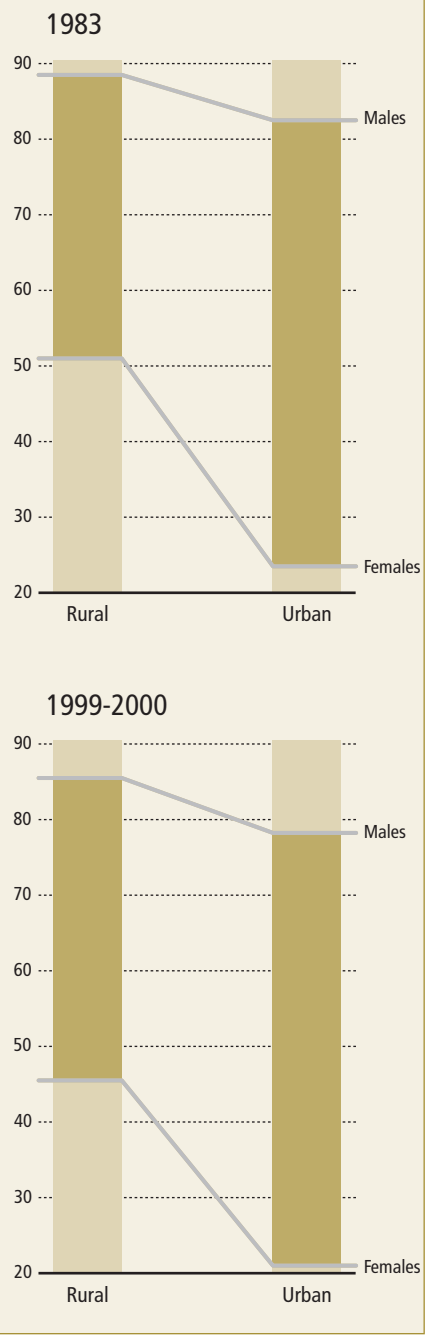
The level of employment, its composition and the growth in employment opportunities is a critical indicator of the process of development in any economy. It is also an indicator that, in most cases, directly captures the economic attainments and hence the level of well-being of individuals. In India, because of the nature of labour market, the data on employment is not entirely adequate or even reliable. Of the total employment in the country, nearly 90 per cent is in the unorganised or informal sector where the data on the magnitude and composition of employment, as well as the compensation to the employees is available only through surveys that are periodically mounted. This is unlike the data for the organised sector where most employment details are reported and are available. The employment data that has been presented in the Statistical Appendix includes information on labour force, growth in employment and the incidence of unemployment at State level, separately for rural and urban areas for the years 1983, 1993-94 and 1999-2000 from the respective NSS Rounds for these years. The estimates have been presented for the population in the age group 15 years and above.

Persons in the labour force or the labour force participation rates is the proportion of persons in the age group 15 years and above who are either working (i.e. employed) on the usual principal and subsidiary status or seeking or available for work. A person is considered working or employed if the person was engaged for a relatively longer time during the preceding year in any one or more work related activities. The categorisation of the persons in any category is determined on the basis of time-spent criterion. The activity on which a person spends relatively longer time in the preceding 365 days from the date of survey is considered as the principal status of the person. A person categorised as a non-worker (i.e. unemployed or out of labour force), who pursued some economic activity in a subsidiary capacity is called a subsidiary status employed. The principal status workers and subsidiary status workers together constitute all workers as per the usual status classification.

During the period 1983 to 1999-2000, the percentage of persons in the labour force at the national level declined from 66.5 per cent in 1983 to 61.8 per cent in 1999-2000. For the males this declined from 87.1 per cent to 83.5 per cent and for the females from 44.4 per cent to 38.5 per cent during this period. While the labour force participation rates are expectedly higher in rural areas in comparison to urban areas, in both cases there has been a decline during this period. At the State level except for Haryana, Andhra Pradesh, Himachal Pradesh and the North Eastern States of Mizoram, Meghalaya and Manipur, where a marginal increase between 1983 and 1993-94 was followed by a declined subsequently, for all other States, there was a gradual decline in the labour force participation rates over the period 1983 to 1999-2000. These changes have to be seen in the context of the demographic transition in each of these States, as well as in terms of the proportions of persons delaying their entry into the work force for pursuing higher education.

The growth in employment for persons employed in the age group 15 years and above on the usual principal and subsidiary status has declined significantly in the nineties vis-à-vis the eighties. At the national level for

Persons in the Labour Force
(Percentage)



the period 1983 to 1993-94, the growth in employment was 2.1 per cent on the whole. It was 1.8 per cent in rural areas and 2.9 per cent in urban areas. In the subsequent period (1993-94 to 1999-2000), the corresponding growth rates were 1.6 per cent on the whole and 1.3 and 2.4 respectively for rural and urban areas. The decline in the employment growth for females has been significantly higher than that for males. In fact, in both rural and urban areas, it has declined nearly by half. At State level, Himachal Pradesh, Jammu & Kashmir, Rajasthan, West Bengal and Andhra Pradesh had an employment growth higher than the national average during the period 1983 to 1993-94. In the subsequent period, among the major States, only Punjab, Bihar and Assam have not only had growth rates higher than the national average but have also succeeded in significantly improving their performance over the previous period.

Given the increase in the labour force, a decline in the growth of employment in the nineties vis-à-vis eighties has increased the incidence of unemployment. The incidence of unemployment, defined as percentage of persons unemployed in the age group 15 years and above on the usual principal and subsidiary status to the total number of persons in the labour force, has increased at the national level from 2 per cent in 1983 to 2.3 per cent in 1999-2000. There was an increase in the incidence of unemployment both for males and females on the whole and in particular for rural areas. In case of urban areas, however, there was a sharp decline between 1983 and 1993-94 from 5.1 per cent to 4.6 per cent, which has been somewhat, eroded by a subsequent increase to 4.8 per cent in 1999-2000. Among the major States, Kerala has the highest incidence of unemployment at nearly 8 per cent in each of the three years for which the data has been presented. In case of Haryana and Karnataka there is a secular decline in the incidence of unemployment during this period but for others there is no clear trend and in most cases (except Punjab and Tamil Nadu), the incidence of unemployment is higher in 1999-2000 than in 1983.

Poverty ratio has declined from 44 per cent in 1983 to 26 per cent in 2000; decline in nineties faster than in eighties.

Incidence of Poverty

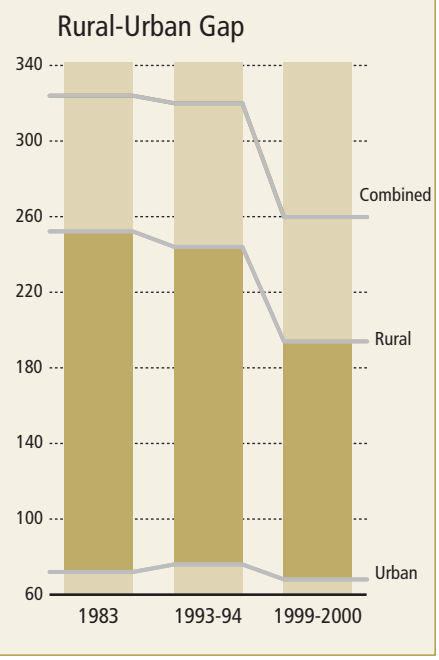
Poverty is a state of deprivation. In absolute terms it reflects the inability of an individual to satisfy certain basic minimum needs for a sustained, healthy and a reasonably productive living. Conceptually, any attempt at quantifying the incidence of poverty in any population requires taking into account the level and pattern of an individual's personal consumption expenditure, as well as their access to social transfers and public provisioning. However, it is not easy to measure the consumption shares of an individual in the publicly provided goods and services or the benefit he or she derives from the overall social contexts, for often it is not possible to price them or they are provided free of charge, even though it all adds up to the well-being of the concerned individual. In general, therefore, for identifying the poor one looks at the level of personal expenditure (or income) that enables the individual to satisfy a certain minimum consumption level. The proportion of population not able to attain the specified level of expenditure is then segregated as poor. Using such an approach the Planning Commission, Government of India has been

estimating the Head Count Ratio of the poor at State level, separately for rural and urban areas for over three decades. It currently uses a minimum consumption expenditure, anchored in an average (food) energy adequacy norm of 2400 and 2100 kilo calories per capita per day to define State specific poverty lines, separately for rural and urban areas. These poverty lines are then applied on the NSSO's household consumer expenditure distributions to estimate the proportion and number of poor at State level.

At the national level, the incidence of poverty on the Head Count Ratio declined from 44.48 per cent in 1983 to 26.10 per cent in 1999-2000. It was a decline of nearly 8.5 percentage points in the ten years period between 1983 and 1993-94 followed by a further decline of nearly 10 percentage points in the period between 1993-94 and 1999-2000. In absolute terms, the number of poor declined from about 323 million in 1983 to 260 million in 1999-2000. The decline has not been uniform either across States or across rural and urban areas. While the proportion of poor in the rural areas declined from 45.65 per cent in 1983 to 27.09 per cent in 1999-2000, the decline in urban areas has been from 40.79 per cent to 23.62 per cent during this period.

At State level, among the major States, Orissa, Bihar, West Bengal and Tamil Nadu had more than 50 per cent of their population below the poverty line in 1983. By 1999-2000, while Tamil Nadu and West Bengal had reduced their poverty ratios by nearly half, Orissa and Bihar continued to be the two poorest States with poverty ratio of 47 and 43 per cent respectively. Among others, Jammu & Kashmir, Haryana, Gujarat, Punjab, Andhra Pradesh, Maharashtra and Karnataka have also succeeded in significantly reducing the incidence of poverty. Rural Orissa and rural Bihar continued to be the poorest among rural areas both in 1983, as well as in 1999-2000. In urban areas, the poorest three States in 1983 were Madhya Pradesh, Uttar Pradesh and Orissa whereas in 1993 it was Orissa followed by Madhya Pradesh and Bihar.

Number of Poor (in Millions)



Shelter and Quality of Housing

The available data permits analysis of two aspects of quality of housing and shelter namely, living space or the number of rooms available to a household and the quality of construction of the residence i.e., whether a household resides in a *pucca* or a *kutcha* construction. The proportion of households living in one room declined both in rural and urban areas, while those living in two or more rooms increased in each of the Census conducted since 1961. In 1981, at the national level, nearly 73 per cent of the households were living in houses with two or less rooms. The proportion was identical for rural and urban areas. In 1991, the proportion of households living in houses with two or less rooms declined marginally to 71 per cent, at the national level. This proportion was marginally higher in rural areas in comparison to urban areas.

The Census also presents data on quality of houses based on the material used for construction of walls and roof separately. If both the walls and roof are made of *pucca* material, a house is classified as *pucca*. If wall and roof are made of *kutcha* material the house is classified as *kutcha*. In all other

cases the house is classified as *semi pucca*. A wall is considered *kutcha* if the material used includes grass, leaves, reeds, bamboo, mud, un-burnt brick or wood. It is *pucca* when the material used in is burnt brick, G.I sheets or other metal sheets, stone or cement concrete. Similarly, a roof is considered *kutcha* if the material used is grass, leaves, reeds, bamboo, thatch, mud, un-burnt brick or wood. It is *pucca* when the material used includes, tiles, slate, shingle, corrugated iron, zinc or other metal sheets, asbestos, cement sheets, bricks, lime and stone or RBC/RCC concrete.

At the national level, while the share of households living in *kutcha* and *semi pucca* houses declined by around 9 percentage points between 1981 and 1991, those living in *pucca* houses increased from around 33 per cent to 42 per cent. Nearly 30 per cent of rural households and 73 per cent of urban households lived in *pucca* houses in 1991 as compared to 23 and 65 per cent respectively, in 1981. At State level, the differences in the quality of houses, in terms of material used in their construction are quite significant. Among the major States, at one end, in Punjab nearly 77 per cent of the households lived in *pucca* houses in 1991. This proportion was 72 per cent for rural households and 88 per cent in case of urban households. At the other end, in case of Orissa, the corresponding figures were 19 per cent-13 per cent for rural households and 55 per cent for urban households. For Assam only about 11 per cent of the rural households, and 43 per cent of urban households had *pucca* houses. An interesting pattern was observed in Madhya Pradesh, Gujarat, Himachal Pradesh and, to some extent, in Maharashtra where though the proportion of households living in *pucca* houses was much lower than in Punjab, even the proportion of those who lived in *kutcha* houses was considerably lower. It indicates that the proportion of households living in *semi pucca* houses was quite large in these States. In interpreting these categorisation one needs to also keep in mind the local topographical and climatic conditions, as well as preferences of the people. Thus, for instance, in case of Himachal Pradesh, households may prefer to use mud plastering on un-burnt bricks as the material to construct walls for the sake of better insulation to counter high altitude cold climate, instead of concrete or metal sheets even when the latter are affordable. Similar considerations operate in case of the North-Eastern States where local preferences may favour the use of bamboo/wood in the construction of houses.

The data on quality of housing is also available in the NFHS-II. For 1998-99 nearly 32 per cent of the households lived in *pucca* houses, at the national level. It was one-fifth of the households in rural areas and two-third of the households in urban areas. At the all India level, these estimates are

Distribution of Households According to Rooms Occupied — 1981-1991

(Percentage)

No. of Rooms	Rural Areas		Urban Areas		All Areas	
	1981	1991	1981	1991	1981	1991
1 Room	44.28	40.82	45.80	39.55	44.72	40.49
2 Rooms	28.87	30.65	27.84	30.37	28.62	30.58
3 Rooms	12.23	13.50	12.21	14.82	12.22	13.85
4 Rooms	6.30	6.92	6.33	7.77	6.31	7.14
5+ Rooms	5.80	7.05	5.70	6.97	5.78	7.02
No exclusive room & unspecified	2.42	1.06	2.12	0.52	2.35	0.92

considerably lower than those reported in Census 1991, the picture is, however, different at the State level. For instance, in case of Kerala the proportion of households living in *pucca* houses was 56 per cent as per Census 1991 and it was nearly 80 per cent as per NFHS-II. For Punjab it was 77 per cent as per Census 1991 and only 53 per cent as per NFHS-II. These variations could be on account of sampling errors and differences in definition of *pucca* houses in the latter.

Sanitation — Access to Toilet Facilities

A majority of India's population does not have access to toilet facilities in their dwellings and lacks sanitation facilities for the disposal of waste water. Apart from the availability of safe drinking water, lack of sanitation, particularly sewage and disposal of solid waste including 'night soil' has been observed as among the main reasons for prevailing ill health and morbidity levels in the country. As per the 1991 Census, less than one-fourth of the households in the country had toilet facility within the premises of their residence, the proportion was less than 10 per cent for rural households and around 64 per cent for urban households.

There are significant inter-State variations in access to toilet facilities. Among the major States, at one end in Kerala 51 per cent of the households had access to toilet facilities and at the other end it was less than 10 per cent in case of Orissa. The proportion was higher only in case of Delhi, Tripura, Mizoram, Chandigarh and Lakshadweep. For the most populated States in the country including, Bihar, Uttar Pradesh, Madhya Pradesh and Rajasthan the proportion was well below 20 per cent. Even in the relatively developed States like Gujarat and Maharashtra, the proportion of households with access to toilet facility was around 30 per cent. In all States, the proportion was significantly lower for households in rural areas in comparison to urban areas. Among the various population segments, access to toilet facilities for Scheduled Castes and Scheduled Tribes households was lower than that of other households in almost all States.

NFHS-II also provides data on access to toilet facilities. As per the Survey, 64 per cent of the households in the country had no access to toilet facilities in 1998-99 in comparison to 76 per cent in 1991 reported by the Census. Less than one-fifth of rural households and over four-fifth of urban households had access to such facilities. At the State level, the data indicates that the proportion of households having access to toilet facilities in larger, more populated and poorer States was much lower than the national average. These include Andhra Pradesh, Bihar, Madhya Pradesh, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh. Among the smaller States only Himachal Pradesh followed this pattern. In case of Kerala the proportion of households with access to household facilities at 85 per cent was much above the national average of 36 per cent.

The problem of sanitation for the majority, at household level, is essentially of awareness and education and not really of resources. The resources, technology and management aspects of the problem are important,

more in the context of urban sanitation and solid waste management. Many cities and small towns generate more solid wastes than they can possibly collect or dispose under present institutional arrangements. A major problem in urban solid waste management relates to sewage disposal. With a large number of towns without sewage systems and inadequate and often malfunctioning systems in some others, the threat to the availability of safe drinking water is quite serious in most urban areas in the country.

Access to Safe Drinking Water

As per Census of India, if a household has access to drinking water supplied from a tap or a hand pump/tube well situated within or outside the premises, it is considered as having access to safe drinking water. Millions of people in the country suffer from water borne diseases on account of lack of access to safe drinking water. It is the poor who suffer from higher prevalence of disease as compared to the rich. Studies undertaken in many metropolitan

Sulabh Sanitation Movement — A Low Cost Solution to Success

Nearly 80 per cent of the country's population still either defecate in open or use unsanitary bucket latrines or smelly public toilets as per one estimate. This is true even in urban areas where hardly 20 per cent of the population has access to water/flush toilets connected to a sewerage system and only 14 per cent enjoy water-borne toilets connected to septic tanks or leach pits. In rural areas a mere 3 per cent of the population has access to sanitary toilets. This lack of adequate sanitation is responsible for severe health problems. Cholera, dysentery, typhoid, para-typhoid, infectious hepatitis and many other diseases can be traced to the unsanitary disposal of human excreta. Lack of sanitation also has grave social consequences, the need to have 'night soil' removed has given rise to the profession of 'scavenging' or collecting it from bucket latrines, the streets and other locations. Though, this practice has been banned and the Indian Constitution bans the segregation of those who service this profession, there are many pockets in the country where the practice continues unabated.

Sulabh International Social Service Organisation, a non-governmental organisation, founded by Dr. Bindeshwar Pathak, has in partnership with local Governments demonstrated the success of low cost sanitation technology throughout the country. Their solution called the *Sulabh Shauchalaya* is a low cost, pour flush, water-seal toilet with twin leach pits for onsite disposal of human waste. The technology has many advantages. It is affordable, even by the economically weaker sections of the society, and is designed to suit different levels of income. Flushing requires only two litres of water, instead of 10 litres needed by a conventional toilet. The toilet can never be out of commission, since, one of the two pits can always be used while the other is being serviced. The latrine can be built with locally available material. It can be conveniently upgraded as it is a stand-alone, on-site unit that can be connected to a sewer system as and when the latter is introduced in the area. So far, more than 700,000 units have been constructed or substituted for existing latrines in houses and more than 3000 have been installed as pay-and-use public toilets. The latter are staffed by full time attendant and provide facilities including soap powder for washing hands, for bathing and for laundry and offer free services to children, disabled and poor. Thus, nearly 10 million people have been provided with improved, low cost sanitation and at the same time nearly 50,000 employment opportunities have been created in a commercially viable enterprise. As a social spin-off the enterprise has resulted in liberating about 50,000 scavengers from their enforced profession.

A key to the success of *Sulabh Shauchalaya* lies in creating public awareness and seeking community participation in implementing and maintaining the infrastructure. The organisation is also working with local groups on production of biogas from human excreta accessed from community toilets, and on generation of electricity. Its research and development activities are geared to seeking practical, low cost solution for solid and liquid waste disposal, including re-cycling in a financially sustainable manner.

Source *Sulabh International Social Service Organisation.*

cities show a higher rate of diseases and longer duration per illness due to poor quality of drinking water supply in the slum areas.

In 1991, the Census reported nearly 62 per cent of households in India as having access to safe drinking water as compared to about 38 per cent in 1981. Over 81 per cent of urban households and around 56 per cent of rural households had access to safe drinking water in 1991. The corresponding figures for 1981 were 75 per cent and 27 per cent, respectively. There are widespread inter-State differences, though these differences have declined in the eighties, both in rural and urban areas. The rural-urban gap has also declined by nearly half, from about 49 percentage points in 1981 to 26 percentage points in 1991. Among major States, the situation is worst in Kerala, where less than one-fifth of households had access to safe drinking water. Much of Kerala's drinking water requirements are met from wells, which is not considered a safe source of drinking water. Perhaps, there is a case for looking at the high morbidity levels in Kerala in this context. There are many other States (notably the smaller States particularly in the North East) where proportion of households having access to safe drinking water is much lower than the national average. Among the bigger States, proportion of households having access to safe drinking water was lower than the national average in Andhra Pradesh, Assam, Bihar, Madhya Pradesh, Orissa and Rajasthan. On the other hand, nearly 92 per cent of rural households and 94 per cent of urban households in Punjab had access to safe drinking water. Similarly over 95 per cent of households in Delhi and Chandigarh had access to safe drinking water.

In terms of population segments, the access to safe drinking water varies between the Scheduled Caste and Scheduled Tribe households. While the access of the Scheduled Caste households is almost the same as that of the other households in both rural and urban areas at the national level, in case of Scheduled Tribes the access to safe drinking water is considerably lower. There

Swajal — A Revolution in Rural Water and Sanitation

The Uttar Pradesh Rural Water Supply and Environmental Sanitation Project, commonly known as *Swajal* Project, is being implemented by the Government with World Bank assistance since 1996 in 12 districts of Uttaranchal and seven in Bundelkhand region of Uttar Pradesh. It is a need based and demand driven programme with the objective of addressing water shortages and help inculcate sanitation practices in day-to-day life. The approach of the project is to manage water resources as a commodity, with the help of local institutions, taking into account the demand and willingness to pay. The programme is built on the community based, decision centred model, wherein the user group is at the helm of affairs from planning to implementation and eventually to maintenance of the project. Committees constituted from amongst the user groups have the overall responsibility for undertaking the project at village levels.

The nearly 1000 villages that have been covered in 12 districts of Uttaranchal were selected on the basis of transparent criteria including demand, need and technical feasibility. Support organisations, namely short listed NGOs have been helping the local community in planning and construction of the project. The cost of project varies from village to village from about Rs. hundred thousand in a village where only a hand pump was laid, to nearly Rs. 6.5 million in a village where overhead water storage tanks were constructed as a part of the water supply system. The project cycle from pre-planning to project completion, on an average, has been around 33 months, in some cases, much less. The duration of the project is six years from 1996-2002

The project not only aims at providing drinking water in rural areas but at the same time it seeks to bring community empowerment by converging a range of development initiatives including Non-formal Education (NFE); Hygiene and Environmental Sanitation Awareness (HESA); and Women's Development Initiatives (WDI). The NFE component aims at providing the community with information and functional literacy according to the need expressed by them. The objective of HESA component of the project is to reduce morbidity by generating a demand for safe water and sanitation. The community itself decides the status by evaluating their behaviour in personal, domestic, environmental hygiene and sanitation by fixing certain performance indicators for themselves. The WDI component is aimed at empowering women — the main stakeholders in rural water and sanitation — by enhancing their capacities by formation of grass root bodies and self-help groups that would facilitate specific activities for women. The villages where the project has already been completed the results have been unprecedented. It has succeeded in generating positive developmental forces of self-reliance and selfhood among the local communities and at the same time bringing about a change in the thinking of the agencies involved in the project.

are, however, considerable differences at State level. In some States, namely Arunachal Pradesh, Himachal Pradesh, Manipur, Sikkim and Uttar Pradesh, the Scheduled Tribe households fare better than the Scheduled Caste households in terms of access to safe drinking water. Interestingly, in case of Karnataka, both Scheduled Caste and Scheduled Tribe households in rural as well as in urban areas have better coverage of safe drinking water than the other households.

The NFHS Surveys provide more recent information on the accessibility of the population to safe drinking water. As per NFHS II, the share of population having access to safe drinking water was nearly 78 per cent in 1998-99 as against 62 per cent in 1993-94. As with the Census data, the proportion of population having access to safe drinking water was significantly higher in urban areas at nearly 93 per cent as against rural areas where it was around 72 per cent. The accessibility to safe drinking water was quite low in Kerala and in parts of North-East. In all other States, over two-third of the population had access to safe drinking water. Nearly all households in Punjab and Delhi have access to safe drinking water.

The NSS 52nd Round 1995-96 gives the distribution of households by major source of drinking water at State level separately for rural and urban areas. At the national level, nearly 77 per cent of the households had access to water from tap or tube-well/hand-pump and about 18 per cent of the households had access to *pucca* well. In case of rural areas, at the national level, the proportion of households dependent on *pucca* well was a little higher at 22 per cent and expectedly it was significantly less at about 5.5 per cent in urban areas. For most States, the dependence of households on tube-well/hand-pump for safe drinking water was considerably more as against tap water. In case of the hilly States, however, tap water was the predominant source of safe drinking water.

Access to Electricity

Access to electricity is a basic amenity in today's context. In India, successive five year plans have laid specific targets for extending the coverage of electricity to households. However, the progress has been far from satisfactory. As per the 1991 Census, only 42 per cent of households had access to electricity in their homes as against 26 per cent in 1981. There are large inter-State variations in the availability of electricity to the households, both in urban and in rural areas.

In the better off States, including Punjab, Haryana, Gujarat and Maharashtra, a larger proportion of households had access to electricity in 1991. The proportion of households with access to electricity was also high in case of small States. In case of economically less well-off States and geographically larger States, the coverage of electricity among the households was low. In case of Bihar, only one-eighth of the households had access to electricity in 1991. The proportion was also quite low in Assam, Uttar Pradesh and Orissa. The rural-urban gap in access to electricity is quite striking. At the national level in 1991, three-fourth of the urban households in the country had access to electricity, whereas only 30 per cent of those living in rural areas had access to this facility. At one end, only 5.6 per cent

of rural households in Bihar and 17.5 per cent in Orissa had access to electricity, whereas this proportion was nearly 77 per cent and 86 per cent in Punjab and Himachal Pradesh, respectively.

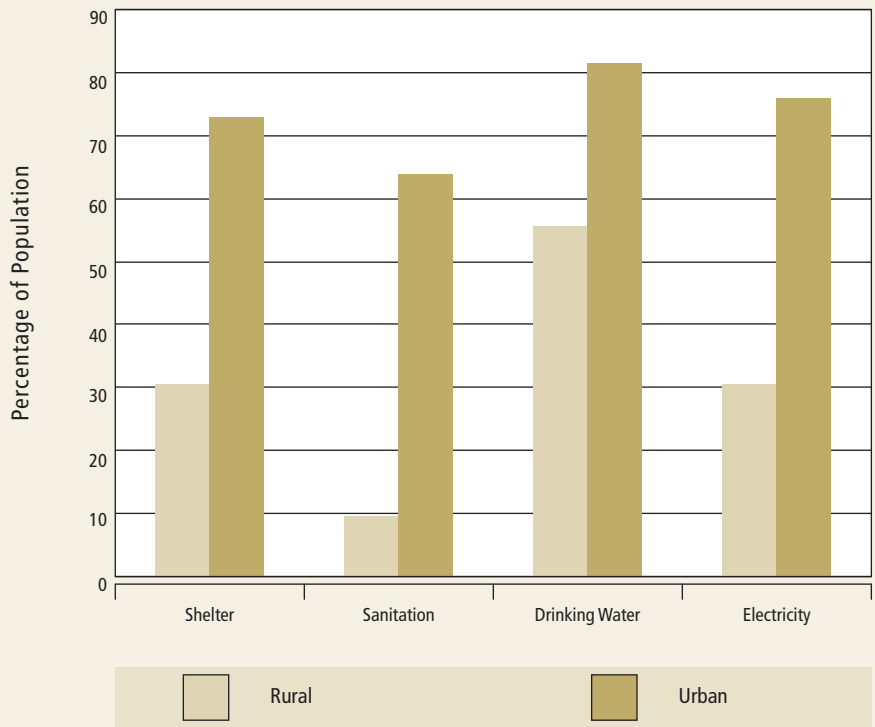
Among the population segments, the coverage of electricity at household level varies significantly between the Scheduled Caste/Scheduled Tribe and the other households. At the national level, nearly 23 per cent of Scheduled Tribe and 28 per cent of Scheduled Caste households had access to electricity against 48 per cent for other households in 1991. The variations across States are even more striking. For instance, in rural Bihar, only 2.9 per cent of Scheduled Tribe and 4.9 per cent of Scheduled Caste households had access to electricity, as against over 14 per cent in case of other households. In case of Punjab, nearly 68 per cent of rural and 87 per cent of urban Scheduled Caste households had access to electricity. The corresponding figure in case of other households was 84 and 97 per cent respectively.

The data from NFHS-II indicates that there has been a considerable improvement in the pace of coverage of electricity at household level in the nineties. At the national level the proportion of households having access to electricity was 60 per cent in 1998-99, it was 91 per cent for urban areas and 48 per cent for rural. This proportion was 18 per cent for Bihar and between 25 and 36 per cent for Assam, Orissa, Uttar Pradesh and West Bengal. At the other end, over 90 per cent of the households in case of Goa, Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab and Delhi had access to electricity. The proportion was over 80 per cent in case of Gujarat, Karnataka, Maharashtra and Tamil Nadu.

As a result of low rates of penetration of electricity at household level, the per capita consumption of electricity in the country is quite low in comparison to other countries. Moreover, there are significant inter-State variations in the per capita electricity consumption. At the national level, the per capita electricity consumption was 334 kWh in 1996-97 as against 191 kWh in 1986-87. The consumption level was quite low in the North-East region (less than 100 kWh), Bihar (138 kWh), Uttar Pradesh (197 kWh) and West Bengal (194 kWh) in 1996-97. On the other hand, the per capita consumption was more than 500 kWh in Punjab, Gujarat, Maharashtra and Haryana, among the major States.

The 1991 Census also presents a cross-tabulation of access of households to electricity, safe drinking water and toilet facility (sanitation) within their living premises. It turns out that nearly one-fourth of the households in the country had no access to any of these facilities. The proportion was 31 per cent in case of rural areas and 5 per cent in case of urban areas.

Access to Amenities — 1991



In terms of population segments, about 28 per cent of Scheduled Caste households and over 45 per cent of Scheduled Tribe households as against nearly 21 per cent of other households had no access to these services. At State level, nearly half the households of Orissa and Meghalaya and around one-third of the households in Assam, Bihar, Kerala, Madhya Pradesh, Rajasthan and Uttar Pradesh had no access to any of these facility. In case of Punjab and some smaller States, the corresponding proportion was between 2 to 5 per cent. On the other hand, less than one-sixth of the households in the country had access to all the three amenities within their premises. The proportion was 4 per cent in case of rural areas and 50 per cent in case of urban areas. Even in case of urban Punjab, only two-thirds of the households had accessibility to all three amenities at their premises.

Road Connectivity

A good road connectivity of habitations, particularly of rural areas, with sub-divisional towns and district headquarters, is often the primary means of supplementing the public effort directed at providing basic health and educational services, as well as infrastructural support for production, trade and commerce at the local village level. In many cases, particularly in sparsely populated areas and towns with large hinterland, good road connectivity may altogether obviate the need for public provisioning of some of these services in each and every village and, at the same time, help forge durable economic linkages of such habitations with rest of the economy. Road connectivity is, therefore, a useful indicator of 'inclusionary' aspect of development process and, perhaps, reach of the market as well. It is particularly relevant in the Indian context where over 70 per cent of the population continues to live in rural areas and where over 50 per cent of villages with population of less than 1000 are yet to be connected by roads.

The Planning Commission has been tabulating data on State level coverage of roads. The coverage of all categories of roads, both surfaced and non-surfaced including, National Highways, State Highways, District and rural roads has been improving in terms of area as well as population serviced, at a faster pace in the nineties than in the eighties. The road length per hundred square kilometres has increased at the national level from about 45 kilometres in 1981 and 61 kilometres in 1991 to about 75 kilometres in 1997. During the same period, road length per million population has increased from 21.68 kilometres to 25.82 kilometres. There are wide differences in the coverage of roads at State level. Among the major States, Kerala had the highest road length per hundred square kilometres. It was nearly 268 kilometres in 1981 and 375 kilometres in 1997. Tamil Nadu closely followed by Punjab with about 35 per cent of Kerala's road coverage were the next best States it terms of road coverage per hundred square kilometres. Kerala's road coverage has created a rural-urban continuum that has been often cited as a factor behind its unique attainments on human and other indicators of development. Orissa and Maharashtra have significantly improved their respective coverage of roads during the nineties. In case of road coverage per million population, Orissa had the highest coverage at 45 kilometres in 1981 followed by Kerala at about 41 kilometres. It increased considerably in Orissa

to 75 kilometres in 1997. The pace of improvement was also impressive in Maharashtra. In Bihar and West Bengal there was a decline in coverage of road per million population during this period.

The road connectivity of villages with population less than 1000 was under 50 per cent at the national level in 1996-97. Madhya Pradesh and Rajasthan with 22 per cent and 38 per cent of their villages connected by roads, respectively, were at the bottom whereas, Kerala, Karnataka, Haryana and Punjab had near hundred per cent connectivity of such villages by roads. Except for States like Bihar and West Bengal, most of the villages with population more than 1500 have been connected by roads. The data, however, does not reflect the level of maintenance of the roads. In most cases, because of limited public provisioning for the maintenance of roads, particularly for the village and district level roads, the road conditions are often poor.

Summing Up

The availability of data giving cross tabulation of access of households/persons to various amenities is of critical significance in any attempt at capturing rigorously the broader dimensions of well-being and deprivation of people. In general, it may not be possible to rank normatively the importance of various amenities to households, particularly in the modern day context. Also, there are certain amenities, the provisioning and consumption of which adds to well-being or at least makes sense only when they are availed by individuals in a mutually non-exclusive manner. For instance, a household having access to sanitation (safe disposal through sewer) may value the attainment only when it also has access to safe drinking water. Further, it is not necessary that all households having access to sanitation also have access to safe water. In such cases it becomes necessary to have a cross tabulation of household that have access to sanitation, as well as safe water or for that matter access to other amenities if the overall attainment of the society on these dimensions has to be accurately reflected. It is this aspect of data generating mechanism and procedures that may have to be emphasised and coordinated if well-being and deprivation of people have to be evaluated in their broadest sense under the human development approach.