

# Studies in Population and Development

No. 11-03  
Living Conditions and Health Status of Scheduled Tribes in India  
Evidence from DLHS 2007-08

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## Introduction

The Scheduled Tribes are tribes notified under the Article 342 of the Constitution of India, which makes special provision for tribes, or tribal communities which notified by the President of India. The word 'tribe' has however not been defined or described in the Indian Constitution and, in fact, there is no satisfactory definition any where. Generally, tribal people are distinguished through characteristics specific to them including self-identification, language, distinctive social and cultural organisation, geographic location, etc. The Hindi word used for the term tribe is Adiwasi which comprises of two words Adi meaning aboriginal and Wasi meaning inhabitants (Alok Ranjan 2006). According to this interpretation, tribal people are aboriginal inhabitants of the country India.

India has the largest tribal population in the world (Ali 2003). At the 2001 population census, the Scheduled Tribes population in the country was enumerated to be 84.33 million accounting for almost 8.2 per cent of the total population (Alok Ranjan 2006). There is however no estimate of the tribal population in India as many population groups regarded as Adiwasi are not included in the list of Scheduled Tribes described in the Schedule V of the Indian Constitution. The list of Scheduled Tribes described in the Indian Constitution was prepared in 1950 on the basis of two criteria - primitiveness and backwardness (Sachchidananda, Prasad 1998). The proportion of Scheduled Castes varies widely across states and Union Territories.

Classification of the population by caste - Scheduled Castes, Scheduled Tribes and non Scheduled Castes/Tribes - is a regular feature of the Indian population census, although, Scheduled Tribes population is not a socially, culturally and ecologically homogenous entity. Similarly, large scale surveys like National Family Health Survey, District Level Household and Facility Survey and Coverage Evaluation Survey also classify the households and individuals surveyed by caste. This classification provides an opportunity to analyse the living conditions and health status of Scheduled Tribes across the states and Union Territories of the country.

Information about living conditions and health status of Scheduled Tribes as a whole is available through the National Family Health Survey and the District Level Household and Facility Survey. In this paper, we use the information available through the latest District Level Health and Facility Survey (DLHS) 2007-08 to analyse how living conditions and health status of Scheduled Tribes vary across the states and Union Territories of the country.

The paper is organised as follows. The next section of the paper provides a brief about the DLHS 2007-08 and outlines the methodology, while the third section presents the country level scenario of the living conditions and health status of Scheduled Tribes on the basis of the information available through DLHS 2007-08. The fourth section of the paper analyses inter-state variations in different dimensions of living conditions and health status of Scheduled Tribes while the last section discusses the policy and programme implications of the analysis.

## Data and Methodology

The present analysis is based on the information available through the District Level Household and Facility Survey (DLHS) 2007-08 (IIPS 2010). DLHS 2007-08 was one of the largest ever demographic and health surveys carried out in India, with a sample size of about seven lakh households covering all states and Union Territories and all districts of the country. DLHS were initiated in the year 1997 with a view to assess the utilisation of public health care facilities and people's perceptions about the quality of health services. DLHS 2007-08 was the third in the series of district surveys. Like the two earlier rounds, DLHS 2007-08 was designed to provide estimates of important indicators of maternal and child health, family planning and other reproductive health services. The survey was carried out during the period 2007-08 with a reference period from 1<sup>st</sup> January 2004 through the survey date which varied from place to place. A multistage stratified sampling design was used to select the households for the survey. For every district of the country an independent sample of households was drawn for the survey. The household level, direct interview approach was adopted to collect the information during the survey. Bilingual questionnaires - in English and in the local language - were developed and pre-tested for the purpose of the interview.

DLHS 2007-08 covered more than 700 thousand households in the country out of which 112 thousand were Scheduled Tribes households. We use the information available from 101 thousand households in the rural areas to analyse and discuss the living conditions and health status of Scheduled Tribes in the country and in its constituent states and Union Territories. We also compare the situation of Scheduled Tribes with that of non Scheduled Tribes (Scheduled Castes, other backward classes and other classes) in the rural areas. Information about non Scheduled Tribes is also available through the DLHS 2007-08.

The analysis has been carried out at the national level as well as at the state level but not at the district level as the sample size at the district level was too small to carry out such an analysis. More over the proportion of Scheduled Tribes may be too small to a meaningful analysis. During the analysis, it was observed that a number of indicators used for analysis the living conditions and health status of Scheduled Tribes were found to be strongly correlated to each other. As such, for the state level analysis, we have applied the factor analysis procedure to group the living conditions and health status variables into dimensions or factors of living conditions and health status. Factor analysis attempts to simplify the complex and diverse relationship that exists among a set of observed variables by uncovering common dimensions or factors that link together seemingly unrelated variables, and consequently provides insight into the underlying structure of the data (Dillon, Goldstein 1984). Factors extracted through the factor analysis technique are actually linear combinations of the original variables used in the analysis. The factors have the additional property that they are not correlated to each other. This property of factor analysis solution helps in identifying different dimensions of the phenomenon under study - living standards and health status in the present case. The factor analysis solution help in analysing how different states and Union Territories of the country fared on different factors or dimensions of living conditions and health status of Scheduled Tribes.

The application of the factor analysis procedure in the present case revealed that the 12 indicators used in the present analysis can be grouped into 3 factors of living standards and health status as discussed later in this paper. Results of the application of factor analysis procedure greatly helped in analysing the inter-state variations in the living conditions and health status of Scheduled Castes in the country.

### The National Scenario

Living Standards. Information available through DLHS 2007-08 suggests that living standards of Scheduled Tribes living in the rural areas of the country remains poor despite all social and economic progress that the country is currently witnessing. The information available through the survey suggests that less than 5 per cent of the Scheduled Tribes households were in the richest quintile of the wealth index. By contrast very close to 40 per cent were in the poorest wealth quintile group while almost 25 per cent of the households surveyed were in the poor wealth quintile group (Figure 1). In other words, almost two third of the Scheduled Tribes households in the country which were surveyed during the DLHS 2007-08 were having low to very low income levels and, therefore, there was very limited wealth accumulation and assets formation in these households. Obviously, poverty appears to remain quite rampant in Scheduled Tribes. Figure 1 also suggests that the situation is different in the non Scheduled Tribes households. According to the DLHS 2007-08, there was a wide gap between Scheduled Tribes and non Scheduled Tribes households in terms of the proportion of the households in the lowest wealth quintile. It is obvious from the information available through the DLHS 2007-08 that compared to non Scheduled Tribes, Scheduled Tribes in the rural areas of the country continue to remain marginalised despite all social and economic progress that the country is currently witnessing. It is also clear that Scheduled Tribes continue to remain the poorest population group in the country. Improving the income levels and living conditions

Figure 1  
Distribution of households by wealth quintiles

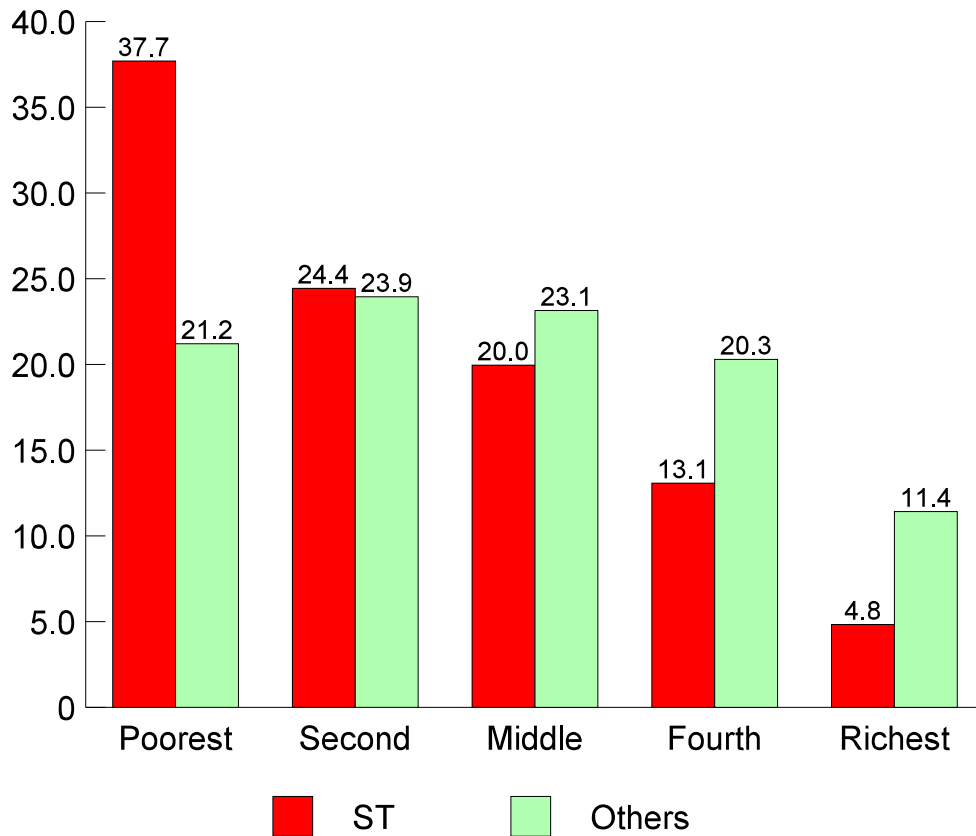
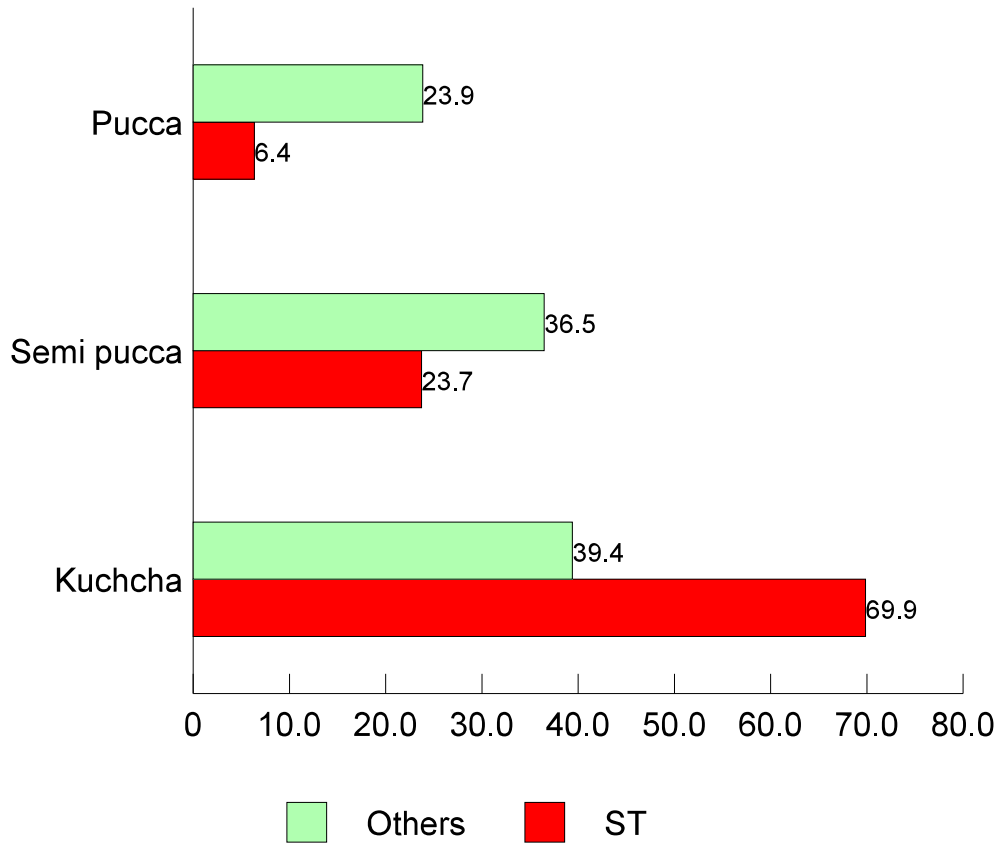


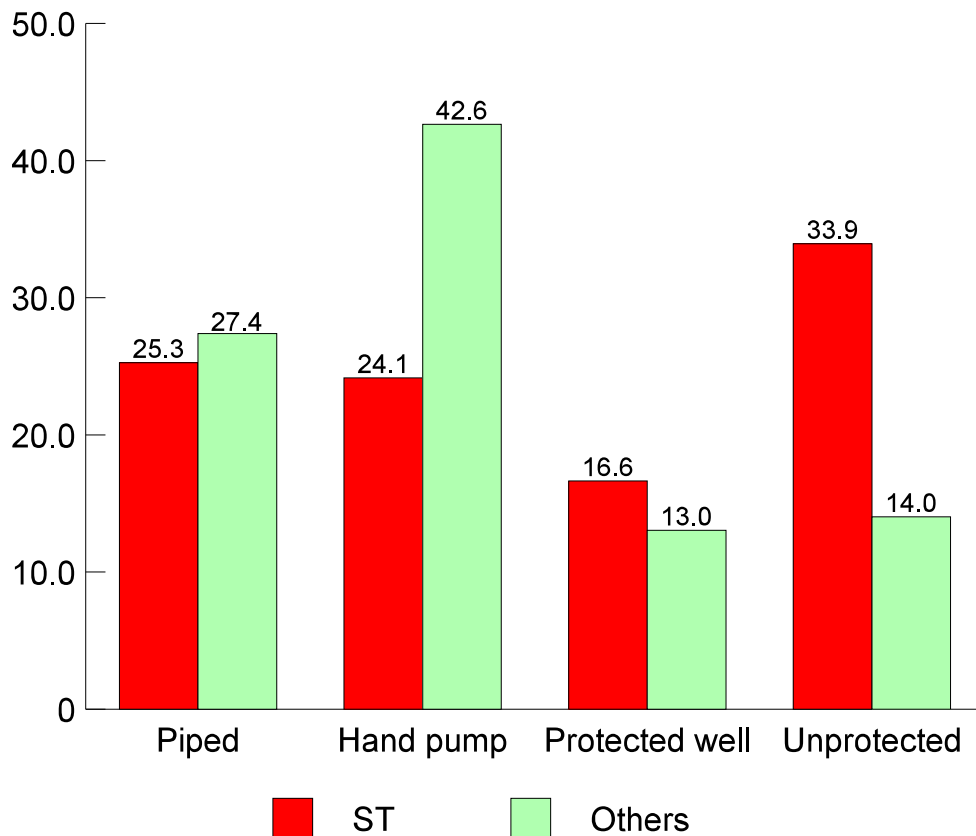
Figure 2  
Type of house of Scheduled Tribes



of an average Scheduled Tribes household appears to be perhaps the most formidable development challenge that the country India is facing. Majority of the Scheduled Tribes households appear to be devoid of the benefits of the economic growth and associated development in the country.

The low levels of income of Scheduled Tribes households is well reflected in terms of the house in which they were living at the time of the survey. According to DLHS 2007-08, almost 70 per cent of the Scheduled Tribes households in the country were living in Kuchcha houses, whereas this proportion was less than 40 per cent in non Scheduled Tribes households. On the other hand, the proportion of Scheduled Tribes households living in pucca houses was less than 7 per cent but, on the contrary, almost 24 per cent of the non Scheduled Tribes households were pucca households at the time of DLHS 2007-08. The proportion of non Scheduled Tribes households living in semi-pucca houses was also substantially higher than the Scheduled Tribes households. This observation supports the earlier observation that income levels of most of the Scheduled Tribes households in the country remain low and there is very limited wealth accumulation or assets creation which has implications for the health of the people. It is obvious that Scheduled Tribes constitute the most disadvantaged population group in the country.

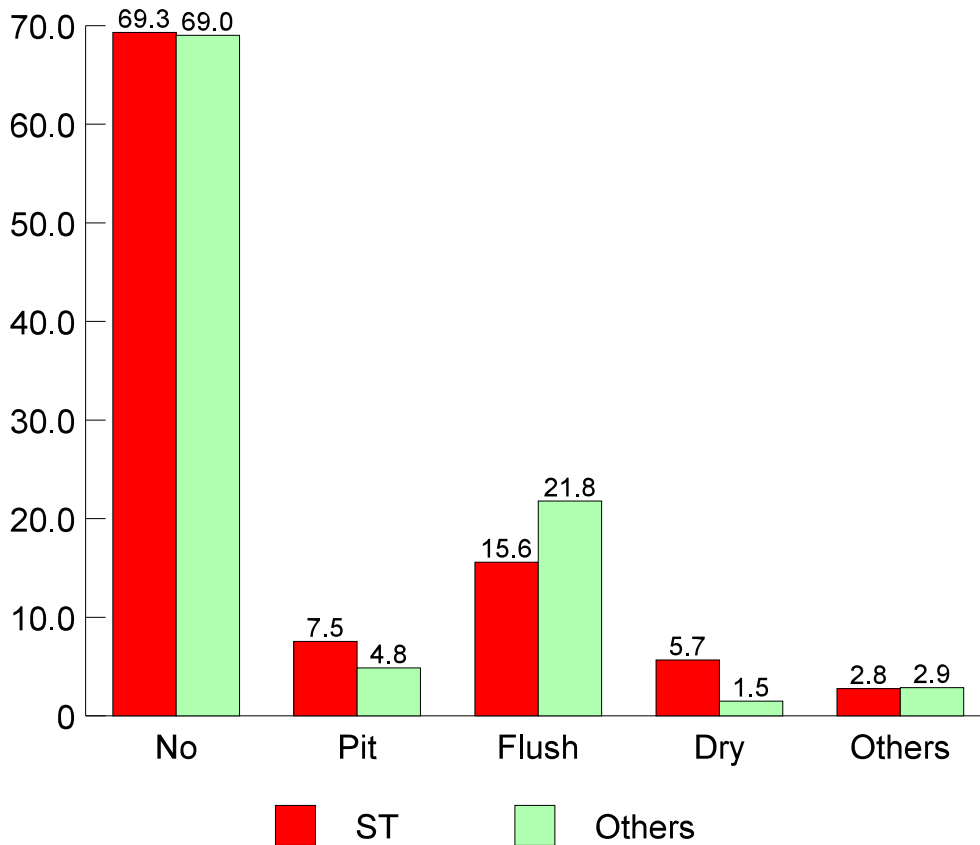
Figure 3  
Source of drinking water



The third standard of living indicator that we have considered in the present analysis is the source of drinking water in the household. This indicator is important as the quality of drinking water has direct relevance to the health status of the people and a first hand idea about the quality of the drinking water can be made from the source of the drinking water. Information available from DLHS 2007-08 suggests that more than 35 per cent of the Scheduled Tribes households covered during the survey had an unprotected drinking water source such as unprotected well or pond or lake or river, even rain water, etc. whereas this proportion was only 14 per cent in case of non Scheduled Tribes households. In case of piped drinking water supply, however, there was not much difference between the Scheduled Tribes and non Scheduled Tribes households. However, in case of hand pump, the difference between Scheduled Tribes and non Scheduled Tribes households is again very substantial. Under the safe drinking water initiative, hand pumps have been installed in rural and remote areas where the piped drinking water supply is not operationally and financially feasible. However, information available through the DLHS 2007-08 suggests that the Scheduled Tribes population has only a limited access to hand pumps. Most of the Scheduled Tribes population in the country continues to fetch water from an unprotected source.

Another standard of living indicator which has a direct relevance to the health of the people is the toilet facility. Interestingly, the information available through the DLHS 2007-08 suggests that the proportion of Scheduled Tribes households having

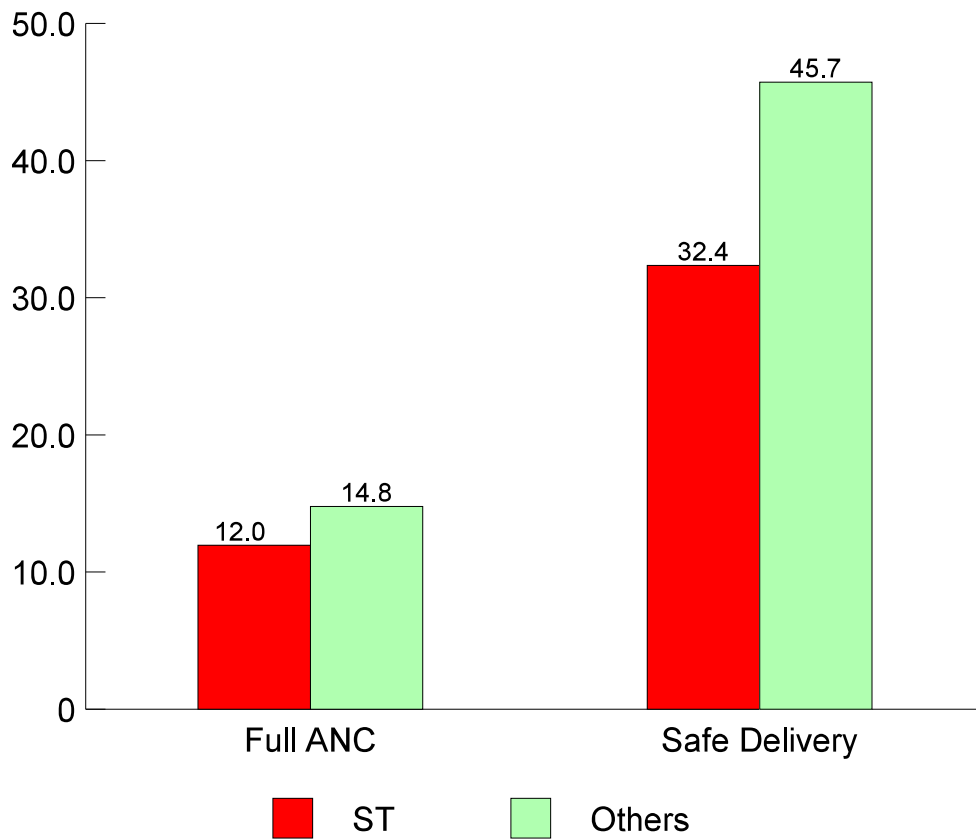
Figure 4  
Availability of toilet in the house



no toilet facility very much the same as the non Scheduled Tribes households in the rural areas of the country. However, the proportion of households having flush latrines is substantially higher in non Scheduled Tribes households as compared to Scheduled Tribes households (Figure 4). In any case, DLHS 2007-08 suggests that open field defecation continues to be widely prevalent in rural India despite a lot of emphasis on sanitation under the total sanitation campaign of the Government of India.

The foregoing discussion depicts the poor living conditions of the Scheduled Tribes households in rural India as compared to non Scheduled Tribes households. The information available through DLHS 2007-08 clearly indicates that at least two third of the Scheduled Tribes households in the rural areas of the country continue to live in conditions that may, at best, be termed as precarious. The prevailing living conditions of Scheduled Castes in the rural areas also suggest that economic growth and associated development that the country is currently witnessing appears to have contributed only marginally in improving the living conditions of the Scheduled Tribes in the country. The Scheduled Tribes of the country continue to remain largely devoid of the benefits of the social and economic progress of the country. They continue to be the most marginalised population group in the country. Despite all efforts, they continue to live at the margin.

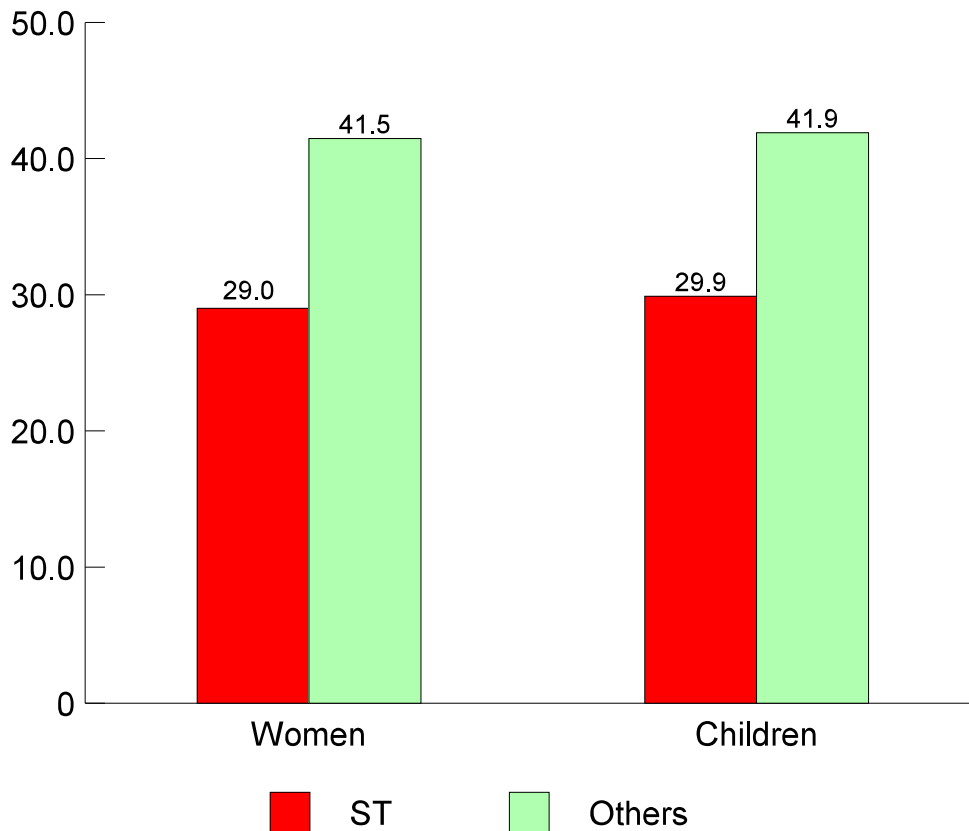
Figure 5  
Maternity Services



Health Status. The impact of the poor living conditions of the Scheduled Tribes households is well reflected on the health status of the Scheduled Tribes women. During DLHS 2007-08, information about the care received by women who had their last delivery in the three years preceding the survey was collected. The proportion of Scheduled Tribes women receiving full antenatal care - at least three antenatal check up, at least one tetanus toxoid injection and at least 100 iron folic acid tablets or equivalent syrup - was found to be only around 12 per cent, compared to very close to 15 per cent in the non Scheduled Tribes women (Figure 5). Similarly, the proportion of Scheduled Tribes women reporting that their last delivery during the reference period of DLHS 2007-08 was a safe delivery - either institutional delivery or home delivery attended by professionally trained persons - was only about 32 per cent compared to more than 45 per cent in non Scheduled Tribes women. The very fact that a very small proportion of Scheduled Tribes women received full antenatal care and more than two third of the deliveries reported by Scheduled Tribes women at DLHS 2007-08 were unsafe deliveries indicates that most of the Scheduled Tribes women are exposed to the hazards of pregnancy and child birth which has implications to their health as well as health of their children. The institution base delivery of reproductive health services does not appear to fit in the cultural and traditional ethos of Scheduled Tribes and, therefore, utilisation of these services by Scheduled Tribes women remains low.



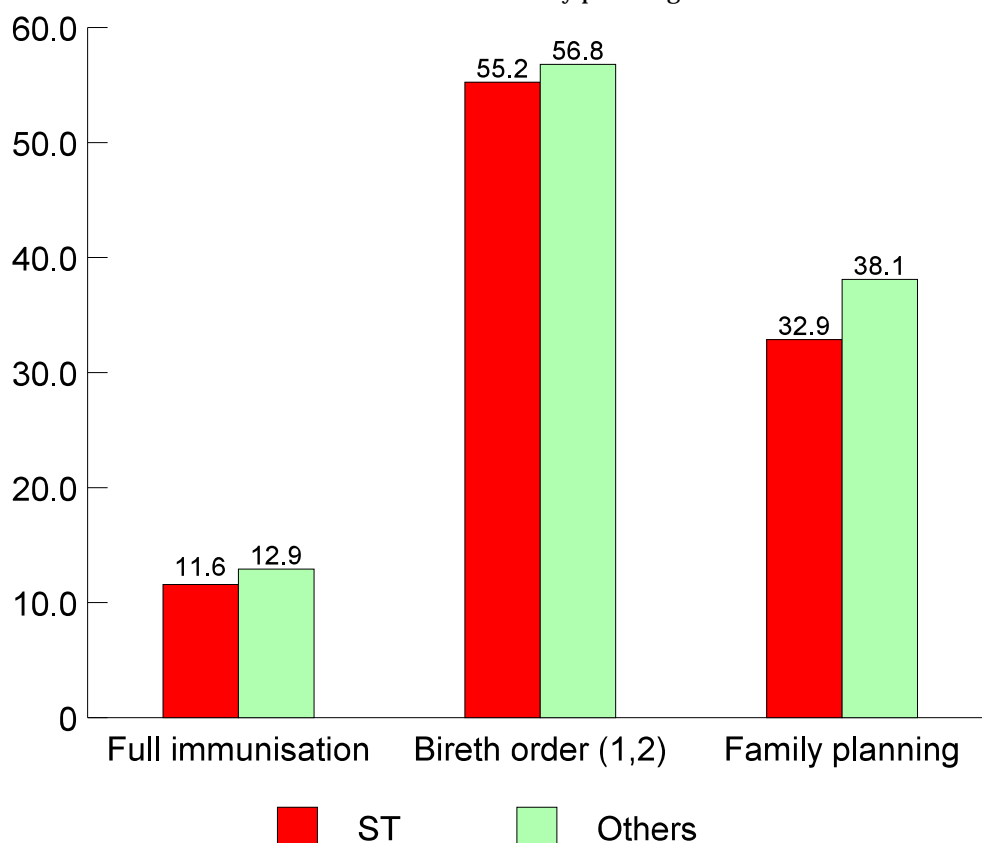
Figure 6  
Postnatal care



In case of postnatal care also, the situation is no different. The proportion of Scheduled Tribes women who reported a delivery during the reference period of DLHS 2007-08 and their new born receiving postnatal care was found to be substantially lower than the proportion of non Scheduled Tribes women (Figure 6). Only around 30 per cent of the Scheduled Tribes women reported that they received postnatal care within 48 hours of the delivery while their now born was examined within 24 hours of birth. Although, these proportions are not very high in non Scheduled Tribes population also, yet the gap between Scheduled Tribes and non Scheduled Tribes women indicates towards exclusion of Scheduled Tribes women in the delivery of basic reproductive health services in the rural areas. Some of this exclusion, no doubt, is because of cultural and traditional factors. However, this exclusion also indicates the inefficiency of maternal health services, either public or private, in meeting the reproductive health needs of Scheduled Tribes women.

In case of complete immunisation - proportion of children 12-13 months of age receiving BCG, 3 doses of OPV, 3 doses of DPT and measles - the coverage rate is abysmally low in both Scheduled Tribes and non Scheduled Tribes which indicates that in the rural areas of the country very few children are completely immunised - a reflection again to the poor efficiency of health services. However, even at this abysmal level, the proportion of fully immunised children are lower in Scheduled Tribes.

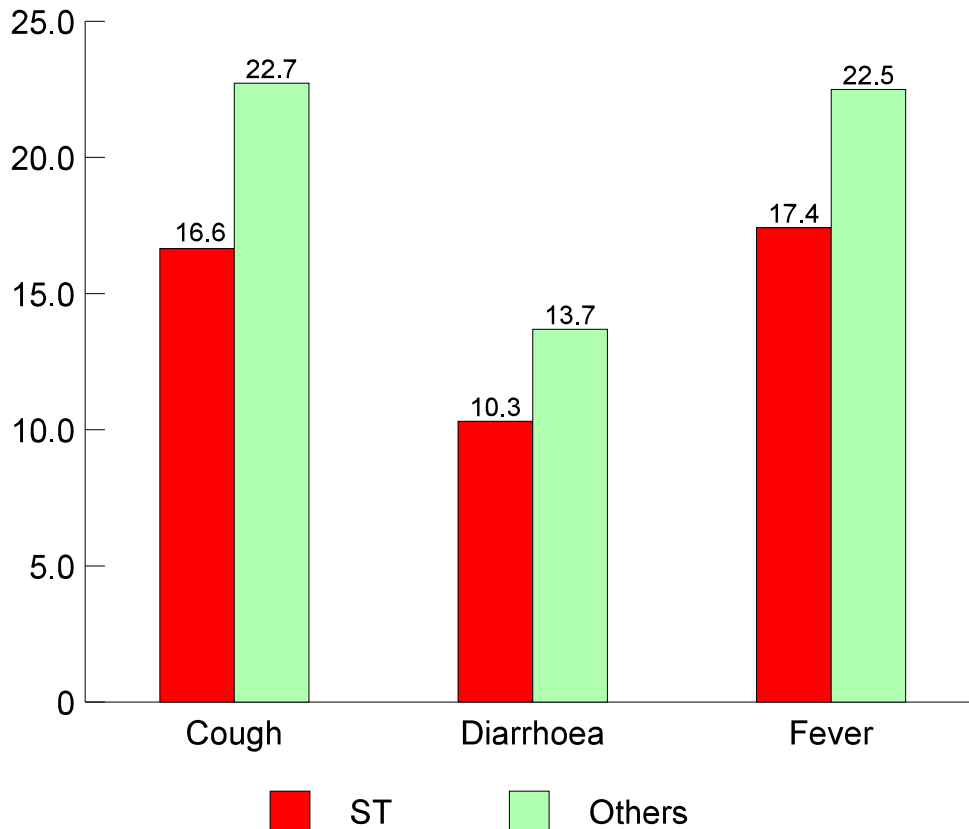
Figure 7  
Immunsisation and family planning



Similarly, use of family planning methods is lower in Scheduled Tribes than in non Scheduled Tribes, although the difference is not very large according to DLHS 2007-08. The relatively lower use of family planning methods in Scheduled Tribes as compared to non Scheduled Tribes is reflected in the proportion of 1<sup>st</sup> and 2<sup>nd</sup> order births in the total births reported during the reference period by Scheduled Tribes women as compared to non Scheduled Tribes women (Figure 7). Like the maternal health services, the relatively lower use of family planning methods in Scheduled Castes may be due to both cultural and traditional factors as well as due to the poor efficiency of health and family welfare services.

In case of common childhood diseases, however, the prevalence is found to be lower in Scheduled Tribes children as compared to non Scheduled Tribes children (Figure 8). For all children below five years of age identified during DLHS 2007-08, it was enquired from the household whether the child suffered from diarrhoea, cough or fever during the two weeks prior to the survey and reported prevalence of the three common childhood diseases was found to be higher in the non-Scheduled Tribes population. It may however be pointed out that the prevalence rate presented in figure 8 are based on the response of household members and the difference between Scheduled Tribes and non Scheduled Tribes may be because of the difference in the perceptions about common childhood diseases. In any case, the proportion of Scheduled Tribes households reporting disease symptoms is quite high.

Figure 8  
Childhood diseases



The foregoing analysis suggests that Scheduled Tribes in the country continue to have, in general, poorer living conditions and health status as compared to non Scheduled Tribes population. In order to explore further the living conditions and health status of Scheduled Tribes, we have analysed the variability across Scheduled Tribes households in the country in terms of key variables of living conditions and health status using the factor analysis procedure. As discussed above, factor analysis combines the variables under study into factors or dimensions which are the linear combinations of original variables. These factors are not correlated to each other.

For the purpose of factor analysis, every Scheduled Tribes household was given a score of 1 or 0 in each of the 14 variables in the following manner:

- A score of 1 if the wealth index score of the household falls in the richest wealth quintile group and 0 otherwise.
- A score of 1 if the household lives in a pucca house and 0 otherwise.
- A score of 1 if the source of drinking water is piped water supply and 0 otherwise.
- A score of 1, if the house in which the household lives has a flush latrine and 0 otherwise.
- A score of 1 if the women who delivered during the reference period of DLHS 2007-08 received full antenatal care during her pregnancy and 0 otherwise.
- A score of 1 if any delivery in the household during the period of reference was the safe delivery and 0 otherwise.

- A score of 1 if the woman of the household who delivered during the reference period of DLHS 2007-08 was examined during the first 48 hours of the delivery and 0 otherwise.
- A score of 1 if a child born in the household during the reference period of DLHS 2007-08 was examined within 24 hours of the birth and 0 otherwise.
- A score of 1 if the birth order of the birth reported during the survey was either 1<sup>st</sup> or 2<sup>nd</sup> order birth.
- A score of 1 if a child aged 12-23 months at the time of the survey received full immunisation and 0 otherwise.
- A score of 1 if couples in the reproductive age group were using any family planning method and 0 otherwise.
- A score of 1 if a child less than 5 years of age reported diarrhoea during two weeks prior to the survey and 0 otherwise.
- A score of 1 if a child less than 5 years of age reported fever during two weeks prior to the survey and 0 otherwise.
- A score of 1 if a child less than 5 years of age reported cough during two weeks prior to the survey and 0 otherwise.

Using these scores, the correlation matrix of the 14 variables of living conditions and health status was prepared and this correlation matrix was used for the application of the factor analysis procedure. The initial factors so generated were rotated using the varimax criterion with Kaiser normalisation. The analysis was carried out using the SPSS software package.

Using factor analysis procedure, 4 factors were extracted from 14 indicators described above. The principal component method was used to extract the factor. This method extracts that factor first which accounts for highest proportion of the variance. The 4 factors, so extracted account, together, for more than 50 per cent variance in all 14 variables and at 40 per cent of the variation in individual variables except in case of full antenatal care, full immunisation and piped water supply. As discussed above, factors are estimated as a linear combination of original variables and are interpreted by examining the combination of variables that are most highly correlated with them (highest factor loading in factor analysis terms). In order to facilitate interpretation, factors are rotated after identification for which several methods are available. In the present analysis, we have used Varimax method which minimises the number of variables that have high loadings on a factor. Note that rotation does not change the total variance explained by the factors or the goodness of fit of a factor analysis solution. However, rotation changes the proportion of variance explained by individual factors. In table 1 the extracted factors are labelled. These labels try to best describe dimensions of living conditions and health status of Scheduled Tribes households that each factor seems to represent based on what the variables with the highest loadings (loading after rotation 0.25 or more) on that factor appear to have in common.

The factor analysis solution suggests that the living conditions and health status of Scheduled Castes in the country can be described in terms of four dimensions - the dimension of maternity services, the dimension of living status, the dimension of childhood diseases and the dimension of family welfare. An important observation of table 1 is that no variable is loaded on more than one factor which suggests that some of the variables are highly correlated whereas there is little correlation between other variables. For example, all variables related to maternity services are highly correlated but these variables are not related with variables such as use of family planning methods and childhood immunisation. Interestingly, living status variables - wealth index score, amenities in the house and source of drinking water - have not been found

to be correlated with the use of maternity services and practice of family planning, etc. On the other hand indicators of childhood diseases have not been found to be correlated with service variables as well as living status variables.

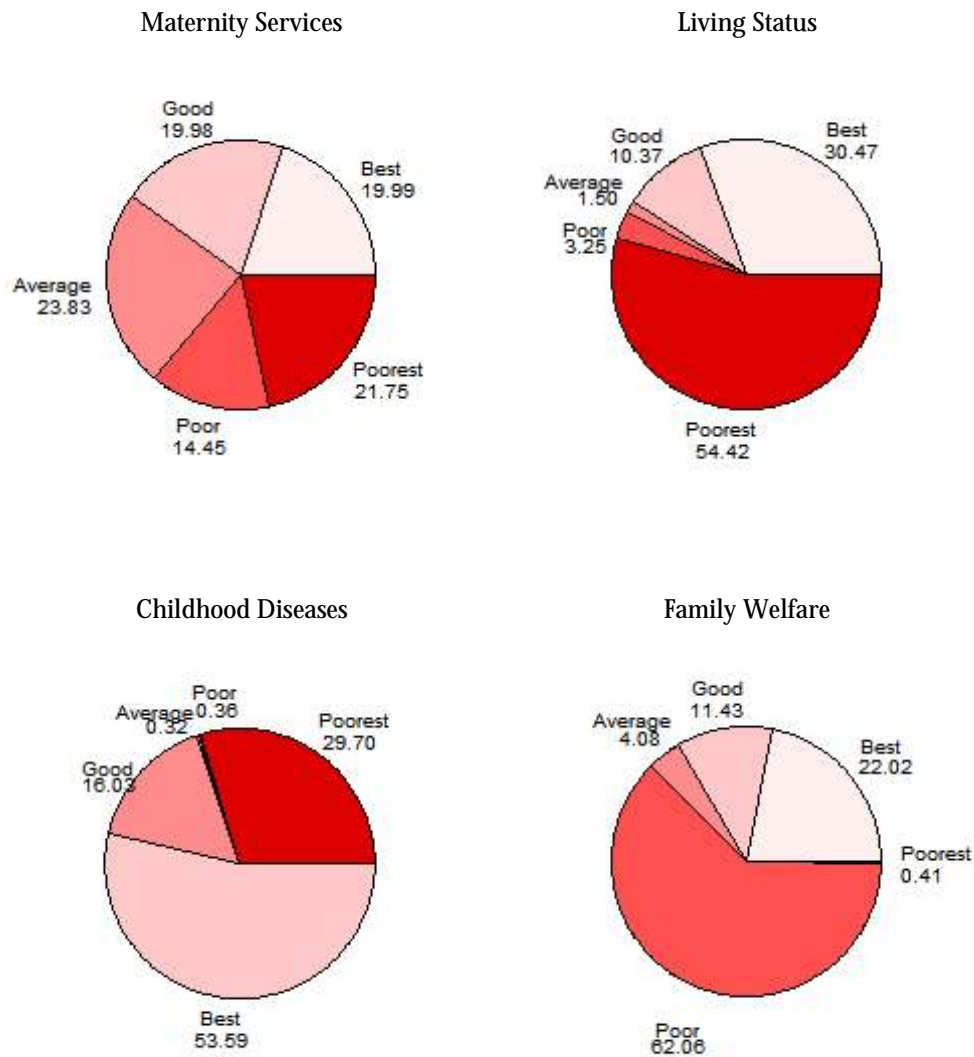
Table 1: Factors for different dimensions of living conditions and health status of Scheduled Tribes in India.

Factor No.	Assigned factor label	Variables most correlated with the factor (loading 0.25 and more after rotation) and factor loading after rotation
I	Maternity services	Full-antenatal care (0.34) Safe delivery (0.81) Postnatal examination of woman with 48 hours of delivery (0.91) Examination of the newborn with 24 hours of birth (0.91)
II	Living status	Flush toilet (0.72) Piped water supply (0.49) Pucca house (0.65) Richest wealth quintile group (0.75)
III	Childhood diseases	Diarrhoea (0.62) Fever (0.81) Cough (0.78)
IV	Family welfare	Birth order 1 and 2 (0.59) Use of family planning method (0.73) Full immunisation of children (-0.51)

In order to utilise the factor patterns described in table 1 to evaluate living conditions and health status of Scheduled Tribes households, factor score coefficients were calculated using the regression method. These factor score coefficients were then used to calculate factor score for each Scheduled Tribe household. On the basis of these scores, a household was classified as poorest, poor, average, good and best on each of the four dimensions and the proportion of households falling in different categories were calculated. The distribution of Scheduled Tribes households in the five categories on the four dimensions of living conditions and health status are shown in figure 9.

Figure 9 provides interesting insight into the living conditions and health status of Scheduled Tribes in the country. For example, as far as the use of maternity services are concerned, the Scheduled Tribes households are almost evenly divided. However, in the context of the living status, a whopping 55 per cent of the households are classified in the poorest category compared to only about 30 per cent in the best category. Similarly, in case of use of family planning methods, fertility and immunisation of children also, the status, more than 60 per cent of Scheduled Tribes households are classified in poorest category, whereas this proportion was almost 30 per cent in case of the dimension of childhood diseases. The divergence of Scheduled Tribes households on the four dimensions of living conditions and health status identified in the present analysis is very much evident from figure 9. The situation gets more complicated because of the mutual exclusiveness of the dimensions.

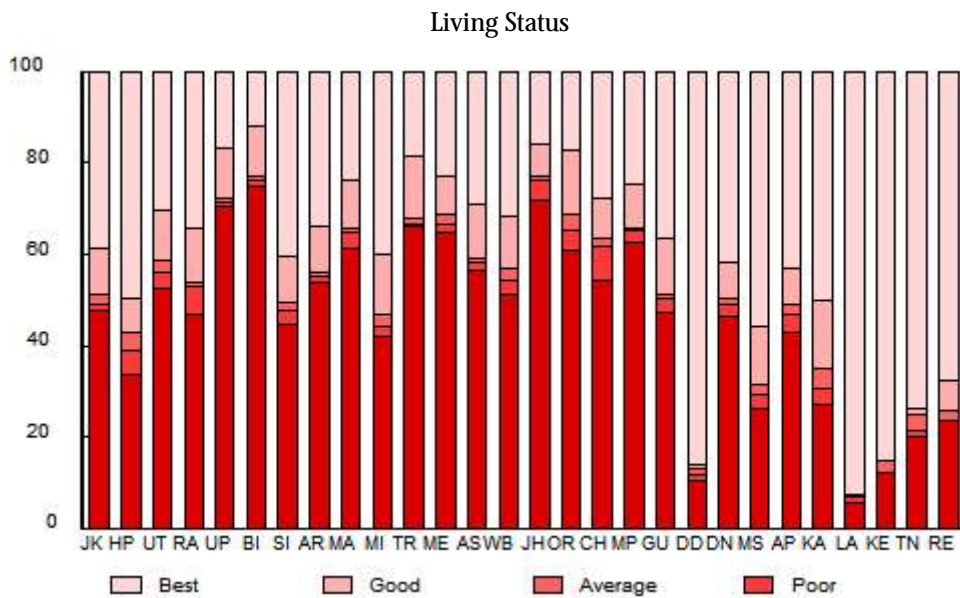
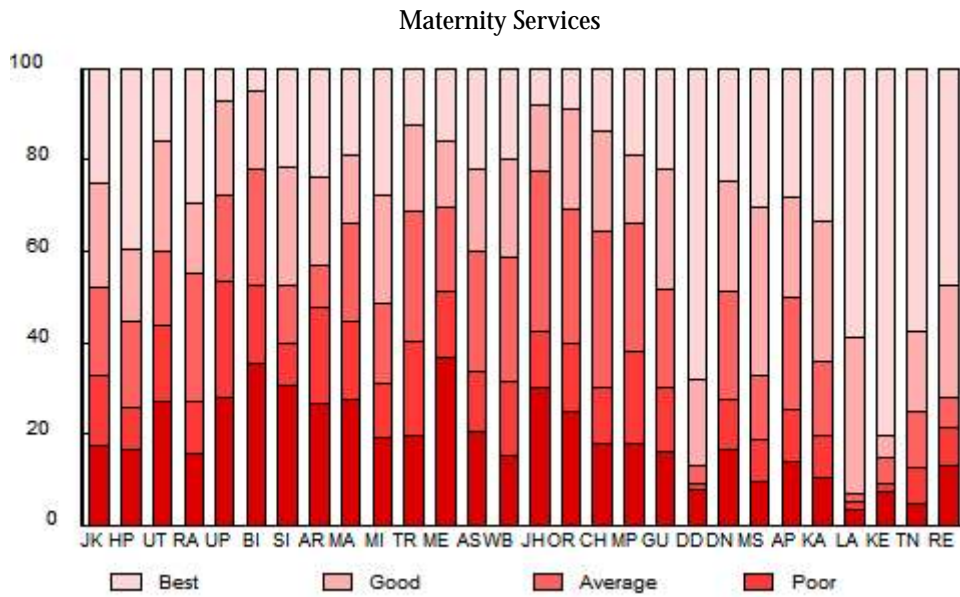
Figure 9  
Distribution of Scheduled Tribes Households on different dimensions of living conditions and health status



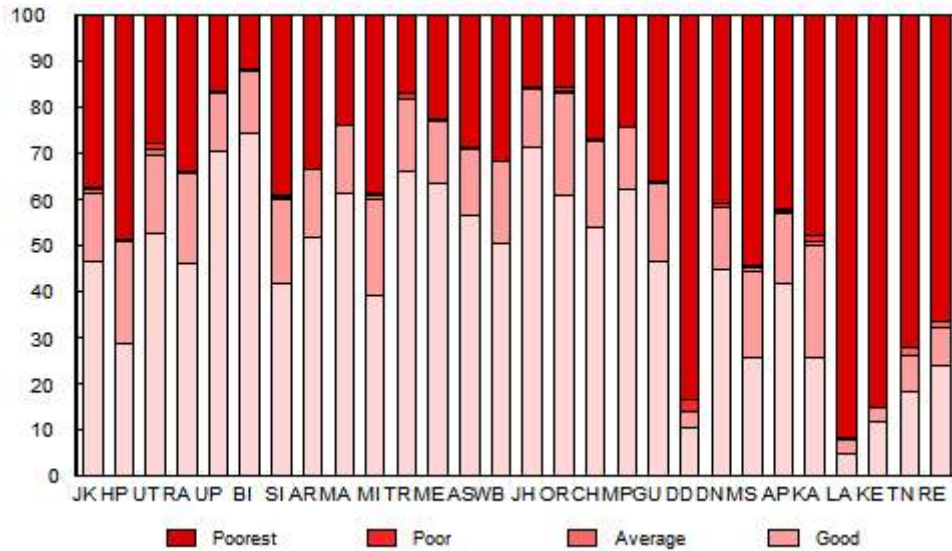
### State Scenario

Among different states and Union Territories of the country, the distribution of Scheduled Tribes households across the five categories described above varies widely. Moreover, there is a lot of divergence in a state/Union Territory across the four dimensions of living conditions and health status of Scheduled Tribes. This is expected as the social and economic status and living conditions vary widely across states and Union Territories. These inter-state and intra-state variation in different dimensions suggest that the living conditions and health status of Scheduled Tribes vary widely across states and Union Territories of the country.

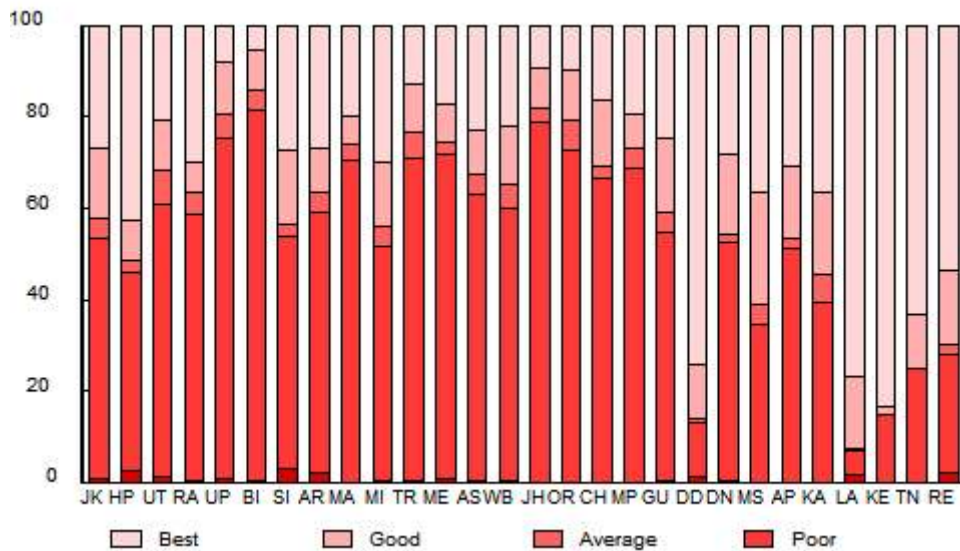
Figure 10  
 Distribution of Scheduled Tribes households on different dimensions of living conditions and health status in states and Union Territories in India



### Childhood Diseases



### Family Welfare



In order to rank different states and Union Territories in terms of the living conditions and health status of Scheduled Tribes, we have first ranked the states and Union territories on different dimensions of living conditions and health status identified in the present analysis on the basis of the proportion of Scheduled Tribes households in the best category, and then calculated the average rank for each states Union Territory. The ranks so obtained were then averaged to estimate the rank in the four dimensions combined (Table 2).



Table 2: Ranking of states/Union Territories in terms of different dimensions of living conditions and health status of Scheduled Tribes.

State/ Union Territory	Rank in dimension				Mean rank	Rank of the mean rank	Range of the rank
	I	II	III	IV			
Andhra Pradesh	10	9	18	9	11.5	9	9
Arunachal Pradesh	14	16	12	14	14.0	14	4
Assam	16	19	9	17	15.3	17	10
Bihar	28	28	1	28	21.3	28	27
Chhattisgarh	23	20	10	23	19.0	23	13
Dadra & Nagar Haveli	13	10	17	12	13.0	11	7
Daman & Diu	2	2	27	3	8.5	2	25
Gujarat	15	14	15	16	15.0	15	2
Himachal Pradesh	6	8	22	6	10.5	6	16
Jammu & Kashmir	12	13	14	15	13.5	12	3
Jharkhand	26	27	2	26	20.3	25	25
Karnataka	7	7	23	7	11.0	8	16
Kerala	1	3	26	1	7.8	1	25
Lakshadweep	3	1	28	2	8.5	2	27
Madhya Pradesh	19	21	6	21	16.8	19	15
Maharashtra	8	6	20	8	10.5	6	14
Manipur	20	22	7	20	17.3	20	15
Meghalaya	21	23	5	22	17.8	22	18
Mizoram	11	12	21	11	13.8	13	10
Orissa	25	25	8	25	20.8	26	17
Rajasthan	9	15	16	10	12.5	10	7
Sikkim	17	11	19	13	15.0	15	8
Tamil nadu	4	4	25	4	9.3	4	21
Tripura	24	24	4	24	19.0	23	20
Uttar pradesh	27	26	3	27	20.8	26	24
Uttarakhand	22	18	11	19	17.5	21	11
West Bengal	18	17	13	18	16.5	18	5

Source: Author's calculations

The above exercise suggests that the living conditions and health status of Scheduled Tribes in the rural areas are the best in Kerala and poorest in Bihar amongst the states and Union Territories of the country. The living conditions and health status of Scheduled Tribes in the rural areas are also relatively better in Lakshadweep, Daman and Diu and Tamil Nadu. On the other hand, in Uttar Pradesh, Orissa, Jharkhand, Tripura and Chhattisgarh, the living conditions and health status of Scheduled Tribes in the rural areas appear to be the poorest in the country on the basis of the information available through DLHS 2007-08. It is also clear from table 2 that there is no state/Union Territory in the country which is ranked best in all the four dimensions of living conditions and health status of Scheduled Tribes in the rural areas. Similarly, there is no state/Union Territory which appears to be the worst in all the four dimensions vis-a-vis other states/Union Territories of the country. The regional diversity in different dimensions of living conditions and health status of Scheduled Tribes in the rural areas is very much evident from table 2.

The average rank measures the variation in living conditions and health status across states/Union Territories. It gives little idea about the variation in the rank across the four dimensions in a state/Union Territory. This variation can be captured through calculating the range of the rank in the four dimensions - the wider is the range the larger is the variation of a state/Union Territory across different dimensions. When the range of the rank is narrow, the rank of the state/Union Territory in all the four dimensions are close to each other irrespective of the absolute rank. Obviously, when the rank is the same in all dimensions, the range of rank is zero.

According to this exercise, the range of the rank on the four dimensions was the narrowest in Gujarat followed by Jammu and Kashmir, Arunachal Pradesh and West Bengal. All these state rank in the middle in the four dimensions of living conditions and health status across states and Union territories of the country (Table 1). On the other hand, the range of the rank has been found to be the widest in Lakshadweep and Bihar followed by Kerala and Jharkhand. Lakshadweep has the best rank in the dimension II (living status) but the worst rank in the dimension III (childhood diseases) whereas Bihar has the best rank in dimension III but the worst rank in the remaining three dimensions. A similar situation appears to prevail in Kerala and Jharkhand also. The worst rank in dimension III in Lakshadweep and Kerala implies that the reported prevalence of childhood diseases in Lakshadweep and Kerala is the highest in the country. On the other hand, the best rank in this dimension in Bihar and Jharkhand means that the reported prevalence of childhood diseases in these states is the lowest in the country. It may however be pointed out here that the reported prevalence of childhood diseases may be seriously biased because of the knowledge and awareness of the respondent. One reason that the reported prevalence of childhood diseases is very high in Kerala and Lakshadweep may be due to high to very high awareness of the people in Lakshadweep and Kerala about childhood as well as other diseases conditions. On the other hand one of the reasons for very low reported prevalence of childhood diseases in Bihar and Jharkhand may be due to poor knowledge and awareness about childhood diseases in these states. If we exclude the factor III in the estimation of overall rankings, the scenario changes radically.

### Conclusions

Scheduled Tribes in India continue to lag behind the non Scheduled Castes in some key elements of living conditions and health status. However, living conditions and health status of Scheduled Tribes are relatively the better in Lakshadweep, Kerala, Tamil Nadu and Maharashtra but poorer in Bihar, Orissa, Uttar Pradesh, Jharkhand, Tripura and Chhattisgarh.

Another important conclusion that emerges from the present analysis is that there appears a disconnect between different dimensions of living conditions and health status of Scheduled Tribes. This means that improvements in one dimension does not mean improvements in other dimensions also. This feature of lop-sided development is a common anomaly of India's development discourse. Development management in India has been and continues to be the responsibility of an out dated development administration system while the development philosophy that India pursues has essentially been borrowed from the west and is based on six killer applications - competition, modern science, private property rights, modern medicine, consumer society and work ethics. These killer applications, unfortunately, are contrary to the traditional life style of Scheduled Tribes which is driven by largely compromise and companionship, tradition and culture, common property, traditional medicine, subsistence society, and family ethics.

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Table 3: Living conditions and health status of Scheduled Tribes and non Scheduled Tribes in India, 2007-08

	Wealth quintiles				
	Poorest	Second	Middle	Fourth	Richest
ST	37.69	24.44	19.96	13.08	4.83
Others	21.21	23.94	23.14	20.30	11.42
	Type of house				
	Kachcha	Semi Pucca	Pucca		
ST	69.87	23.74	6.37		
Others	39.41	36.47	23.85		
	Source of drinking water				
	Pipe	Hand pump	Protected well/spring	Unprotected source	
ST	25.26	24.15	16.65	33.93	
Others	27.39	42.65	13.04	14.02	
	Toilet in the house				
	Flush	Pit	Dry	Others	No
ST	15.58	7.87	5.67	10.12	60.76
Others	21.78	4.85	1.25		69.02
	Reproductive health				
	Full antenatal care	Safe delivery	Postnatal care to woman within 48 hours	Postnatal care to new born within 24 hours	
ST	12.05	32.35	29.01	29.89	
Others	14.79	45.71	41.47	41.90	
	Childhood diseases				
	Cough	Diarrhoea	Fever	Full-immunisation	
ST	16.65	10.31	17.42	11.58	
Others	22.73	13.69	22.50	12.92	
	Family planning				
	Proportion of 1 <sup>st</sup> and 2 <sup>nd</sup> order births	Current use of family planning			
ST	55.24	32.87			
Others	56.80	38.11			

Table 4: Distribution of households by factor scores in the dimension of maternity services.

Country/State	Poorest	Poor	Average	Good	Best
Andhra Pradesh	13.90	11.55	24.37	21.84	28.34
Arunachal Pradesh	26.62	21.18	9.15	19.35	23.69
Assam	20.36	13.09	26.68	17.84	22.04
Bihar	35.51	17.08	25.17	17.08	5.17
Chhattisgarh	17.80	12.50	33.86	22.23	13.62
Dadra & Nagar Haveli	16.60	11.06	23.40	24.26	24.68
Daman & Diu	7.69	1.28	3.85	19.23	67.95
Gujarat	16.05	14.24	21.44	26.09	22.17
Himachal Pradesh	16.55	9.15	19.01	15.85	39.44
Jammu & Kashmir	17.60	15.01	19.25	22.77	25.36
Jharkhand	30.04	12.29	35.08	14.59	7.99
Karnataka	10.35	9.44	16.13	30.59	33.49
Kerala	7.46	1.49	5.97	4.48	80.60
Lakshadweep	3.45	1.53	1.92	34.10	59.00
Madhya Pradesh	18.02	19.88	28.10	15.05	18.95
Maharashtra	9.58	9.22	13.96	36.88	30.36
Manipur	27.45	16.99	21.64	15.07	18.85
Meghalaya	36.65	14.52	18.42	14.48	15.93
Mizoram	19.27	11.90	17.47	23.69	27.67
Orissa	24.76	14.86	29.68	21.98	8.72
Rajasthan	15.56	11.40	27.98	15.46	29.60
Sikkim	30.58	9.30	12.59	26.09	21.44
Tamil nadu	4.81	7.69	12.50	17.31	57.69
Tripura	19.50	20.68	28.51	18.76	12.56
Uttar pradesh	28.02	25.14	19.19	20.54	7.10
Uttarakhand	26.83	17.07	15.85	24.39	15.85
West Bengal	15.10	16.27	27.25	21.57	19.80
Rest	12.90	8.60	6.45	24.73	47.31
India	21.75	14.45	23.83	19.98	19.99

Source: Author's calculations

Table 5: Distribution of households by factor scores in the dimension of living status.

Country/State	Poorest	Poor	Average	Good	Best
Andhra Pradesh	42.96	3.79	1.99	7.94	43.32
Arunachal Pradesh	53.78	1.30	0.91	10.16	33.85
Assam	56.52	1.73	0.89	11.61	29.25
Bihar	74.83	1.35	0.90	10.79	12.13
Chhattisgarh	54.43	7.49	1.49	8.94	27.65
Dadra & Nagar Haveli	46.38	2.55	1.28	8.09	41.70
Daman & Diu	10.26	1.28	1.28	1.28	85.90
Gujarat	47.33	3.03	0.83	12.24	36.56
Himachal Pradesh	33.80	4.93	4.23	7.39	49.65
Jammu & Kashmir	47.52	1.55	2.07	10.25	38.61
Jharkhand	71.59	4.48	0.83	7.06	16.04
Karnataka	27.25	3.50	4.11	14.76	50.38
Kerala	11.94	0.00	2.99	0.00	85.07
Lakshadweep	5.75	1.15	0.00	0.38	92.72
Madhya Pradesh	62.56	2.53	0.51	9.88	24.52
Maharashtra	26.29	2.85	2.34	12.53	55.99
Manipur	61.42	3.23	0.77	10.63	23.95
Meghalaya	64.52	2.07	2.07	8.20	23.15
Mizoram	41.92	2.18	2.89	12.88	40.12
Orissa	60.92	4.34	3.31	14.28	17.15
Rajasthan	46.83	6.18	0.96	11.66	34.36
Sikkim	44.68	2.85	1.65	10.34	40.48
Tamil nadu	20.19	0.96	3.85	0.96	74.04
Tripura	66.17	0.44	1.33	13.59	18.46
Uttar pradesh	70.63	0.77	0.77	10.94	16.89
Uttarakhand	52.44	3.66	2.44	10.98	30.49
West Bengal	50.98	3.14	2.75	11.37	31.76
Rest	23.66	0.00	2.15	6.45	67.74
India	54.42	3.25	1.50	10.37	30.47

Source: Author's calculations

Table 6: Distribution of households by factor scores in the dimension of childhood diseases.

Country/State	Best	Good	Average	Poor	Poorest
Andhra Pradesh	41.70	15.16	0.54	0.54	42.06
Arunachal Pradesh	51.76	14.54	0.05	0.19	33.46
Assam	56.37	14.38	0.20	0.40	28.66
Bihar	74.16	13.71	0.22	0.00	11.91
Chhattisgarh	54.06	18.34	0.37	0.25	26.99
Dadra & Nagar Haveli	44.68	13.62	0.00	0.85	40.85
Daman & Diu	10.26	3.85	0.00	2.56	83.33
Gujarat	46.60	16.94	0.24	0.29	35.93
Himachal Pradesh	28.52	22.18	0.35	0.35	48.59
Jammu & Kashmir	46.69	14.80	0.72	0.52	37.27
Jharkhand	71.20	12.78	0.31	0.16	15.55
Karnataka	25.42	24.35	1.22	1.22	47.79
Kerala	11.94	2.99	0.00	0.00	85.07
Lakshadweep	4.98	2.68	0.38	0.38	91.57
Madhya Pradesh	62.10	13.41	0.07	0.07	24.34
Maharashtra	25.47	18.80	0.76	0.56	54.41
Manipur	61.32	14.74	0.11	0.05	23.78
Meghalaya	63.51	13.51	0.23	0.27	22.48
Mizoram	39.25	20.91	0.71	0.60	38.54
Orissa	60.82	22.03	0.44	1.27	15.45
Rajasthan	46.07	19.61	0.05	0.20	34.06
Sikkim	41.67	18.14	0.45	0.45	39.28
Tamil nadu	18.27	7.69	1.92	0.00	72.12
Tripura	66.03	15.51	0.30	1.03	17.13
Uttar pradesh	70.44	12.67	0.19	0.00	16.70
Uttarakhand	52.44	17.07	1.22	1.22	28.05
West Bengal	50.39	17.84	0.20	0.00	31.57
Rest	23.66	8.60	1.08	0.00	66.67
India	53.59	16.03	0.32	0.36	29.70

Source: Author's calculations

Table 7: Distribution of households by factor scores in the dimension of family welfare.

Country/State	Poorest	Poor	Average	Good	Best
Andhra Pradesh	0.00	51.08	2.35	15.88	30.69
Arunachal Pradesh	1.93	56.96	4.57	9.44	27.11
Assam	0.30	62.70	4.59	9.49	22.92
Bihar	0.45	80.90	4.49	8.54	5.62
Chhattisgarh	0.12	66.27	2.94	14.07	16.60
Dadra & Nagar Haveli	0.43	51.91	2.13	17.45	28.09
Daman & Diu	1.28	11.54	1.28	11.54	74.36
Gujarat	0.15	54.33	4.41	16.40	24.72
Himachal Pradesh	2.46	43.66	2.46	8.80	42.61
Jammu & Kashmir	0.72	52.69	4.24	15.42	26.92
Jharkhand	0.03	78.58	3.13	9.06	9.21
Karnataka	0.00	39.57	5.78	17.96	36.68
Kerala	0.00	14.93	0.00	1.49	83.58
Lakshadweep	1.53	5.36	0.38	15.71	77.01
Madhya Pradesh	0.02	68.74	4.46	7.48	19.29
Maharashtra	0.05	34.54	4.28	24.81	36.32
Manipur	0.11	70.36	3.62	6.14	19.78
Meghalaya	0.82	71.00	2.65	8.35	17.17
Mizoram	0.38	51.26	4.26	14.08	30.02
Orissa	0.05	72.56	6.68	11.01	9.70
Rajasthan	0.15	58.54	4.66	6.59	30.06
Sikkim	3.15	50.67	2.55	16.04	27.59
Tamil nadu	0.00	25.00	0.00	11.54	63.46
Tripura	0.15	70.75	5.91	10.49	12.70
Uttar pradesh	0.77	74.66	5.18	11.32	8.06
Uttarakhand	1.22	59.76	7.32	10.98	20.73
West Bengal	0.39	59.41	5.49	12.55	22.16
Rest	2.15	25.81	2.15	16.13	53.76
India	0.41	62.06	4.08	11.43	22.02

Source: Author's calculations