Development and Deprivation of Scheduled Tribes

This paper presents estimates of the human development index, human poverty index and gender development index for the scheduled tribes in India. The HDI and HPI for STs are found to be around 30 per cent lower than the corresponding all-India indices. In an international comparison, development and deprivation among the STs of India are similar to that in the poorer countries of sub-Saharan Africa.

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The UNDP's representations of human development and deprivation encapsulated in the human development index (HDI), human poverty index (HPI), gender development index (GDI) and gender empowerment measure (GEM) have now become standard measures in development discussion. These indices are generally calculated at the country level and also at the sub-country or state and provincial levels.

This study attempts to calculate these indices for a specific socio-economic group, the scheduled tribes (STs). The purpose of this exercise is to compare the indices for the STs vis-à-vis all-India averages, and also to place the STs of India in a global context with regard to development and deprivation.

The STs in India are a legal category, roughly coinciding with those who are adivasis. There are some, like the tea garden workers in Assam, who should be but are not listed among the STs. But more or less, one can take STs to correspond with indigenous peoples in the international vocabulary.

The database for this study identifies STs as one of the social groups and a large part of official data is disaggregated by some, though not all, social groups. The other important social group for which such data is disaggregated is that of the scheduled castes (SCs) or dalits. In this study we will sometimes compare STs with SCs. The "other" is the population minus the STs and SCs, i e, "other than SC and ST". They, however, do not form a homogeneous social group. This category not only includes the upper (or forward) castes, but also the middle castes (or backward castes (BCs)) and religious minorities. Finally, the terms "all" and "all-India" refer to the whole population.

Human Development Index

The HDI is a composite index representing three dimensions of human development, viz, economic, educational and health. The indicators for these are per capita monthly expenditure adjusted for inequality; a combination of literacy rate and intensity of formal education; and a combination of life expectancy at age one and infant mortality, respectively. The results are given in Table 1.[1]

Human Poverty Index

The HPI is also a composite index measuring three dimensions of deprivation, viz, longevity/health, educational and economic. The HPI is a percentage, of those experiencing deprivation. Longevity deprivation is captured by the indicator: persons not expected to survive beyond age of 40 years. Educational deprivation is a weighted combination of the illiteracy rate and proportion of children not enrolled in school. Economic deprivation is an average of four variables, namely, the proportion of population below the poverty line; proportion of children in the age group 12 to 23 months who are not fully vaccinated; proportion of population living in 'kutcha' (non-permanent) houses; and proportion of population without access to basic amenities (water, sanitation and electricity).

The Planning Commission uses per capita consumption, adjusted for inequality and inflation, to indicate economic development. This gives them a series that is consistent over a 10-year period, from 1981 to 2001. Since we were calculating HDI for 1991 we did not use the inflation adjustment. The all-India per capita consumption we have is Rs 219 as against the Planning Commission's Rs 97.53. The extent of divergence/convergence in the index then also increases with the divergence/convergence in consumption in our procedure as compared to the Planning Commission's procedure.

However, when we re-calculate the HDI using the Planning Commission's inflation-adjustment of per capita expenditure, the all-India HDI is 0.343 as against the HDI of 0.253 for STs. This results in a 36 per cent difference between the all-India and ST HDIs. This is even higher than our 32 per cent difference. So, we can be confident that our procedure has not overstated the difference between all-India and ST HDIs. In fact, it is likely that this is an understatement of the difference between all-India and ST HDIs. The reason being that for calculating life expectancy at age one, there are no separate life tables for STs. We are forced to use the same life table as that used for the all-India population [Registrar General 1995]. Child mortality among STs is much higher than among the all-India population: 46.3 for STs as against 29.3 for all-India [Planning Commission 2005: Table 2.11]. This itself would reduce life expectancy for STs, but it is not reflected in the life tables that are used. Consequently, there is an understatement of the difference in life expectancy between STs and all-India.

International Comparisons

Our HDI of 0.504 is close to UNDP's HDI of 0.514. With India in the medium-income, medium human development category, where do the STs come in?

The UNDP's HDI uses per capita GDP, with purchasing power parity (US$). Since Indian income figures are not available for

social groups, we followed the Planning Commission's use of inequality-adjusted per capita consumption. This, however, makes it difficult to make direct comparisons between our HDI for STs and that of UNDP. However, some broad statements can be made.[2] There is a considerable difference between the all-India HDI and the HDI for STs. The difference of about 30 per cent would put the STs in a different category in international comparisons. They would firmly be in the low-human development category, which includes sub-Saharan Africa, as against the middle-human development status of all-India. Further, the STs of Orissa, already a state with low human development in India, would fall to the bottom of the list of HDIs of sub-Saharan African countries.

In case of the HPI, the major difference between the Planning Commission's and UNDP's method is the use of the national and state poverty lines versus the $1 per day per capita to indicate poverty in income. However, we can be confident that the roughly 30 per cent difference between all-India and ST HPI is not an overestimation.

In a broad sense, the STs constitute a world within a world. With India being an emerging world power, there is, however, within India, a state of development and deprivation, a social existence, of the STs that is more akin to that of the poorer countries of sub-Saharan Africa in HDI and HPI.

Orissa

To illustrate just how serious the situation of deprivation is, we take a closer look of Orissa, which, as mentioned above, is already a state with a low human development. Within Orissa, the districts with the lowest HDI values (as calculated in the *Orissa Human Development Report, 2004*) fall in one contiguous belt in the south and south-west region of the state. There is a concentration of ST population in this belt.

Not only were there very high levels of poverty, going up to 92 per cent for STs in southern Orissa, but this is a region where the incidence of poverty actually increased between 1993-94 and 1999-2000. This increase occurs in spite of the certainty that the 1999-2000 poverty figures are on the whole understated.

When comparing the incidence of poverty of STs in Orissa with Africa, it is easily seen that almost no other country has a similar incidence of poverty. Of course, this is based on the assumption that we can compare these poverty rates.[3]

Table 1: Human Development Index (1991)

State	Human Development Index HDI (All)	Human Development Index (HDI) ST	Rank of All in the IHD Human Development Index	Rank of All in the National Human Development Report	Relative Difference of HDI between All and ST *(Per Cent)*
1	2	3	4	5	6
Andhra Pradesh	0.527	0.392	4	5	35
Assam	0.479	0.529	7	6	-9
Bihar	0.408		9	10	
Gujarat	0.593	0.472	1	2	26
Karnataka	0.539	0.426	3	3	27
Madhya Pradesh	0.398	0.281	8	9	42
Maharashtra	0.592	0.409	2	1	45
Orissa	0.365	0.260	10	8	41
Rajasthan	0.496	0.340	6	7	46
West Bengal	0.518	0.397	5	4	31
All India	0.504	0.383			32

Source: Columns 2, 3, 4 and 6 are calculated by Institute for Human Development (IHD) and column 5 from Planning Commission (2002).

Table 2: Human Poverty Index 1991

State	Human Poverty Index All	Human Poverty Index ST	Relative Difference of HPI between All and ST (Per Cent)	Rank of All in the National Human Development Report HPI	Rank of All in the IHD HPI
1	2	3	4	5	6
Andhra Pradesh	39.50	49.56	25	5	6
Assam	44.68	47.64	7	9	8
Bihar	50.28			10	10
Gujarat	26.36	38.97	48	2	2
Karnataka	30.26			3	3
Madhya Pradesh	38.20	52.23	37	6	5
Maharashtra	24.25	35.98	48	1	1
Orissa	45.04	57.47	28	8	9
Rajasthan	42.50	55.30	30	7	7
West Bengal	36.80	52.82	44	4	4
All India	36.94	47.55	29		

Source: Columns 2, 3, 4, and 6 are calculated by IHD and column 5 from Planning Commission (2002).

Table 3: International Comparison of HDI

IHD's HDI for all-India (1991)	0.504
UNDP's HDI for India (1990)	0.514
IHD's HDI for STs (1991)	0.383
UNDP's HDI for bottom 25 countries in the world (all in sub-Saharan Africa)	0.423 to 0.259
IHD's HDI for Orissa STs (1991)	0.260

Source: Table 1 and UNDP (2004).

Table 4: International Comparison of Human Poverty Index

IHD's HPI for all-India (1991)	36.94
UNDP's HPI for all-India (1991-2000)	31.94
IHD's HPI for STs (1991)	47.55
IHD's HPI for Orissa STs (1991)	57.47
Rajasthan STs	55.30
West Bengal STs	52.82
Madhya Pradesh STs	52.23
UNDP's HPI for bottom 25 countries (all in sub-Saharan Africa)	2 in 30s 16 in 40s 3 in 50s 2 in 60s

Source: Table 2 and UNDP (2004).

Table 5: NSS-Region-wise and Social Group-wise Distribution of Poverty in Orissa, 1999-2000

	ST	Others	All
Coastal	66.63	24.32	31.74
Northern	61.69	34.67	49.81
Southern	92.42	77.65	87.05
Orissa	73.08	33.29	48.01

Source: Government of Orissa (2004): Table 2.5.

Table 6: NSS-Region-wise Trend in Poverty Ratio (Rural), 1993-94 to 1999-2000

	1993-94	1999-2000	Change
Coastal	43.50	31.80	11.7
Northern	45.80	49.80	- 4
Southern	68.80	87.20	- 18.4
Orissa	48.56	48.01	0.55

Source: Government of Orissa (2004): Table 2.6.

The picture is the same for the infant mortality rates (IMR). While there were improvements for both coastal and northern Orissa, there was no change, or even a slight deterioration, for southern Orissa. At 125 the IMR for southern Orissa was higher than the average for sub-Saharan Africa and only six countries there had a higher IMR. Infant mortality is an indicator of human deprivation that is not based on money-metric comparison and it does not present the same problems of international comparisons. Therefore, we can be more confident of this comparison rather than the one based on incidence of poverty measured in money terms.

Gender Equality Index

As one would expect, the GEI among STs at 80.2 per cent is higher than it is for all-India at 69.1 per cent. Of course, the GEI as calculated here, following the Planning Commission's methodology, is very limited. Its three variables are economic attainment, as measured by the worker population ratio; health attainment, as measured by life expectancy at age one and infant mortality; and educational attainment, as measured by the literacy rate of those above the age of six and the intensity of formal education respectively. All three variables are given equal weight in the calculation of the GEI. The high rate of ST female workforce participation, compared to all-India female workforce participation, makes the ST GEI somewhat higher than that for all-India. However, the high rate of ST female workforce participation does not say anything about the quality of that workforce participation.

Gender Disparity among STs

While the female literacy has almost doubled, the male literacy rate has also increased by about 50 per cent. However, the gap between male and female literacy has increased from 22.46 percentage points in 1991 to 24.41 percentage points in 2001. This is a disturbing trend and is not in line with the all-India trend of a narrowing of the gap between males and females in education.

This table shows that the casualisation among ST women is higher than that among ST men. ST women compared to ST men are fewer in regular wage employment and more in casual wage employment. Along with the gap between female and male educational attainment for STs, this would mean that there is a less than proportionate participation of ST women in the modern sector of the economy compared to ST men.

Dimensions of Deprivation

We look at a few dimensions of deprivation among the STs, taking up only those aspects that can be seen from nationwide statistics.

Overall in literacy, the gap between STs and "others" has reduced from 1991 to 2001. Further, the decrease in dropout ratios over this period shows an improvement in completion in all categories of school education. However, in the important area of secondary school education, the gap between STs and all has gone up from 14.2 to 17.7 percentage points, while the dalits (SCs) are closing this gap.

The ST and all-India difference is greater for under-five mortality than it is for infant mortality. The reasons for this lie may lie in a number of factors – low birth weight, greater incidence of malnutrition, lower immunisation, lesser access to safe drinking water and infrastructure, including roads, and lower levels of women's education. Infrastructure is largely a matter of state

Table 7: Population Below Poverty Line – Comparing STs in Orissa with Sub-Saharan Africa
(Per Cent)

STs in Orissa (1999-2000)	73.9	
Southern Orissa (NSS region)	87.05	
STs in southern Orissa	92.4	
Sub-Saharan Africa (2000)		
Bottom 25 countries (all in SSA)	< 60	12 countries
	60-70	8 countries
	> 70	1 country

Source: Government of Orissa (2004) and UNDP (2004).

Table 8: Infant Mortality Rates

	1991	1997-99
Orissa (coastal)	127	92
Orissa (northern)	100	93
Orissa (southern)	123	125
Sub-Saharan Africa:		108 (2002)
Angola	154	99 (2002)
Congo, DR		129
Mozambique		125
Guinea-Bissau	130	
Niger		156
Sierra Leone		165

Source: Deolalikar (2005): Annex, Table 8 and UNDP (2004) for SSA (Sub-Saharan Africa).

Table 9: GEI (1991)

State	ST Female as Per Cent of ST Male	All Female as Per Cent of All-India Male
Andhra Pradesh	87.0	82.1
Assam	82.8	74.2
Bihar		48.7
Gujarat	83.5	72.4
Karnataka	77.2	79.1
Madhya Pradesh	81.6	65.7
Maharashtra	89.9	83.8
Orissa	67.0	61.3
Rajasthan	68.0	60.9
West Bengal	79.4	66.1
All India	80.2	69.1

Table 10: ST Literacy Rates by Gender
(Per Cent)

	1991	2001
Male	40.65	59.17
Female	18.19	34.76
Gap (M-F)	22.46	24.41

Source: Census (1991, 2001), quoted in Planning Commission (2005): Table 2.3.

Table 11: Employment Status of ST by Gender

Category	Male		Female		Male-Female Gap	
	1993-94	1999-2000	1993-94	1999-2000	1993-94	1999-2000
Self-employed	48.25	47.11	50.30	47.85	-2.04	-0.73
Regular wage worker	8.78	9.46	3.24	3.70	5.54	5.76
Casual wage worker	42.97	43.42	46.47	48.45	-3.50	-5.03

Source: NSS (50th and 55th rounds).

Table 12: Comparative Literacy Rates (1991 and 2001)
(Per Cent)

	ST	SC	Other than ST/SC	Gap of Other to ST
1991	29.6	37.41	57.69	28.09
2001	47.1	54.69	68.81	21.71

Source: Planning Commission (2005): Table 2.3.

provision, rather than one of per capita income or consumption. The ST areas are under-provided compared to the rest of the country in terms of roads, electricity and health infrastructure.

Does Self-Governance Make a Difference to Development Outcomes?

Some of the Indian scheduled tribes now have states that they largely themselves administer, to the extent that there can be such self-governance within the ambit of the Indian politico-economic system. These are some of the states of north-east India: Meghalaya, Nagaland, Mizoram and Arunachal Pradesh. Does such self-governance make a difference to the development outcomes?

Table 13: Secondary School Dropout Ratios
(Per Cent)

	ST	All	Gap
1996-97	84.2	70.0	14.2
2003-04	80.3	62.6	17.7
Decrease in 2003-04 over 1996-97	3.9	7.4	+3.5

Source: Planning Commission (2005): Table 2.4.

Table 14: Status of STs in Key Health Indicators (1998-99)

	ST	All	Per Cent Difference between ST and All
Infant mortality	84.2	67.6	24.5
Neo-natal mortality	53.3	43.4	22.8
Child mortality	46.3	29.3	58.0
Under-five mortality	126.6	94.9	33.4
ANC check-up	56.5	65.4	13.6
Per cent institutional deliveries	17.1	33.6	49.1
Per cent women with anaemia	64.9	51.8	25.2
Per cent children undernourished (weight for age)	55.9	47.0	18.7
Full immunisation	26.4	42.0	37.1

Source: NFHS (1998-99), quoted in Planning Commission (2005): Table 2.11.

Table 15: Percentage of Households Having Access to Electricity

Year	All	ST	Gap
1991	42.4	22.8	19.6
2001	55.8	36.5	19.3

Source: Planning Commission (2005): Table 2.15

Table 16: Percentage of Households Having Improved Drinking Water Facility

Year	All	ST	Gap
1991	64.1	43.2	20.9
2001	79.2	61.7	17.5

Source: Planning Commission (2005): Table 2.18.

Table 17: Comparing Self-Governing ST States with All-India ST

	All-India ST	Arunachal Pradesh	Meghalaya	Mizoram	Nagaland
Literacy (2001)	47.1	49.6	61.3	89.3	65.9
Infant mortality (1998-99)	84.2	63.1	89.0	37	42.1
Child mortality (1998-99)	46.3	37.4	36.2	18.4	22.7
Any anaemia among women (1998-99)	64.9	62.5	63.3	48.0	38.4
Vaccination against measles	34.3	33.6	17.7	71.0	19.6
Children undernourished (weight for age)	55.9	24.3	37.9	27.7	24.1

Source: Planning Commission (2005).

Due to the lack of data we are unable to calculate the HDI and HPI for these states. However, data on some of the variables used in those indices are available. We reproduce them in Table 17 so as to be able to compare these outcomes with those of STs at an all-India level.

Arunachal Pradesh does better than all-India ST in four-indicators, and is around the all-India level in two indicators. Meghalaya does better than all-India ST in three indicators, is at all-India level in two and worse than the all-India level in one indicator. Mizoram is better than all-India ST in all indicators and that too by a wide margin. Nagaland is better than all-India ST in four out of five indicators but worse off only in one vaccination against measles.

Mizoram and Nagaland are clearly superior to all-India ST levels. What is surprising is that Meghalaya, the oldest of these states, does not match the performance of Mizoram and Nagaland. Is it that the administrations in the latter two states are more responsive than in the former to meeting the needs of the people of the state? EPW

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Notes

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1 The detailed tables with calculations of the different variables are not given here in order to save space. These detailed tables for HDI, HPI and GDI are available in Sarkar et al (2006).
2 Problems in international and inter-temporal comparisons are discussed in the full study, Sarkar et al (2006).
3 See Pogge and Reddy (2006) for a discussion of why such money-metric comparisons are difficult to make.

References

Deolalikar, Anil (2005): *India and the Millennium Development Goals*, World Bank and Oxford University Press, Delhi.
Government of Orissa (2004): *Orissa Human Development Report*, Government of Orissa, Bhubaneshwar.
NSSO (1993-94 and 1999-2000): 50th and 55th Rounds.
Planning Commission (2002): *National Human Development Report 2001*, New Delhi.
– (2005): *Report of the Task Group on Development of Scheduled Castes and Scheduled Tribes, On Selected Items of the National Common Minimum Programme*, Government of India, Planning Commission, New Delhi.
Pogge, Thomas and Sanjay Reddy (2006): 'Unknown: The Extent, Distribution, and Trend of Global Income Poverty', *Economic and Political Weekly*, June 6.
Registrar General of India (1995): 'SRS-Based Abridged Life Tables', *Occasional Paper* 4, Delhi.
Sarkar, Sandip, Sunil Mishra, Harishwar Dayal and Dev Nathan (2006): *Scheduled Tribes of India: Development and Deprivation*, Institute for Human Development, Delhi (forthcoming).
UNDP (2004): *Human Development Report*, Oxford University Press, New York.