

Indigenous Peoples, Poverty and Development

Ch. 6: India

The Scheduled Tribes

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I. Introduction

Tribal groups in India are considered to be the earliest inhabitants of a country that experienced diverse waves of invaders and other settlers over thousands of years, making it difficult to identify the precise origin of today's tribal peoples from a "purist" perspective. The state and discourse in India reject the term "indigenous peoples" and prefer instead to use the Constitutional term "Scheduled Tribes" (see Annex 1). The self-preferred term *Adivasi* is commonly translated as 'original inhabitants', and literally means 'Adi or earliest time', 'vasi = resident of'. The Constitution Order 1950 declared 212 tribes located in 14 states as "Scheduled Tribes" (STs).¹ The Government of India today identifies 533 tribes with 62 of them located in the state of Orissa.²

Social stratification in India is determined by the four-fold *varna* system commonly called the caste system.³ Scheduled Tribes do not strictly fall within the caste hierarchy, since they have distinct (often considered non-Hindu) cultural and religious practices and social mores. Although 'Scheduled Castes' (SCs) and Scheduled Tribes' is sometimes said in the same breath, they are distinct social categories. While Scheduled Tribes do not face ritual exclusion in the form of untouchability, as do the Scheduled Castes or 'Dalits', when exclusion is defined more broadly in terms of being "prevent(ed) ... from entering or participating" or "being considered or accepted"⁴, Scheduled Tribes fit squarely within the conception of excluded people. The major difference in the development status of the Scheduled Castes and Scheduled Tribes is that while the former lived among but were segregated socially from the mainstream and from upper caste groups, the latter were isolated physically, and hence socially (Béteille, 1991), although the degree of "isolation" remains in question.⁵

Over time, geographic isolation of Scheduled Tribes has manifested in relative and oftentimes absolute deprivation, which has periodically surfaced in the starkest manner, and reported widely in the press. Kalahandi district in Orissa has long been a metaphor for starvation due to reports dating back to the 1980s. The Melghat area in Maharashtra has similarly surfaced in the press, especially during the monsoon when migrant STs return for transplanting rice on their subsistence plots of land, household food stocks are depleted and cash to purchase food is scarce.

¹ For purposes of this chapter, we use the term ST for tribal groups in India, as this is the category officially used while collecting data in the country. In India though, the terms Adivasis or tribals are used interchangeably with STs.

² <http://www.tribal.nic.in/index1.html>

³ The caste or varna system comprises Brahmins or the priestly class at the top, followed by Kshatriyas or the martial caste, Vaishyas or traders and finally the Shudras – the large category of manual workers who often engage in ritually "polluting" work. Of these, many are erstwhile untouchables. Untouchability is illegal but Scheduled Castes (or the erstwhile untouchables) continue to suffer varying degrees of subordination and segregation in Indian society, depending on the region of the country.

⁴ Encarta Online Edition

⁵ Anthropological literature suggests that tribals are in more ways integrated into the "mainstream" than is recognized. There is considerable evidence on tribes emulating traditions of the caste system and influencing them (Sinha 1958).

There is a wealth of ethnographic data on deprivation of the Scheduled Tribes. National research and activist organizations have also conducted micro-level surveys of households facing chronic food shortage and brought them before public gaze. For example, a 2005 survey of ST areas in two Indian states found that 99 percent of the sample ST households faced chronic hunger, one-quarter faced semi-starvation during the previous week, and not a single household had more than 4 of 10 assets from a list that included such basic items as ‘a blanket’, ‘a pair of shoes’ or ‘a radio’ (Center for Environment and Food Security, 2005). The discourse on ST deprivation is rich and inter-disciplinary, but most often is based on small area studies such as the above. This evidence, while compelling, has had limited statistical validity and has generated results that are limited to one tribe, village or state. The purpose of this chapter is to present a comprehensive and nationally representative picture of the nature of poverty and the evolution of socio-economic indicators among India’s Scheduled Tribe population as compared to national trends for the two intervening decades between 1983 to 2004-05 – a period of rapid growth of the national economy.

Our analysis leads us to three important conclusions. First, it suggests that the pace of poverty reduction in the aforementioned time period has been considerably slower for the Scheduled Tribes than it has been for other social categories, the Scheduled Castes included. We also find considerable heterogeneity in poverty outcomes by state and within Scheduled Tribes. States where STs comprise more than 10 percent of the total population register headcount poverty rates that are higher than the national average. Similarly, within Scheduled Tribes, those in lower deciles of the expenditure distribution do worse, registering lower growth in expenditure than those in the upper deciles.

Second, our analysis indicates that while the Scheduled Tribes saw significant gains in indicators of health, some of which improved at rates faster than the population average, such gains were not sufficient to bridge the gap between the STs and the rest. Under-five mortality of children remains a stark marker of deprivation of STs in India, with nearly 96 ST children dying for every 1000 births, compared to an under-five mortality of 74 per 1000 births for non-ST children. Interestingly, no differences were found in neo-natal mortality outcomes among ST children and the rest, suggesting that the former were more at risk as they grew up. This finding is supported by alarming figures on malnutrition for ST children – nearly 53 percent were reported to be stunted (had lower height-for-age) and 29 were reported to be severely stunted in 2005.

Third, despite improvement in educational attainment, literacy levels among STs remained at an abysmally low level of 47 percent of ST population compared to 67 percent for others – an indication of the former’s considerably lower -starting point. There were of course differences by region and by gender. Scheduled Tribes in rural areas were usually worse off, as were women, especially on educational attainment.

There are six sections in this chapter. The next section sums up India’s track record on growth and poverty in recent decades and policies that have been put in place by the Indian state to safeguard and promote the welfare of STs. Section III describes the data sources and methodology used for analysis. Section IV presents overall trends in poverty

and employment, health and education indicators for the period 1983 to 2005 – a time when India as a whole registered dramatic progress – disaggregated by Scheduled Tribes and other social groups. Section V discusses briefly the underlying processes that explain deprivation of STs. These include poor physical access to services; increasing alienation from traditional land; low voice and participation in political spaces; and poor implementation of public assistance/poverty reduction programs which affects the Scheduled Tribes disproportionately because they dominate the ranks of the poor and the disadvantaged. Section VI concludes and summarizes the discussion.

II. India's rapid growth and policies related to Scheduled Tribes

India achieved rapid economic growth in the decade of the nineties so much so that it is now considered a 'star performer' among other economies in the world – developed and developing – next to China. Growth rates of GDP for the twenty year period between 1980 and 1999 averaged about 5.8 percent per annum, accelerating further at the turn of the century to 8.5 percent in 2003-04, driven by continued growth in the service sector and improved performance of industry (World Bank 2006, Virmani 2005).

While there has been considerable debate about poverty estimates during this period⁶, it is clear that growth facilitated reduction in poverty. Using official poverty lines and consumption data from the National Sample Survey, the World Bank's latest Poverty Assessment for India estimates that poverty headcount levels declined from 45.6 percent in 1983 to 27.5 percent in 2004-05 (World Bank 2009). What is not clear is whether the pace of poverty reduction *increased* as growth accelerated. There have also been concerns about the extent to which the fruits of growth were shared equally. The gap between rural and urban areas reportedly widened in the nineties as did the wedge between rich and poor people, particularly in urban centers (World Bank 2009).

More worryingly perhaps, structural inequalities defined by caste and tribe remained salient (World Bank 2009). While there appear to be some cracks in caste-based occupational hierarchies, glass walls and ceilings were still difficult to break through (Das and Dutta 2007). Health and education indicators too improved but not enough to bridge the gap between SCs and STs on one hand and the rest of the population on the other. The Scheduled Tribes fared the worst, locked out geographically from most development.

The Indian state's response to the vulnerability among STs has been proactive and has strong constitutional backing. Schedule V of the Indian Constitution identifies special privileges for those areas where the majority of the population belongs to Scheduled Tribes. Schedule VI is different in that it applies special privileges to tribals who reside in the northeastern states of India. Here, tribal groups are the majority in states that have been founded on tribal status. Many of the residents converted to Christianity and obtained Western education and jobs. While these tribes in the Northeast states represent less than 20 percent of the total Scheduled Tribe population in the country, the entire

⁶ For a summary of issues, see Deaton and Kozel (2005)

Northeast has been isolated from the development process due mainly to the geographical and cultural isolation of these areas. On the other hand, in areas where Scheduled Tribes are a minority or the Schedule V areas located within other states, tribal peoples are among the most impoverished and marginalized. Both Schedule V and VI underscore the area-based approach the state has followed while addressing tribal issues.

Several well-known state-sponsored commissions have recommended greater voice of Scheduled Tribes in their own development, and underscore the importance of land and forests in this process. Of late, the state has legislated to acknowledge the “rights” of Scheduled Tribe areas by taking them further towards self-rule. In 1996, the Indian Parliament also passed the Panchayats Extension to the Scheduled Areas Act (PESA), 1996. The Act covers nine Schedule V states of Andhra Pradesh, Chattisgarh, Gujarat, Himachal Pradesh, Jharkhand, Madhya Pradesh, Maharashtra, Orissa and Rajasthan and instead of individuals, recognizes and stresses on traditional community rights over natural resources. PESA gives power over matters like sale of non-timber forest produce, acquisition of land etc to the tribal Gram Sabhas i.e. village assemblies instead. Similarly, in the context of mining, PESA gives a large role to gram sabhas that need to be consulted for environmental clearance. The recent Forest Rights Act and the Tribal Rights Act go further in adopting a rights based perspective and acknowledging the preeminent rights of Scheduled Tribes to natural resources.

In parallel to the above, there are earmarked development funds both from the central government and the states that flow to tribal areas through a special budgetary instrument called the “tribal sub-plan” (TSP). Scheduled Tribes also have quotas in public employment, with 7.5 percent seats in all government and quasi-government jobs (which form the major part of all regular salaried jobs), reserved for them. They have similar quotas in public educational institutions and according to the 73rd amendment to the Indian constitution have reserved seats in local governments as well. However, enforcement of these far-reaching laws and policies has been weak due to a variety of reasons as discussed later in section V.

III. Data and Methodology

The analysis contained in this chapter draws primarily on the Indian National Sample Survey (NSS). The NSS allows trends in socio-economic indicators to be examined over three rounds conducted in 1983, 1994-5 and 2004-5 and is considered to be one of the most reliable data sources for socio-economic indicators in India. The survey covers both rural and urban areas, and data from it are highly regarded and widely used for planning purposes in India. Since the Scheduled Tribes comprise about 9 percent of the total NSS sample, all analysis is weighted to make it nationally representative using Intercooled STATA 7.0. In addition, we report evidence on health and education indicators from the Indian census; three rounds of the Indian National Family Health Survey (NFHS 1992-3, 1998-9 and 2005-6); and the Reproductive Child Health Survey (RCH) II (2005).

Evidence on poverty and labor market outcomes for Scheduled Tribes’ draws on analysis undertaken for the 2009 *World Bank India Poverty Assessment Report*. The poverty

analysis uses India’s official national poverty lines, which are calculated separately for each state, and within each state for urban and rural areas (see Annex 2). They are defined using the commodity-wise CPIAL (Consumer Price Index for Agricultural Laborers) in rural areas and CPIIW (Consumer Price Index for Industry Workers) in urban areas. Defined in real terms and regularly updated to account for inflation, these poverty lines follow the Expert Group Method (Government of India, 1993) which applies weights to food and non-food components of expenditure to mimic the consumption patterns of households around the poverty line. The strengths and limitations of this methodology are discussed at some length in the literature (see for example Deaton 2003, 2008).

IV. Overall Trends

Demographic profile

According to the 2001 Census, India has 84.3 million Scheduled Tribes comprising 8.1 percent of the total population of the country (Table 1). As the table suggests, the share of Scheduled Tribes in total population has remained fairly stable, particularly in the ten year period between 1991 and 2001.

Census Years	Total population	Population of ST	S.T. %
1951	361.1	19.1	5.29
1961	439.2	30.1	6.85
1971	548.2	38.0	6.93
1981	685.2	51.6	7.53
1991	846.3	67.8	8.10
2001	1028.6	84.3	8.19

Source: <http://www.tribal.nic.in/index1.html>

The main distinguishing demographic feature that differentiates Scheduled Tribes from the rest of the Indian population lies in the degree to which they inhabit rural or urban areas. India as a whole has been urbanizing at a fairly rapid pace – the share of the population in urban areas has risen from roughly one quarter to one third of the population between 1993 and 2005 (Table 2). Among the Scheduled Tribes, on the other hand, the proportion living in urban areas has held fairly constant over this period - at roughly 10 percent of the population – with the vast majority living in rural areas.

What is important about this fact is that, as some of the results that follow will show, socio-economic conditions among tribal people living in urban areas are measurably better than for those in rural areas. Thus it is important to bear in mind when examining these results that they apply only to 10 percent of the tribal population. In all other basic demographic respects (average age and household size) there were no significant differences between the tribal and non-tribal population by 2004-05.

	Scheduled Tribes			Other			Total population		
	1993	1998	2005	1993	1998	2005	1993	1998	2005
Male, %	50.6	50.5	49.7	50.8	50.8	50.0	50.8	50.8	49.9
Age	23.8	24.2	24.7	24.8	25.5	26.5	24.7	25.4	26.4
Married (ever), 15+ yrs old	81.3	79.6	80.1	78.6	77.1	78.0	78.8	77.4	78.2
Household size	5.7	5.4	5.0	5.9	5.6	5.0	5.9	5.6	5.0
Urban, %	9.9	10.8	10.3	27.9	28.1	32.8	26.3	26.4	30.8
Observations	61839	66834	72459	452988	446834	457607	514827	517379	534161

Source: NFHS, various years

Trends in poverty and distribution of wealth

India is widely considered a success story in terms of poverty reduction. In just two decades, the national poverty rate has been cut almost in half, from 46 percent in 1983 to 27 percent in 2004-5. But to what degree did the Scheduled Tribes benefit from this general climate of improving living standards?

In 1983, the Scheduled Tribe population registered poverty rates significantly higher than the rest of the population (Table 3). Almost two-thirds of the Scheduled Tribe population (63 percent) had consumption levels below the official poverty line in that year - significantly more than the share of poor in the total population (46 percent), but also higher than the poverty rate among the Scheduled Caste population (58 percent).

While poverty rates have declined among Scheduled Tribes since 1983, they have done so at a slower rate than for the rest of the population (Table 3). The poverty rate among Scheduled Tribes fell by 31 percent between 1983 and 2004-5, compared to a faster decline of 35 percent among the Scheduled Castes and an average overall decline for All India of 40 percent. Thus in 2004-5, almost half of the Scheduled Tribes population remained in poverty (44 percent), while nationwide the poverty rate had been reduced almost to one-quarter of the population (27.5 percent). However, the pace of poverty reduction among Scheduled Tribes in urban areas was significantly faster (38 percent) than that registered among Scheduled Castes (27 percent) – though still slower than the rate of poverty reduction among non-Scheduled Tribes and Castes (43 percent).

Location	Social Group	1983	1993-94	2004-05	% change b/w 83-05
Rural	Scheduled Tribe	63.9	50.2	44.7	-30
	Scheduled Caste	59.0	48.2	37.1	-37
	Others	40.8	31.2	22.7	-44
	All	46.5	36.8	28.1	-40
Urban	Scheduled Tribe	55.3	43.0	34.3	-38
	Scheduled Caste	55.8	50.9	40.9	-27
	Others	39.9	29.4	22.7	-43
	All	42.3	32.8	25.8	-39
Total	Scheduled Tribe	63.3	49.6	43.8	-31

	Scheduled Caste	58.4	48.7	37.9	-35
	Others	40.5	30.7	22.7	-44
	All	45.6	35.8	27.5	-40

Notes: Headcount indices are in average normalized form. *Source:* Estimates based on ‘Consumption Expenditure Survey’ (CES) of respective NSS rounds.

When a relatively impoverished group registers slow progress in poverty reduction, it can be useful to explore changes in other poverty measures – particularly those that examine ‘poverty gap’ and ‘poverty severity’.

Calculations for the P1 ‘Poverty Gap’⁷ (Table 4) show a relatively high poverty gap for Scheduled Tribes in 1983 (.21) compared with both Scheduled Castes (.18) and the national average (.13), but also, a smaller decline in that gap (49 percent) between 1983 and 2004-5 with respect to both Scheduled Castes (56 percent) and the population average (57 percent). Scheduled Tribes however do as well as Scheduled Castes in urban areas, registering an almost equivalent decline in poverty gap, though lower than the average for the urban population (48 percent)

Table 4: Trends in poverty gap (FGT P₁ Index), India, 1983-2005 (percent) – Slower decline in poverty gap for Tribals

Location	Social Group	1983	1993-94	2004-05	% change b/w 83~05
Rural	Scheduled Tribe	21.2	12.2	10.7	-50
	Scheduled Caste	18.7	11.7	7.5	-60
	Others	11.1	6.7	4.1	-63
	All	13.6	8.4	5.5	-59
Urban	Scheduled Tribe	17.4	12.4	10.9	-37
	Scheduled Caste	16.8	14.1	10.4	-38
	Others	11.0	7.2	5.2	-52
	All	11.9	8.3	6.2	-48
Total	Scheduled Tribe	20.9	12.2	10.7	-49
	Scheduled Caste	18.4	12.2	8.1	-56
	Others	11.1	6.8	4.4	-60
	All	13.2	8.4	5.7	-57

Notes: FGT – Foster, Greer and Thorbecke; FGT P₁ indices are in average normalized form. *Source:* See Table 3.

Similarly, we find higher ‘poverty severity’⁸ rates in 1983 and slower declines among the Scheduled Tribes compared to the population average and even the Scheduled Castes. In this case, the exception for Scheduled Tribes in urban areas disappears (Table 5).

Table 5: Trends in poverty severity (FGT P₂ Index), India, 1983-2005 (percent)– Slower decline in poverty severity for Tribals

Location	Social Group	1983	1993-94	2004-05	% change b/w 83~05
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⁷ The poverty gap or depth of poverty is also referred to as the FGT P₁ index and measures the average distance between household consumption and the poverty line.

⁸ Poverty severity (or the FGT P₂) index measures the severity of poverty, accounting for the fact that under FGT P₁, an income transfer from two households beneath the poverty line, would register no change in the index.

Rural	Scheduled Tribe	9.5	4.3	3.7	-61
	Scheduled Caste	8.2	4.1	2.2	-73
	Others	4.6	2.1	1.1	-76
	All	5.8	2.8	1.6	-72
Urban	Scheduled Tribe	7.2	5.0	4.7	-35
	Scheduled Caste	7.1	5.6	3.8	-46
	Others	4.5	2.6	1.8	-61
	All	4.9	3.0	2.2	-56
Total	Scheduled Tribe	9.4	4.3	3.8	-60
	Scheduled Caste	8.0	4.3	2.5	-68
	Others	4.6	2.3	1.3	-72
	All	5.6	2.8	1.8	-68

Notes: FGT P₂ indices are in average normalized form. *Source:* See Table 3.

Relatively slower declines in poverty among the Scheduled Tribes have meant an increase in their concentration in the poorest deciles of the population. Table 6 draws from the NFHS data and gives a distribution of STs across population deciles using a wealth index. The index is constructed “using household asset data and housing characteristics. Each household asset is assigned a weight (factor score) generated through principal components analysis, and the resulting asset scores are standardized in relation to a normal distribution with a mean of zero and standard deviation of one [...]. Each household is then assigned a score for each asset, and the scores are summed for each household; individuals are ranked according to the score of the household in which they reside.”

Specifically, “wealth index is based on the following 33 assets and housing characteristics: household electrification; type of windows; drinking water source; type of toilet facility; type of flooring; material of exterior walls; type of roofing; cooking fuel; house ownership; number of household members per sleeping room; ownership of a bank or post-office account; and ownership of a mattress, a pressure cooker, a chair, a cot/bed, a table, an electric fan, a radio/transistor, a black and white television, a color television, a sewing machine, a mobile telephone, any other telephone, a computer, a refrigerator, a watch or clock, a bicycle, a motorcycle or scooter, an animal-drawn cart, a car, a water pump, a thresher, and a tractor” (IIPS and Macro International, 2007, p. 43).

Table 6 shows that even though Scheduled Tribes had a small share in the population (roughly 8 percent), in 1993, they made up 22 percent of total population in the poorest decile and only 1.7 percent of those in the wealthiest decile. By 2005, their share in the poorest decile had risen to 25 percent, signifying a widening wealth gap between Scheduled Tribes and the rest of the population (Table 6, first 3 columns).

Taking the entire Scheduled Tribe population and allocating it across deciles shows a similar worsening of the distribution, only more starkly (Table 6, last 3 columns). In 1993, 25 percent of those belonging to a Scheduled Tribe fell into the poorest wealth decile. By 2005, this figure had risen to 30 percent. Further, while 52 percent of the Scheduled Tribe population fell into the poorest three deciles in 1993, this figure had risen to 64 percent by 2005.

Table 6: Distribution of Scheduled Tribes Across Deciles (Wealth Index) 1993-2005: Majority of Scheduled Tribes are concentrated in the poorest wealth deciles

	Share of Scheduled Tribes in Population, by Deciles			Distribution of Scheduled Tribes Population across Deciles		
	1993	1998	2005	1993	1998	2005
Poorest Decile	0.223	0.217	0.251	0.253	0.245	0.297
2	0.132	0.148	0.167	0.149	0.167	0.198
3	0.106	0.118	0.120	0.120	0.134	0.142
4	0.108	0.123	0.081	0.122	0.139	0.096
5	0.099	0.091	0.065	0.113	0.102	0.077
6	0.081	0.061	0.048	0.091	0.069	0.057
7	0.052	0.052	0.037	0.059	0.059	0.044
8	0.035	0.035	0.031	0.040	0.039	0.037
9	0.030	0.031	0.027	0.034	0.035	0.031
Richest Decile	0.017	0.015	0.017	0.020	0.017	0.021

Notes: The wealth index is a factor score based on ownership of assets; *Source:* NFHS

In sum, it is clear that not only are the Scheduled Tribes poorer than any other group, they are also among the poorest. Their initial consumption levels are so far below the poverty line and they have such limited assets, that marginal gains made by them in the past two decades have resulted in only a few households among them crossing over the threshold successfully.

These results need to be qualified: there is considerable variation in poverty outcomes by state and even within Scheduled Tribes. A look at poverty trends by state indicates that the marginal gains made by Scheduled Tribes in the aggregate seem to be further offset by highly unequal results across regions (Table 7). In states with high tribal populations (about 10 percent of the state's total population), ST households exhibited poverty rates that were higher than across the nation as a whole in 2004-05 (with the exception of Assam). The highest poverty rates recorded for tribal groups were in Orissa, with the tribal population in the state registering a head count ratio of 75 percent in 2004-05 – an *increase* of about 6 percent from 1993-94 levels. Tribals in rural areas in Orissa were particularly worse off, with poverty levels among the group declining at a slower pace (13 percent) during 1983-2005 compared to a decline of 44 percent for other groups (non SCs and STs). Tribals in rural areas in Madhya Pradesh, Maharashtra, Rajasthan, Jharkhand and Chattisgarh too recorded far lower declines in poverty than other groups.

Table 7: Poverty incidence is higher in states with high proportion of Scheduled Tribes (percent)

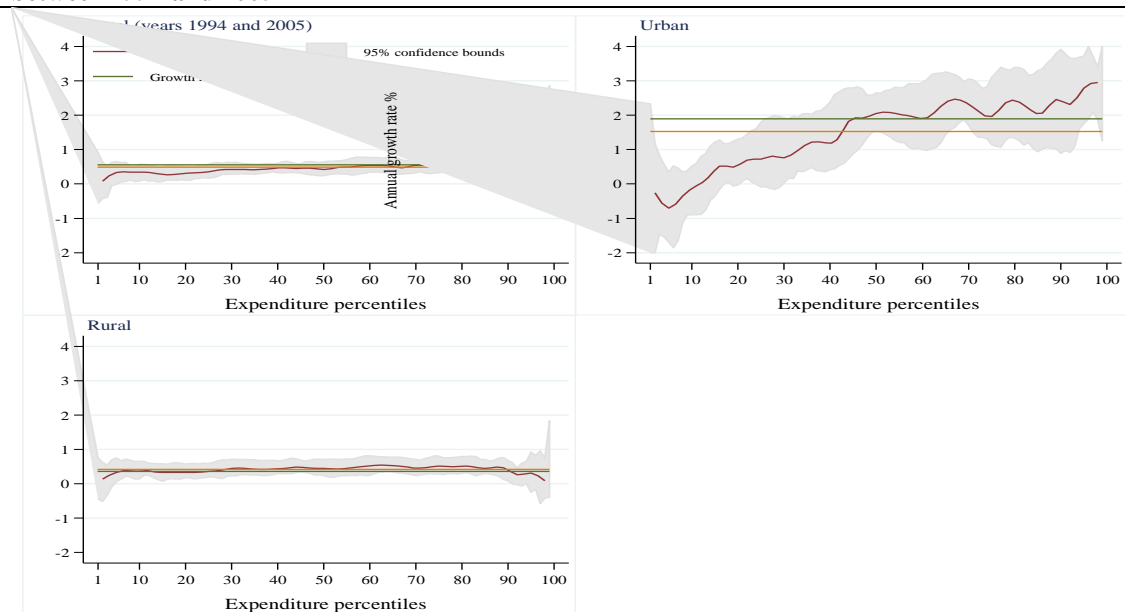
	1983		1993-94		2004-05	
	STs	All	STs	All	STs	All
Assam	48	42	41	41	12	21
Gujarat	58	33	31	24	33	17
Madhya Pradesh	72	50	60	42	57	38
Maharashtra	63	44	53	37	54	31
Orissa	86	66	71	49	75	47

Rajasthan	63	39	44	27	32	21
Jharkhand	73	60	68	55	53	42
Chhattisgarh	59	50	53	44	54	41
All India	63	46	50	36	44	28

Notes: States that had 10% or greater ST population in 1983. *Source:* Indian National Sample Survey

Do we find intra-group variation in poverty for STs over time? Figure 1 gives the Growth Incidence Curves (GIC) for the ST category, both in rural and urban areas, indicating the growth rate in expenditure between two points in time (1993 and 2004) at each percentile of the expenditure distribution. They show that among the ST population, expenditures grew more rapidly at the higher end of the expenditure distribution than in the lower percentiles of the distribution. This was particularly true in urban areas, and may in part be explained by particularly large income gains among those with access to and benefits from reserved jobs. This result may also explain why poverty rates among STs in urban areas have fallen relatively quickly.

Figure 1: ST Expenditures grew more rapidly at the higher end of the expenditure distribution between 1994 and 2005



Source: World Bank. 2009. *India Poverty Assessment Poverty Report*; estimates based on 'Consumption Expenditure Survey' (CES) of respective NSS rounds.

Correlates of poverty

What accounts for higher incidence of poverty among the STs? We use two approaches in answering this question: first, we conduct standard poverty regressions to examine the independent contribution of different household characteristics to poverty outcomes. Second we present a three-fold Blinder-Oaxaca decomposition of the ST-non-ST

difference in poverty headcount into (a) the differential endowments, (b) differential returns on endowment, and the (c) interaction between the former two components.

Table 8 gives sample means for the household characteristic variables used in the regressions. It highlights several distinct features of ST households. Across both rural and urban samples, ST households tend to be smaller and have fewer elderly members but more children age 0-6 years than non-ST households. However, there are several dissimilarities across the ST urban and rural samples, particularly with respect to the characteristics of the household head. Urban ST household heads have significantly more education (though still less than non-ST households), are more likely to be women (even compared to non-ST households), and their propensity to have regular wage employment is equal to that of the non-ST population perhaps on account of access to and benefits from reserved jobs. In contrast, in rural areas, the majority of ST household heads can be found in agricultural self-employment, mostly working as subsistence farmers.

Table 9 shows the results of a multivariate regression of poverty headcount on a number of household characteristics, run separately for rural and urban areas. We show results for the ST population as well as two reference categories: (i) the entire non-ST population; and (ii) the non-ST population excluding OBC and SC groups, as the latter two groups face exclusion and disadvantages of their own which may distinguish them from the broader population. All the standard covariates – household size and composition, head's education and sector of employment, and land ownership - turn out to be significant in the expected direction. However, some interesting results stand out. First, the poverty-reducing effect of having a better-educated household head is not as pronounced among the STs in rural areas as it is among the rest of the rural population; but having a well-educated (secondary and beyond) household head has a *stronger* poverty reducing effect for STs in urban areas. Second, in rural areas female headed ST households are considerably more likely to be poor than their non-ST counterparts, but this effect disappears among STs in urban areas – where the incidence of female headship is also higher. Third, employment as a rural agricultural laborer is associated with greater poverty among non-STs, but not STs perhaps because they have access to subsistence land. In urban areas however, non-wage employment (especially in casual labor) has a much larger effect on poverty among ST households than non-STs. This mostly captures ST migrant laborers. Finally, land ownership has a strong poverty reducing effect for all groups with the exception of urban STs – whose landholdings are nevertheless similar in size, on average, to non-STs.

The above results are consistent in a model using region as opposed to province controls. We also examined how these factors are correlated with consumption. The results of this OLS regression are included in Annex 3, and are also largely consistent with the outcomes of the poverty regression.

Table 8: Sample Means: Urban and Rural ST households differ, particularly in characteristics of the household head						
	RURAL			URBAN		
	ST	Non-ST (including OBC/SC)	Non-ST (excluding OBC/SC)	ST	Non-ST (including OBC/SC)	Non-ST (excluding OBC/SC)
Poverty headcount	0.447	0.261	0.175	0.342	0.256	0.161
Household size	5.845	6.128	6.162	5.312	5.614	5.517
Household size, squared	40.352	46.108	46.870	33.931	39.141	37.674
Proportion of HH members 0-6 years old	0.177	0.161	0.144	0.137	0.123	0.109
Proportion of HH members 60+ years old	0.056	0.076	0.086	0.046	0.072	0.085
Age of HH head	44	46	48	42	46	48
Age of HH head, squared	2,066	2,327	2,480	1,915	2,318	2,454
HH head's education level						
no education	0.593	0.432	0.313	0.292	0.198	0.126
below primary	0.126	0.113	0.109	0.077	0.078	0.061
primary	0.213	0.304	0.356	0.298	0.314	0.281
secondary	0.055	0.120	0.170	0.236	0.252	0.293
post-secondary	0.013	0.030	0.052	0.097	0.157	0.241
Female HH head	0.064	0.077	0.073	0.114	0.083	0.077
Household's most important source of income:						
Rural areas						
agricultural self-employment	0.429	0.393	0.489	n.a.	n.a.	n.a.
non-agricultural self-employment	0.068	0.177	0.177	n.a.	n.a.	n.a.
agricultural labor	0.336	0.238	0.141	n.a.	n.a.	n.a.
other labor	0.115	0.103	0.076	n.a.	n.a.	n.a.
other	0.053	0.090	0.117	n.a.	n.a.	n.a.
Urban areas						
regular wage employment	n.a.	n.a.	n.a.	0.427	0.394	0.421
self-employed	n.a.	n.a.	n.a.	0.274	0.435	0.454
casual labor	n.a.	n.a.	n.a.	0.220	0.114	0.057
other	n.a.	n.a.	n.a.	0.078	0.057	0.068
Area of agricultural land owned	3,085	1,345	2,741	252	210	269

Source: NSS 2004-05

Table 9: Poverty regressions, India 2005. Probit with robust standard errors. Provincial controls.						
	RURAL			URBAN		
	ST	Non-ST (including OBC/SC)	Non-ST (excluding OBC/SC)	ST	Non-ST (including OBC/SC)	Non-ST (excluding OBC/SC)
<i>Dependent variable: poverty headcount (1=poor, 0= non-poor)</i>						
Household size	0.3283***	0.2757***	0.2239***	0.2855***	0.3245***	0.3722***
Household size, squared	-0.0117***	-0.0092***	-0.0059***	-0.0141**	-0.0113***	-0.0144***
Proportion of HH members 0-6 years old	0.8762***	0.9891***	1.1725***	1.0393**	0.6823***	0.8795***
Proportion of HH members 60+ years old	0.3928**	0.6311***	0.6892***	-0.2041	0.6516***	0.1909
Age of HH head	-0.0285**	-0.0072	0.0061	-0.1142***	-0.0208***	-0.0166
Age of HH head, squared	0.0002	-0.0001	-0.0002*	0.0012***	0	0

HH head's education level							
	below primary	-0.0903	-0.2243***	-0.1610**	-0.3848*	-0.3342***	-0.3624***
	primary	-0.3572***	-0.4151***	-0.4031***	-0.4612***	-0.5720***	-0.6700***
	secondary	-0.7259***	-0.7501***	-0.8371***	-1.3107***	-1.0879***	-1.2070***
	Post-secondary	-0.8077***	-1.0874***	-1.2443***	-2.4044***	-1.7069***	-1.8248***
Female HH head		0.2213**	0.1410***	0.0532	-0.1382	0.0015	-0.0518
Household's most important source of income [^]							
1=rural: non-agricultural self-employment		-0.4158***	0.0177	0.0364			
1=rural: agricultural labor		0.0876	0.6132***	0.6296***			
1=rural: other labor		-0.083	0.3239***	0.2060***			
1=rural: other		-0.4710***	-0.0693*	-0.0606			
1=urban: self-employed					0.7439***	0.1444***	0.0671
1=urban: casual labor					1.2760***	0.7566***	0.7098***
1=urban: other					0.4138*	0.1712**	0.128
Area of agricultural land owned		-0.2369***	-0.1407***	-0.1134***	-0.0078	-0.0850***	-0.0496*
Area of agricultural land owned, squared		0.0065***	0.0000***	0.0000***	-0.005	0.0001***	0.0000*
Provincial dummies ^{^^}		included	included	included	included	included	included
Constant		-3.4171***	-2.0051***	-1.7810***	-5.4155***	-1.0289***	-1.6436***
Number of observations		11704	65902	22501	2155	40879	18680
Pseudo R ²		0.23	0.2	0.23	0.41	0.28	0.32

Notes: .01 - ***; .05 - **; .1 - *; ^ - Reference category: in urban areas and all India - wage employment, in rural areas — agricultural self-employment; ^^To check for robustness, a similar regression controlling for region instead of province was run, which yields similar results. Source: NSS 2004-05

Blinder-Oaxaca decomposition

We use Blinder-Oaxaca decompositions (Oaxaca 1973, Blinder 1973) to decompose the gap in outcomes between STs and other categories. Classic Blinder-Oaxaca decompositions separate out differentials between groups into differences in observable characteristics (explained differences, or differences in endowments) and unobserved (unexplained or residual) differences. However, the “unexplained” component of the classic two-fold Oaxaca-Blinder decomposition can be further split into the difference due to coefficients and the difference due to the *interaction* between differences in coefficients and differences in endowments (Daymont and Andrisani, 1984).⁹ The resulting three-fold decomposition (endowments, coefficients, and interaction components) identifies the source of differences in the outcomes more clearly than the traditional two-fold decomposition and will be used here.

The unexplained component in the classic two-way Oaxaca-Blinder decomposition is traditionally interpreted as a measure of discrimination or unequal treatment, because it represents the residual, which cannot be accounted for by differences in characteristics. For instance, a gap in earnings between two individuals, which remains unexplained by their qualifications, would be ascribed to discrimination within the Oaxaca-Blinder framework. Such an interpretation is conceptually problematic because differences in

⁹ The traditional two-fold Oaxaca-Blinder decompositions lump the interaction component either with the differences in coefficients or with the differences in endowments.

observable characteristics, such as qualifications, may themselves arise due to past discrimination and exclusion from education and professional development opportunities.

The same applies to our three-fold decomposition. Differences between Adivasi and non-Adivasi endowments are likely to be results of past exclusion, or even coterminous exclusion outside of labor market. The difference in coefficients - within the three-fold decomposition - framework indicates differential rates of returns on endowments for Adivasis and non-Adivasis. These differential rates of return can be considered as an indication of unequal treatment, insofar as we have reasons to presume that equality between groups implies equality of returns on endowments. Such a presumption need not always apply - for instance, differences in returns on land ownership may result from the qualitatively different relationship to land among tribal and non-tribal groups, and not all of it due to discrimination. It is important then to exercise caution when making inferences about exclusion and discrimination based on the decomposition results. On balance however, considering a wide range of relevant characteristics, the expectation that similar endowments should translate into similar welfare levels (and poverty rates) among Adivasis and non-Adivasis should apply.

The three-fold decomposition of differences in outcomes between two groups, A and B, can then be written as follows:

$$Y_A - Y_B = (X_A - X_B) \beta_B + X_B (\beta_A - \beta_B) + (X_A - X_B) (\beta_A - \beta_B) = E + C + CE \quad ,$$

where $Y_A - Y_B$ is the raw difference in outcomes between the two groups, $(X_A - X_B) \beta_B$ captures the difference due to disparity in endowments, $X_B (\beta_A - \beta_B)$ represents the difference due to disparity in coefficients and $(X_A - X_B) (\beta_A - \beta_B)$ is the interaction between the gap in endowments and the gap in coefficients. Specifically, the first component $(X_A - X_B) \beta_B$ tells us how much higher or lower the outcome for group B would be if the level of group B's endowment of X were equivalent to that of group A, assuming the rate of return on change in endowment of X is fixed at group B's rate of return (coefficient β_B .) The second component, $X_B (\beta_A - \beta_B)$, tells us by how much higher or lower the outcome for group B would be if the level of the endowments of group B (X_B) remained constant, but the rate of group B's return on endowments ($\beta_A - \beta_B$) were equivalent to that of group A.

The interaction component captures co-variation of disparities in endowments and coefficients. If group A is the group with the higher outcome, the sign of the interaction component, $(X_A - X_B) (\beta_A - \beta_B)$, indicates whether the directionality of difference in coefficients is the same as that of difference in endowments. If the directionality is the same - i.e. if group A's mean endowment of X is higher (lower) and its coefficient β_A is higher (lower) than group B's - the interaction component will have a positive sign. Conversely, the negative sign indicates the opposite directionality of the coefficients' and endowments' contributions to the outcome. Thus, differences in coefficients may compensate for disparities in endowments, or vice versa.

We find that in 2005 the greater part of the ST—non-ST differential in poverty rates in rural areas is due to differences in coefficients (a likely indication of discrimination), rather than endowments; specifically, the contribution of the differences in coefficients is nearly three times greater than the contribution of differences in characteristics (see Table 10). The magnitude of the interaction effect is small. This result coheres with the findings of Borooah (2005) who finds the discrimination effect to be considerably stronger than the endowment effect, in shaping differences between ST and non-ST households in their average probability of being poor or non-poor¹⁰. The discrimination effect also plays a stronger role in explaining poverty incidence among STs in Gang et al's (2008) analysis using the 1999-2000 NSS data. Policies for STs therefore cannot be limited to enhancing endowments, but must also address the issue of lower returns. Having said that, lower returns do originate from a history of differential access among STs to endowments and facilities and opportunities in general, mainly due to their location in remote areas. Unless these are addressed, inequalities and differentials may continue to exist (Gaiha et al 2007).

Turning to consumption, we find an opposite pattern: the differences in endowments play a more important role than the coefficients. In fact, the endowments gap is so large that – holding the coefficient at $\beta_{\text{non-ST}}$ – we would expect an even greater gap in consumption than is actually observed. The difference in endowments accounts for 113 percent of the differences between ST and non-ST mean log real monthly per capita consumption – instead of the observed -.24 unit gap, non-ST's consumption would drop -.27 units if they had the ST's endowments (see Table 10). The contribution of coefficients to the gap in consumption is also large, however, at 73 percent and works in the same direction – non-STs would experience a -.176 reduction in monthly consumption if they had the current levels of endowments but their returns in terms of welfare would decline to the ST's level. Note that the interaction effect is very large, accounting for a .21 unit (86 percent) difference in observed gap in consumption. Notably the interaction effect works in the direction opposite to the direction of the other two components, i.e. the interaction of differences in endowments and coefficients *narrows* the gap between STs and non-STs which would otherwise occur due to the disparity in their endowments and coefficients.¹¹

Thus we find that differences in endowments matter more for consumption than differences in returns on those endowments. If the poverty headcount indicator is based on consumption aggregate (the poor are those households whose per capita consumption falls below the poverty line), why should we find that endowments matter more for explaining differences in the consumption aggregate and returns on endowments better explain differences in poverty rates? We suspect that this is because of two factors: a)

¹⁰ In fact, the authors find the strength of the discrimination factor to be considerably more for ST than SC households. The probability of being in poverty is calculated based on median income of sampled households surveyed for the National Council of Applied Economic Research (NCAER) 1994 survey.

¹¹ Since the interaction component is a product $(X_{\text{ST}} - X_{\text{nonST}}) (\beta_{\text{ST}} - \beta_{\text{nonST}})$, it will be positive when both multipliers are positive or negative. Assuming $(X_{\text{ST}} - X_{\text{nonST}})$ is negative, i.e. ST's endowments are lower than the non-STs' endowment, $(\beta_{\text{ST}} - \beta_{\text{nonST}})$ is also negative, suggesting that $(\beta_{\text{ST}} \geq 0 \text{ and } \beta_{\text{ST}} < \beta_{\text{non-ST}})$ or $(\beta_{\text{ST}} < 0)$. That is, in the first case, while ST endowments are lower, the effect of their lower endowments on consumption is also lower; and in the second case the STs have low level of endowments which in their case tend to reduce consumption

that at higher levels of consumption – well beyond the threshold of poverty – the ST–non-ST differences in welfare endowments become relatively more important in determining the level of welfare; and b) the variation in ST and non-ST levels of consumption becomes harder to explain - thus the swelling of the interaction component. Notably, the results of decomposition of the bottom half of the consumption distribution look more comparable to the poverty decomposition results, with differences in coefficients playing a relatively more important role; however, the interaction effect is still sizable at 51 percent of the observed difference.

Table 10. Blinder-Oaxaca decomposition of differences in poverty headcount rates and consumption between STs and Non-STs. RURAL AREAS ONLY.					
Results	ST versus non-ST (non-ST includes OBC and SC)			ST versus non-ST (non-ST excludes OBC and SC)	
	Component size	Percentage	Component size	Percentage	
POVERTY HEADCOUNT RATIO					
<i>Omega = 1</i>					
Characteristics (E)	0.049	26%	0.099	36%	
Coefficients (C)	0.141	76%	0.169	62%	
Interaction (CE)	-0.004	-2%	0.004	1%	
<i>Omega = 0</i>					
Characteristics (E)	0.045	24%	0.103	38%	
Coefficients (C)	0.137	74%	0.173	64%	
Interaction (CE)	0.004	2%	-0.004	-1%	
Raw difference	0.186	100%	0.272	100%	
CONSUMPTION - FULL RURAL DISTRIBUTION					
<i>Omega = 1</i>					
Characteristics (E)	-0.272	113%	-0.372	97%	
Coefficients (C)	-0.176	73%	-0.248	65%	
Interaction (CE)	0.207	-86%	0.238	-62%	
<i>Omega = 0</i>					
Characteristics (E)	-0.064	27%	-0.134	35%	
Coefficients (C)	0.031	-13%	-0.010	3%	
Interaction (CE)	-0.207	86%	-0.238	62%	
Raw difference	-0.240	100%	-0.382	100%	
CONSUMPTION - BOTTOM 1/2 OF RURAL DISTRIBUTION[^]					
<i>Omega = 1</i>					
Characteristics (E)	-0.058	62%	-0.092	76%	
Coefficients (C)	-0.084	89%	-0.108	89%	
Interaction (CE)	0.048	-51%	0.078	-64%	
<i>Omega = 0</i>					
Characteristics (E)	-0.010	11%	-0.013	11%	
Coefficients (C)	-0.036	38%	-0.030	24%	
Interaction (CE)	-0.048	51%	-0.078	64%	
Raw difference	-0.094	100%	-0.121	100%	
<i>Notes:</i> [^] Monthly per capita real expenditure below Rs 454.3 in rural areas; Stata's nldecompose was used for this decomposition; <i>Source:</i> NSS 2004-05					

In urban areas, the differences between the ST and non-ST poverty rates are mostly due to the disparity in returns on endowments, if we include OBCs and SCs among the non-STs; if the latter two groups are excluded, reducing the non-ST category to forward classes only, disparate endowments account for a larger fraction of the gap in poverty headcounts.

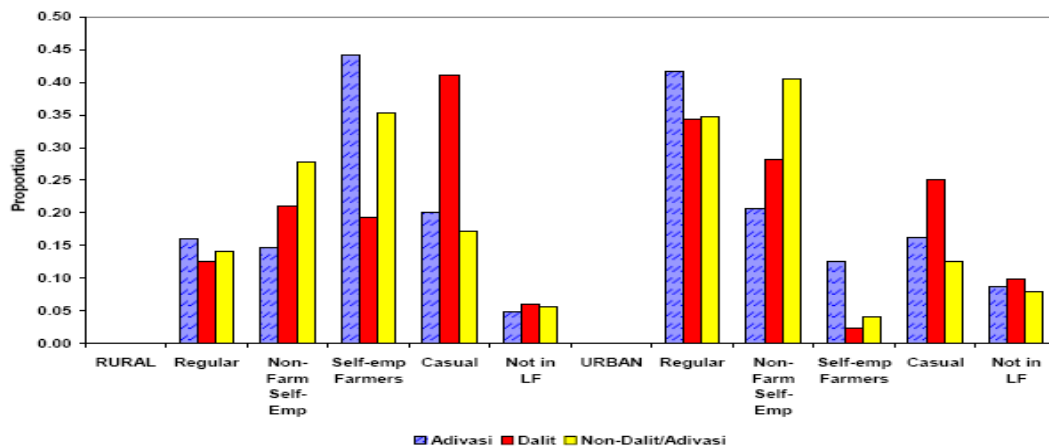
Unlike in rural areas, decomposition of consumption in urban areas indicates that coefficients – not endowments – account for the larger part of differences in consumption. The same pattern holds whether we exclude OBCs/SCs from among the non-STs or not. The interaction component is also sizable, ranging from 30 to 43 percent. Looking at the bottom half of the urban population, we find the same pattern: differences in coefficients are more important in explaining the gap between STs and non-STs in urban areas than the endowments.

Table 11. Blinder-Oaxaca decomposition of differences in poverty headcount rates and consumption between STs and Non-STs. URBAN AREAS ONLY.					
Results	ST versus non-ST (non-ST includes OBC and SC)		ST versus non-ST (non-ST excludes OBC and SC)		
	Component Size	Percentage	Component Size	Percentage	
POVERTY HEADCOUNT RATIO					
<i>Omega = 1</i>					
Characteristics (E)	0.044	51%	0.108	60%	
Coefficients (C)	0.049	57%	0.073	41%	
Interaction (CE)	-0.007	-8%	-0.001	-1%	
<i>Omega = 0</i>					
Characteristics (E)	0.037	43%	0.107	59%	
Coefficients (C)	0.041	49%	0.071	40%	
Interaction (CE)	0.007	8%	0.001	1%	
Raw difference	0.085	100%	0.180	100%	
CONSUMPTION - FULL URBAN DISTRIBUTION					
<i>Omega = 1</i>					
Characteristics (E)	-0.076	51%	-0.212	60%	
Coefficients (C)	-0.138	92%	-0.246	70%	
Interaction (CE)	0.064	-43%	0.106	-30%	
<i>Omega = 0</i>					
Characteristics (E)	-0.012	8%	-0.106	30%	
Coefficients (C)	-0.073	49%	-0.140	40%	
Interaction (CE)	-0.064	43%	-0.106	30%	
Raw difference	-0.150	100%	-0.352	100%	
CONSUMPTION - BOTTOM 1/2 OF URBAN DISTRIBUTION[^]					
<i>Omega = 1</i>					
Characteristics (E)	-0.032	26%	-0.165	70%	
Coefficients (C)	-0.107	89%	-0.166	71%	
Interaction (CE)	0.018	-15%	0.096	-41%	
<i>Omega = 0</i>					
Characteristics	-0.013	11%	-0.069	29%	
Coefficients	-0.089	74%	-0.070	30%	
Interaction	-0.018	15%	-0.096	41%	
Raw difference	-0.120	100%	-0.235	100%	
<i>Notes: ^ Monthly per capita real expenditure below Rs 782.4 in urban areas; Stata's nldecompose was used for</i>					

Employment

The labor market profile of ST households and workers is quite distinct from any other social group. The large majority of ST households in rural areas own at least subsistence land and so, when they cannot get benefits from job quotas, either due to lack of education or due to lack of access to information about vacancies, or due to the fact that these vacancies remain unfilled, they have subsistence agriculture to fall back on. As a last resort, they end up as casual laborers. This is very different from the situation of SC households that have very little access to land and are overrepresented in casual wage employment and under-represented in self-employment. About 44 percent of ST men as against 32 percent of OBC men, 35 percent men from the general category, and only 19 percent from the SC category, are self-employed subsistence farmers in rural areas. Scheduled Tribe men are also less likely to take up non-farm self-employment in rural areas compared to men from the OBC and general category (see figure 2).

Figure 2: Most ST men in rural India are self-employed subsistence farmers: 2004/05

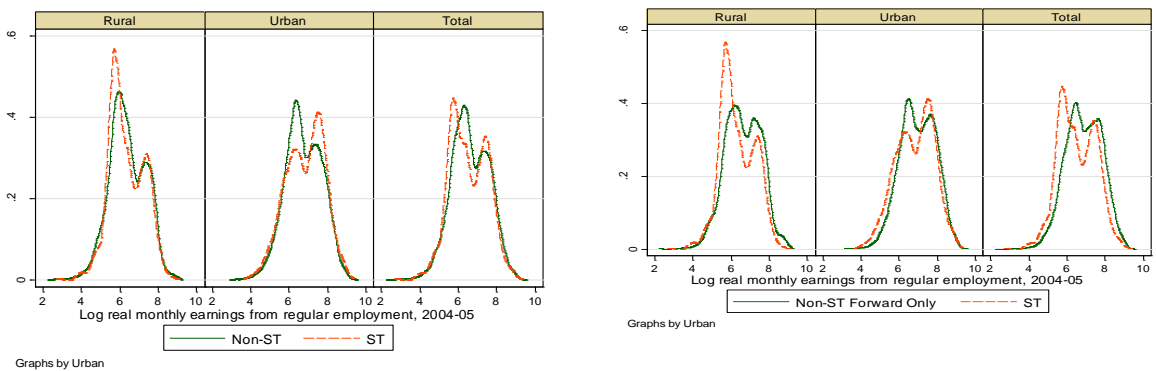


Source: Das 2008

Interestingly, we find a premium attached to being an ST in urban areas where formal jobs are concerned. ST men have a 4 percent higher likelihood of being in regular salaried jobs compared to a non ST (Das 2006). Further, salaries paid to ST regular workers are at par with or higher than non STs as indicated by the shift of the earnings distribution to the right for ST workers compared to that of non STs (see left panel of figure 4). Interestingly, the earnings distribution of ST workers in urban areas is more or less similar to that of non-ST workers at the bottom quantiles, but it is higher at the top quantiles. We believe that these unexpectedly high earnings are driven primarily by Scheduled Tribe elites in administrative jobs (those at the higher end of the urban expenditure distribution in figure 1). These are STs who have over successive generations availed of the benefit of reservations and have now achieved success in their respective areas (see Das and Dutta, 2007).

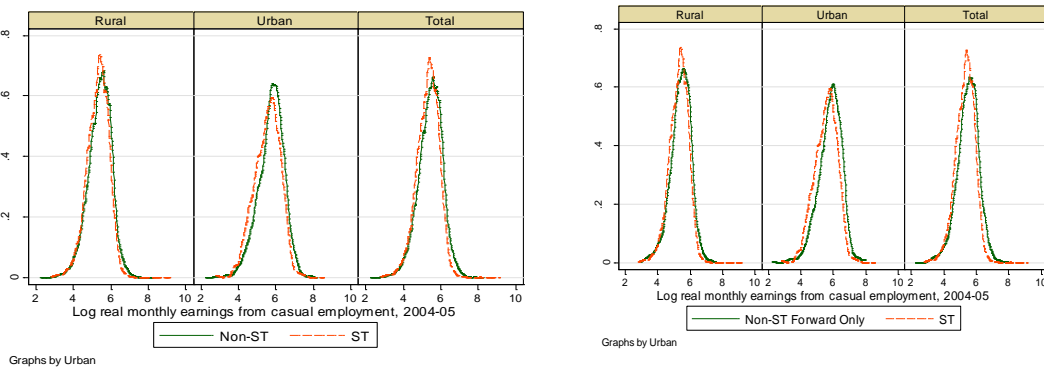
However, given the predominantly agrarian focus of ST households, these numbers reflect and capture earnings of a very small proportion of STs. Also, if we exclude SCs and OBCs, then the difference between earnings of regular ST workers and workers from forward classes (read general caste) in urban areas is not significant (right panel of figure 3). Furthermore, in rural areas, the regular earnings distribution shifts in favor of the general castes. This results in a mixed picture for the overall sample with the non-STs having an advantage at lower level of earnings (consistent with their higher earnings in rural areas), and STs having an advantage at higher levels (consistent with their higher earnings in urban areas).

Figure 3: STs earn more than non STs when employed in high-paying, regular, urban jobs



With respect to casual earnings, the differences are much more subtle. This is because casual workers are largely a homogenous pool of low-skilled workers. Thus, the kernel density plots do not reflect significant differences - the earning distribution is only slightly more favorable for non-STs (figure 4). Excluding OBCs and SCs from the non-ST group clarifies the trend for higher non ST earnings in urban areas.

Figure 4: No significant differences exist in earnings among casual, low skilled workers



This does not take away from the low level of wages that casual ST workers are paid. In fact, wages for all ST casual workers (in rural as well as urban areas) are the lowest

among all social groups. However, lack of earnings data for self-employed persons prevents us from looking more closely at the earnings of self-employed ST farmers.

Not all Scheduled Tribes who work in urban areas are well-paid. Surveys often do not capture seasonal migration of STs, who move to cities as manual labor employed in construction sites where they are paid wages that are lower when compared to wages paid to other social groups. There is a large body of literature – mainly ethnographic and from small area surveys – that focuses on distress migration of STs. Mosse et al (2002) for instance emphasize the importance of addressing the conditions under which STs migrate.

Health

Drawing on three rounds of the NFHS, this section provides a closer look at trends in basic health indicators and outcomes for Scheduled Tribes as compared to other groups. Results show that Scheduled Tribes in 1992 had significant deficits in access to health care. And while trends are improving – in some cases at a faster pace than average – the size of deficits were so large at the start of the period that persistent and sizeable gaps remain. Thus in nearly every health outcome – whether child mortality, malnutrition, immunization, contraception, pregnancy or maternal care – Scheduled Tribes continue to exhibit worse outcomes vis-à-vis the national average and in comparison to non-SC/STs. Our analysis also suggests that Scheduled Tribes in urban areas do better on virtually every indicator than their counterparts in rural areas. This is partly because of better access to health care¹² and partly because there are larger numbers of STs in the higher wealth quintiles who live in cities and towns compared to villages.

While the tables in this section show the large gap between STs and the rest, the non-tribal category in India, is very diverse. Caste membership for instance exercises huge influence over outcomes and Scheduled Castes in many areas are as vulnerable as STs. Most analyses report findings by SC and ST status and then for the rest of the population. We report findings in the text by ST and non-ST and find that despite the fact that the non-ST category is so heterogeneous, STs still do worse than everyone else. In Annex 4, we disaggregate key health outcomes by different social groups. We find that while SCs remain below par on most indicators such as maternal health, the STs are worse off than even the SCs, which makes the gap between them and the rest all the more alarming.

Child mortality and malnutrition. India's child health indicators have shown considerable improvement between 1992 and 2005, with infant mortality declining from 78 to 57 deaths per 1000 live births and under-five mortality declining by roughly one-third over the intervening period (from 109 to 74 deaths per 1000 live births). However under-five mortality levels among tribal children remain startlingly high (at 96 deaths per 1000 live

¹² Lack of access to health facilities in rural areas is evident from the fact that 12 percent of rural women in the NFHS 2005 sample cited prohibitive distance as a reason for not using a health facility for their last birth within the last five years. In contrast, only 6 percent of urban women said so.

births). In fact, mortality of tribal children starts of on par with that of non-tribals, but gets rapidly worse in rural areas by the time the children are five years old (Table 12). Maharatna (1998; 2000) has documented the more sustainable practices that Scheduled Tribes follow and which have historically kept rates of fertility and mortality among them lower than the national average, and how this began to change as tribals had to give up their traditional practices. The existing pattern of excess mortality of tribal children is in keeping with ethnographic and media reports and data from administrative records, and remains one of the starkest markers of tribal deprivation in India.

Deaths per 1000 births	Neonatal Mortality (NN)	Post-neonatal Mortality (PNN)	Infant Mortality (1q ₀)	Child Mortality (4q ₁)	Under five Mortality (5q ₀)
<i>Urban</i>					
Scheduled Tribes	29	14.8	43.8	10.4	53.8
All urban	28.5	13	41.5	10.6	51.7
<i>Rural</i>					
Scheduled Tribes	40.9	23	63.9	38.3	99.8
All rural	42.5	19.7	62.2	21	82
<i>India</i>					
Scheduled Tribes	39.9	22.3	62.1	35.8	95.7
All India	39	18	57	18.4	74.3

Notes: Mortality indicators are in 'deaths per 1000 births'. Neonatal mortality (NN)- probability of dying in the first month of life; Post-neonatal mortality (PNN) - probability of dying after the first month of life, but before the first birthday; Infant mortality (1q₀)- probability of dying before the first birthday; Child mortality (4q₁) - probability of dying between the first and fifth birthdays; and, under-5 mortality (5q₀)- probability of dying before the fifth birthday. *Source:* IIPS and Macro International (2007), pp. 181-182¹³

Expectedly, numbers for under-five mortality rates differ across states. With the exception of Maharashtra and Gujarat, most states with a large proportion of ST populations¹⁴ show higher than average under-five mortality rates. Of these, Chattisgarh, Jharkhand, Orissa and Madhya Pradesh are particularly worse off with under-five mortality rates exceeding 90 per 1000 live births (Table 13).

Deaths per 1000 births	Under five Mortality (5q ₀)
Assam	85.0
Gujarat	60.9
Chattisgarh	90.3
Jharkhand	93.0
Madhya Pradesh	94.2

¹³ These tables replicate NFHS published data on infant mortality rates: our own calculations produced results that were slightly different with those presented in table 13. Since the reason for the discrepancy could not be ascertained, we rely on the published NFHS results.

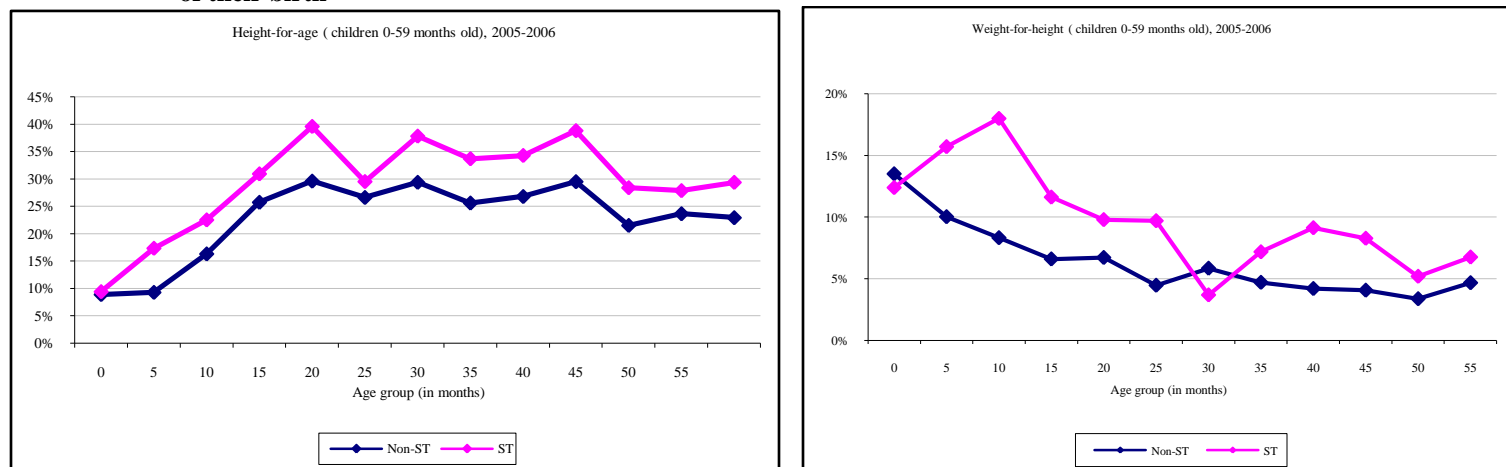
¹⁴ States that had 10% or greater ST population in 1983

Maharashtra	46.7
Orissa	90.6
Rajasthan	85.4
All-India	74.3
<i>Notes: Mortality indicator is in 'deaths per 1000 births'. Under-5 mortality (5q₀)-probability of dying before the fifth birthday. Source: National Family Health Survey (NFHS), 2005-06.</i>	

Malnutrition and child mortality go hand in hand and malnutrition in India is widespread, with 48 percent of Indian children showing signs of long-term malnutrition (stunting or deficit in height-for-age), 24 percent of severe stunting and 42 percent of being under-weight¹⁵. According to the 2007 World Development Indicators, only two countries have higher proportions of underweight children (based on the same standards): Bangladesh and Nepal (World Bank 2007a). In fact, child malnutrition is much higher in India than it is in Burundi, Niger or Afghanistan.

Even worse than the population averages are outcomes for ST children, among whom 53 percent are stunted, 29 percent are severely stunted and 55 percent are under-weight. Interestingly, the gap between the Scheduled Tribe children and those from other groups appears within the first 10 months of birth and persists – with some variation throughout early childhood. The rise in severe wasting among ST children during the first 10 months of life is particularly alarming (Figure 5).

Figure 5: More Scheduled Tribe children are severely stunted and wasted within the first 10 months of their birth



Source: NFHS

¹⁵ Malnutrition is usually measured along three dimensions: stunting (deficit in height-for-age), wasting (deficit in weight-for-height), and under-weight (deficit in weight-for-age). Stunting reflects long-term effects of malnutrition; while wasting measures the current nutritional status of the subject, i.e. his/her food intake immediately prior to the survey. The 'under-weight' indicator is a combination of the former two and captures both long-term and short-term effects of deficient food intake. A child is considered to be malnourished with respect to each of these measures, if his/her indicator falls below -2 standard deviations from the median (defined for 2006 WHO international reference population). Falling below -3 standard deviations signals severe malnutrition.

States with large Scheduled Tribe populations have had frequent public outcry over what are called “malnutrition deaths”. Child deaths usually cluster around periods of seasonal stress like drought when household food supplies are low and employment dries up, or during the monsoon when remote communities are rendered incommunicado. Public interest law suits have been filed on behalf of families that lost their children¹⁶, and state governments have been repeatedly directed by the courts to take remedial action. Governments have undoubtedly become more vigilant on this issue than they were before, but serious problems in service delivery continue to exist.

Several factors contribute to malnutrition and high mortality among ST children. At its root, this can be explained by extreme poverty among ST households as well as by their poor access to health care (Rao 2008). While we deal with these two issues in Section V, here we focus on related health indicators i.e. poor immunization coverage; high incidence and inadequate treatment of illnesses; and poor maternal health indicators.

Illness of ST children - Prevention and treatment: Vaccine preventable diseases and other (mainly water borne and vector borne) diseases are an important proximate cause of the mortality of ST children. Complications arising from each or any of these – such as post-measles pneumonia- create a web of morbidity and malnutrition which children find difficult to fight off. Nevertheless, there has been an overall improvement in immunization coverage in India, but this section documents the fact that while improvements have been larger in magnitude for STs, absolute proportions are still low and gaps between ST and non-ST children remain high, especially in rural areas.

We measure immunization coverage using two indicators - *breadth* of coverage (percentage receiving any basic vaccination) and *intensity* or *quality* of coverage (percentage receiving all basic vaccinations). Our analysis using the NFHS data suggests that both indicators registered substantial improvement between 1992 and 2005, especially among Scheduled Tribes, thus narrowing the differential between ST and non-ST populations (Table 14). At the all-India level, of the 12-23 months olds born to ever married women in the age group 15-49 years, the proportion that received any of the basic vaccines expanded from 70 to 95 percent (a 35 percent increase). The corresponding increase for Scheduled Tribe children was 53 percent - from 58 to 89 percent. The intensity of coverage expanded more slowly - 23 percent for all India and 30 percent for Scheduled Tribes. This is not surprising given that improvements in intensity of coverage are considerably more difficult to bring about, insofar as they are more costly and require a more coordinated immunization policy.

Table 14. The gap between Scheduled Tribes and others persists in immunization outcomes too

	Urban			Rural			Overall		
	ST	Other	Total	ST	Other	Total	ST	Other	Total
All basic** vaccinations, %									
1992-93	36	51	51	24	32	31	25	37	35
1998-99	43	57	57	22	39	37	25	43	41
2005-06	52	58	58	30	40	39	32	45	44

¹⁶ See for instance, Sheela Barse v/s State of Maharashtra 1993

<i>Change 1993-2006, %</i>	45	13	13	27	25	25	30	22	23
Any of the basic** vaccinations, %									
1992-93	79	84	84	56	67	66	58	71	70
1998-99	85	95	95	75	86	85	76	88	87
2005-06	94	97	97	89	95	94	89	95	95
<i>Change 1993-2006, %</i>	19	15	15	57	41	43	53	34	35

Notes: * Children 12 to 23 months old born to ever married women, 15 to 49 years old;
** Basic vaccinations include three rounds of Polio 1-3 and DPT1-3, BCG, Measles; *Source:* NFHS

However, a disaggregated analysis suggests that despite the gains made, immunization rates among STs remained consistently below those recorded for other groups including the Scheduled Castes and Other Backward Classes (OBCs), for all types of vaccinations (see Table 4A, Annex 4). For instance, while coverage for the polio vaccine (polio 0) more than quadrupled for ST children in the age group of 12-23 months (from 7 percent in 1998 to 30 percent in 2005); it was still lower than the coverage reported among their SC counterparts (47 percent in 2005). This was mostly on account of the extremely poor immunization coverage for ST children to begin with.

Disparities also remained in treatment of illness for ST children 3 years of age and below, compared to other children, although the incidence of disease varied only slightly. The gap was more acute in the treatment of acute respiratory infections (ARIs). Nearly 56 percent of Scheduled Tribe children compared to 67 percent of non-ST children were taken to a health facility for treatment for fever and cough in 2005. The latter were also more likely to be taken to a health facility for treatment of diarrhoea as against ST children. While SC and OBC children were less likely to receive treatment in health facilities than the upper castes, ST children registered the lowest rates of access to qualified medical assistance (see Table 4B, Annex 4).

Table 15. Scheduled Tribe children are less likely to be treated for illnesses										
		Urban			Rural			Overall		
		ST	Other	Total	ST	Other	Total	ST	Other	Total
Diarrhea										
	1992-93	0.118	0.105	0.105	0.113	0.119	0.119	0.114	0.116	0.115
	1998-99	0.229	0.194	0.196	0.209	0.185	0.188	0.211	0.187	0.189
	2005-06	0.134	0.121	0.122	0.124	0.122	0.123	0.125	0.122	0.122
Taken to health facility for diarrhea										
	1992-93	0.535	0.692	0.686	0.497	0.600	0.589	0.500	0.620	0.609
	1998-99	0.602	0.787	0.778	0.525	0.644	0.628	0.534	0.680	0.664
	2005-06	0.678	0.662	0.662	0.578	0.609	0.606	0.588	0.624	0.620
Fever or cough										
	1992-93	0.256	0.263	0.263	0.273	0.274	0.274	0.271	0.271	0.271
	1998-99	0.479	0.438	0.440	0.461	0.436	0.439	0.463	0.436	0.439
	2005-06	0.235	0.242	0.241	0.227	0.261	0.257	0.228	0.256	0.253
Taken to a health facility for fever or cough										
	1992-93	0.694	0.771	0.768	0.527	0.633	0.621	0.540	0.666	0.654
	1998-99	0.559	0.602	0.600	0.409	0.499	0.488	0.425	0.524	0.514
	2005-06	0.772	0.749	0.750	0.534	0.642	0.631	0.558	0.669	0.660

Note: Children under 3 years old of ever married women, 15 to 49 years old; health facilities exclude pharmacies, shops, any traditional treatments. *Source:* NFHS

Maternal Health. Existing literature confirms that malnutrition is inter-generational and is passed on from parents to child. Our evidence on stunting and wasting in the first 10 months of birth for ST children suggests that inequities in children's health can be attributed to an extent (if not more) to the disparities in health of their mothers. Overall, in India, maternal health continues to be an intractable problem, despite improvements over the last decade. We find that while improvements for women from Scheduled Tribes occurred at a faster pace than those for other women, the low base from which the former started has driven their low levels. Moreover, gaps between ST and other women in a range of indicators related to access to care continue to be wide. For instance, the proportion of ST women going for ante-natal visits or using contraception remained lower than the population average or the average for women belonging to other social groups. The comparisons with SC and OBC women are particularly instructive. Fifty-five percent of ST women in the 2005 NFHS reported having ever used contraception compared to 63 percent of SCs and 62 percent of OBCs and the all-India figure of 65 percent. In comparison to SCs and OBCs, a relatively smaller proportion of ST women reported three or more ante-natal visits (40 percent compared to 44 percent for SC women and 48 percent for women from the OBC group) (see Table 4C, Annex 4). Women belonging to Scheduled Tribes also remained less likely to receive pre-natal care from doctors. Only one-third received such care in 2005 as compared to the population average of 49 percent. Worse, the proportion of ST women to have received such care actually declined marginally from 1998 levels (from 35 percent to 32 percent).

Table 16. Despite gains, maternal health indicators for ST women remained below par

	Urban			Rural			Overall			
	ST	Other	Total	ST	Other	Total	ST	Other	Total	
Number of children*										
	1992-93	2.94	2.84	2.85	3.15	3.19	3.19	3.13	3.10	3.10
	1998-99	2.89	2.70	2.70	3.16	3.07	3.08	3.13	2.97	2.98
	2005-06	2.58	2.51	2.51	3.17	2.97	2.99	3.11	2.82	2.84
Currently use contraception*										
	1992-93	0.406	0.483	0.481	0.300	0.356	0.350	0.310	0.391	0.384
	1998-99	0.492	0.548	0.546	0.346	0.430	0.421	0.362	0.463	0.454
	2005-06	0.571	0.625	0.624	0.457	0.525	0.518	0.469	0.558	0.551
Ever used any contraception*										
	1992-93	0.486	0.583	0.580	0.348	0.426	0.418	0.361	0.470	0.460
	1998-99	0.585	0.659	0.656	0.424	0.509	0.500	0.441	0.551	0.541
	2005-06	0.663	0.732	0.731	0.535	0.623	0.614	0.548	0.659	0.650
Antenatal visit during 1-st trimester**										
	1992-93	0.305	0.417	0.413	0.151	0.213	0.206	0.164	0.263	0.253
	1998-99	0.449	0.564	0.559	0.189	0.280	0.269	0.214	0.347	0.334
	2005-06	0.577	0.632	0.630	0.295	0.370	0.361	0.322	0.441	0.430
Three or more antenatal visits**										
	1992-93	0.495	0.679	0.673	0.273	0.393	0.380	0.292	0.463	0.447
	1998-99	0.601	0.713	0.708	0.250	0.390	0.375	0.284	0.466	0.449
	2005-06	0.707	0.738	0.737	0.374	0.435	0.428	0.405	0.518	0.507
Prenatal care provider: doctor**										

	1992-93	0.568	0.727	0.722	0.191	0.349	0.332	0.223	0.441	0.421
	1998-99	0.650	0.770	0.765	0.318	0.435	0.422	0.350	0.514	0.498
	2005-06	0.765	0.762	0.762	0.275	0.414	0.398	0.322	0.509	0.491
Prenatal care provider: midwife/nurse**										
	1992-93	0.110	0.159	0.157	0.093	0.148	0.142	0.094	0.151	0.145
	1998-99	0.232	0.248	0.247	0.172	0.197	0.195	0.178	0.209	0.206
	2005-06	0.293	0.299	0.299	0.374	0.385	0.384	0.367	0.361	0.362
Location of birth: home**										
	1992-93	0.577	0.401	0.407	0.937	0.818	0.831	0.906	0.716	0.734
	1998-99	0.392	0.332	0.335	0.877	0.730	0.746	0.829	0.636	0.655
	2005-06	0.379	0.291	0.295	0.841	0.668	0.688	0.797	0.565	0.588
Assistance in birth: doctor**										
	1992-93	0.321	0.498	0.491	0.057	0.156	0.145	0.080	0.240	0.225
	1998-99	0.391	0.577	0.569	0.120	0.249	0.235	0.147	0.326	0.309
	2005-06	0.504	0.649	0.644	0.166	0.297	0.282	0.198	0.393	0.374
Assistance in birth: midwife/nurse**										
	1992-93	0.394	0.520	0.516	0.093	0.197	0.185	0.119	0.276	0.261
	1998-99	0.562	0.598	0.597	0.141	0.273	0.258	0.182	0.350	0.333
	2005-06	0.355	0.433	0.430	0.141	0.256	0.243	0.162	0.305	0.291
<i>Notes:</i> *Ever married women, 15 to 49 years; ** Ever married women who gave birth in the last 3 years (in reference to the last pregnancy or birth). <i>Source:</i> NFHS										

In the case of home-based births too, 80 percent of tribal ST compared to 60 percent of all women tend to give birth at home. In fact, the incidence of home births declined at a much slower pace for ST women than it did for others between 1998 and 2005 (at 4 percent compared to a decline of 10 percent for all India). Most women, not just ST women in the NFHS, 2005 sample say it is not necessary to go to a health facility for childbirth. Interestingly, our exploratory multivariate analysis based on RCH II data for institutional delivery (controlling for a range of household and individual characteristics including receipt of antenatal care as well as supply side variables like availability of doctor and distance to health facility), showed that STs and Christians (the majority of whom are STs, mainly in the northeastern states) compared to upper caste Hindus were the only groups that had a lower likelihood of delivering their babies in health centers (World Bank, 2006).

Education

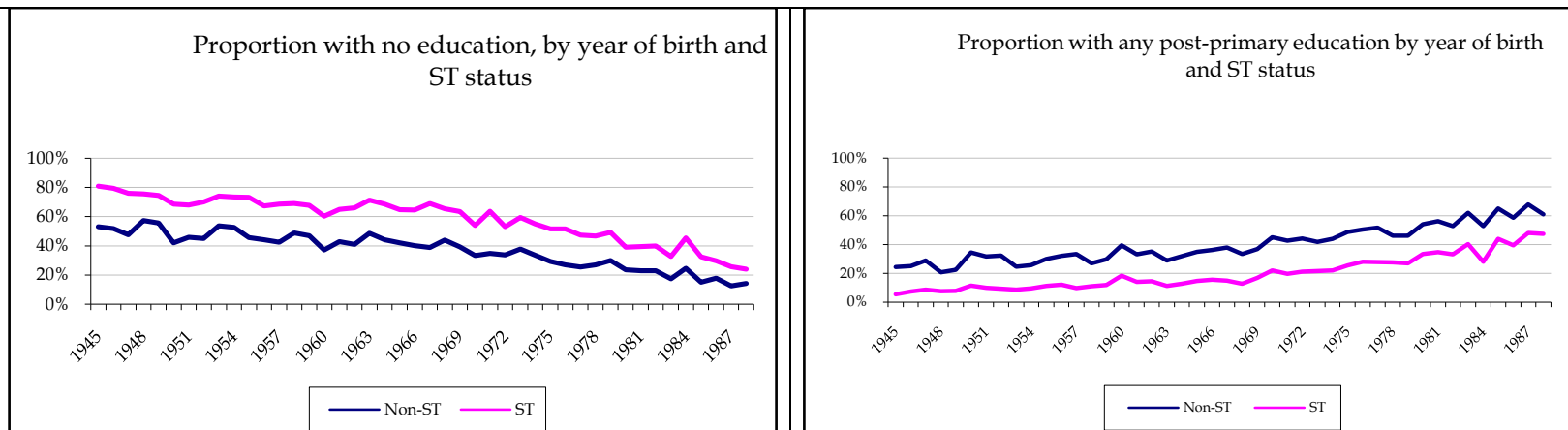
Gains in education have been considerable in India between 1983 and 2005. The proportion of individuals with no education dropped from 54 percent to 35 percent (a decline of 35 percent) and post primary attainment nearly doubled from 23 to 43 percent. Scheduled Tribes too have shared in the gains, recording almost equivalent or more improvements (Table 17). However, inequalities by caste and tribal status are well recognized. In their analysis of rural household data from some poor states, Dreze and Kingdon (2001) find for example that children from SC and ST groups are much less likely to go to school, even when household wealth, quality of schooling, parents' education and motivations are controlled for.

	Urban			Rural			Overall		
	Other	STs	Total	Other	STs	Total	Other	STs	Total
<i>No education</i>									
1983	29%	46%	29%	61%	78%	63%	52%	75%	54%
1993-94	23%	35%	24%	51%	70%	53%	43%	67%	45%
2004-05	17%	26%	17%	40%	56%	42%	33%	53%	35%
<i>Below primary*</i>									
1983	10%	10%	10%	10%	9%	10%	10%	9%	10%
1993-94	9%	10%	9%	11%	10%	11%	11%	10%	11%
2004-05	7%	7%	7%	11%	12%	11%	10%	12%	10%
<i>Completed primary</i>									
1983	16%	14%	16%	13%	7%	12%	14%	7%	13%
1993-94	13%	14%	13%	12%	8%	12%	12%	9%	12%
2004-05	12%	11%	12%	14%	12%	14%	13%	12%	13%
<i>Any Post-primary</i>									
1983	45%	30%	44%	17%	6%	16%	24%	8%	23%
1993-94	55%	41%	54%	26%	12%	24%	34%	15%	32%
2004-05	63%	55%	63%	35%	20%	34%	44%	23%	42%

Notes: 15-49 year old individuals; (*)Includes individuals who are literate but have no formal schooling;
Source: NSS

An improvement in educational attainment for the Scheduled Tribes in the two decades between 1983 and 2005 has also meant that although a differential still persists, it has narrowed down among younger age cohorts particularly in terms of the proportion with no education, indicating that ST children today fare better than their parents did (Figure 6).

Figure 6: More STs now have some education, but gaps are still large after primary level



Source: NSS

However, these findings need to be nuanced by the unequal results across regions and by differences according to *level* of post-primary education attained. Literacy outcomes improved at a slower pace among the rural Scheduled Tribe population than among non-

Scheduled Tribes, resulting thereby in a widening of gap between STs and non-STs. Over half of the ST population in rural areas (56 percent) was uneducated in 2004-5 (Table 17). In urban areas, however, there was a slight convergence in literacy levels between the Scheduled Tribes and the rest of the population, who respectively experienced a 44 and 41 percent reduction in the proportion with no education with the respective proportions reducing to one-quarter among Scheduled Tribes, and below that rate (17 percent) for the rest of the population.

Even within the category of post primary attainment, the improvement registered was at lower levels of education (secondary); not at the college level. Finally, as with other outcomes, the starting point of STs was so low, that even with gains similar to the rest of the population, a lower proportion of Scheduled Tribes was literate or had attained post-primary education than other groups. For instance, only 8 percent STs had post-primary schooling in 1983. The numbers had nearly tripled by 2005 – much more than the increase recorded by other groups; yet not enough to meet their levels of attainment.

<Box1: Missing Hostels >

Among its several programs to encourage education among disadvantaged groups, the Government of India has formulated schemes for providing hostel facilities to SC and ST students. The expenditure under the scheme is shared on 50:50 basis between the Centre and State Governments.

In an audit report of such facilities covering the period 2001-2006 in the state of Jharkhand, the allotment and expenditure statement was as under. The concerned state department was allocated a sum of Rs. 120 million and Rs. 250 million to spend on constructing and maintaining hostels for Scheduled Castes and Scheduled Tribes respectively between 2001 and 2006. The department spent only 40 per cent of the allocation amount for SCs and 28 per cent of the allocation amount for STs. The State Government sanctioned construction of 184 hostels (78 for SCs and 106 for STs) over the intervening period. Of these, 71 hostels (SC- 32 and ST- 39) were incomplete in August 2006. The department never monitored the construction. Moreover, the site selection was not need based. For instance, one tribal hostel constructed at a cost of Rs. 6 million in the state's capital – Ranchi – was eventually handed over to a college, without any basic facilities like electricity, drinking water supply, beds and manpower to run it. Tribal hostels that were found in a running state were usually overcrowded, accommodating at times about 90 students in 3-4 rooms. In other sites, hostels constructed were found to be occupied by outsiders – police constables, and at times the offices of government agencies themselves (Source: CAG report for Jharkhand, 2006).

<End text box: Missing Hostels >

Yet another qualifier to the gains made by STs is the issue of age-grade distortion. Our analysis using the NFHS data¹⁷ suggests that nearly 27 percent of elementary school students in India are two or more years behind the expected grade level for their age (Table 18). Among Scheduled Tribes, the proportion of children falling behind is

¹⁷ While the NSS data has the advantage of greater sample size, none of the available recent rounds of the NSS data contain information on current enrolment in specific grades, which makes it impossible to calculate age-grade distortion at specific grade levels. By contrast, the 2005-2006 NFHS dataset contains data on grades. Similarly figure 8 uses the NFHS data on the number of completed years of schooling, which is not available in the NSS.

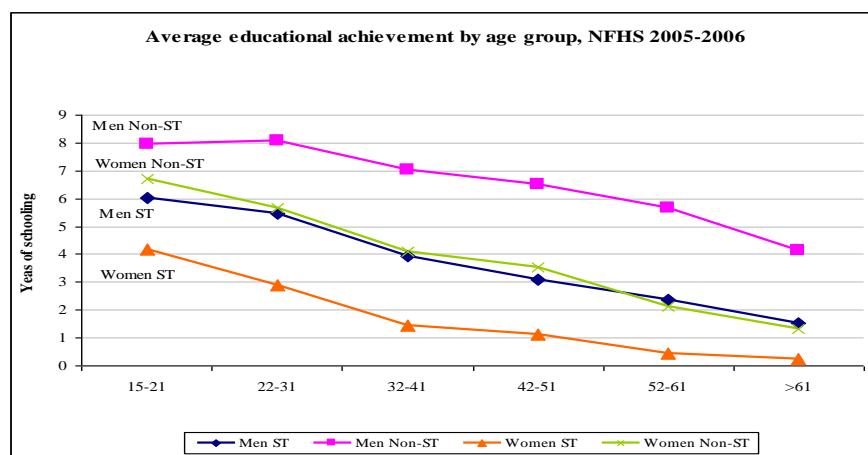
somewhat higher than the national average (33 percent). The problem is more extensive in rural schools than in urban schools – a difference of 5 percentage points between ST and non-ST children compared to a 1 percentage point difference in urban areas. We believe that greater age-grade distortion for ST children may partly be the result of poor quality or virtually non-existent education facilities in remote ST habitats.

	Scheduled Tribes	Other	Total
Grade 1	30	27	27
Grade 2	31	25	26
Grade 3	33	28	28
Grade 4	35	24	25
Grade 5	34	29	29
Total	33	27	27

Notes: As % of students more than one year older than the appropriate age for grade; *Source:* NFHS 2005

The triple disadvantage: Tribe, gender and place of residence. No analysis of education outcomes for ST groups in India is complete without highlighting the low levels of educational attainment among ST women. Even among the youngest age cohort, now emerging from their prime schooling years (ages 15-21), ST women attain an average of just 4 years of education. In comparison, non-ST women in this age group attain nearly 7 years of education (Figure 8). Worse, in terms of the number of years, the gap between ST men and women has actually widened. Among older age cohorts the gap is roughly 1.5 years, but among the 15-21 age-cohort the male-female gap is 2 years (with male STs in this category attaining an average of 6 years of schooling).

Figure 7: ST women are at a significant disadvantage viz. non STs and ST men: Are in school for fewer years



Source: National Family Health Survey

Scheduled Tribe women in rural areas are particularly worse-off, as they are beset by a triple disadvantage: identity, gender and place of residence. Poor access to schools in remote regions implies that only one in three ST women in rural areas is literate and one in eight has attained post-primary education (NSS: 2004-05). Meanwhile, ST women in

urban areas seem to benefit significantly from better physical access to schools, with more than half completing post-primary education. Not all are better off though. There appear to be wide inequalities even among urban ST women, with one third of them illiterate in 2004-05.

Regardless of tribal status, gender is an important factor in age-grade distortion in primary schools, with girls reporting *lower* overall age-grade distortion than boys (except among rural non-Scheduled Tribe children), perhaps due to the fact that boys tend to be taken out of school to work in family farms and businesses more often than girls. This pattern stands in contrast to the lower overall educational attainment among women (Figure 7). Thus, girls face the challenge of *access* to schooling rather than falling behind once already enrolled.

V. What explains poor outcomes for Scheduled Tribes in India?

Why are ST outcomes – on child mortality, maternal health, or enrollment rates – poorer than that of any other group? The government’s response to this question is usually that poverty among Scheduled Tribes is to blame. There is some truth to this assertion. Our multivariate analysis using the RCH II data also finds that the relationship between infant or child mortality and tribal (or indeed caste) status vanishes when we control for wealth quintile and distance to health care (World Bank, 2006). Other variables that seem to have a strong bearing on children’s mortality are mother’s characteristics including education, number of antenatal visits, birth order of child and distance to the nearest town. We also find that when households are ranked according to expenditure quintiles, the tribal gap in current enrollment widens for children in poorer households (see Table 5B, Annex 5). That the effect of poverty trumps the effect of ST status is corroborated by other recent analyses. Jose and Navaneetham (2008) for instance analyze malnutrition levels in women over the seven years between 1998-99 and 2005-06, based on the National Family Health Survey. Their findings suggest that while social disadvantage (membership to an SC or ST group) leads to increased malnutrition among women, economic disadvantage has a greater impact. Poor women from almost all social groups report higher malnutrition than others. In another study on the progress of the millennium development goals in Orissa, the World Bank finds that while child and infant mortality rates (IMRs) are higher among the Scheduled Tribes, they are largely a function of poverty (lower levels of income and assets), low levels of education, and poor access/utilization of health services (World Bank 2007b). Even among STs, there is evidence of a strong socioeconomic gradient in health, with those in the bottom quintiles having a higher odds ratio for mortality compared to those in the top-fifth of the wealth distribution (Subramanian et al 2006).

Therefore, poor outcomes may be the result of high poverty. In turn poverty is endogenous to each of these outcomes. We believe that the argument is tautological. And **perhaps the critical question then is not why mortality rates or malnutrition levels are higher among ST children, but why poverty among STs is higher or why ST households are food insecure.** Why do development projects not reach them? While there are several factors that contribute, there are a few that lie at the root of poor

outcomes for Scheduled Tribes. These include (but are not limited to) their poor physical access to services; their widespread removal from their traditional lands and forests; poor enforcement of legislations meant to protect their interests; lack of a collective voice; and poor implementation of government programs (though the last is not particular to tribal regions). Together, they explain the complex web of deprivation that tribal people in India find themselves in (see Xaxa 2001). Each of these factors merits a separate paper. However, this section attempts to summarize the key issues for each, highlighting the core institutional factors that account for tribal deprivation.

Centrality of land and natural resources in explaining poor outcomes

The relationship of STs to land is beyond that of subsistence cultivation and extends to the use of forest products and their dependence on natural resources for a livelihood. This is evident given that about 60 percent of India's forest cover lies in the 187 tribal districts covered by the Fifth and Sixth Schedules of the Constitution (Forest Survey of India Report, 2003). Estimates from Orissa indicate that one half to over one-fifth of annual income of tribal households comes from Non-Timber Forest Products (NTFPs). Many NTFP (e.g. kendu leaves) are of high value and are prone to commercial exploitation. Their sale is usually governed by a complex set of rules and regulations and tribal rights activists allege that the state and middlemen work towards keeping the tribals' share of the profits low. While there have been efforts to devolve the procurement and marketing of NTFPs to gram sabhas¹⁸, the lack of capacity of gram sabhas in these areas has meant that middlemen may have benefited more than tribal people.

In addition to their tenuous hold over NTFPs, the Scheduled Tribes in India have also been gradually losing access to their traditional lands – a process that is referred to as alienation. The largest form of alienation from traditional land has taken place due to state acquisition of land for development. The 10th 5-Year Plan notes that between 1951 and 1990, 21.3 million people were displaced, of which 40 percent, or 8.5 million, were tribal people (Burra, 2008).

Proactive legislation, but poor enforcement

In addition to the policies described to safeguard the welfare of STs (section II), India has had an active program of land reform, albeit with patchy implementation. Legislation moreover, prevents ST land from being “alienated”, but this can act as a double edged sword. It may mean that tribals cannot sell their land to non-tribals even when they want to. But land grabbing takes place regardless - through marriage or through fraud by contractors/lenders as a means to recover debt from STs. ST indebtedness is another important reason for lands being handed over to moneylenders, often through fraudulent transactions. Mander (2002) estimates that nearly 46 percent of land transfers in Jhabua (MP) in the 1970s were to repay loans. The issue of fake ST certificates has also acquired very sensitive political ramifications. Despite the publicized Supreme Court case of a student named Madhuri Patil who fraudulently received a ST certificate, indicating

¹⁸ Orissa for instance has devolved the procurement and marketing of 69 NTFPs; the Gram Sabha is a village assembly of which each resident of the village is a member

herself as Mahadeo Koli (an ST) when in fact she was a Hindu Koli (OBC)¹⁹, such cases continue to come to light.

One of the most important pieces of legislation in the last decade has been PESA. It is unique in being in consonance with customary laws, focusing more on tribal hamlet-based on culture rather than revenue villages. Several steps have been taken to operationalize PESA - state amendments and rules have been passed and monitoring is underway. However, it is widely believed that PESA has not been implemented in spirit. Most recently, another act – the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 (known variously in common parlance as the Forest Rights Act or the Tribal Rights Act) – recognizes the pre-eminent rights of tribals on forest land. Both PESA and the Tribal Rights Act fundamentally question the power relations between ST and non-STs areas and peoples and purports to transfer greater power to the former. It is the politics of this power sharing that is at the crux of poor implementation and needs to be taken on squarely at the political level.

Poor implementation of government programs

Legislative instruments have gone hand in hand with special programs for vulnerable groups and areas, especially for tribals. But implementation of programs and enforcement of laws has been very weak. The public administration and activist literature documents the challenges in implementing programs in tribal areas. There are both supply side and demand side challenges and often the two are mutually reinforcing.

One of the key issues in scheduled areas is poor physical access. In most states in India, Scheduled Tribes are physically isolated, concentrated in certain regions and districts and in hilly and forested areas that make communication and access to services difficult even in normal circumstances. Poor coverage of all weather roads makes transportation in emergencies virtually impossible, even if health centers were attended by medical personnel. There is also a deep rooted cultural chasm and mistrust between the largely non-tribal health providers and the tribal residents (Bharat et al 2003, Pallavi 2004). Migration of Scheduled Tribes during the lean season to cities and towns makes the task of health surveillance for antenatal care or immunization or growth monitoring of children even more difficult. Finally, while administrators realize the value of recruiting local residents as field level medical personnel, it is often impossible to find even secondary educated ST women who can fill the positions of nurses or female health workers. As a result the positions either remain vacant or are filled by non-tribal, non-resident providers.

We discuss here as an illustration a few challenges in the implementation of the Integrated Child Development Services (ICDS), which aims to improve the nutritional status of pre-school children, pregnant women and lactating mothers, particularly those belonging to the poorest of the poor families and living in disadvantaged areas. It also has a component of early childhood education. Program incidence across expenditure quintiles in 2004-05 shows that while it does benefit a substantial proportion of the

¹⁹ Kumari Madhuri Patil vs. Addl. Commissioner [1994] RD-SC 445 (2 September 1994)

Scheduled Tribe population (14.1 percent of tribal children), it also reaches the better-off quintiles (NSS, 2004-05). More than one-fifth of children in the third and fourth quintile of tribal households receive benefits. The scheme also benefits 8.7 percent of tribal children in the richest quintile. These issues of targeting and program performance have been in the policy discourse for several years, but issues of monitoring, gaps in targeting and political interference are significant roadblocks. Other programs are challenged with similar problems (see Box 1).

Strong protest movements but limited voice in decision-making

Legislation and other special provisions for enhanced voice of ST groups have worked in consonance with strong movements from below. Tribal movements against the state predate the British and STs have historically been assertive of their rights over land and forests. In the recent period tribal action has not translated into better integration of their voice in decision making. While both Scheduled Castes and Tribes have faced political disadvantages in the past, the former have been more effective in claiming political representation and power than the latter. The SCs have nationally known political parties and leaders who can represent their claims in the wider political system. STs on the other hand, despite enabling legislation, seem to have become increasingly marginalized. Banerjee and Somanathan (2007) show for instance that between 1971 and 1991, fewer education and health facilities were available in parliamentary constituencies with Scheduled Tribe concentrations.

Many including Guha (2007) and Xaxa (2001) have maintained that disparities between STs and non-STs are largely related to low collective voice of the former and low accountability to them by the ruling elites. Restricted to remote villages, in no state of India are the Scheduled Tribes in majority²⁰. They can influence election results in only a few isolated districts. In contrast, the SCs form a considerable share of total population in several states, and therefore can play a decisive hand in influencing voting results (Guha 2007). Thus the concerns of the Scheduled Tribes remain marginal in the national context on the one hand, and on the other, there are increasingly violent insurgent movements in tribal areas. A recent Planning Commission report (Government of India, 2008) links these movements squarely to underdevelopment and marginalization of STs.

VI. Conclusions

This chapter has drawn attention to some of the issues in the deprivation of Scheduled Tribe groups in India. While it is by no means a comprehensive analysis, yet, the national picture it paints is sobering. It highlights the differences in outcomes between STs and other groups – even the SCs. It has the following key findings:

- During a period of relative prosperity for India as a whole, poverty rates for STs have declined more slowly than for other groups and particularly slowly in states that have large proportions of Scheduled Tribe populations.

²⁰ Even in states like Jharkhand and Chattisgarh, which have considerable tribal populations, roughly two-third of the population is non-tribal.

- Health and education outcomes for STs, while showing faster progress in some respects than the rest of the population are still very poor. Convergence with other groups has occurred in only a small number of areas, notably in lower levels of education and immunization coverage.
- Excess mortality of ST children continues to be the starkest marker of tribal disadvantage and has its roots in a number of complex processes that exclude STs in general.
- While a number of laws and programs are in place to address the special disadvantages of STs, implementation is poor.
- The low voice of STs in decision-making and their alienation from land and forests are central to their continued exclusion from progress and development.

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ANNEX 1

The term 'Scheduled Tribes' first appeared in the Constitution of India. Article 366 (25) defined Scheduled Tribes as "such tribes or tribal communities or parts of or groups within such tribes or tribal communities as are deemed under Article 342 to be Scheduled Tribes for the purposes of this constitution". Article 342, which is reproduced below, prescribes procedure to be followed in the matter of specification of Scheduled Tribes.

Article 342 Scheduled Tribes

The President may, with respect to any State or Union territory, and where it is a state, after consultation with the Governor there of by public notification, specify the tribes or tribal communities or parts of or groups within tribes or tribal communities which shall, for the purposes of this constitution, be deemed to be Scheduled Tribes in relation to that state or Union Territory, as the case may be. Parliament may by law include in or exclude from the list of Scheduled Tribes specified in a notification issued under clause(1) any tribe or tribal community or part of or group within any tribe or tribal community, but save as aforesaid, a notification issued under the said clause shall not be varied by any subsequent notification.

Thus, the first specification of Scheduled Tribes in relation to a particular State/ Union Territory is by a notified order of the President, after consultation with the State governments concerned. These orders can be modified subsequently only through an Act of Parliament. The above Article also provides for listing of Scheduled Tribes State/Union Territory wise and not on an all India basis.

The criterion followed for specification of a community, as Scheduled Tribes are indications of primitive traits, distinctive culture, geographical isolation, shyness of contact with the community at large, and backwardness. This criterion is not spelt out in the Constitution but has become well established. It subsumes the definitions contained in 1931 Census, the reports of first Backward Classes Commission 1955, the Advisory Committee (Kalelkar), on Revision of SC/ST lists (Lokur Committee), 1965 and the Joint Committee of Parliament on the Scheduled Castes and Scheduled Tribes orders (Amendment) Bill 1967 (Chanda Committee), 1969.

In exercise of the powers conferred by Clause (1) of Article 342 of the Constitution of India, the President, after Consultation with the State Governments concerned have promulgated so far 9 orders specifying the Scheduled Tribes in relation to the state and union territories. Out of these, eight are in operation at present in their original or amended form. One order namely the Constitution (Goa, Daman & Diu) Scheduled Tribes order 1968 has become defunct on account of reorganization of Goa, Daman & Diu in 1987. Under the Goa, Daman & Diu reorganization Act 1987 (18 of 1987) the list of Scheduled Tribes of Goa has been transferred to part XIX of the Schedule to the Constitution (Scheduled Tribes) Order, 1950 and that of Daman & Diu II of the Schedule of the Constitution (Scheduled Tribes) (Union Territories) Order, 1951.

ANNEX 2

Official Poverty Lines of India, 2004-05

Rupees/month

	Rural	Urban
Andhra Pradesh	293.0	542.9
Arunachal Pradesh	387.6	378.8
Assam	387.6	378.8
Bihar	354.4	435.0
Chhattisgarh*	322.4	560.0
Delhi	410.4	612.9
Goa	362.3	665.9
Gujarat	353.9	541.2
Haryana	414.8	504.5
Himachal Pradesh	394.3	504.5
Jammu & Kashmir	391.3	553.8
Jharkhand*	366.6	451.2
Karnataka	324.2	599.7
Kerala	430.1	559.4
Madhya Pradesh	327.8	570.2
Maharashtra	362.3	665.9
Manipur	387.6	378.8
Meghalaya	387.6	378.8
Mizoram	387.6	378.8
Nagaland	387.6	378.8
Orissa	325.8	528.5
Punjab	410.4	466.2
Rajasthan	374.6	559.6
Sikkim	387.6	378.8
Tamil Nadu	351.9	547.4
Tripura	387.6	378.8
Uttar Pradesh	365.8	483.3
Uttarakhand*	478.0	637.7
West Bengal	382.8	449.3
Union Territories (UT)		
Andaman & Nicobar	351.9	547.4
Chandigarh	466.2	466.2
Dadra & Nagar Haveli	362.3	665.9
Daman & Diu	362.3	665.9
Lakshadweep	430.1	559.4
Pondicherry	351.9	547.4
All India	356.3	538.6

Source: Planning Commission

ANNEX 3

**Consumption regressions, India Round 61 of NSS. OLS with robust standard errors.
WITH PROVINCIAL CONTROLS.**

	RURAL			URBAN		
	ST	Non-ST (including OBC/SC)	Non-ST (excluding OBC/SC)	ST	Non-ST (including OBC/SC)	Non-ST (excluding OBC/SC)
<i>Dependent variable: log real monthly per capita consumption</i>						
Household size	-0.1019***	-0.0893***	-0.0911***	-0.1645***	-0.1607***	-0.1768***
Household size, squared	0.0036***	0.0031***	0.0031***	0.0072**	0.0059***	0.0067***
Proportion of HH members 0-6 years old	-0.2401***	-0.3479***	-0.3623***	-0.2635**	-0.2427***	-0.2992***
Proportion of HH members 60+ years old	-0.06	-0.1701***	-0.1312***	-0.06	-0.1170***	-0.04
Age of HH head	0.0156***	0.0030**	0	0.0432***	0.0089***	0.0087***
Age of HH head, squared	-0.0001**	0	0.0000**	-0.0004***	0	0
HH head's education level						
below primary	0.0473**	0.0731***	0.0605***	0.1879***	0.0985***	0.1110***
primary	0.1296***	0.1495***	0.1500***	0.2663***	0.2027***	0.2078***
secondary	0.2763***	0.2906***	0.2882***	0.4994***	0.4663***	0.4689***
Post-secondary	0.4706***	0.5222***	0.5288***	0.7834***	0.8244***	0.8079***
Female HH head	-0.0505**	-0.0267***	0	-0.03	0.01	0.02
Household's most important source of income [^]						
1=rural: non-agricultural self-employment	0.1120***	-0.0315***	0.01	n.a.	n.a.	n.a.
1=rural: agricultural labor	-0.0699***	-0.2546***	-0.2494***	n.a.	n.a.	n.a.
1=rural: other labor	0.02	-0.1551***	-0.1165***	n.a.	n.a.	n.a.
1=rural: other	0.1214***	0.0558***	0.0848***	n.a.	n.a.	n.a.
1=urban: self-employed	n.a.	n.a.	n.a.	-0.1582***	-0.0262***	0.01
1=urban: casual labor	n.a.	n.a.	n.a.	-0.3398***	-0.2889***	-0.2881***
1=urban: other	n.a.	n.a.	n.a.	-0.06	-0.0372**	-0.0510**
Area of agricultural land owned	0.0399***	0	0	0.04	0.0233***	0.0150***
Area of agricultural land owned, squared	-0.0000***	0	0	0	-0.0000***	-0.0000***
Provincial dummies	included	included	included	included	included	included
Constant	6.7093***	6.5676***	6.6362***	5.8519***	6.8234***	6.9906***
N	12681	66097	22599	3472	41073	18869
r ²	0.36	0.32	0.36	0.59	0.47	0.46

note: .01 - ***; .05 - **; .1 - *;

[^] - Reference category: in urban areas and all India - wage employment, in rural areas — agricultural self-employment

ANNEX 4

Table 4A. Gap between Scheduled Tribes and others persists for all types of immunization

	ST	SC	OBC	Other	Total
<i>Year = 1998</i>					
BCG	0.599	0.710	0.735	0.781	0.733
Polio 0	0.074	0.157	0.233	0.174	0.180
Polio 1	0.739	0.835	0.880	0.860	0.849
Polio 2	0.662	0.787	0.827	0.808	0.796
Polio 3	0.470	0.605	0.646	0.645	0.620
DPT 1	0.569	0.694	0.739	0.783	0.729
DPT 2	0.483	0.645	0.677	0.727	0.670
DPT 3	0.372	0.551	0.588	0.637	0.578
Measles	0.343	0.491	0.523	0.596	0.526
All basic vaccinations	0.245	0.393	0.422	0.461	0.413
Any of the basic vaccinations	0.760	0.859	0.903	0.884	0.873
<i>Year = 2005</i>					
BCG	0.722	0.757	0.758	0.851	0.782
Polio 0	0.299	0.466	0.458	0.589	0.484
Polio 1	0.874	0.914	0.941	0.942	0.929
Polio 2	0.808	0.881	0.901	0.901	0.888
Polio 3	0.654	0.765	0.812	0.805	0.785
DPT 1	0.660	0.739	0.737	0.832	0.758
DPT 2	0.543	0.639	0.636	0.765	0.666
DPT 3	0.422	0.515	0.524	0.665	0.554
Measles	0.469	0.559	0.554	0.699	0.590
All basic vaccinations	0.324	0.392	0.402	0.549	0.436
Any of the basic vaccinations	0.892	0.940	0.957	0.956	0.947

Note: Children 12-23 months old old of ever married women, 15 to 49 years old.

Source: NFHS

Table 4B. Scheduled Tribe children are less likely to be treated for illnesses like diarrhea, fever and cough

	ST	SC	OBC	Other	Total
Survey year = 1998					
Diarrhea over last two weeks	0.211	0.195	0.181	0.188	0.189
Received no medical treatment for diarrhea	0.417	0.273	0.284	0.257	0.286
Taken to health facility for diarrhea	0.534	0.670	0.671	0.693	0.664
Fever over last two weeks	0.315	0.293	0.278	0.305	0.295
Cough over last two weeks	0.384	0.355	0.346	0.353	0.354
Had fever/cough over last two weeks	0.463	0.437	0.423	0.447	0.439
Received no medical treatment for fever/cough	0.459	0.324	0.308	0.273	0.314
Taken to health facility for fever/cough	0.425	0.494	0.530	0.535	0.514
Survey year = 2005					
Diarrhea over last two weeks	0.125	0.120	0.130	0.112	0.122
Received no medical treatment for diarrhea	0.336	0.304	0.333	0.253	0.306
Taken to health facility for diarrhea	0.588	0.618	0.589	0.684	0.620
Fever over last two weeks	0.150	0.172	0.165	0.191	0.173
Cough over last two weeks	0.180	0.199	0.193	0.234	0.205
Had fever/cough over last two weeks	0.228	0.249	0.241	0.282	0.253
Received no medical treatment for fever/cough	0.415	0.269	0.278	0.248	0.278
Taken to health facility for fever/cough	0.558	0.651	0.658	0.695	0.660

Note: Children 0-35 months old of ever married women, 15 to 49 years old.

Source: NFHS

Table 4C. Despite gains, maternal health indicators for ST women remained below par, even by comparison with SC peers

(percent)	ST	SC	OBC	Other	No caste/tribe	Total
<i>Survey year 1998</i>						
Three or more antenatal visits	0.284	0.383	0.469	0.512	0.486	0.449
First antenatal visit during first trimester	0.214	0.263	0.339	0.407	0.343	0.334
Currently use contraception	0.362	0.416	0.438	0.516	0.417	0.454
Ever use contraception	0.441	0.494	0.509	0.621	0.543	0.541
Know of a modern method of contraception	0.965	0.988	0.991	0.991	0.986	0.988
Location of last birth (home)	0.830	0.730	0.634	0.579	0.651	0.655
Birth assisted by doctor	0.350	0.428	0.494	0.580	0.563	0.498
Birth assisted by midwife/nurse	0.178	0.220	0.220	0.197	0.184	0.206
<i>Survey year 2005</i>						
Three or more antenatal visits	0.405	0.443	0.482	0.631	0.527	0.508
First antenatal visit during first trimester	0.322	0.359	0.420	0.540	0.426	0.430
Currently use contraception	0.469	0.539	0.531	0.605	0.569	0.551
Ever use contraception	0.548	0.631	0.619	0.723	0.763	0.650
Know of a modern method of contraception	0.970	0.992	0.993	0.994	0.992	0.991
Location of last birth (home)	0.797	0.650	0.599	0.439	0.640	0.587
Birth assisted by doctor	0.322	0.412	0.470	0.642	0.550	0.492
Birth assisted by midwife	0.367	0.417	0.356	0.321	0.411	0.362

Notes: Ever-married women (15-49 years) who gave birth in last 3 years. Statistics refer to last birth. Source: NFHS

ANNEX 5

In their analysis of rural household data from some poor states, Dreze and Kingdon (2001)²¹ find that children from Scheduled Caste and Scheduled Tribe groups are much less likely to go to school, even when household wealth, quality of schooling, parents' education and motivations are controlled for. We tested this hypothesis using the NSS data. Controlling for other typical predictors, we found that membership in a Scheduled Tribe is still associated with a significantly lower (-.24) probability of current school enrollment among 7 to 14 year olds (Table 5A). Moreover, the gap in enrollment between Scheduled Tribes and the rest of the population in this age group is largely a rural phenomenon; in urban areas the gap is smaller in magnitude (-.12) and fails the significance test.

Notably, our findings suggest that scheduled caste membership does not significantly lower the probability of being enrolled in school, either in rural or in urban areas. Although conventional research on exclusion in India focuses on belonging to backward castes, tribal status proves a far more relevant correlate of current enrollment.

Table 5A: Correlates of School Enrollment India NSS 2004-2005, Probit.
Dependent variable: current enrolment in primary or secondary among 7-14 year olds

	India	Rural	Urban
Age	0.665***	0.646***	0.779***
Age^2	-0.036***	-0.035***	-0.040***
Female	-0.304***	-0.355***	-0.082*
Scheduled Tribe	-0.240***	-0.239***	-0.116
Scheduled Caste	-0.039	-0.033	-0.070
Household head's education			
below primary	0.398***	0.421***	0.299***
primary	0.613***	0.586***	0.659***
secondary	0.800***	0.815***	0.696***
graduate	1.076***	1.237***	0.830***
Log monthly real expenditure per capita	0.465***	0.465***	0.564***
N HH members 0-6 years old	-0.033***	-0.032***	-0.039*
N HH members 7-14 years old	0.007	0.010	-0.002
N HH members 15-24 years old	-0.019*	-0.014	-0.036*
Urban	0.003		
State controls	included	included	included
Constant	-5.103***	-4.850***	-6.441***
Number of observations	107,870	73,314	34,556
Log-Likelihood	-38,512.13	-27,635.99	-9,661.72
Adjusted R2	0.161	0.155	0.188

note: .005 - ***; .01 - **; .05 - *;

For India as a whole, we find a 9-point difference in the predicted probability of current school enrollment: 0.86 for non-Scheduled Tribes and 0.77 for Scheduled Tribes (Table

²¹ Drèze, J. and G.G. Kingdon. 2001. "School Participation in Rural India." *Review of Development Economics*, Vol.5: 1-24.

5B). This gap varies with the position of the household in the expenditure distribution - it is 8 points for households in the poorest quintile but is only 3 points for households in the wealthiest quintile. Similarly, when households are ranked according to the education level of the household head, the tribal gap in current enrollment widens for children with illiterate household heads.

Table 5B: Predicted Probability of Current Enrollment in Primary or Secondary School for All India, 2004-05.

Based on the model in column 1 above

	Non-ST	ST	Total
<i>Level of education of HH head</i>			
Illiterate	0.755	0.682	0.746
Below primary	0.869	0.818	0.864
Primary	0.917	0.869	0.913
Secondary	0.942	0.912	0.940
Graduate	0.975	0.959	0.974
Total	0.857	0.766	0.848
<i>Expenditure quintiles</i>			
Poorest quintile	0.769	0.689	0.757
2	0.833	0.776	0.828
3	0.867	0.807	0.862
4	0.906	0.862	0.903
Wealthiest quintile	0.958	0.927	0.956
Total	0.857	0.766	0.848

Source: National Sample Survey