Chapter 1

Development Challenges and Poverty in Bihar

Meeting the Millennium Development Goals

Poverty in Bihar — the highest among — all states in India in terms of consumption measures — is intensified by the deficiencies reflected in key human development indicators. For most dimensions of human development — education, malnutrition and maternal mortality — Bihar's performance during the 1990s falls well short of what is needed to achieve the Millennium Development Goals (MDGs) by 2015 (Table 1.1).[1]

In comparison with the rest of the country, Bihar's progress in achieving the MDGs has been slow in relation to most indicators of human development (Table 1.2). For some indicators, like infant and child mortality or child malnutrition, Bihar's rate of

TABLE 1.1 SELECTED MDG INDICATORS FOR BIHAR

		1993	1999
1.	Eradicate extreme poverty and hunger: Between 1990 and 2015, halve the proportion of people whose income is less than one dollar a day. Between 1990 and 2015, halve the proportion of people who suffer from hunger.		
	Poverty headcount (%)*	45.9	39.0
	Poverty gap*	0.10	0.08
	Prevalence of child malnutrition/underweight children below 5 (%)	62.6	54.4
2.	Achieve universal primary education by 2015		
	Net primary enrollment ratio (%)*	54	52
3.	Promote gender equality: eliminate gender disparity in primary and secondary education preferably by 2005 and to all levels of education no later than 2015.		
	Ratio of female to male literacy**	0.44	0.56
4.	Reduce child mortality: reduce by two-thirds, between 1990 and 2015, the under-five mortality rate		
	Infant mortality rate (per 1000 live births)	89.2	72.9
	Child (under age 5) mortality rate (per 1000 live births)	127.5	105.1
	Immunization, measles (% of children under 12 months)	10.7	11.0
5.	Improve maternal health: reduce by three-quarters, between 1990 and 2015, the maternal mortality ratio		
	Births attended by skilled health staff (%)	19	23.4
	Maternal mortality rate (per 100,000 live births)***		451
6.	Combat HIV/AIDS, malaria and other diseases: Have halted by 2015, and begun to reverse, the spread of HIV/AIDS. Have halted by 2015, and begun to reverse, the incidence of malaria, TB etc.		
	Contraceptive prevalence rate (%)	23.1	24.5
	Incidence of TB (per 100,000)	595	989
7.	Halve, by 2015, the proportion of people without sustainable access to safe drinking water		
	Access to improved water resources (%)	63.6	75.4
	Access to improved sanitation (%) (households with toilet facility)	16.5	16.8

Note: * Numbers are for years 1993-94 and 1999-00 respectively; ** Number is for year 1997; *** Number is for year 2001.

progress in the 1990s has matched or exceeded all-India trends. However, since Bihar started from a low baseline, substantial gaps with the country averages persist even for these indicators. In the case of critical indicators, such as net primary enrollment, immunization, use of contraceptives, and access to sanitation facilities, progress has been slow or non-existent.

Figure 1.1 tracks selected MDG indicators for Bihar during the last decade, and compares these with the trajectories implied in the MDG targets for 2015. Bihar has achieved only two of the eight MDG targets — namely, reduction in child malnutrition and improvement in access to drinking water. For two other indicators — poverty headcount and child mortality rate — the current rate of progress will bring Bihar close to the 2015 targets. As regards primary enrollment, the ratio of female to male literacy (an indicator of gender equality), the proportion of births attended to by skilled personnel and access to sanitation, at current rates of progress, Bihar will lag far behind the MDG targets. Access to safe drinking water is the only indicator

FIGURE 1.1 ACHIEVEMENT OF MDG IN BIHAR

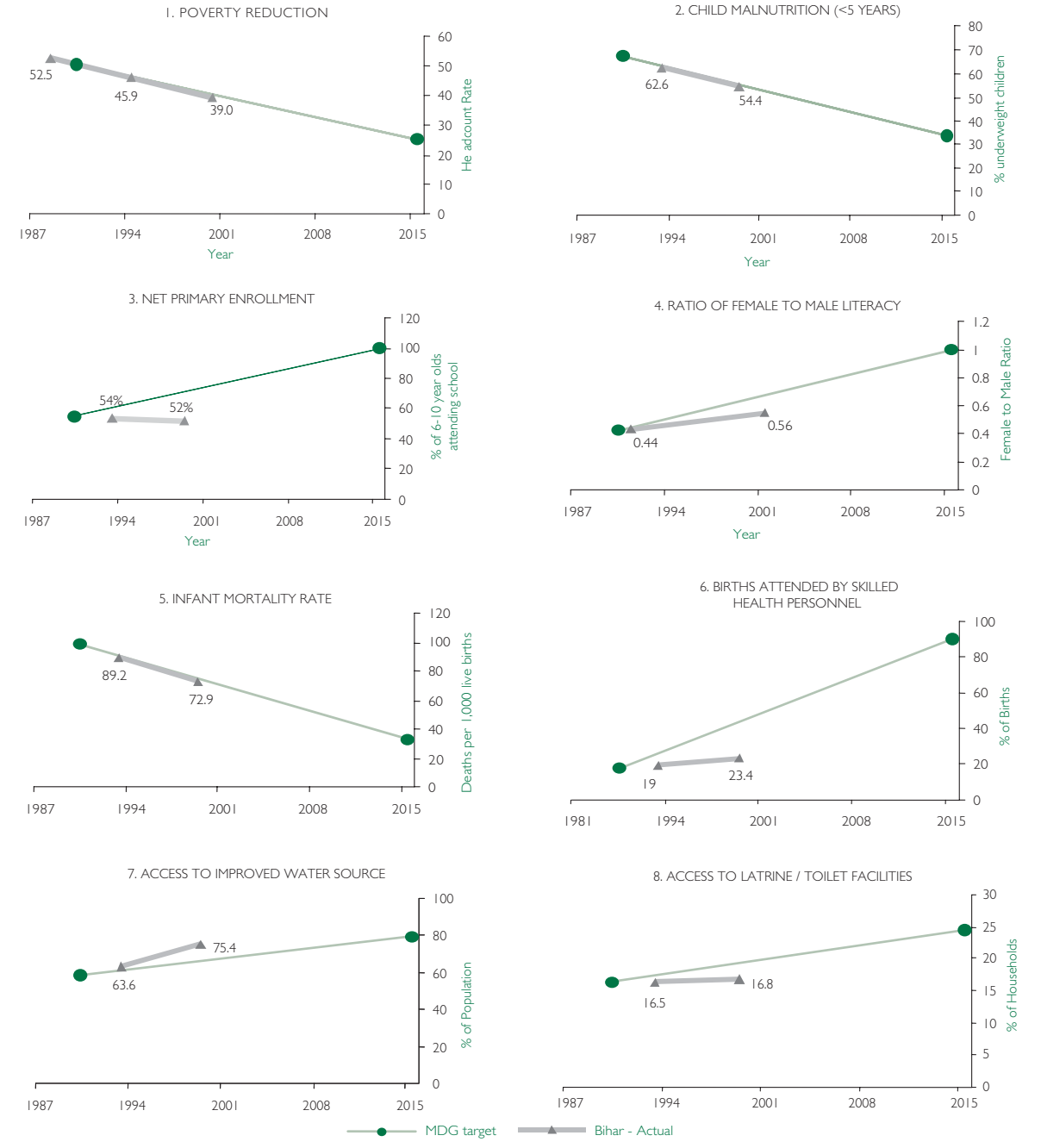


TABLE 1.2 SELECTED INDICATORS FOR BIHAR AND INDIA

	1993		1999	
	India	Bihar	India	Bihar
Poverty headcount (%)*	36.0	45.9	28.6	39.0
Poverty gap*		0.10		0.08
Prevalence of child malnutrition/underweight children below 5 (%)	53.4	62.6	47.0	54.4
Net primary enrollment ratio (%)*	71	54	77	52
Literacy rate (male)	64.1	52.5	76.0	60.3
Literacy rate (female)	39.3	22.9	54.3	33.6
Ratio of female to male literacy	0.61	0.44	0.71	0.56
Infant mortality rate (per 1000 live births)	78.5	89.2	67.6	72.9
Child (under age 5) mortality rate (per 1000 live births)	109.3	127.5	94.9	105.1
Immunization, measles (% of children under 12 months)	35.4	10.7	42.0	11.0
Births attended by skilled health staff (%)	34.2	19	42.3	23.4
Maternal mortality rate (per 100,000 live births)**			408	451
Contraceptive prevalence rate (%)	40.6	23.1	48.2	24.5
Incidence of TB (per 100,000)	467	595	544	989
Access to improved water resources (%)	68.2	63.6	77.9	75.4
Access to improved sanitation (%) (households with toilet facility)	30.3	16.5	36.0	16.8
Households with electricity as source of lighting (%)			55.8	10.3

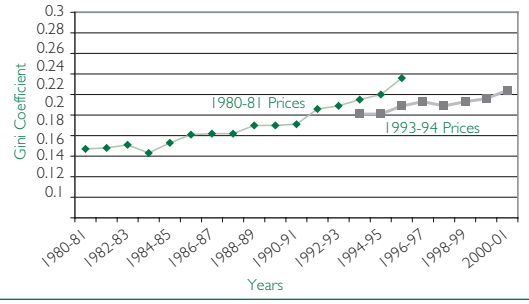
Note: * Numbers are for years 1993-94 and 1999-00 respectively; ** Number is for year 1997.

for which current progress in Bihar is well ahead of a linear path to the MDG target.[2]

The weak performance of Bihar and other poor states is not a short-term problem. Figure 1.2[3] shows the trend towards increasing income inequality across states over the past two decades, as measured by the Gini coefficient of interstate per capita income. Over this period, the Gini rose from 0.17 to over 0.22, indicating the unmistakable trend towards a widening income gap between states. Well recognized by national policy makers, this was a key issue of concern in the Tenth Five Year Plan document.

The challenge of development in rural areas is even more acute since the aggregate figures subsume large rural-urban gaps for most indicators. Since Bihar has a large rural population addressing rural challenges is pivotal to outcomes. The state is one of India's largest and most densely populated, with one-twelfth of the country's population. Hence, the extent to which the country as a whole can achieve significantly better poverty and human outcomes is linked to the level of development in Bihar. At current rates of progress, Bihar is projected to fall behind most of the MDG targets for 2015, thus adversely impacting the national prospect of achieving these targets.

FIGURE 1.2 TRENDS IN INTER-STATE INEQUALITY IN PER CAPITA GSDP



Dimensions of Poverty

Poverty levels and trends: Where are the poor?

Poverty estimates in India, based on the recent 55th round National Sample Survey Organization (NSSO)'s Consumer Expenditure Survey, have been the subject of much analysis and debate. Depending on the specific model used to adjust for comparability between the NSSO rounds of 1993-94 and 1999-2000, there are different estimates on the extent of poverty reduction between these two years. A resolution of this debate is not possible at this stage, since there is no scientific way of determining which of these models better reflect the "true" picture. They are essentially ex-post methods of adjusting consumption expenditures to achieve comparability between the two surveys, using alternate sets of assumptions that cannot be tested.

However, irrespective of which precise method is used, there are indications that Bihar has made some progress in poverty reduction in the latter half of the 1990s. At the same time, regardless of the method used, the absolute level of poverty continues to be high in Bihar in 1999-2000, making it one of India's poorest states (Table 1.3).

According to the estimates by Deaton and Dreze (2002), the headcount index declined in Bihar by 6.9 percentage points between 1993-94 and 1999-2000; the decline was 7.5 percentage points for rural Bihar (Table 1.5).[4] A significant rural-urban gap continues to exist. While the reduction in the headcount level is similar to the national average of 6.5 percentage points, both rural headcount at 41% and urban headcount at 24.7% are significantly higher than the national average (26.3% for rural; 12% for urban). Other estimates portray different pictures of the extent of poverty reduction in Bihar: GoI's official figures indicate that the headcount ratio in rural Bihar declined by 14% between the NSSO 50th and 55th rounds, while Kijima and Lanjouw (2003) reported a reduction of 0.3% in rural poverty during the same period.[5]

It is useful to reflect on the reasons for the ambiguities in measuring poverty reduction in Indian states between the 50th and 55th rounds of the NSSO. There are two major issues involved in computing poverty indices for 1999-2000: price adjustments and non-comparability between the two rounds. The price indices traditionally used to update the poverty line (e.g., the consumer price index for agricultural laborers) have a serious drawback in that they are based on fixed and frequently outdated commodity "weights". Deaton and Dreze (2002) and Kijima and Lanjouw (2003) update the poverty lines using price indices computed with NSSO surveys, which are known to accurately reflect the current consumption pattern. This explains why their estimates depart from GoI estimates for both years.

Another important issue is that the 55th round is not directly comparable to the 50th round, due to changes in survey methodology with regard to recall periods for some consumption items. Both Deaton and Dreze, and Kijima and Lanjouw use the fact that a subset of components in the 55th round (e.g., intermediate consumption goods, such as fuel and all household characteristics) were collected in the same way as those in the 50th round. They predict poverty in the 55th round assuming the relationship between these comparably surveyed components and poverty is stable over time. Where the two methods differ is in their specific assumptions: Deaton and Dreze assume the relationship between poverty and expenditure on comparably surveyed consumption goods (mainly intermediate goods, such as fuel and light is stable between the 50th round and 55th round; Kijima and Lanjouw assume the relationship between poverty and household characteristics, such as education, land holding, and scheduled caste and tribe status, is stable over time.

Either set of assumptions can be criticized with regard to their appropriateness. On the one hand, the assumption in Deaton and Dreze is arguable since reporting expenditure on intermediate goods can be distorted by changes in the questionnaire, for example, food consumption.[6] The assumption in Kijima and Lanjouw is also debatable because educational attainment and occupational choice do not adjust immediately to changes in consumption/incomes but often depend on the long-term rate of return to education and agricultural productivity.

While stagnating social indicators in rural Bihar appear to support Kijima and Lanjouw, this largely follows from the assumptions of their model: head-

TABLE 1.3 HEADCOUNT ESTIMATES

	1993-94 (50th round)			1999-2000 (55th round)		
State	**Urban**	**Rural**	**Overall**	**Urban**	**Rural**	**Overall**
Bihar	26.7	48.6	45.9	24.7	41.1	39.0
Orissa	15.2	43.5	39.9	15.6	43	38.5
Punjab	7.8	6.2	6.6	3.4	2.4	2.7
Tamil Nadu	20.8	38.5	32.3	11.3	24.3	19.8
All India	17.8	33.0	29.2	12.0	26.3	22.7

Source:: Deaton and Dreze,` Poverty and Inequality in India: A Re-Examinaton,' *Economic and Political Weekly*, 7 Sept.2002.

TABLE 1.4 POVERTY INDICES (% CHANGE)

	Headcount Index			Poverty Gap		
	Urban	Rural	Overall	Urban	Rural	Overall
Bihar	-7.5	-15.4	-15.0	-10.7	-20.6	-20.8
Orissa	2.6	-1.1	-3.5	0.0	8.2	3.4
Punjab	-56.4	-61.3	-59.1	-63.6	-70.0	-60.0
Tamil Nadu	-45.7	-36.9	-38.7	-55.6	-49.5	-50.7
All India	-32.6	-20.3	-22.3	-37.8	-25.7	-27.4

Source: Deaton & Dreze (2002).

count ratios are stagnant if household characteristics like social indicators improve. However, if Deaton and Dreze's assumptions are accepted, it could be argued that while there was a sizeable decline in consumption poverty in Bihar during the second half of the 1990s, this was not accompanied by similar improvements in other social indicators, which depend on longer-term factors that are slower to change.

It is important to understand poverty reduction in terms of levels of poverty as well as changes in poverty across time. While reduction in rural poverty in Bihar was higher in absolute terms than in a number of states like Punjab (measured relative to the level of poverty), the decline was much lower for Bihar than for the country as a whole. Table 1.4 assesses poverty reduction in Bihar as a percentage of the initial level of poverty adjusted for the scale effect. In terms of percentage changes of poverty indices, Bihar's performance was worse than the national average, and worse still compared with Punjab and Tamil Nadu.

The poverty gap index — which measures the depth of poverty — depicts similar results. Bihar's poverty gap was much higher than the national level in both urban and rural areas in 1999-2000, despite some improvements in rural areas between 1993-94 and 1999-00 (Annexure 1: Table 1.1).

Regional poverty incidence. The aggregate poverty trends conceal the diverse patterns of regional development in Bihar. In fact, Bihar is far from homogenous with regard to the distribution of its natural resources and growth patterns. According to Sharma (1995),[7] it is divided into two geographical units: the plains and the plateau. The Ganga separates the plains into two very different regions with regard to the natural, social and economic environment: the northern and southern Bihar plains.

Table 1.7 shows that the level of rural poverty varies widely across regions and sectors. In 1993-94, North Bihar and the Chhotanagpur plateau were significantly poorer than South Bihar. The regional variation, however, shrank over time. In North Bihar and the Chhotanagpur plateau, perceptible reductions in rural poverty (around 7-11%) were achieved. On the other hand, rural poverty in the South Bihar did not show any improvement since 1993-94. Although overall urban poverty declined slightly in Bihar (including Jharkhand), urban poverty increased in both North and South Bihar (Table 1.5), with urban North Bihar becoming significantly poorer over the period.

Poverty profile: Who are the poor?

The question: Who are the poor is closely related to the regions where poverty is concentrated, or to the factors that make an individual more vulnerable to poverty. On one hand, a variation in poverty among states is explained largely by structural factors, such as population density, ecological conditions, poor growth and employment options, and the availability of infrastructure such as irrigation

TABLE 1.5 HEADCOUNT INDEX ESTIMATES AT THE REGIONAL LEVEL

	1993-94	1999-2000
Rural		
North Bihar	49.3	38.0
South Bihar	44.4	44.1
Chhotanagpur plateau (Current Jharkhand)	52.6	45.0
Urban		
North Bihar	30.6	35.3
South Bihar	20.8	23.3
Chhotanagpur plateau (Current Jharkhand)	24.6	19.7

Source: Deaton (2003).

and transport. On the other hand, other conditions affecting the rural poor — gender, literacy, land ownership, employment status, caste and family size — create a more discernible pattern within a state. For example, a member of a scheduled tribe or caste, or a landless or near-landless household inevitably faces a significantly higher than average risk of poverty. In exploring these factors, this section will focus on certain major poverty correlates: occupational status, land ownership, educational attainment of household heads, and social groups, such as caste groups.

Poverty and occupational status. One of the long-standing problems in Bihar's economy has been lack of economic diversification (Sharma 1995): more than 80% of the rural population is engaged in the agricultural sector. Successive Bihar governments have attempted to facilitate development in the rural non-farm sector, but a poor investment climate has discouraged prospective investors from selecting rural Bihar.

The NSSO data shows that wage employment in agricultural labor accounted for nearly 40% of the rural workforce in Bihar in 1999-00, compared to 42% in 1993-94, but still constituted the dominant occupation in rural areas of the state (Annexure 1: Table 1.2). Agricultural labor and cultivation together account for around 80% of occupations in 1999-2000. There is still very limited occupational opportunity outside the agricultural sector in rural Bihar.

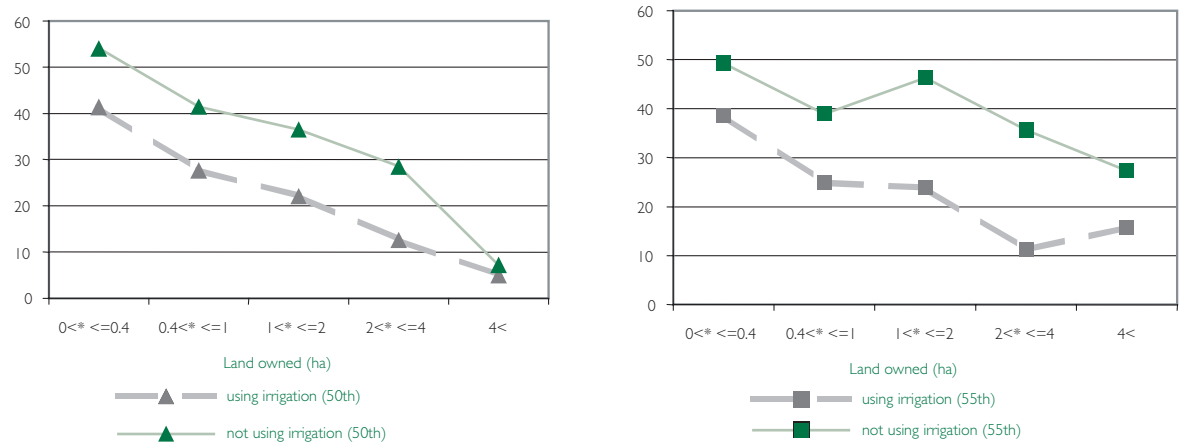
There is a sharp contrast in occupational distribution between the poor and non-poor in rural areas. The poor are far more likely to be agricultural wage workers or casual non-farm laborers, rather than cultivators or employed in a regular non-farm job. Over time, the share of agricultural labor in the poorest quintile has declined, while casual non-farm labor and self-employed non-farm occupations have increased. Such an occupational shift does not necessarily mean an improvement in occupational status of the rural poor. Casual non-farm labor is a "last resort" that households choose only when other options have been exhausted. Self-employment activities include a wide variety of occupations that could be as vulnerable as casual labor, especially for the poor. Casual labor offers one of the lowest wages among all occupations and the terms of employment are usually short and unstable. The recent occupational shift from agricultural labor to non-agricultural labor represents a move to higher daily nominal wages, irrespective of location and gender (Annexure 1: Table 1.4). However, this is not beneficial for poor households since occupational shifts might improve poor households' wages and income levels, but worsen their vulnerability to adverse economic shocks.[8]

In urban areas, more than 40% of household heads are self-employed, and around 30% have regular employment in 1999-2000 (Annexure 1: Table 1.3). While casual wage labor represents only around 10% of occupations among all urban household heads, it accounts for more than half the household heads in the poorest quintile, indicating that the majority of the urban poor has no choice but to work in this vulnerable sector. The share of household heads working as casual wage labor actually increased from 50% to54% between 1993-94 and 1999-2000.

According to Sharma (1995), the underemployment rate in rural Bihar is very high, as compared to the national average. This suggests that work seekers in rural Bihar face difficulties in finding stable positions that provide high wages over time within the state. Such increased vulnerability of casual laborers generates large out-migration to other states.

As many studies have shown, out-migration is a crucial survival strategy for the rural poor in Bihar. In fact, both the census and NSS report that Bihar has the highest rate of gross interstate out-migration in India. Some important facts on out-migration emerge from the 1998 UP-Bihar Living Conditions Survey: first, as much as 95% of out-migrants were male; second, out-migration is the highest in the poorest and the richest quintiles; third, the duration of out-migration from the poorest quintile tends to be shorter, as compared to the richest group. Another important aspect of out-migration is remittance from migrants to households. The ratio of remittances to household consumption is around 4 % for all households in the survey, and lower for SC/STs households, who are likely to be poor, for North Bihar and South Bihar alike. This may be because out-migration from poorer households tends to be only temporary, while out-migration from richer households tends to be much longer.[9]

FIGURE 1.3 POVERTY INCIDENCE BY LAND OWNERSHIP AND ACCESS TO IRRIGATION (%)



Poverty and access to physical and human assets

Land ownership. In the rural areas, land ownership is closely associated with poverty not just because land provides the main source of income, but also because land ownership improves access to economic and social opportunities. Table 1.6 indicates that the poor typically own less land than the non-poor in Bihar. In fact, 75 % of the rural poor were "landless" or "near-landless" in 1999-2000. This has expanded by 8% since 1993-94. As Figures 1.3 (a) and 1.3(b) clearly show that in 1999-2000 poverty incidence was substantially lower if a household had access to irrigation, irrespective of the size of land ownership. The high levels of inequality that have persisted in land ownership (Table 1.6) may be partly attributable to slack progress in land reform in the state (see Box 1.1 in Annexure 1). Land reform in Bihar started in 1950, with the abolition of intermediaries between landlords and the cultivators who worked under feudal lords, often under very exploitative arrangements. While the first Land Ceiling Act was passed in 1961, progress has been extremely slow — only 1.5 % of cultivable land was acquired and distributed by 1986, of which surplus land (meant to be redistributed) accounted for only 20% (Sharma 1995).

The analysis so far has shown that marginal landholders, and individuals engaged in agricultural labor and casual non-farm labor are likely to be poor. Consistent with this, a high correlation between landholding and occupations is observed in the NSSO data of 1999-2000: marginal landowners are much more likely to be engaged in agricultural labor, casual non-farm labor and self-employed activities than large landholders; large landowners are more likely to be engaged in cultivation and regular non-farm labor than marginal landholders (see Annexure 1: Table 1.8).

Land ownership and tenancy arrangements. In the context of large inequality in land ownership in Bihar and the high incidence of poverty among the marginal farmers and the landless, it is important to highlight the role played by contractual arrangements of land-leasing in the livelihoods of these groups. In 1998, nearly 25 % of cultivated land in rural Bihar was leased-in (Srivastava 2003)). For small landholders (0.5-1 acres), leased-in land was as much as half the size of their average cultivable land; for SC/ST households around 80% of cultivated land was leased-in (Figure 1.4).

In view of the high incidence of leasing-in of land among the small and marginal farmers and backward social groups, tenurial arrangements — including security of tenure and rental rates — are likely to have a significant impact on the livelihoods of the poor. Efforts to provide legal protection to tenants through tenancy and land reforms have not met with much success, with the result that a majority of tenancy contracts continue to exploit the poor.

Although tenancy reforms — as a part of land reform efforts — have been carried out since 1963 , the status of tenants has continued to be vulnerable in terms of rents and security of tenure. A majority of tenants pay half the gross output to landowners as rent, much in excess of the statutory provision of 25%. Furthermore, after a series of ceiling acts and tenancy reform acts, the system of tenancy has become almost entirely concealed and

TABLE 1.6 RURAL POVERTY INCIDENCE AND SHARES BY LAND OWNERSHIP

Land owned (ha)	50th round (1993/94)			55th round (1999/00)		
	% of rural population	Poverty incidence	% share of the poor	% of rural population	Poverty incidence	% share of the poor
No land	9	51	12	10	56	14
0<* <=0.4 ha	43	51	55	53	46	61
0.4<* <=1 ha	24	34	20	20	29	15
1<* <=2 ha	15	28	10	10	30	7
2<* <=4 ha	7	18	3	4	16	2
>4 ha	3	6	0	2	18	1
Overall	100	40	100	100	40	100

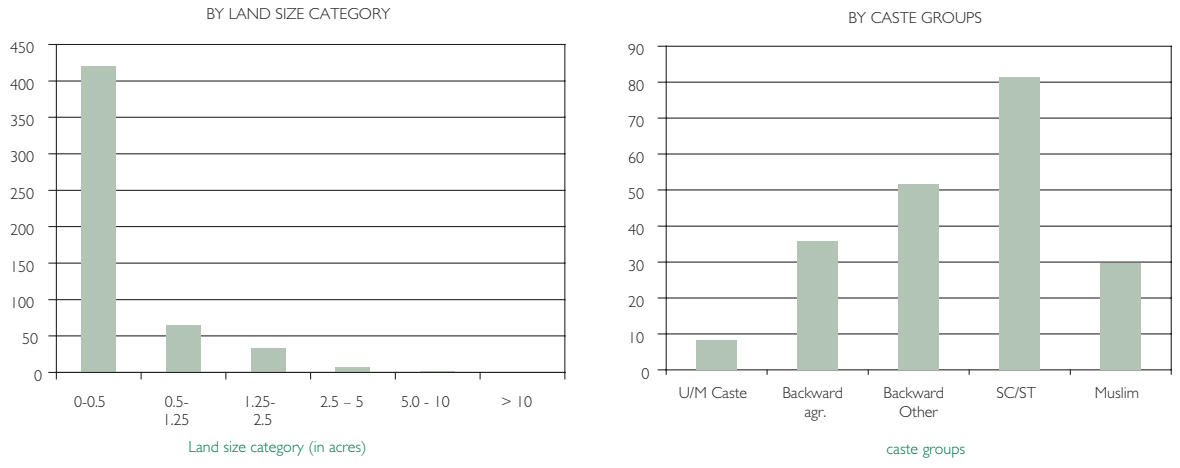
Notes: Poverty is defined as per capita consumption rank < 40%.
Source: The 50th and 55th round NSSO surveys (Schedules 1 & II).

informal. Concealed tenancy adversely impacts the security of tenure. It weakens the tenants' bargaining position and ability to enforce contract terms, and reduces the scope for greater land access through rental markets. Reducing rural poverty in Bihar means providing security of tenure to small and marginal farmers and the landless through effective implementation of land reforms.

Livestock ownership. Livestock is an important productive asset for rural households in India. The UP - Bihar Living Conditions Survey shows that: first, a majority of rural households own some kind of livestock; second, the poor and socially disadvantaged households tend to own low-quality livestock (goats rather than cows and buffaloes). Consistent with this pattern, households of upper castes and backward agricultural castes tend to own buffaloes and cows rather than goats, compared with SC/ST and Muslim households (see Annexure 1: Figure 1.1) which indicates that the poor tend to own livestock of lower quality. The total value of livestock per household in the richest quintile is almost six times higher than that of the poorest quintile (Figure 1.5).

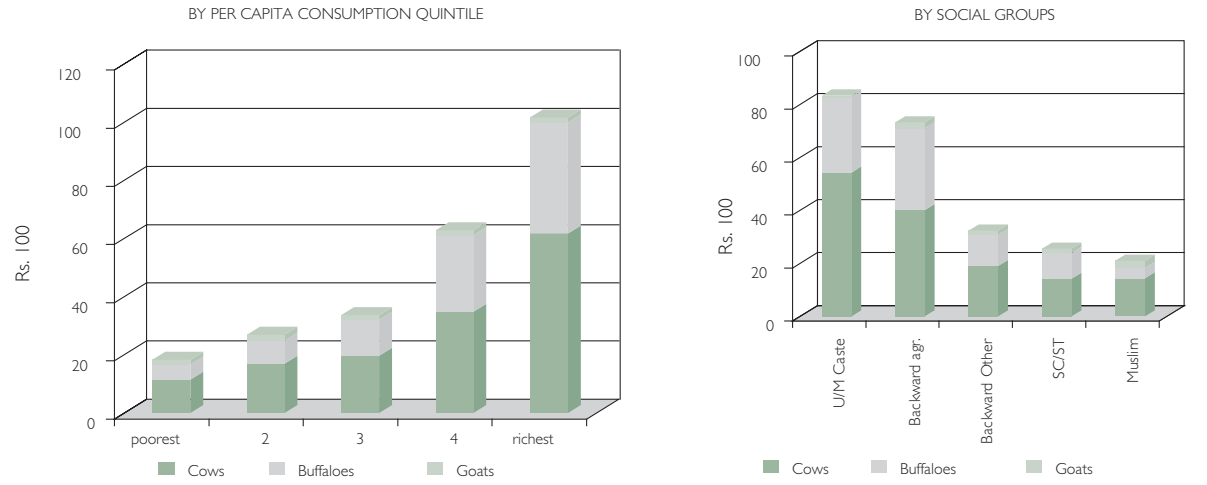
Poverty and education. Education is a key indicator of human development — many desirable social and economic outcomes are linked to rising levels of education. A higher level of educational attainment facilitates non-farm economic growth, resulting in economic diversity (Datt and Ravallion, 2002). According to NSSO data, there is a strong relationship between consumption poverty and educational attainment of the household head (see Annexure 1: Table 1.9). In both urban and rural areas, average consumption levels of households whose heads had completed secondary education or higher education are significantly higher than those of households whose heads were illiterate. Nearly 80% of household heads in the bottom quintile in rural areas were seen in 1993-94 as hav-

FIGURE 1.4 LEASED-IN LAND AS A PERCENTAGE OF CULTIVABLE LAND



Source: Srivastava (2003).

FIGURE 1.5 VALUE OF LIVESTOCK PER HOUSEHOLD



Source: Srivastava (2003).

ing had no education, as compared to around half in urban areas. This pattern remained largely unchanged between the two surveys. Further, when the household head is illiterate, the household members are nearly eight times more likely to be engaged in agricultural labor than if he or she had attained secondary level education or higher education (Annexure 1: Table 1.10). These results suggest that with an illiterate household head, the opportunities of household members tend to be restricted to low-wage employment.

Poverty and social identity. Numerous studies have revealed significant links between social identity and poverty in India. Social or caste characteristics are associated with constraints and lack of opportunities that cut across multiple dimensions: caste identity is a strong indicator of the poor, illiterate, low-paid, low-status agricultural labor, or those living in poorly constructed housing with limited access to basic services. In Bihar, despite decades of effort on the part of successive governments, the SC/STs are likely to be around three times poorer than the upper castes, and appreciably poorer than other backward castes and Muslims. (Figure 1.6). Consistent with this, per capita household expenditure and landownership of SC/STs is significantly lower than that from the non-SC/ST castes in both urban and rural areas in 1999-2000, and the gap has remained virtually unchanged since 1993-94 (Table 1.7). SC/ST households are almost three times more likely to be landless than others (Table 1.8).

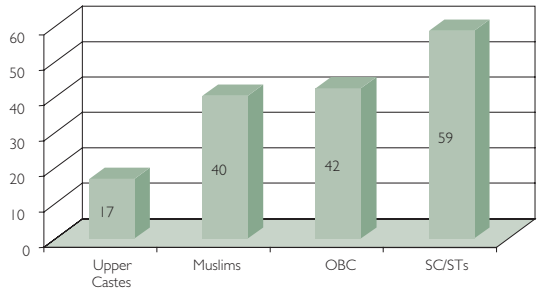
A number of factors account for the gap in living standards between SC/STs and the majority of households. First, SC/STs are less likely to own much land or have much education. More than 70

TABLE 1.7 PERCENTAGE OF POPULATION, MEAN CONSUMPTION AND LAND OWNERSHIP BY SOCIAL GROUP

	50th round (1993-94)			55th round (1999-2000)		
	% of population	median pc exp	median land own (ha)	% of population	median pc exp	median land own (ha)
Rural						
Majority	70	206	0.42	72	368	0.25
SC/ST	30	175	0.04	28	312	0.03
Total	100	197	0.35	100	349	0.20
Urban						
Majority	82	298		82	495	
SC/ST	18	236		18	384	
Total	100	281		100	470	

Source: The 50th and 55th round NSSO surveys (Schedules I & II).

FIGURE 1.6 RURAL POVERTY AMONG SOCIAL GROUPS IN BIHAR, 1999-2000



Notes: OBC refers "Other Backward Castes."
Source: Bihar Development Report (2003).

% of household heads from SC/STs were illiterate in 1999-2000, as compared to about half of the household heads from other social groups (Annexure 1: Table 1.11). Second, the job opportunities for SC/STs tend to be restricted to low-paid jobs: around 60% of SC/STs were engaged in agricultural labor compared to only 30% in the case of other households. A sizeable occupational shift to casual non-farm labor is seen for SC/STs between 1993-94 and 1999-2000 (Annexure 1: Table 1.12).

Addressing poverty remains an enormous challenge for policy makers in Bihar, especially in rural areas where almost 87% of the population and 90% of the poor live. According to recent estimates, despite some progress in poverty reduction over the years, 41% of the rural population remains below the poverty line. This section indicates that poverty in Bihar is a complex phenomenon arising out of a range of economic, social, cultural and political factors. Rural poverty in terms of low consumption or income, in particular, is closely associated with limited access to land, education, and high-paid occupations, reflective of an underprivileged social group or caste. A critical aspect of poverty in Bihar is that of caste or social identity, whose impact cuts across all dimensions. SC/ST households, for instance, are not only significantly poorer than the rest of the population, but are also more likely to be marginal landholders, working as agricultural labor, and illiterate.

Social Sector Outcomes in Bihar

Low social indicators in Bihar reflect significant constraints in the poor's ability to extricate themselves from long-run poverty. The social gaps in Bihar — seen in the lack of education, health, sanitation and other indicators — are acute and have persisted over the decade. This section focuses on education and health outcomes and generates discussion on possible policy responses.

Education outcomes

The 2001 census shows Bihar's literacy level as India's lowest (48% and 65% for Bihar and India, respectively); the net primary enrollment rate for Bihar in 1999-2000 was 52%, compared to 77% nationally. Indicators for women are considerably worse than for men, with an enrollment gap of 14% (58% for men versus 44% for women) and a literacy gap of 26% (60% for men and 34% for women). Net primary enrollment and literacy rates among women in Bihar are much below the national averages of 73% and 54%, respectively.

Bihar is the only Indian state where primary enrollments have fallen. Between 1993-94 and 1999-2000, the fall was 2% (down 4% for boys and 1% for girls). Since enrollments are the base for the future stock of human capital — a key input to growth and poverty reduction — stagnant or falling enrollment threatens long-term growth, and Bihar's competitive position vis-à-vis other Indian states.

TABLE 1.8 RURAL LAND OWNERSHIP BY SOCIAL GROUPS

	50th round (1993-94)			55th round (1999-2000)		
Land owned (ha)	**Majority**	**SC/STs**	**Overall**	**Majority**	**SC/STs**	**Overall**
No Land	6.8	14.0	8.9	6.8	18.6	10.1
0<* <=0.4	38.1	53.3	42.8	51.6	57.6	53.3
0.4<* <=1	27.4	15.7	23.9	23.2	13.5	20.5
1<* <=2	16.9	9.6	14.7	11.3	6.7	10
2<* <=4	7.6	5.3	6.9	5.1	2.5	4.4
4<	3.2	2.1	2.8	2.2	1	1.9

Source: The NSSO 50th round and 55th round surveys (Schedules 1 & 2).

TABLE 1.9 AGE-SPECIFIC SCHOOL ATTENDANCE RATIO (%)

	NSS (52nd round): 1995-96			NFHS-2: 1998-99		
Age Category	Rural	Urban	Total	Rural	Urban	Total
6-10	43.85	67.94	46.37	60.73	76.86	62.62
11-13	54.66	83.51	58.24	61.66	80.60	64.28
14-16	40.45	70.58	45.25	49.06	71.18	52.61
17-18	20.84	54.69	26.16			
19-24	10.85	34.49	14.74			
Aggregate	37.52	61.99	40.75	58.38	76.26	60.75

Notes: ASAR=percentage of children attending an educational institution for each age group.

Inconsistency of data sources. A word of caution on data is necessary as various data sources for education in Bihar often lack agreement and consistency. The NSS and NFHS sources reflect numerous differences on population data. This report relies mainly on NSS data as the source for calculating poverty estimates, and linkages between poverty and education. Moreover, NSS has more complete information on educational attainment. It is, however, reassuring that for most indicators, the broad patterns across social and economic groups, regions and gender are common to both surveys.

Education indicators. Table 1.9 shows the enrollment rates in Bihar, disaggregated by urban and rural regions for different age categories (NFHS figures are included for comparison). Two distinct patterns emerge: first, the rural-urban gap is significant for all age groups. Second, the enrollment rates peak in both rural and urban areas for the age-group 11-13 years, indicating late entry into school, as well as high dropout rates for higher age categories. For children aged 12 years, only 37% in the rural areas and 57% in the urban areas completed primary school in 1995-96 (NSS data). A large rural-urban gap is also observed for primary school completion rate.

Low completion rates result from a combination of low rates of entry, late entry into school, and dropout rates. This is supported by the evidence that "transition" through the educational system is weak: in 2000-01, 24% of primary school students transited to the upper primary level; 12% from the upper primary level to the secondary level and 10% from secondary level to the higher secondary level. Transition rates are even lower for girls and SC/STs. Low education attainment among the youth is also evident, and the rural-urban divide is apparent in the distribution of education attainment by level: while around 59% of 20-24 year olds in urban areas had high school or higher secondary education, this was true for only 38% of those in rural areas (Annexure 1: Table 1.13).

Differences across gender, economic and social group. Stark differences are observed along a number of economic and social dimensions. First, gender differences are large. The male-female gap in enrollments is substantially larger in rural areas than in urban areas, and tends to be larger for higher age groups. Gender gaps also characterize the primary completion rates of 12-year olds, shown in (Table 1.10). The overall patterns indicate that fewer girls, as a percentage of the cohort, start school than boys, and girls also drop out of school at a faster rate and/or at an earlier age than boys.

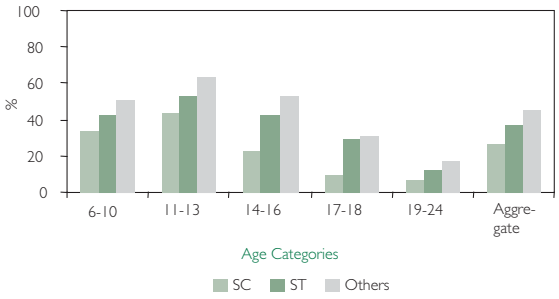
Enrollments are also lower for SC/STs than for the rest of the population (Figure 1.7). The differences become larger for higher age categories, suggesting that as with the gender gap, the initial gap in school entry is exacerbated by lower school retention rates among SC/STs.

Similar differences are observed across economic groups. In rural and urban areas alike, enrollments are higher for all age groups in the case of the higher consumption quintiles. While better enrollments are clearly associated with wealthier households, enrollment is far from universal for even the most well off in the rural areas. This is explained by a combination of factors, such as relatively late entry

TABLE 1.10 PRIMARY SCHOOL COMPLETION RATES (%) FOR 12-YEAR OLDS

	NSS (52nd round): 1995-96		NFHS-2: 1998-99	
	Rural	Urban	Rural	Urban
Female	27.50	54.56	23.75	58.07
Male	42.58	59.43	35.30	55.06
Aggregate	37.02	57.11	29.84	56.55

FIGURE 1.7 ASAR FOR DIFFERENT SOCIAL GROUPS 1995/96



Note: ASAR percentage of children attending an educvational institution for each age group.
Source: NSS (52nd round).

into schools, lack of schooling opportunities and lower return to education in rural areas.

Therefore, the overall picture that emerges is one of large differences in education outcomes across gender, as well as social and economic groups. Gender gaps are particularly significant in rural areas and for higher age groups. Across social groups, enrollments are lower for SC/STs, indicating disadvantages along caste lines that are likely to perpetuate their poverty. While better outcomes on the whole are associated with higher economic status of the household, the correlation is stronger in urban areas. These patterns suggest that while economic status does play a part, there are other factors that play equally important roles in restricting education, particularly in rural Bihar where education is limited even among the higher economic groups.

Health outcomes in Bihar

Health outcomes in Bihar, with some exceptions, are below the national average. At current rates of progress, Bihar will be able to achieve the MDG targets for infant mortality, child malnutrition and access to safe drinking water. In the case of two key indicators, namely proportion of births attended to by skilled personnel and access to sanitation, the progress remains far below the levels that are necessary. Against this backdrop, it is important to take a closer look at the available data on health indicators for Bihar.

There are some indicators that show positive trends. For example, infant mortality and child mortality rates are not only lower than those in Orissa and Uttar Pradesh, but have also shown substantial improvement during the 1990s. Other important indicators however continue to lag far behind the national averages. Maternal mortality rate (MMR) in Bihar is 707 per 100,000 women of reproductive age, compared to the national average of 404. As is well known, high MMR is the result of several factors, such as lack of antenatal care (ANC) and postnatal care (PNC) and high incidence of unsafe deliveries. These indicators are deficient in Bihar, even compared to other laggard states like Uttar Pradesh and Orissa (Table 1.11). Antenatal care (ANC) reaches only around 10% of the women in Bihar compared to 32% for India. The percentage of deliveries attended to by skilled health staff was only 23% for Bihar as against 42% for the country in 1998-99.

In comparison with the rest of the Indian states, Bihar does better than the country average only for access to safe drinking water. Although child mortality has fallen during the 1990s, it is still above that level in a majority of states. In terms of nutritional status of children, despite some progress, the

TABLE 1.11 HEALTH INDICATORS FOR BIHAR AND SELECTED STATES

	Bihar	Orissa	Uttar Pradesh	India
Infant mortality rates				
1992-93	89	112	100	83.3
1998-99	73	81	87	68
Child mortality rates				
1992-93	128	131	141	119
1998-99	105	104	123	95
Other health indicators (1998-99)				
Neonatal mortality (in terms of 10,000 deliveries)	46.5	48.6	53.6	43.4
Safe delivery (percent)	23.4	33.4	22.4	42.3
Antenatal care (percent)	17.8	47.3	14.9	43.8

Source: NFHS I and NFHS II.

proportion of underweight children is still among the highest in the country. Full immunization, which has direct impact on child health, covers only a small fraction of children, and is declining during recent years (Table 1.12). Some attribute this adverse trend to the shift in attention to the pulse polio immunization (PPI) program at the expense of routine immunization. A large number of children also have incomplete vaccination. Aggregate figures for Bihar conceal wide inter-district variations, with standard deviations for some of the indicators being quite high compared to the average. Kishanganj district appears to be at the bottom of the ladder, while Patna and Muzaffarpur rank at the top for most indicators (Annexure: Table 1.14).

This chapter has surveyed the key human development challenges of Bihar focusing on poverty indicators and social outcomes. Bihar is one of India's poorest and largest states, lagging significantly behind national averages in most development indicators. The causes are related to natural endowments, geographical factors, population pressures, social factors such as the caste system, and public policies.

It is important to view Bihar's low human development indicators and high incidence of poverty in the context of its overall pattern of weak economic growth. Indeed Bihar's growth in recent years, averaging less than 4% over the five-year period ending in 2001-02, places the state (along with Orissa) at the bottom of the major Indian states. Nor has Bihar's limited growth translated into commensurate poverty reduction (see Box 1). The lack of economic growth imposes strict limits on the state government's ability to finance critical public services in the social sector. It also creates a cycle of low human development and lack of economic opportunities that act as a poverty trap. Breaking out of this cycle will require combining the right economic policies with governance reforms that provide an enabling environment for investment, growth and effective public programs. This is the focus of the next chapter.

TABLE 1.12 EVALUATED VACCINATION COVERAGE

Vaccines	1998-99	1999-2000	2000-01
BCG	32.6	37.3	32.0
DPT	22.0	21.6	18.5
OPV	20.5	25.2	20.8
Measles	15.2	20.8	13.3
Fully immune	13.3	12.6	10.0

Source: Department of Family Welfare, GoI.

Notes

[1] The MDGs refer to major international development goals set out in the United Nations Millennium Declaration in 2000 to be achieved by 2015. Most of these indicators are for pre-bifurcated Bihar and this is a handicap in understanding Bihar after its bifurcation. However, other evidence (BDR 2003, Srivastava 2003) suggests that Bihar is not better-off after bifurcation and the MDG challenges are well represented here.

[2] The baseline estimates for 1990 and extrapolated linear path to 2015 targets are from various years' NSS and NFHS data, 1988-2001.

[3] Rao (2003): *Regional Policies, Resource Flows, and Regional Equity in India.*

[4] See Deaton (2003) for regional poverty indices.

[5] The GoI estimates for rural Bihar are 58 % and 44 % for 1993-94 and 1999-2000 respectively, while Kijima and Lanjouw estimates for the corresponding years are 48.6% and 48.3%.

[6] For example, households that over-reported expenditure on food consumption might report some adjustments to expenditure on other consumption goods.

[7] *Sharma, Alakh N. (1995): "Political Economy of Poverty in Bihar," *Economic and Political Weekly*, Vol. 30, Nos. 41 & 42: 2587-2602.

[8] Kozel, V. and B. Parker (1999) "Poverty in Rural India – The Contribution of Qualitative Research in Poverty Analysis," in *WDR on Poverty and Development 2000-01*.

[9] *See Annex 1* for detailed findings on out-migration.