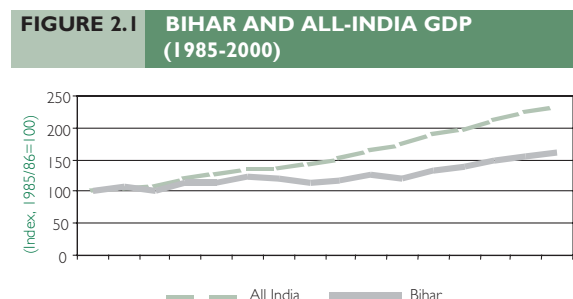


IMPROVING THE CLIMATE FOR INVESTMENT AND GROWTH

Economic growth is the most powerful force for reducing income poverty. Linkages between growth and poverty reduction, and the role of the government in promoting growth, are complex and depend on a range of institutional, cultural, historical and physical parameters. Bihar has, in general, grown slower than the rest of India, with less robust links between growth and poverty reduction as compared to other states. Accelerating growth and strengthening these linkages will be critical for improving Bihar's capability to reduce poverty and attaining the MDG targets, in particular the goals of halving the proportion of those living on incomes of less than one dollar a day and the proportion of people suffering from hunger. Given the dependence of Bihar's economy on agriculture and the large percentage of the state's poor that are dependent on rural incomes, improving agricultural performance is particularly important for growth and poverty reduction. This chapter examines Bihar's growth performance in the context of the comparative advantage that the state enjoys in agricultural pro-



duction, and its crucial dependence on the investment climate.

Growth Performance in Bihar

Bihar's Gross State Domestic Product (GSDP) data indicates that growth performance has been quite weak, averaging barely 5% during the 1980s, which was below the national trend rate of 5.6%, and then turning flat in the first half of the 1990s when the national growth rate remained above 5% (Table 2.1). Post bifurcation, Bihar continues to lag seriously behind other states in India. Over the period 1994-95 to 2001-02, when data for the new

TABLE 2.1 GROWTH PERFORMANCE OF BIHAR : 1981-82 TO 2001-02

	Former Bihar 1981-82 to 1990-91	Former Bihar 1991-92 to 1995-96	Divided Bihar 1994-95 to 2001-02
GDP	4.9	0.0	3.8
Agriculture	4.6	-2.0	0.8
Industry	5.2	0.5	10.5
Services	5.6	2.2	6.4
		India	
	1981-82 to 1990-91	1991-92 to 1995-96	1994-95 to 2001-02
GSP	5.6	5.4	6.1
Agriculture	3.6	2.3	3.0
Industry	7.1	6.3	6.4
Services	6.5	7.0	8.0

Note: Period growth rate is the average of annual growth rates over the period.
Source: Central Statistical Organization, Gol.

state of Bihar is available, the growth rate averaged 3.8% or less than two-thirds the national growth rate of 6.1% per annum.¹ This has widened the GSDP gap at an accelerating rate over the past decade (see Figure 2.1).

Comparisons in per capita income growth reveal an even less favorable trend for Bihar. This is mainly due to the state's high population growth rate, which averaged 2.5% between the 1991 and 2001 censuses, the highest in the country and well above the national average of 1.9%. Moreover, unlike the other states whose population growth rates have been declining over the decades, Bihar's population growth rate in the 1990s was higher than the 2.1% experienced in the 1980s. This has aggravated Bihar's population pressure and depressed income growth, making fertility control an important development issue.

The sectoral composition of Bihar's economy reveals the important role of agriculture in aggregate production. In undivided Bihar, the contribution of agriculture, fisheries and forestry in total output was 33% during 1998-99 (Table 2.2). Bihar lost most of its industry and mining to Jharkhand after the bifurcation, and agriculture now represents 39% of GSDP (as compared to 23% for the country). In contrast, Bihar's industrial sector is the smallest among India's major states, contributing only 12% to GSDP (compared to 27% nationally) and employing fewer than 10% of the workforce. The tertiary sector is Bihar's largest, generating 49% of the state's GSDP, mainly in trade and transport services, finance, real estate, and government (public administration).

The unsatisfactory performance of agriculture, Bihar's most important sector, is responsible for the state's low aggregate growth rate. Agriculture provides employment for three-quarters of the workforce, and is the main source of income for the majority of Bihar's rural poor. Hence improving agricultural incomes is the key to reducing income poverty. Agriculture showed negative growth in the early 1990s, and since the mid-1990s through 2001-02 it has grown by less than 1% per annum, implying a negative growth rate of agricultural output per capita. In contrast, industrial growth averaged 10.5% per annum from the mid-1990s, exceeding the national growth rate, though from a very low base. Small-and medium-scale enterprises predominate in Bihar's industrial sector. The performance of services has been higher than agriculture (6.4% p.a.), but is below the national average growth rate of 8% per annum. Moreover, services appear to be relatively capital intensive and have not absorbed a share proportionate to their GSDP level in the workforce.

The linkage between growth and poverty reduction in Bihar also appears quite weak relative to other states, including the relationship between non-farm growth and poverty reduction. Several factors account for this, including Bihar's poor initial conditions of both rural development and human resources. Recent research suggests that Bihar's low rates of literacy and overall weak human resource development are major causes for the lack of an adequate link between non-farm growth and poverty reduction. (see Box 2.1).

A serious impediment to Bihar's growth is the shortage of investment flows from public and pri-

TABLE 2.2 PERCENTAGE DISTRIBUTION OF GROSS STATE DOMESTIC PRODUCT 1993-94 PRICES (AT FACTOR COST)

	Bihar 2001-02 (quick estimates)	Undivided Bihar (1998-99)
Primary sector of which	38.6	32.7
Agriculture and AH	35.2	29.9
Secondary sector of which	12.1	27.6
Manufacturing	5.1	13.1
Tertiary sector of which	49.2	39.7
Transport, Comm.&Trade	21.3	17.8
Finance and Real Estate	8.8	7.6
Public Administration	8.1	6.4
Other Services	11.1	7.9
Total	100.0	100.0

Source: Directorate of Statistics and Evaluation, GoB, Patna.

BOX 2.1 WEAK PRO-POOR GROWTH IN BIHAR

In India, overall economic growth in the non-agricultural sector has been pro-poor insofar as increases in the growth rate have reduced poverty levels. However, this correlation varies, and in Bihar it has been weak. A likely reason is that economic growth reduces poverty to a lesser extent in a state with poorer initial conditions of rural development and human resources and with a higher scale of unequal land distribution.

Ravallion and Datt (2002) have constructed a time series of 20 household surveys across the major states from 1960 to 1994. They found that non-farm economic growth reduces poverty at a different rate across states - Bihar appears to have the lowest elasticity of poverty to non-farm output, averaging 0.3%, or around one-quarter the rate of the observed country mean of 1.3% per annum. (see table), and less than one-tenth that of the highest elasticity of 3.5% per annum, as found in West Bengal. Even a small variation in the annual rate of poverty reduction has a significant long-term impact on poverty rates. If all states had Bihar's annual rate of poverty reduction (0.3%), the national headcount index in 1995 would be 43% instead of the actual figure of 30%.

Ravallion and Datt (2002) use empirical evidence to show that non-farm growth does not reduce poverty effectively in Bihar, due to its very limited rural and human resource development and highly unequal distribution of land. Among the constraints to pro-poor growth, the role played by literacy is particularly noteworthy. For example, nearly two-thirds of the difference between non-farm output elasticity of poverty for Bihar and Kerala (one of the top performers in pro-poor growth) is attributable to Kerala's substantially higher initial literacy rate.

Actual and Simulated Mean Annual Rates of Poverty Reduction across States

	Annual rate of poverty reduction	Headcount index in 1995
Actual mean across all states	1.3	30
Bihar	0.3	43
West Bengal	3.5	14

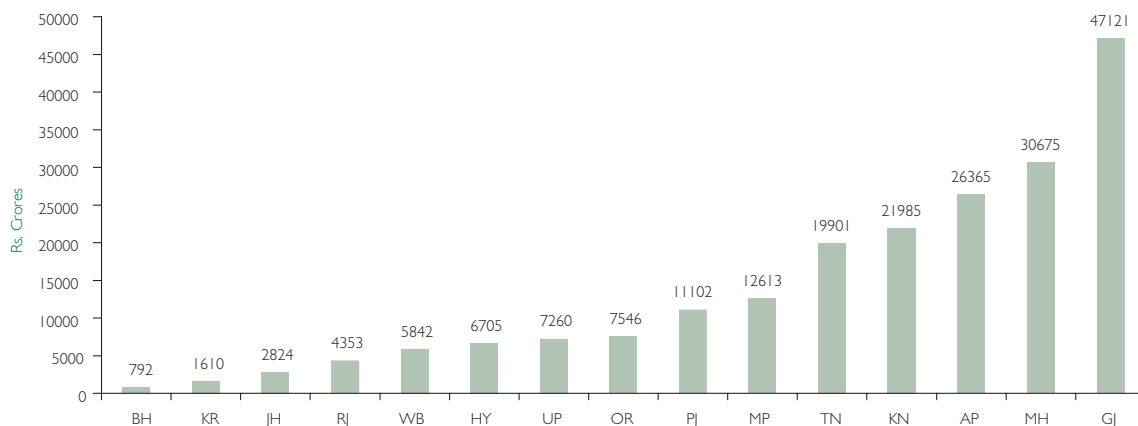
Note: The first row shows the unweighted means of the actual rates of poverty reduction and the actual headcount index in 1995 across states. 1/: The headcount index in 1960 was 48%.

Source: Ravallion and Datt(2002)

This evidence is consistent with a decline in income distribution, which erodes the contribution of growth to poverty reduction. Deaton and Dreze (2002) estimate that for Bihar the relationship between the distribution neutral growth in consumption expenditures and the decline in poverty headcount is around -1.0 for rural households and around -0.8 for urban households. In other words, a 10% increase in consumption expenditures evenly distributed across households would reduce rural poverty by around 10% and urban poverty by around 8%. Increased inequality in expenditure distribution during the last two NSS surveys, however, appears to have reduced this by around one-tenth in rural areas and one-half in urban areas, according to estimates by Deaton and Dreze (in 'Poverty and Inequality in India: A Re-Examination,' EPW, September 7, 2002).

vate sources. Constraints on public investment are discussed in Chapter 3. Private investment flows to Bihar are also highly limited. Data on projects currently under implementation (i.e. projects where financing has been finalized and work has begun) shows the very low level of private project investment in Bihar. As of December 2003, Bihar accounted for about Rs. 800 crore or 0.4% of the total, as compared with Uttar Pradesh (3.5%), Orissa (3.7%), and Madhya Pradesh (6.1%), as illustrated in Figure 2.2²

In order to create an environment conducive to high growth rates, a comprehensive development strategy is required that will address the main constraints to growth, while working with highly limited public resources. One important objective should be to use public resources effectively to encourage greater private sector investment and other non-governmental resource flows for productive purposes. This will require examining the institutional and market environments in which investment and business is being conducted, as

FIGURE 2.2 STATE-LEVEL PRIVATE PROJECTS UNDER IMPLEMENTATION

Source: CMIE, Dec 2003.

well as the physical constraints to economic activity. The following section examines the specific constraints to growth in agricultural production, and considers some examples where Bihar has demonstrated strong performance from which relevant lessons could be drawn.

Constraints to Agricultural Growth³

The bifurcation of Bihar has increased the importance of agriculture in its economy. Nearly 90% of the population lives in rural areas and depends directly or indirectly on agriculture. Fortunately, Bihar is well endowed with land resources. The soils are predominantly thick alluvial (Gangetic) deposits, or swamp and Terai soils, rich in nutrients, such as nitrogen, potash and phosphorous. The state has surplus water resources with potential for double and multiple cropping. However, though productivity on demonstration plots is comparable with the best in the country, there are some drought prone areas with lower production potential. The state thus presents an overall picture of abundant natural resources with the potential to achieve growth equivalent to, or even better than, the more developed agrarian states in the country. Indeed, Bihar is self sufficient in food-grains, and has surplus capacity for export. It is a leading producer of spices and ranks third in fruit production and second in vegetable production in India.

Against this rather positive scenario, Bihar's agricultural performance has been far below its potential, as is evident from the decline in per capita output over the past decade. The growth of agriculture has also been highly volatile, with annual output swings

between minus 20% and plus 30%, which has had significant implications for poverty alleviation and income security of the poor. Bihar's gross sown crop area is also relatively low, and productivity is constrained by the general lack of infrastructure, land holding patterns, and other environmental factors. Some of these are explained further below:

- ◆ **Water control and flooding.** Bihar's gross sown irrigated area of around 50% is relatively low as compared to 95% in Punjab, 67% in Uttar Pradesh, and 60% for India as a whole. The average ground water exploitation is 39%, indicating a large unexploited potential. Annual flooding has exacerbated land degradation and created a host of related economic and social problems (see Box 2.2). In 2000, annual floods in Bihar affected 8.2 million people and 7,80,000 hectares of land, over half of which were under crops, amounting to an estimated Rs.28 billion loss to public property. Several districts along or near the border with Nepal have more than half their gross cropped area exposed to damage by floods .
- ◆ **Lack of rural power supplies.** Power generation and utilization rates are among the lowest in India, with only 10% of households with electric lighting, as compared with 56% nationally. Where available, highly irregular supplies are exacerbated by annual flooding. This adversely affects the main lines, and the aging radial transmission lines resulting in high transmission losses and load shedding. The effect on agriculture has been the very low use of electric power pumpsets for ground irrigation and other purposes. As compared with Andhra

Pradesh, for example, Bihar has approximately one-fifth the number of power substations and length of transmission lines.

- ◆ **Fragmentation of land holdings.** Land holdings in Bihar consist predominantly of small farms and holdings with a high degree of fragmentation. The average size of holdings is declining, having fallen to around 0.6 hectares, and over four-fifths of farmers have less than one hectare each. High population density has pushed up the intensity of cultivation: the total cultivated area is around 60% compared with 47% nationally. With the average size of land holdings shrinking as a result of increasing fragmentation, many marginal farms are becoming economically non-viable and oriented towards subsistence. This has slowed the diversification into commercial crops from low value-added cereals that continue to dominate cropping.
- ◆ **Connectivity and market access.** Bihar's state road system, as well as the national highways that run through the state, are poorly developed and are in major need of repair and better annual maintenance. Many villages lack all-weather road access, restricting crop movement to the market and compounding storage difficulties.
- ◆ **Ineffective land reform.** Although Bihar was one of the first states to enact land reform legislation, its implementation has been poor and only a small share of potential "surplus" land has been redistributed and taken possession of, due to various loopholes and difficulties with enforcement.
- ◆ **Land records and land tenancy.** As in many states, the maintenance of land records is a problem. Computerization of land records is being introduced in some districts with encouraging results, but it is a slow process. The procedure of obtaining the Record of Rights is cumbersome, and typically involves significant transaction costs. Problems with land tenancy, which is illegal, are also well known. Although official records suggest that less than 4% of the cultivated land area is under tenancy, field studies indicate a far higher rate of around 25%. Unrecorded oral tenancy is prevalent, with very weak tenant security.

These constraints have led to relatively low crop yields despite fairly rapid growth in the use of high-

yielding varieties (HYVs) during the 1990s. HYVs of rice grew particularly rapidly during the 1990s in Bihar, with the coverage increasing from 38% to 68% by 1999. HYVs of wheat and maize were introduced earlier, and now cover approximately 91% and 75% respectively of cropped area. However, despite favorable endowments and widespread use of HYVs in cereal crops, the constraints mentioned above, and the relatively low average fertilizer use (82kg/ha as compared to 108 kg/ha in Uttar Pradesh, 152 kg/ha in Tamil Nadu and 153 kg/ha in Andhra Pradesh) have all contributed to fairly low productivity levels in agriculture in Bihar.

Bihar's agricultural yield as compared with potential yield (estimated by yield achieved in national and state-specific demonstration plots) reveals a large yield gap across several crops. The gap is particularly large in the case of rice and maize, where Bihar's current yield is less than half the potential yield. Wheat yields in Bihar show a much lower gap, as do many non-cereal crops such as gram, rapeseed, sugarcane, etc. It is also noteworthy that productivity levels of maize and several non-cereal crops rose above the national average, although still falling short of their potential.

Though Bihar has a significant yield gap in crops like potato, sugarcane and rice, this could be construed as encouraging for the state's future growth potential. Currently horticultural crops account for around 4% of cropped area and show strong promise for growth in several districts. It is clear from cropping patterns that a shift towards non-foodgrain crops is already taking place. Litchi cultivation is one such success story. There is potential for further expansion if the right investment climate for agro-business is established (see Box 2.3). Bihar produces 70% of India's litchi crop, which is high in terms of both quality and yield per acre. In addition to litchis, the production of mangoes, pomegranates, lotus seeds (makhana), spices, and other crops show great promise.

Exploiting Bihar's growth potential requires a comprehensive development strategy, and there is also need for national-level attention in problematic areas that go beyond the state's fiscal and institutional management capacity. For example, Bihar's massive long-term annual flooding problem needs investment in infrastructure and cross-border agreements backed by central government intervention. The effort so far has been piecemeal and inade-

BOX 2.2 ANNUAL FLOODS: SETTING BACK THE DEVELOPMENT CLOCK

The annual pattern of flooding which inundates Bihar's districts along the Gangetic plains has enormous human and environmental cost.

- ◆ Sown area is washed away, taking with it the top soil and seeds.
- ◆ Cost of cultivation increases, restricting cropping patterns and technological innovation. Farmers tend to become strongly risk averse.
- ◆ Roads and bridges are damaged, requiring greater maintenance and repair. Marketing of agricultural products becomes more costly and difficult.
- ◆ Electricity lines are broken, leading to increased maintenance costs and irregular power supply. Broken tubewell pumpsets require annual repairs.
- ◆ Human settlements along the river systems are displaced leading to seasonal unemployment, and health and social problems.
- ◆ Irrigation canal systems require expensive maintenance.

Source: WB mission interviews with farmers.

quate. National support for major infrastructure development to improve connectivity with national markets and to strengthen interstate power transmission is also essential and is gradually getting underway. Greater market access and growth potential will in general also benefit from a liberalized national food procurement, stockpiling and distribution system. Bihar has a natural comparative advantage in agriculture but cannot expand its share within controlled national markets. However, these issues are complex and go beyond the immediate scope of this report.

The state has a large agenda for improving public support to agricultural production and improving the economic climate for growth. These should form part of comprehensive reforms aimed at the

many constraints to agriculture outlined above. The focus should lie in providing assistance to smaller holdings that constitute the bulk of Bihar's producers. More specifically, reform is needed to improve: (a) the use and allocation of public finances for enhancing effective public investment in rural infrastructure (Chapter 3); and (b) public administration and governance for providing high-quality public services to rural communities (Chapter 4). Besides, improvement in public service delivery is vital for agricultural extension services to reach intended beneficiaries, expanding access to new and high-quality seed varieties and other inputs, improving land registration, and tackling the problem of land fragmentation and tenancy. At the local level, experimentation in innovative community approaches to service delivery has shown very

TABLE 2.3 YIELD GAPS FOR VARIOUS CROPS IN BIHAR (KG/HA)

Crops	State average yield	Potential yield**	Yield gap average	Yield at all India
Rice	1,218	3,026	1,818	1,940
Wheat	1,816	3,052	1,236	2,703
Maize	1,844	4,056	2,212	1,810
Gram	1,017	1,380	363	792
Arhar	1,379	1,830	451	727
Rape-Mustard	1,360	1,850	190	1,002
Jute	1,409	2,010	601	1,823
Sugarcane	48,856	62,780	13,924	70,578
Potato	9,060	23,500	14,440	18,161
Mango*	1,000	1,660	660	-
Litchi*	1,000	1,850	850	-
Banana*	5,000	8,000	3,000	-

Notes: *Yield numbers per tree; **Yield achieved in national demonstration and other demonstrations; Yield gap is computed from these figures.

Source: Yadav et al (2000), in J. Prasad (ed.), *Export Potential of Indian Agriculture*, New Delhi.

promising results. In irrigation, for example, Bihar's participatory irrigation management approach has shown that irrigation services can be significantly expanded and yields increased at lower unit cost to communities and lower cost to the government (see Box 5.6). Many of these measures also fall under the broad aspect of investment climate improvement, which is as pertinent to agriculture and agribusiness as it is to improving the growth performance of industry and services.

Bihar's Investment Climate

Investment climate (IC) refers to the institutional, economic, political and infrastructural environment that shapes the manufacturing sector's operations and expectations (see Box 2.4). Comparative sur-

veys, conducted by the Confederation of Indian Industry in collaboration with the World Bank (CII - WB), have examined several IC indicators to compare 11 Indian states and identify the main challenges in improving the IC.

The comparative survey analyses the main differences in "good" and "bad" state investment climates. Costs to businesses of a poor investment climate — for example, an unreliable power supply, onerous regulations, and intrusive and disruptive visits from government officials — were found to be high. The states ranged from Uttar Pradesh (ranked as the worst IC in the survey) to Maharashtra (ranked as the best). The analysis highlights the impact of three main factors, which in particular affect small-and medium-sized enterprises:

BOX 2.3 LITCHI CULTIVATION IN MUZAFFARPUR

India is the second largest producer of litchis in the world after China and produces approximately 450,000 metric tons annually. About 70% of India's litchi production comes from Bihar, the traditional source of the fruit in the country, where the increase in cultivation in the last decade has been impressive particularly in Muzaffarpur. Significantly, this change seems to have occurred almost entirely due to market forces, with no concerted effort or planning by either the government or any organized institutional mechanism. About 2000 farmers in Muzaffarpur grow litchis; the average size of a litchi orchard is 1.2 hectares, with 170-200 trees per hectare. For most farmers, the main income is from cash crops such as paddy and maize, and litchi cultivation is an additional activity; only about 200 orchards grow high-quality exportable litchi varieties. Limited formal credit facilities and a long gestation period have meant that most farmers have gradually increased their orchard sizes. There are no litchi cooperatives in the district, and while some milk cooperatives do market litchis grown by their members, this is rare.

The growth of the litchi industry has been driven by two major factors: first, an increase in demand from external non-traditional markets, which has sparked off the interest of local traders and entrepreneurs looking for export opportunities. Second, fairly stable prices and income potential has made investment in litchis attractive to local farmers. As a result there has been a change in litchi cultivation and marketing with as much as 50% of the farmers now selling their crop to traders before the harvest for half the purchase price up front. For an estimated 10% to 15% of farmers the relationship extends to contract farming where the middleman finances inputs - seeds, fertilizer, pesticides, and credit. Traders have an incentive to provide farmers with new information and technologies, helping farmers to increase their productivity.

The two main problems facing litchi cultivators are the short harvest season and an even shorter post-harvest shelf life, which makes it essential to have a high quality and responsive logistical system for getting the crop to market quickly. A shortage of cold storage processing and canning facilities has led to post-harvest losses of as much as 50 %, particularly during bumper seasons. Poor road conditions and transport bottlenecks, including unregulated truck prices, compel farmers to sell their produce at cheap rates in the local markets, and an absence of refrigerated transport has meant that very little of the produce can be marketed outside Bihar or exported. Lack of information on (and shortage of) quality seeds, efficient production techniques, limited availability of finance the long gestation period of the litchi tree (7 years to full maturity) further constrain expansion.

The strong potential for the industry is evident from the rapid growth in output that has taken place in the absence of public or institutional support. Well targeted support could accelerate growth and productivity through improved infrastructure, and an improved investment climate.

- ◆ **Regulatory burden.** The regulatory burden appears higher in the poor climate states. For example, SMEs receive factory inspections twice as frequently in the poor climate states (9.5 visits per year on average) as in the best climate ones (5.2 visits).
- ◆ **Power infrastructure.** In the poor climate states, 73% of SMEs have captive (self-owned) power generators, whereas in the best climate states the figure is 31%, reflecting more severe power supply problems in the poor climate states. For SMEs the cost of own power generation is twice that of power from the public grid.
- ◆ **Industrial relations and regulations.** Problems with having more workers than firms want is widespread, and reflects heavy regulation of labor markets. In poor IC states (UP) all

surveyed firms indicated overstaffing due to labor regulations and political pressure not to lay off workers. In good IC states over-manning was less severe, and in some instances related to hoarding labor in anticipation of growth in future output demand.

These differences have real consequences for the costs firms face and their business competitiveness. Firms in Uttar Pradesh, for example, are estimated to face an additional cost burden of around 30% arising from higher infrastructure and regulatory costs as compared with good IC states. One consequence is that states with a weak IC enjoy less growth and have seen less poverty reduction than those with a good IC.

Unified Bihar had a long history of state-sponsored industrial development supported by the Government of India in the mineral rich southern

BOX 2.4 FACTORS INFLUENCING THE INVESTMENT CLIMATE

Evidence based on standardized surveys suggests that the investment climate helps to explain differences in investment and growth performance across countries and regions. China, Thailand, Malaysia and India have been able to benefit tremendously from greater openness to trade and investment flows. The quantity and quality of investment flows to a country or state depends upon the returns that investors expect and the uncertainties around those returns. Three interrelated components shape investor expectations:

1. Macro level issues concerning economic and political stability and national policy towards foreign trade and investment - fiscal, monetary, exchange rate policies.
2. The efficacy of the regulatory framework related to the issues of entry or starting a business, labor relations and flexibility in labor use, efficiency and transparency of financing and taxation, and efficiency of regulations concerning the environment, safety, health, and other legitimate public interests.
3. The quality and quantity of physical and financial infrastructure, such as power, transport, telecommunications, and banking and finance. Entrepreneurs often cite infrastructure bottlenecks—power reliability, transport time / cost, and access and efficiency of finance—as key determinants of competitiveness and profitability.

Survey results in India point to several factors that enhance or harm the competitive position in international markets. India's large market size, low labor costs, and abundance of skilled and educated workers are major strengths, and clearly it is potentially competitive in a range of labor intensive industries. But in practice this advantage is partially offset by infrastructure bottlenecks, and India's foreign investment flows are low compared to China, Brazil, or Thailand. Three elements of India's IC drive this result: (i) the lack of smooth operating labor and capital markets to facilitate firm entry and exit procedures; (ii) the lack of availability of quality infrastructure services to reduce per unit costs of production and transport; and (iii) the burden of the regulatory environment and corruption on firms. Excessive regulation of firm entry and exit, through higher requirements on the number of permits and clearances, means firms face more time and expense to start a firm. Bankruptcy procedures are outdated and ineffective, making them very cumbersome and lengthy. Excessive regulations over industry hiring and firing of workers, and on the use and transfer of land are other factors.

Source: World Bank, *Improving the Investment Climate in India*, 2002.

part of the state. Good transport linkages and abundant raw materials led to the development of the iron and steel industries, other private investors located there, technology institutes were founded, and southern towns, such as Ranchi and Jamshedpur, became the industrial centers of Bihar as well as India (see Box 5.2). However, very little of this affected north Bihar and one result is that no major state-sponsored industries or institutes are to be found in Bihar today.

Although Bihar was not included in the CII-WB sample survey, some of its conclusions seem relevant for Bihar which also shares certain characteristics with neighboring Uttar Pradesh. Besides, further survey evidence illustrates Bihar's comparative circumstances. The 55th NSS round in 1999-2000 included a survey of private sector perceptions of the main impediments to business operations in Bihar, from which some indicators can be drawn. Thereafter, a comparative study published in 2002 included all states and union territories, covering a broad range of social, economic, environmental and institutional conditions.⁴ To this can be supplemented anecdotal evidence from discussions with businessmen in Bihar to facilitate comprehension of the main IC problems and issues.

In terms of the physical and institutional environment, Bihar ranks the lowest among all of India's states and union territories, even below Orissa and Jharkhand. For most other IC indicators such as penetration of infrastructure, financial systems, and workforce quality, Bihar is ranked at or close to the bottom. While this could be partly attributed to historical reasons, which have been aggravated by the state's bifurcation, the fact is that even in its undivided form, Bihar has tended to be ranked at the bottom. There are several explanatory factors, with important policy implications, that fall into three main categories — infrastructure, factor markets and governance:

Inadequate infrastructure to support industry and commercial services

- ◆ **Power.** High unit costs, large T&D losses, and low collection rates have created high unit costs of power supply in Bihar. The supply quality is also poor and irregular, with frequent breakdowns and heavy fluctuation. Hence, the majority of industrial units in Bihar have captive power (as in Uttar Pradesh) which is not only costlier but also reduces cost competitiveness.
- ◆ **Road connectivity.** Bihar has relatively low road penetration despite its high population density, with only 77 km total road length per 100 sq km, compared with 169 km in Orissa, 118 km in Tamil Nadu, and 97 km in Uttar Pradesh. A small proportion of Bihar's poorly maintained roads are surfaced — 50% versus Gujarat (90%), Tamil Nadu (77%), and the national average (60%). Nearly 70% of inhabited areas are not connected by motorable roads, which is the highest percentage in the country. Thus firms operating in Bihar incur delays and significantly higher transport costs, compared to other states, in some cases making it prohibitively expensive to access markets outside Bihar.
- ◆ **Telecommunications.** Bihar has the lowest telephone density in India, with 0.93 telephones per 100 persons; four times lower than the national average. Only 2.2% of all households in Bihar have a telephone (compared to the national average of 9%), and only 40% of villages in Bihar have public telephone access. Internet facilities are highly limited.

Weakness of local factor markets

- ◆ **Financial services and capital markets.** Bihar appears to have one of the country's least developed financial sectors, due to both demand and supply factors. The NSS survey of private sector perceptions identified weak capital markets as the major impediment (31% of respondents). Additionally, there is considerably low household account usage: only 21% of all households use banking services, as compared to 73% nationally. A high incidence of poverty and a predominantly rural population clearly contribute to this. But banks in Bihar also have higher depositor numbers per branch and exceptionally low credit to deposit ratios despite fairly high savings rates, thereby reflecting the banks' perception of high risk and a general lack of quality lending opportunities in the state.⁵ Hence, financial services in Bihar are relatively underdeveloped, more expensive, and often unavailable, particularly in rural areas. One consequence is that India's poorest state is a net exporter of capital.
- ◆ **Labor markets.** Bihar has abundant unskilled manpower which it supplies to many other states through out-migration, including season-

Prime Minister Nehru's industrial policies after independence called for the development of large-scale industries aimed at establishing heavy industries near raw material supply centers, and developing an effective national infrastructure network to transfer materials to other industrial areas. The Chhotanagpur plateau in south Bihar was identified as an important investment destination due to its rich mineral resources and existing transport links to industrialized Calcutta. Large industrial units, such as the Tata Iron and Steel Company, were already operational in this area and India's industrial policy led to further state-sponsored and private industrial development. Technology institutes were also founded there, and southern towns like Ranchi and Jamshedpur became the industrial centers of Bihar.

A distinct industrial pattern thus emerged in Bihar in the 1950s, which had far-reaching consequences for the process of industrialization in the state. First, industrial units and infrastructural facilities were mainly concentrated in the mineral rich areas of southern Bihar. Second, as a result of emphasis on investment in heavy industries, state-sponsored agro-industries did not develop in the Gangetic region of north Bihar. Finally, the industrial centers of south Bihar remained isolated pockets of industrial growth, and had little impact on developing links to industry in north Bihar, which was not as well endowed with mineral resources. The bifurcation of Bihar and Jharkhand has thus left the new Bihar state with virtually no major state-sponsored industries or institutes.

al and long-term labor movement to Haryana and Punjab. Moreover, labor costs are relatively low: average annual money income of factory workers in 1998 was 25-35% lower than most other states. However, skilled manpower is relatively scarce, and is becoming more so with persistent low literacy rates, out-migration of skilled labor, and students seeking quality education outside the state. Labor disputes also contribute to the risks and quality of labor in Bihar: the state recorded the fourth highest number of man-day losses due to disputes in India in 2000.

Governance

- ◆ **Law and order.** Official crime statistics suggest that Bihar does not rank far above the other states. Though recording the third highest number of kidnappings, abductions and dacoities, it is still below India's per capita average in 1999.⁶ Four factors suggest that law and order issues are far more serious than what these statistics reveal. First, the national and local perception of criminality in Bihar appears to be very different. Many people question the veracity of official statistics, and perceive abduction in Bihar to be a thriving industry. Second, extortion and abductions appear to be disproportionately directed at professionals — doctors, businessmen, traders, although this cannot be statistically verified. Third, surveys indicate that concern over law and order issues in Bihar is a significant deterrent to investment. Finally, informal

discussions in the state suggest that security costs incurred by businesses in Bihar — for security personnel, protective structures, and “protection money” — are higher than those paid elsewhere, and have been rising as a proportion of total costs over time.

- ◆ **Political support for private investment.** Bihar has not been proactive in courting private investment or articulating a development strategy and “vision”. Thus, the government does not have an investment promotion council, conveying a lack of concern about fostering and protecting private investment.

Despite these serious constraints to private sector activity and investment, there are some instances of success in Bihar which demonstrate that, given the right opportunity and business environment, entrepreneurs in Bihar can be successful and generate thriving businesses. The Bihar State Cooperative Milk Producers' Federation (COMFED) is one example, and the litchi industry, discussed earlier (see Box 2.3), is another. A closer examination of such successes will explain the factors responsible for their strong performance.

COMFED has developed into a profitable and growing business since its creation in 1983. It has a horizontally and vertically integrated structure, undertaking a full range of dairy activities for its members, including upgradation of milk production technology, animal health, procurement, storage and processing, and basic information on dairy farming techniques. COMFED has diversi-

fied its product portfolio, and its marketing network now extends beyond Bihar and Jharkhand to Assam and West Bengal. Its membership has risen from 66,000 households in 1987-88 to 213,000 households in 2002-03, with cooperative clusters in two-thirds of Bihar's districts. The annual turnover has reached around Rs. 90 crore.

The success of COMFED against the backdrop of Bihar's challenging IC provides some lessons that may yield useful policy insights. These include:

- ◆ Professional management was allowed to focus on viability and long-term profitability. The new management, with a clear tenure, placed the company on a solid growth path, bringing in technology and know-how from dairy cooperatives elsewhere in India.
- ◆ Absence of political interference and independence from the secretariat in day-to-day functioning allowed the company to focus on business requirements without diverting time, energy, and resources to an overbearing regulatory authority. This required both political leadership to deflect interference, and strong professional management to minimize these costs.
- ◆ The horizontal production base and vertical integration of activities supported broad membership and participation, without being top heavy and overburdened by an apex organization.⁷
- ◆ Priority was placed on sustaining the financial incentives of members with timely and regular payments to producers, and attractive procurement prices, even during the lean months. COMFED's procurement prices are at par with the federations in Punjab and Uttar Pradesh.
- ◆ The social composition of the membership is diverse and has grown without being hindered by caste, focusing on services, work culture and incomes rather than on narrow social and political interests. A large proportion of members consist of women, over half of whom belong to the backward castes, and another 9% to scheduled castes.

These factors reaffirm important elements in the IC survey results. COMFED was able to overcome infrastructure constraints and build on Bihar's comparative advantage in primary production through

production "nodes" where low-cost private infrastructure could suffice, such as milk storage facilities and mobile cold storage for artificial insemination services. COMFED's technology was built on available labor skills (although outside management was brought in), and members' credit requirements were kept low through prompt payment. Perhaps most importantly, COMFED had political support, and a minimum of bureaucratic or political interference, which facilitated entrepreneurial talent to take root and thrive.

Strengthening Economic Performance⁸

Bihar faces challenges that are more severe than those in many other states due to its history, geography, weak infrastructure, politics and institutional limitations. The resultant costs of such constraints have been low growth performance and a high incidence of poverty. Improving growth performance is a long-term challenge that will require support from the central government, particularly in areas where Bihar's own capacity is severely limited. Annual flood control and interstate infrastructure are needed to improve connectivity to national markets. The state government can do a great deal to improve growth prospects in the near and medium term.

Building on the above analysis, the most critical feature the state needs to strengthen in order to improve growth is the delivery of core public services. Chief among these is basic infrastructure, particularly in rural areas, and the provision of basic law and order. The key infrastructure services in which the private sector cannot substitute public delivery include road and water management, especially for boosting investment and output in agriculture, agro-industry, and related services such as transport, storage, marketing, etc. The public sector has an important role in basic capital investment and maintenance of large-and medium-scale water management systems. Private and community management of small-scale and feeder systems has been effective where communities have organized themselves with low bureaucratic or political interference. Similarly, public initiatives in road construction and maintenance have yielded large social and commercial benefits. Of course, effective water management and road transport services require efficient resource appropriation, allocation, and supervision, backed by strong administration

BOX 2.6 POWER SECTOR IN BIHAR

Poor quality of supply and high levels of technical and commercial losses characterize the power sector in Bihar. Losing most of its generating capacity after bifurcation, Bihar now generates only 10% of its power requirement and nearly 90% is purchased from the National Thermal Power Corporation (NTPC) and the National Hydro Power Corporation (NHPC). Among the states, the Bihar State Electricity Board (BSEB) owes the largest amount to the central power utilities. The performance of BSEB is further complicated by transmission and distribution losses estimated at 45-50%. Dual line systems do not exist in the state; hence a point breakdown collapses the entire grid. BSEB's commercial losses are estimated at 20-25%, mainly due to the problems of billing, metering and classification of consumers. Only 20-25% of domestic and commercial consumers are metered, and of these, only about 25% of the meters function. The average tariff is about 200 paise/kwh, far below the average cost to the BSEB of about 351 paise/kwh, with high subsidies to agriculture and commercial users, but higher tariffs for industrial users. Around one-fourth of BSEB's consumers are industrial, of whom about 90% are metered.

The GoB and the BSEB plan several reform measures. A Tripartite Agreement has been signed between GoB, Gol and the RBI for a settlement of BSEB dues. A Memorandum of Understanding (MoU) was also signed in September 2001 between Gol and GoB under the Accelerated Power Development Reform Programme (APDRP). The MoU sets out general policy and reform guidelines. Under the Gol's special support package for Bihar, Rs. 330 crore is to be granted to the Power Grid Corporation (PGC) for improvement of transmission network in Bihar over the next few years.

and project implementation. Chapters 3 and 4 focus on strengthening fiscal performance and public administration.

One implication of this for Bihar is the need to reduce government activities in non-essential areas, improve the management of public resources, and focus service delivery on core areas where government leadership is essential. This means withdrawing the government's involvement in low-priority activities, especially those where the private sector can deliver more efficiently. The government's role in Bihar should be primarily to identify essential public services and to prioritize activities. In agriculture, for example, this could include deregulating seed distribution to improve farmers' access to high-quality and reliable supply of seeds and agricultural inputs through competitively priced private channels. On the other hand, the government needs to provide greater support to agricultural research and extension services; it must identify appropriate regulatory norms and ensure that market growth and necessary restructuring are not impeded. There should also be efforts to reduce labor market regulations that bind employers to uneconomic practices and adversely affect small and medium enterprises. Similar efforts are needed to identify the main constraints in the capital markets and improve their functioning.

In the power sector, new delivery models could effectively expand service provision to rural and urban areas through private providers or coopera-

tive arrangements. This could eliminate supply bottlenecks and reduce the very high losses and subsidy costs currently being incurred by the Bihar State Electricity Board (BSEB). The state (and national) government needs to undertake institutional, regulatory, subsidy and tariff reforms to facilitate new modes of service delivery, drawing on a range of technologies and organizational arrangements that engage new players — ranging from reforming the BSEB and privatized distribution entities to new private entrants, cooperatives, and non-governmental service providers. There has been some promising experience with low-cost delivery mechanisms for rural power in India and elsewhere in the world. This has included decentralized models with considerable community-level involvement, such as in the rural electricity cooperatives established in Bangladesh. These could prove effective in Bihar and merit consideration.⁹

It is also necessary to urgently improve the delivery of essential social services and to strengthen investment in basic human capital for Bihar's long-term growth and economic well-being. There is considerable evidence to suggest that under-investment and weak service delivery in education and health is detrimental to economic development. This issue is examined in depth in Chapter 5.

The other basic public service needed for improving growth and investment in Bihar is strengthening of governance, more specifically guaranteeing law and order. This fundamental role in guarantee-

ing security is essential for markets to function, commerce to take place, and business contracts to be enforced. While the problems of governance occur everywhere in India and internationally, their scale in Bihar warrant much stronger government leadership in guiding convergent effort, together with civil society, to identify ways for improving law and order, as well as bringing greater transparency in the government itself. There is much to be learnt from elsewhere in India about efforts to improve law and order, and to reduce corruption. For demonstrating public priority in reform efforts, and for fresh strategic thinking, an empowered committee would be an important mechanism towards strengthening law and order, formulating policy options, examining national and international experience, and engaging community leaders and civil society in open public discussion.

A final recommendation for strengthening the IC in Bihar is to ensure that the government is fully committed to creating an enabling environment for private enterprise and entrepreneurship. This could start with articulation of a strategy for strengthening the IC, supporting private enterprise and economic development in the state. This requires strong political support for private investment. As an example, one step would be to establish an Investment Promotion Council, as most other states in India have done. Other means to develop investor outreach and ways to demonstrate responsiveness to investor concerns can include establishing a group of experts from around India to examine and develop Bihar's industrial policy and investment regime with a view to updating them, making them more investor friendly, and drawing on best practices from elsewhere in India and abroad.

Notes

¹ The data should be treated cautiously: growth is seen from a very low base and has been highly irregular, with questions of data consistency, suggesting statistical unreliability.

² Similarly low levels are reflected in data on the total number of projects (both private and public) that have been completed (i.e. which have started commercial production) from 1990 till May 2000. Unified Bihar accounted for 3.5% of the total and most of this appears to have been in Jharkhand, as data on the number of Industrial Entrepreneur Memoranda (IEMs) suggests. Between 1990 and 2000, 78% of the value of IEMs were for projects in Jharkhand, and since 2000 IEMs for Bihar have declined to virtually zero.

³ This section draws primarily on World Bank consultants and analysis prepared for the Planning Commission sponsored *Bihar Development Report (2003)*.

⁴ Bibek Debroy and Laveesh Bhandari (2002), 'How are States Doing?' 2002, by Indicus for the Confederation of Indian Industry.

⁵ Bihar's credit deposit ratio with commercial banks was 21% in 2001, as compared with UP (28%), Orissa (40%) or more developed states such as Maharashtra (86%) and Tamil Nadu (91%). (Source : Reserve Bank of India).

⁶ Statistics on IPC crimes also show that per 100,000 people Bihar is well below the national average, and less than half the rate of Delhi, Rajasthan, Kerala, Gujarat and Madhya Pradesh. Left wing extremist groups are active in Bihar, but cause much less damage to property than most other states with active insurgencies.

⁷ Cooperatives have generally had a checkered history in Bihar, failing in the past under large apex organizations that were unresponsive to base membership needs.

⁸ This chapter does not rigorously examine sectoral growth strategies (e.g. industrial priorities, tourism potential, agro-processing potential, etc.), but focuses on basic public service priorities in strengthening the environment for growth. The Planning Commission sponsored *Bihar Development Report* offers more sector-specific analysis.

⁹ See *India: Rural Access to Electricity*, South Asia Energy and Infrastructure Unit, The World Bank, 2003, for a discussion of rural electrification policies and experience internationally, and their relevance in the Indian context.