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ABBREVIATIONS AND ACRONYMS

ASI	Annual Survey of Industries
CAG	Comptroller and Auditor General
CAMPA	Compensatory Afforestation and Fund Management Authority
CAT	Catchment Area Treatment
CEA	Central Electricity Authority
CEC	Central Empowered Commission
CPSU	Central Public Sector Undertakings
CSO	Central Statistical Organization
CSS	Centrally Sponsored Schemes
DLHS	District Level Household Survey
DOD	Debt Outstanding & Disbursed
DSA	Debt Sustainability Analysis
EIA	Environmental Impact Assessment
FC	Finance Commission
FDI	Foreign Direct Investment
FD	Forest Department
GDP	Gross Domestic Product
GIS	Geographical Information Systems
GMVN	Garhwal Mandal Vikas Nigam
GOI	Government of India
GSDP	Gross State Domestic Product
GST	Goods and Services Tax
GTZ	Deutsche Gesellschaft fur Technische Zusammenarbeit
ICT	Information and Communications Technology
IEG	Independent Evaluation Group
M&E	Monitoring and Evaluation
MIS	Management Information Systems
ML	Market Loans
MoEF	Ministry of Environment and Forests
NGRBA	National Ganga River Basin Authority
NGO	Non-Government Organization
NCR	National Capital Region
NREGA	National Rural Employment Guarantee Act
NRHM	National Rural Health Mission
NSSF	National Small Savings Fund
NSS	National Sample Survey
OBC	Other Backward Classes
OECD	Organization for Economic Cooperation and Development
PFM	Public Financial Management
RCA	Revealed Comparative Advantage
SC	Scheduled Castes
SERC	State Electric Regulatory Commission
ST	Scheduled Tribes
UEPPCB	Uttarakhand Environment Protection and Pollution Control Board
UJVNL	Uttarakhand Jal Vidyut Nigam Limited
UPCL	Uttarakhand Power Corporation Limited
USAID	Unites States Agency for International Development
UTCL	Uttarakhand Transport Corporation
VAT	Value Added Tax
WTO	World Trade Organization

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The World Bank team working on the report consists of: Vikram Chand (governance), Pyush Dogra (sustainability), Alvaro Manoel (fiscal sustainability), Preeti Jain, S. Krishnamurthi and Mohan Nagarajan (public financial management), John Newman (poverty and inclusion), Tapas Sen (public financing), Monika Sharma (growth, fiscal sustainability) and TG Srinivasan (growth). Saurabh Mishra, Smriti Seth and Nicole Wynands provided statistical and cartographic assistance. The team was managed by Deepak Bhattasali, and benefited from reviews by Marisela Montoliu Munoz, Ravi Kanbur and A.K. Roy. Suggestions from Sona Thakur and Michael Haney helped shaped some key messages in this report. Shiny Jaison managed the team's logistics from the beginning of this project, including important liaisons with Central and State Government officials, and Nimanthi Attapattu, Katia Stefanova and Jyoti Sriram helped prepare the document for discussion and printing.

Vice President:	Isabel M. Guerrero
Country Director:	Onno Ruhl
Sector Director:	Ernesto May
Sector Manager:	Vinaya Swaroop
Task Manager:	Deepak Bhattasali

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SUMMARY

1. In 2010, Uttarakhand entered the second decade of its existence as a separate State. During the first decade, average individual incomes rose by eight ranks in relation to the other States in India. Although these incomes are still below the median for India, they are growing significantly faster, which is leading to rapid convergence with the richer States. Looking ahead, the State can build upon its existing growth momentum, the economic diversification that has resulted from its industrial promotion policies, its favorable location in the dynamic North Indian economy, and good natural resources and skills bases to raise standards of living. At the same time, it has a distinctive environmental heritage that provides ecological services to the rest of the world, and Uttarakhand in its first decade had begun to fulfill the high aspirations of its citizens, especially in the economically disadvantaged hill districts.

2. However, the State faces extreme challenges. Hills account for over 90 percent of its area, and forests cover two-thirds, with numerous small, scattered communities unable to unlock their economic potential. This is due mainly to difficult terrain and limited physical connectivity, Central and State Government restrictions on the freer use of natural resources, and insufficient commercial orientation in the programs designed for such areas. At the time of its creation, the State was optimistic about balancing rapid economic development based on its natural resources with the maintenance of its environmental services. Ten years later, balanced development has been affected significantly from a combination of internal and external pressures. However, the State Government can reclaim the initiative by constructing a basic inclusive and sustainable growth strategy.

3. This report intends to provide inputs for development thinking that is underway during the Twelfth Five-Year Plan period. It covers the subjects of growth, inclusion, sustainability, public finance and administration, responding to the Government's request for a discussion of these areas. It attempts to strike a balance between broad-brushed strategies and specific and practical recommendations, bringing to bear experience from other States and countries when needed.

4. The overall message to policymakers, which the official Steering Committee for the report received well during recent consultations, is: Over the next decade, Uttarakhand should aim to become the preferred State in North India for (a) investing in the production of high value goods and in services; (b) livability; (c) greening; and (d) good government. Each of the chapters of the report addresses topics related to achieving this "brand". They also identify specific areas where follow-up in the form of in-depth studies, the development of policy and program management capacity, and investment projects may be useful.

Growth

5. An array of incentives (industrial policy of 2003, hill policy of 2008), the availability of land and cheap power, rapid growth in the surrounding North Indian economy, large fiscal transfers from the Central Government, and an adequate skills base helped raise Uttarakhand's average growth rate from 3 percent in the 1990s to over 10 percent since 2001. For the long term, the State will have to augment its location advantages and livability through investment in physical infrastructure, in addition to harvesting spillovers from the co-location of skill intensive firms. Besides poor physical connectivity within the State and to distant markets, the major constraints that operate on enterprises are increasing land shortages in the highly productive Plains and the uneven enforcement of regulations. Evidence on the creation of new firms, on the self-discovery of product niches by entrepreneurs in manufacturing and services, and on the product space that is available for exploitation by firms suggest that a solid platform exists for accelerated growth.

6. The potential of specific sub-sectors to become growth drivers for the economy has been studied extensively, so there is little to add in terms of details. However, as a broad approach, the report suggests that economic geography determine the choice of an appropriate industrial strategy. Much of the value of products is eroded by transport and logistics costs within and outside the State. A policy to expand the production of high-value goods (e.g., vehicles and vehicle parts, electrical and electronic goods) for sale in regional and other markets and to promote a broader array of services (e.g., education, hospitals, tourist resorts) seems appropriate for the Plains.

Poverty and Inclusion

7. This chapter analyzes datasets that are available within the State, but are yet to be used systematically to provide a stronger empirical basis for decision-making. According to these data, poverty didn't fall much between 1993 and 2005. Indeed, the growth in real (inflation-adjusted) consumption for individuals in agriculture, manufacturing and services was negative across much of the income distribution, and considerably lower than growth rates in the rest of India. However, the overall distribution of consumption stayed stagnant rather than deteriorating because the shift of workers into higher return activities offset the fall in returns within each sector. The latest poverty estimates, however, suggest improvement in the level of poverty during the more recent period of high economic growth. The State's poverty head count ratio almost halved in five years, falling from 32.7 percent in 2004-05 to 18 percent in 2009-10, with most of the decrease coming from rural areas.[1] The effect of higher growth in the regional economy is a paramount factor in explaining the state-wide poverty reduction. A possible explanation for the rural poverty declines is that the rapid growth in public programs for the Mid and High Hills, which are almost entirely rural, benefited the population substantially, although out-migration from these areas continues at a steady pace. For the same reason, it is likely that the post-2008 slowdown would have had some adverse effect. The evidence suggests, however, that a pro-poor growth strategy, as opposed to anti-poverty programs consisting of targeted consumption-oriented interventions, is yet to emerge. Even so, it is important to recognize that such programs have been beneficial in favoring inhabitants of the Mid and High Hills. For example, while consumption levels are higher in the Plains, the education and health outcomes in the Hills, especially the Mid Hills, are relatively better.

8. There are three broad recommendations in this chapter. First, the challenge of inclusion should increasingly be borne by explicit pro-poor growth rather than merely targeted consumption-oriented government programs. This would involve addressing the enormous transport and logistics challenges of the Hills to help communities to connect to primary, intermediate and distant markets, and to aid in the efficient and cost-effective delivery of public services. The promotion of comparative advantages in horticulture, tourism and communal forestry is a priority, chiefly by unlocking value in natural resources, reducing government monopolies and involvement in production, and giving a greater weight to commercial orientation in the policies implemented in the Hills. The introduction of a new Agriculture Product Marketing Act, which will permit contract farming and encourage private participation in marketing, is a step in the right direction. Second, given that a set of programs directed toward the problems of poverty and inclusion exists already, it is likely that there would be higher payoffs to extending the results orientation seen in successful programs to others, rather than introducing new programs. Third, it is necessary to exploit the extensive data sets in education, health, forestry, horticulture and other areas to extend the strong results orientation that is being pursued in some programs, as well as to provide a solid basis for evidence-based policymaking in the State.

[1] Unfortunately, enough comparable data are not available prior to 2004-05. The two latest estimates are based on calculations using the Tendulkar poverty line.

Sustainability

9. Perhaps more than in the other regions of India, the economic well-being of Uttarakhand depends critically on the balanced use of its physical (produced assets), natural (land, forests, water) and intangible (human, social, institutional) capital. Green development in the State is vital not just for the long-term welfare of its citizens or those living in its vicinity, but to India and the rest of the world. State officials have accepted the principle that there are close and complex links among growth, inclusion and natural resource sustainability. Nevertheless, they are yet to devise integrated strategies that address the public policy trade-offs or unlock the financial benefits that flow from under-exploitation of Uttarakhand's natural resource base. Specific growth initiatives have sustainability concerns associated with them. The chapter addresses problems related to roads, tourism, and manufacturing, which have appeared as "thrust" areas in the economy. In addition, it highlights the need for integrated strategies to address the resource management challenges in the forestry and power sub-sectors, the latter focused on extracting sustainable benefits from the State's considerable hydropower potential of 20,000-25,000 MW. In general, the planning paradigms for resource management seem to be weak, as cumulative development plans do not exist, coordination among the multiple agencies charged with responsibilities in this area tends to be perfunctory, and local area and community benefits are uncertain. Nevertheless, there are vast opportunities to generate revenues from product sales as well as from ecological services; the 13th Finance Commission made explicit provisions to compensate the State for the latter although, as yet, at a low level that does not value them accurately.

10. There are several areas where improvement is needed urgently, to form the basis for implementing the broader development strategy. First, for roads, the databases to support technical decision-making need to be constructed—geo-morphological information, land-use maps, mapping to identify areas prone to seismicity, landslides and erosion—inter-temporal costs need to be anticipated, and pre-identified debris disposal sites and bio-engineering interventions introduced. Second, understandably the focus of tourism planning in the State is on pilgrimage sites. However, adventure, river rafting and scenic tourism are higher value lines of business, for which it is important to consider the cross-sector linkages with hydropower development and to promote a greater level of private sector activity, with the Government playing a regulatory role rather than as a provider. Third, all departments could benefit from internalizing the State's commendable new initiatives to manage pollution, but there is need for an improvement in monitoring and analysis capabilities in this area. Fourth, the Government may find it more effective to move beyond the present planning paradigm of assessing hydropower projects individually toward an integrated approach based on comprehensive river basin management. This would require the management of the river catchment area, sediment in the riverbed, social and environmental impacts, as well as comprehensive assessments of the implications for the river basin of the long-term evolution of basin hydrology and river geomorphology, including the possible impact of climate change. Fifth, it is necessary to eliminate delays in implementing environmental management activities such as catchment area treatment (CAT) plans and compensatory afforestation. Such activities have to be synchronized with project implementation schedules so that maximum benefits are obtained, and to be monitored closely; this will require a sharp increase in institutional capabilities within the relevant government bodies. Sixth, mechanisms for benefit-sharing with affected communities need to be implemented, monitored and evaluated to a greater extent than is presently the case. An explicit focus by the Government on local social and economic development should help build public support for the Government's hydropower development program.

Public Financing

11. Despite the rise of private sector investment in most States, Uttarakhand (and the ten other "strategic states") continues to rely heavily on Central Government resources to meet its development objectives. Several considerations shape the role of public finances in Uttarakhand. Expansion of the agricultural and industrial sectors faces geographical limitations that limit the tax base and the feasibility

of raising user charges. At the same time, two factors determine the need for high public expenditure—the State has sensitive international border areas up in the hills, and the very rationale for creating the State was earlier neglect and aspirations for better public services. Finally, there is tremendous pressure for the creation of employment within the State and, especially, in the Mid and High Hills, despite geographical constraints on large scale organized productive activities in these areas.

12. Fiscal balances improved substantially from 2003-04 to 2006-07, with the revenue deficit of 3.7 percent of GSDP turning into a revenue surplus of 2.4 percent, and the fiscal deficit dropping from 6.9 percent to 2.4 percent. After some reversal in 2009-10 to a deficit, the state budgeted a revenue surplus of 0.3 percent of GDP in 2011-12. The fiscal deficit followed a similar pattern, after 2006-07 it started widening and rose to 4.6 percent of GDP in 2009-10, but improved slightly in the next two years. The state's fiscal deficit was budgeted at 3.2 percent of GDP for 2011-12. In general, therefore, the broad fiscal position, except for a brief deterioration, has improved overall in Uttarakhand. Long-term projections suggest that, as long it continues to enjoy "strategic state" status, the fiscal and debt situations are sustainable, unless the State tries to increase capital spending much beyond the budget envelope represented by Central transfers. Most other plausible "shocks" have little or no impact on public finances. The introduction of a proposed all-India Goods and Services Tax (GST) is likely to have a favorable effect on Uttarakhand's finances.

13. The 13th Finance Commission prescribed a fiscal deficit starting with 3.5 percent of gross state output in 2011-12, dropping to 3 percent in 2013-14 and remaining at that level. The fiscal projections conform to these requirements, without the need for major reforms. Consequently, this chapter does not put forward any major fiscal reforms, although it proposes a set of administrative reforms that should have far-reaching fiscal consequences. Should the Government be interested in broadening the revenue base at some stage—and it should be noted, as above, that there seems to be little pressure for this now--broad estimates of their revenue implications are: (a) An *ad valorem* tax on foreign liquor could increase excise collections by at least 10 percent. (b) Higher motor vehicle tax rates on contract carriages, together with the introduction of a hill road permit system for them, could raise revenue from the concerned tax head by about 5 percent. (c) Reforms in property taxation could raise property tax revenue by at least 50 percent. In addition to such measures, given the large off budget spending that occurs in the State, there is a strong and urgent need to assess the nature and impact on the fiscal position of the budgetary operations of specialized public enterprises and local bodies. Key public enterprises (transport, power, tourism) have been accumulating losses for a long time, to the extent of wiping out asset values completely. The inefficient operations of such enterprises and local bodies also have adverse effects on the achievement of other development goals—growth, poverty reduction and inclusion, and sustainability.

Administration

14. As a relatively new State, Uttarakhand is restructuring its inherited institutional structures. The first building block is modernization and improvement of systems that determine public financial management and the procurement of goods and services. Here, the key weaknesses are accounting and the revision of financial handbooks and guidelines, the budgeting framework, process of budget formulation, and results orientation. The State has made significant progress in administrative reforms, such as formulating and adopting Procurement (Rules) 2008, adopting a unified system of internal auditing, e-procurement, aggressively promoting Public-Private Partnership (PPP) initiatives and advocating for a PPP policy. The Treasury system is fully computerized, with real time transactions and reporting.

15. The second facet of good government is to address the management of Uttarakhand's most important strategic assets for economic development—hydropower, tourism, industry, medical tourism, horticulture. There are broader lessons for development management that emerge from a discussion of hydropower that could provide the basis for a basic re-examination of administration. Monitoring the

implementation of safeguards for hydropower projects needs more focus, as do some aspects of governance such as procurement, transfers and postings, licensing of hydropower projects, and the management of natural resources. The ability of Uttarakhand's political process to impose discipline on participants in the hydropower sector will help maximize efficiency in the sector's operations.

16. The chapter presents very specific recommendations for improvements in administration, which a set of capacity development programs could address. In the area of public financial management, priority areas for modernization and reform include (a) manuals, handbooks and related systems, (b) record-keeping and accountability in programs, schemes and *Panchayati Raj* institutions, and (c) the budgetary framework and budget formulation, monitoring and evaluation. There is need for an improved governance regime for the hydropower sector, as the State needs to convince key players of its ability to manage this resource strategically and to the benefit of all of its inhabitants. It is clear that the Government's approach to the enforcement of environmental and forest clearances can be strengthened significantly, including more vigorous prosecutions of violators. Until recently, attempts to monitor environmental flows in the state's rivers or the implementation of catchment area treatment (CAT) plans have been non-existent to very weak. Likewise, egregious practices by all stakeholders, where they are identified, need to be countered actively. Higher levels and meaningful and transparent ways of community participation in hydropower development will help sustain support for programs and projects. Finally, a frontal approach to tackling the losses of power sector bodies and improved mechanisms for benefit sharing are need for the State to be seen as providing good government.

Next Steps

17. The Government's Steering Committee for this report suggested that broader discussion of the findings would be useful and, initially, could take two forms. The first would be the translation of the study or its parts into Hindi, to appeal to a wider audience. The second would be to continue to build upon existing platforms of cooperation, such as the Doon Library and Research Centre who partnered some of the work on this study, to conduct a set of workshops and seminars around its findings, and chart a plan for continued work in these areas. Both of these are feasible, and can be implemented over the coming months. Subsequent steps, including deepening the analysis of this study in specific areas, identifying the means to build the State's capacity in priority areas of planning and administration, and developing a pipeline of lending projects to help achieve the State's objectives on policy reform and investment, can be pursued actively on the initiative of the Government.

18. The discussion of this report could be carried forward by designing approaches to implementing several of its key recommendations. They include:

- Develop Uttarakhand as a regional hub for the Northern Region, with a focus on diversifying agriculture and services but specializing in high value manufacturing, which loses less of its value to transport and logistics costs. The State Government is augmenting the rail network and creating logistic hubs, including inland container depots at Haridwar and Udham Singh Nagar, to develop Uttarakhand's location advantages.
- The implied transport infrastructure strategy to support such an orientation is the rapid development of intra-State roads and the phased and further liberalization of transport services. Further, infrastructure that directly improves the livability of the main urban clusters and government services clusters in the Mid and High Hills will have a favorable effect on the productivity of urban areas and the delivery of public services to the remote regions.
- Although per capita income and its growth rate have been above the average for India, poverty rates hardly budged during the period of lower growth. Since 2005, however, higher growth rates are beginning to make a noticeable dent in poverty levels. These observations point towards the need for shifting emphasis towards effective pro-poor growth measures, as opposed to relying

chiefly on anti-poverty programs based on targeted consumption-oriented interventions. In particular, greater progress in liberalizing niche agriculture and horticulture, and the promotion of diversified private sector services, as in the rest of India, is required. There are likely to be high payoffs to extending the results orientation of the more successful anti-poverty programs to the others, than to introduce new programs. This effort needs to be supported by a greater reliance on empirical information and evaluation than is presently the case.

- The direct environmental effects of developing the road infrastructure, tourism, and manufacturing need urgent attention. For roads, the absence of a detailed GIS database is a critical weakness, as are the absence of inter-temporal costs in making investment decisions and the inadequacy of debris-collection sites and bio-engineering interventions for the stabilization of slopes. With regard to tourism, coordination difficulties among government departments, and the absence of adequate linkages among different forms of tourism and associated infrastructure need to be addressed. Greater space is need for the private sector. Finally, for manufacturing (together with construction), the potential growth of pollution and waste requires public-private partnerships for the development of common facilities, and more forceful implementation of standards together with sharing of information among government departments are priority measures.
- Uttarakhand's immediate resource management challenges are faced mainly by the forestry sector and hydropower. Improvements in performance in both of these sub-sectors are likely to have a significant effect on improving the livelihoods of lower income groups. In both cases, multi-department coordination needs to be improved, with modern methods for watershed management, community involvement, benefit-sharing, and stronger capabilities for cumulative impact assessment.
- State finances are in reasonably good shape. However, should the need arise there is scope for raising state revenues from foreign liquor excises, motor vehicles taxes and property taxation. However, major improvements in the State's ability to fund its vast development backlog can only come from actions to improve the utilization of Central Government transfers and carefully examine the spending of specialized public enterprises and local bodies. For public enterprises, serious consideration needs to be given to all options—closure, privatization and reform.
- Efficiency in public spending can be improved by addressing weaknesses in record keeping (for example, accounting information, beneficiary lists, asset registers) in government programs, schemes, and Panchayati Raj institutions. Substantial reforms are needed in the budgeting framework and processes, as policy goals are sometimes lost during the budget preparation process. PFM weaknesses need to be addressed to avoid a rush of end-of-year spending, and closer ties need to be established between the Budget and results. Urgent measures are required to develop an updated compact set of rules and procedures tailor-made for Uttarakhand, starting with the Financial Handbook.
- The governance of the hydropower sector can be strengthened through measures to improve the transparency of licensing, improvements in environmental assessments and management plans, stronger public hearing and associated processes, and more rigorous enforcement of environmental and forest clearances, drawing in technical expertise from outside government departments, if required.

19. In conclusion, it should be noted that there is a backlog of development issues that needs to be addressed, partly through policy reform, partly through new public and private investment, and partly through improvements in implementation capacity. Several of the measures suggested above, and described in a little more detail in the main text of this study, can be addressed by a combination of public and private sector activities. In addition, the global community, including India's multilateral and bilateral development partners can be rich sources of knowledge about design, funds, and implementation support for the State Government's development program. A case in point is neighboring Himachal

Pradesh, where the World Bank is actively involved in supporting comprehensive programs for the greening of the State as well as in developing sustainable growth paths for its economy. Early actions to engage a wide variety of development partners is likely to help Uttarakhand effectively and efficiently traverse a challenging and unique development path.

CHAPTER 1: INTRODUCTION

1.1 Uttarakhand, with a population of 10.1 million (less than one percent of the national total), is one of the three youngest states in India (the other two are Jharkhand and Chhattisgarh). Formed in 2000 by partitioning the Himalayan and non-Himalayan areas of Uttar Pradesh, it inherited a large development backlog as well as the weak administrative structure and planning processes and paradigms of its parent. It is a "special category" state (one of eleven in India), which assures it a substantially higher level of per capita central fiscal transfers compared to the general category states. It is landlocked, as are all of its neighboring states (the contiguous states of Himachal Pradesh and Uttar Pradesh as well as Jammu and Kashmir, Haryana and Punjab), and considered to be a strategic border state, bounded to the east and north by Nepal and Tibet (China), respectively. Since the formation of Uttarakhand, its socio-economic performance has been impressive, although not spectacular. In order to maintain and improve upon the success of the first decade, it is important for the state to realize its untapped growth potential, while preserving a distinctive ecological and environmental heritage and promoting development that is both geographically and socially equitable.

1.2 However, the state faces several constraints to achieving this vision. Hills account for over 90 percent of the area of Uttarakhand and forests cover two-thirds of the state. This leaves less than 13 percent of the land for traditional agriculture. Population density is half the national average due to the small numbers of people and scattered communities in the hill and forested areas. This contributes to difficulties in connectivity, a characteristic of hill economies around the world, and results in high fixed and variable costs for service delivery. However, Uttarakhand has a large perennial supply of water as two of India's large rivers—the Ganga and Yamuna—and their tributaries originate from its glaciers. As with other hill economies—for example, neighboring regions such as Himachal Pradesh and Nepal—there is large untapped potential in hydropower, tourism, horticulture, and forest products. Equally, the plains of Uttarakhand have seen a surge in industrial and services sector development. This is chiefly the result of its favorable location within the dynamic Northern India economy and the economic benefits from the agglomeration promoted by government policies and subsidies.

1.3 However, as the state enters its second decade it faces a broad range of challenges but a narrow array of choices in dealing with them. The chief measure of success, and one that would fully justify the creation of the state, is accelerated and inclusive economic development. Progress in this area needs to be benchmarked not only against the parent state of Uttar Pradesh, from which it emerged, but also alongside the other hill states of India, which have benefited from a similar range of Central Government concessions and promotional benefits as those received by Uttarakhand.

1.4 The state will have to leverage its favorable location, emerging knowledge clusters, and the availability of a large pool of young workers to maintain a high growth rate. It will also need to offset differences in productivity and accessibility between the hill and plains regions to ensure that the distribution of benefits from high growth is equitable, especially to improve health and education outcomes in the lagging areas. However, a relatively new consideration in its economic strategy is to maintain the state's contribution to environmental services for India and the world—to green its growth process to align with the needs of its own and downstream water and hydrological cycles, agriculture, conservation, community needs and climate change considerations. At the time of its creation, the state was optimistic about balancing rapid economic development with the maintenance of its environmental services. Ten years later, balanced development has slowed due to a combination of pressures from environmentalists, religious groups upset at the alleged despoliation of the rivers, and greater scrutiny by the Central Government's Ministry of Environment and Forests (MoEF) as well as the Supreme Court.

The State Government should not lose the initiative to external players. It needs to craft a basic strategy that can reassure all stakeholders that it is capable of creating a green growth regime that works.

1.5 The World Bank team provides this report as an input to the State Government's deliberations on the strategy for the next decade, starting with the national 12th Five-Year Plan period. It has drawn on broad consultation with government officials, opinion leaders, and the private sector. It presents a broad diagnostic of state economic performance and an overview of strategic challenges in Chapter 2 (Growth), Chapter 3 (Inclusion), Chapter 4 (Sustainability) and Chapter 5 (Public Financing), interwoven with a set of recommendations in these areas. In Chapter 6 (Administration), this report presents recommendations on the management and governance of economic development, on the understanding that the State is still young and continues to tailor systems inherited from the parent state of Uttar Pradesh to align with its own conditions and special needs.

CHAPTER 2: GROWTH

2.1 This chapter describes recent economic performance, diagnoses some of the major constraints to rapid economic growth, and presents a broad strategic recommendation for future growth.

Trends

2.2 At first glance, the relative economic position of Uttarakhand in the Indian economy is favorable. As seen in Table 2.1, Uttarakhand is in the upper left hand quadrant. After a decade of statehood, nominal income per person is now higher than the average for Indian states, and it has also been growing faster than the all-India average. Nevertheless, there are compelling reasons for going beyond the headline numbers on growth. Economic development is non-linear; success so far is no guarantee of future success. Table 2.2 illustrates this point for India's states. It looks at changes in the relative positions of India's states when we use income per person as a yardstick. The ability of Uttarakhand to maintain its relative position over the next decade and longer, and not fall behind like eight of the twelve other hill states, will depend crucially on strategic decisions it makes today.[2] Understanding the structural changes that underpin its performance requires a closer examination.

Table 2. 1: Income and Growth Comparisons (Per Capita Nominal NSDP)

		Real Growth Rate of Income Per Capita, 2001-11	
		Above Average	**Below Average**
Income Per Capita, 2011	**Above Average**	Andhra Pradesh, Delhi, Goa (Rs. 192,652), Gujarat, Haryana, Karnataka, Kerala, Maharashtra, Pondicherry, Punjab, Sikkim, Tamil Nadu, Uttarakhand (Rs.75,604)	Andaman & Nicobar, Chandigarh, Himachal Pradesh
	Below Average	Arunachal Pradesh, Bihar, Chhattisgarh, Meghalaya, Orissa, Rajasthan	Assam, Jammu & Kashmir, Madhya Pradesh, Manipur, Mizoram, Nagaland, Tripura, Uttar Pradesh, West Bengal

Note: Nominal income per capita is for the latest available year. All India nominal per capita income is Rs. 60,972 and the period growth rate is 11.5 percent. Goa has the highest income among the States.

Growth Spurt: 1999-00 to 2007-08

2.3 Uttarakhand tripled its average growth rate to over 10 percent after becoming a separate state (Table 2.3). Its performance was the best among the three states created around the same time.

2.4 Booming construction, fast growing registered manufacturing, trade and the hotels sectors lifted the growth rate (Table 2.4). However, while agriculture contributed nearly a fifth of output growth when the state's total output was rising at about 3 percent, its contribution fell sharply in the subsequent period, when the economy accelerated.

[2] Twelve states/regions are included in the definition of hill states—Himachal Pradesh, Jammu & Kashmir and Uttarakhand in the Western Himalayas, and Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura and the hilly areas of Assam and West Bengal in the Eastern Himalayas.

Table 2.2: Changes in Relative Income Ranks among States, 1994-2010 (Per Capita Nominal NSDP)		
Direction of Change	**1994-2010**	**2000-2010**
	Change in Rank	**Change in Rank**
Improvements	Sikkim and Tripura (9), Uttarakhand (6), Puducherry (5), Odisha (4), Andhra Pradesh and Meghalaya (3), Goa and Haryana (2), Kerala (1)	Sikkim (11), Uttarakhand (8), Arunachal Pradesh (5), Odisha and Chhattisgarh (4), Maharashtra and Gujarat (3), Meghalaya, Goa, Delhi, Haryana, Rajasthan and Jharkhand (1)
Declines	Punjab and Nagaland (-7), Andaman & Nicobar and Madhya Pradesh (-4), Arunachal Pradesh and Mizoram (-3), Chandigarh, Rajasthan, Assam, Jharkhand and Manipur (-2), Gujarat, Karnataka, Jammu & Kashmir and Uttar Pradesh (-1)	Punjab (-7), Himachal Pradesh and Mizoram (-6), West Bengal (-5), Manipur (-4), Assam, Jammu & Kashmir, Tripura and Karnataka (-3), Chandigarh (-2), Andaman & Nicobar and Nagaland (-1)
Unchanged	Delhi, Maharashtra, Tamil Nadu, Chhattisgarh and Bihar	Puducherry, Tamil Nadu, Kerala, Andhra Pradesh, Madhya Pradesh, Uttar Pradesh and Bihar

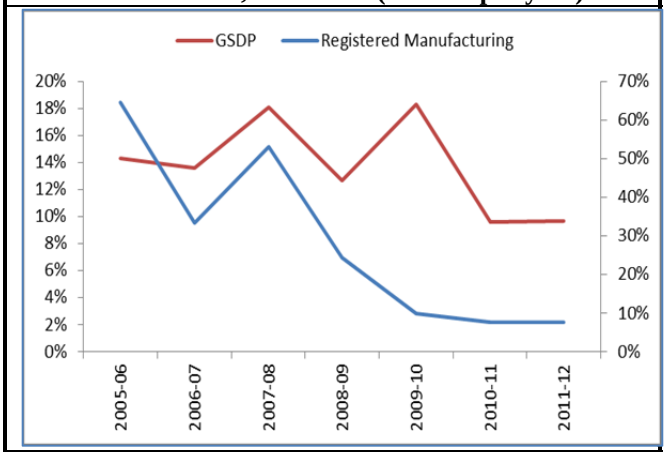
Source: Central Statistical Organization

Table 2.3: Real GSDP Growth Uttarakhand and Comparators		
(percent per year)	**1993-1999**	**2000-2011**
Chhattisgarh	3.2	8.8
Himachal Pradesh	7	7.9
Jharkhand	5.9	6.8
Uttar Pradesh	4.6	6.3
Uttarakhand	3.0	12.9
India	6.6	7.9

Table 2.4: Shift in Sources of Growth, 1993-99 to 2000-11 (in percent)		
	1993-1999	**2000-2011**
Agriculture	32.4	14.9
Registered Manufacturing	10.5	13.6
Construction	7.7	9.7
Trade, Hotel and Restaurants	8.5	18.9
Other sector	40.8	42.9

2.5 A rapid rise in registered manufacturing activity since 2000 placed Uttarakhand among the top three Indian states in industrial growth (Figure 2.1). Manufacturing picked up strongly soon after formation of the state, but year-to-year fluctuations were high and effects of the 2008 crisis were significant. Overall, much of the growth was based narrowly in the agro-based and traditional sectors. The announcement of special tax incentives in January 2003 promoted greater diversification, and manufacturing growth stabilized at around 10 percent per year. Inflows of private capital, government spending, and tourist traffic fuelled this performance. Investment in the registered factory sector rose sharply, from 3 percent in

Figure 2.1 Growth Rate of GSDP & Registered Manufactures, 2005-2011 (Percent per year)



Source: CSO

2000 to 23 percent of GSDP in 2009.[3] The number of tourists doubled to nearly 20 million in five years, with tourism by Indian nationals to the numerous religious sites in the State accounting for the overwhelming part of this increase.

2.6 A key factor in the expansion of the state economy was the existence in Uttarakhand of a relatively open economy and easy industrial licensing regime, combined with increasing pressures on the availability of land in neighboring states, especially the National Capital Region (NCR, consisting of Delhi, NOIDA, Gurgaon and Faridabad), Punjab, and Haryana. The State Government quickly organized to generate 5000 acres of developed land in three industrial estates in the plains. The relocation of industries to Uttarakhand took place rapidly. The state had surplus power capacity to begin with and launched programs to assure supplies of electricity while organizing itself to harness its huge hydroelectric potential for the future.

Growth Moderation since 2007-08

2.7 After the crisis in 2008, when growth slowed down marginally, the state economy rebounded in 2009-10 but decelerated significantly in the years following. After rebounding from a growth rate of 12 percent in 2008-09 (lowest in at least 4 years) to 18 percent in 2009-10, real economic growth fell to 9 percent in the next two years. A fall in agricultural output compounded the problem (Figure 2.2). Most of this slowdown can be attributed to the deceleration in the manufacturing sector, which was the worst affected by the national economic slowdown. Therefore, an important reason to consider the economy of Uttarakhand as part of a regional, national and global economic system is seen in this post-2009 performance of registered manufacturing firms. The sharp deceleration from over 24 percent to about 8 percent over three years reflected the combined effect of uncertainty about the continuation of industrial incentives and the effects of the global economic slowdown on India and, in particular, the Northern India region (Figure 2.3).

Figure 2.2 Composition of Output

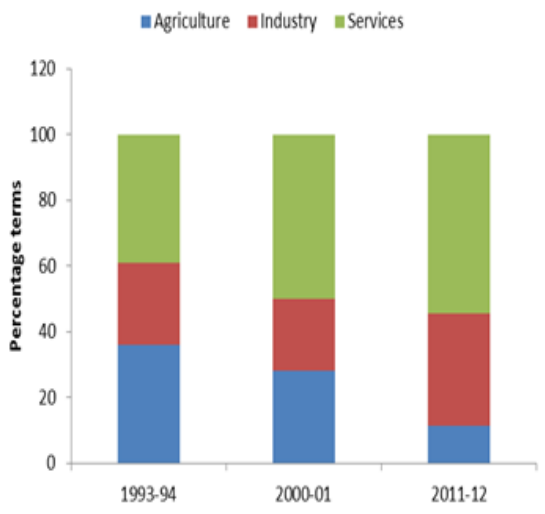
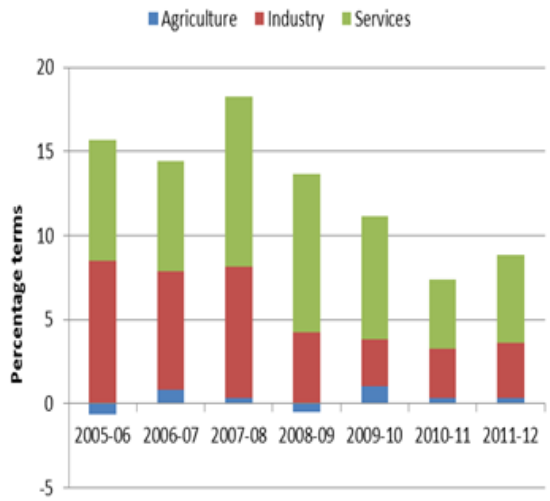


Figure 2.3 Contribution of Sectors to GSDP Growth



Source: CSO

[3] This estimate draws upon the Annual Survey of Industries (ASI). Investment here is the change in the fixed capital stock. However, "fixed" capital in the ASI includes the value of land.

2.8 Simultaneously, economic growth in India has also taken a hit. Real GDP growth fell to a nine-year low of 6.5 percent in 2011-12 after a quick, albeit brief, recovery from the global financial crisis of 2008. This slump was mostly driven by a slowdown in the industrial sector, particularly capital goods production, which reflected a declining demand for investment.

Sustainability of Growth

2.9 Two factors have determined much of the State's growth in recent years—its favorable location within a dynamic, but increasingly crowded, North Indian regional economy, and a generous fiscal and pricing incentives package that resulted in a surge of new firms into Uttarakhand (see Box 2.1).

Box 2. 1 Fiscal Incentives for Industrial Promotion in Uttarakhand

Central Government Incentives for New Industrial Units and for Substantial Expansions

(I). New industrial units and substantial expansions set up in Growth Centres, Industrial Infrastructure Development Centres, Industrial Estates, Export Processing Zones, Theme Parks (Food Processing Parks, Software Technology Parks, etc.) and other areas as notified from time to time by the Central Government, are entitled to:

(a) 100 percent excise duty exemption for a period of 10 years from the production start date.

(b) 100 percent income tax exemption for an initial period of five years and thereafter 30 percent for companies and 25 percent for other than companies for a further period of five years for the entire states of Uttaranchal and Himachal Pradesh from the production start date.

(II) All new industries in the notified location were eligible for a capital investment subsidy at 15 percent of their investment in plant & machinery, subject to a ceiling of Rs.3 million. The existing units were also entitled to this subsidy on substantial expansions.

(III) Thrust Sector Industries were entitled to similar concessions, without any area restrictions.

Partial List of State Government Fiscal Incentives*

Stamp duty concessions were provided in respect of land in specialized commodity parks, including I.T. parks. A transport subsidy of 75 percent of freight charges from and to the nearest railhead was also included in the package.

75 percent of total expenditure, subject to a maximum of Rs.200,000, incurred in obtaining national/internationally approved quality marks such as ISO series certificates, etc., is reimbursed to entrepreneurs. 50 percent of the expenses, subject to a maximum of Rs.100,000, incurred in installing pollution control equipment is reimbursed to entrepreneurs.

75 percent of the cost, subject to a maximum of Rs.200,000, was made available to the entrepreneurs in the shape of assistance for registering their patents.

*See http://www.sidcul.com/sidculweb/inner_pages.aspx?cat_id=14 for a complete list

2.10 Uttarakhand is landlocked, and population clusters in its hill areas suffer from remoteness. The former explains the relatively tiny share of product sales in distant markets, including exports out of India, and the latter explains the small scale of enterprise in the Hills. A common factor is the high costs that stem from operating, maintaining and repairing transport fleets, high inventory holdings to address uncertainty in supply, and the diseconomies that come from small shipments, especially over hilly terrain. Because of seismicity, sloping terrain, and unpaved roads, infrastructure failures in the hill areas often cause road closures and delays. Being a price taker in most markets, the incidence of transport costs falls more heavily upon Uttarakhand enterprises than it does on larger, well-established firms in the

neighboring states of North India, all but one of which (Himachal Pradesh) have superior physical connectivity with regional and distant markets.[4]

2.11 The effect of landlockedness/ remoteness on income is illustrated by a simple example from Uttarakhand's footwear industry (Table 2.5). For a sales price of 100 in the markets of Europe/Japan, producers in those markets are able to generate value added of 60, and provide workers with income of 45 after accounting for the return to capital. By contrast, exporters from coastal Mumbai face transport costs for imported inputs and sales in the foreign markets, thus even with cheaper input costs they are able to generate only 55 in value added which, after the return to capital allows them to pay workers 40. In landlocked Haridwar, by contrast, high transport costs on inputs and outputs consume value, and workers can only be remunerated at a significantly lower level of 25, just a little over half the level at the final destination and less than two-thirds the level in Mumbai, even if input costs in this interior region are lower than in Mumbai. The two implications that follow are that, given unchanged input and transport costs, the higher the sales price the better; a pattern of low value goods production is likely to result in low returns to labor in the landlocked/remote areas. Also, if input and/or transport prices can be lowered, the effects of being remote and/or landlocked can be partially mitigated. This rudimentary illustration of the effects of distance has powerful implications for industrial strategy in the hills and plains of Uttarakhand.

Table 2. 5: Economic Geography and Returns to Labor

	Europe/Japan	**Mumbai**	**Haridwar**
Labor	*45*		
Capital	*15*		
Value added	**60**		
Input transport	-		
Input cost	40		
Output transport	-		
Sales price c.i.f.	**100**		
Output transport		5	15
Sales price f.o.b.		**95**	**85**
Input transport		5	15
Input cost		35	30
Value added		**55**	**40**
Capital		*15*	*15*
Labor		*40*	*25*

2.12 As expected from the above, so far Uttarakhand has faced a competitive disadvantage in foreign markets. Not so in the regional markets. Although the State is not a gateway to the large and dynamic markets of North India, due to relatively poorer physical connectivity, it has benefited from an industrial policy that resulted in the relocation of a mix of high and low value manufacturing to the State. Both the pace of industrial agglomeration and urbanization has picked up in the State, especially around the industrial parks and associated connective infrastructure that came to be established. Coincident with the manufacturing boom in Uttarakhand, the Indian manufacturing sector also surged from 2004-05, with the pace quickening noticeably in Northern India. States in North India produce 28 percent of total output but the consumption share is higher due to higher average incomes.

[4] The Eastern Dedicated Freight Corridor Project will reinforce this. Investments in this Corridor are intended to provide additional rail transport capacity, improved service quality, and higher freight throughput, but bypass Uttarakhand. The State's competitive position is relatively more disadvantaged by its inability to access the Western Dedicated Freight Corridor directly, which is intended for containerized traffic for imports and exports from the coastal areas of Gujarat and Maharashtra. The Eastern Corridor is likely to mainly serve coal-using power plants in the National Capital Region and Uttar Pradesh. However, development of this corridor may relieve some congestion on roads to and from Uttarakhand, with a favorable effect on transport and logistics costs.

2.13 Structural transformation in the manufacturing sector reached a transition point (along a J-curve) around this period, with the dominance of new firms offsetting the decline of others.[5] An increase of foreign direct investment (FDI) into India and the abolition in 2003-04 of long-term capital gains on equities were two reasons for the growth of firms (Figure 2.4). The private corporate sector led most of the growth in new companies. Approximately one-fifth of the increase in factories in Uttarakhand would likely have occurred without the special fiscal package, if the state had simply participated in the trend growth of manufacturing in the Northern Region (blue color dotted trajectory in Figure 2.5). The gradual dispersal of industries from the NCR, as rental and other costs soared in those locations, was a powerful factor.

Figure 2. 4 Surge in Factories in India and Northern Region

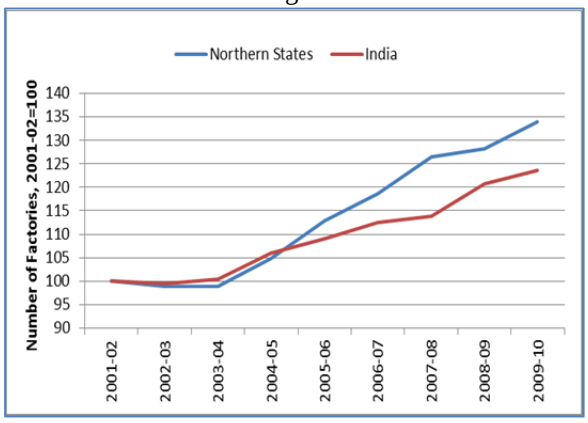
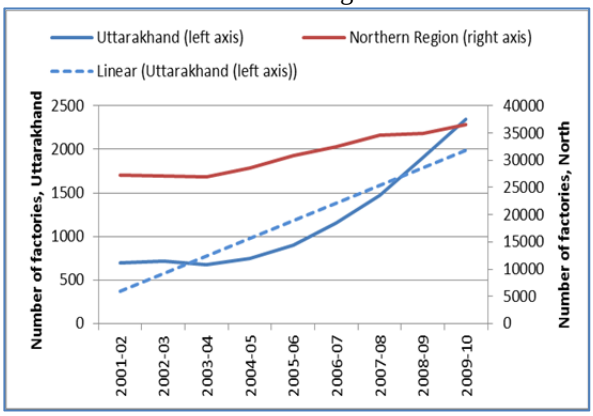


Figure 2. 5 Surge in Factories Uttarakhand and Northern Region



Source: Annual Survey of Industries, CSO

2.14 The recent momentum of growth in registered manufacturing in Uttarakhand is likely to be sustained in the medium-term, given increasing economies from agglomeration as well as the nature of industries that have moved there. Investment (in fixed capital) in the registered manufacturing sector increased from 4 percent of GSDP in 2000-01 to 23 percent in 2009-10..[6] Uttarakhand has decisively emerged as the fourth automobile cluster in India after Chennai, Mumbai, and the NCR. Leading manufacturers—both domestic firms and foreign joint ventures—have sought to make Uttarakhand their new home as a base to serve the Northern Region market (Figure 2.6, which shows the automotive, minerals, chemicals and food products leading in this regard).[7] Uttarakhand hosts the fifth production plants of Tata Motors and Mahindra and Mahindra, the fourth for Asahi Glass India and Bajaj Auto, and the third for Ashok Leyland and Hero Honda. Many of the new firms have begun production recently, and are likely to ramp up quickly to full installed capacity; several firms have also indicated their intention to add additional capacity (Figure 2.7).[8]

[5] Hashim, Kumar and Virmani, Arvind, "Impact of Major Liberalization on Productivity: The J Curve Hypothesis", Working Paper No, 5/2009-Department of Economic Affairs, Ministry of Finance, New Delhi

[6] Based on Department of Industries data, approximately Rs.13,500 crores of investment flowed into Udham Singh Nagar, Haridwar and Dehradun districts in 2006-07..

[7] Firm level data are from the Department of Industries. Coverage is limited to major investors in Pantnagar and Haridwar.

[8] For example, Ashok Leyland, which started production in 2010, is currently at its full capacity, producing 4000 units a month at a time when demand for trucks is rising rapidly. Birla Tyres, which started production in 2008, has a current production level of 257 metric tons per day, against the full capacity of 743 metric tons, so it can ramp up quickly as demand for vehicles grows. The outlook for the Indian automobile sector is bullish with volume growth above 15 percent.

Figure 2. 6 Leading Sectors in New Investment

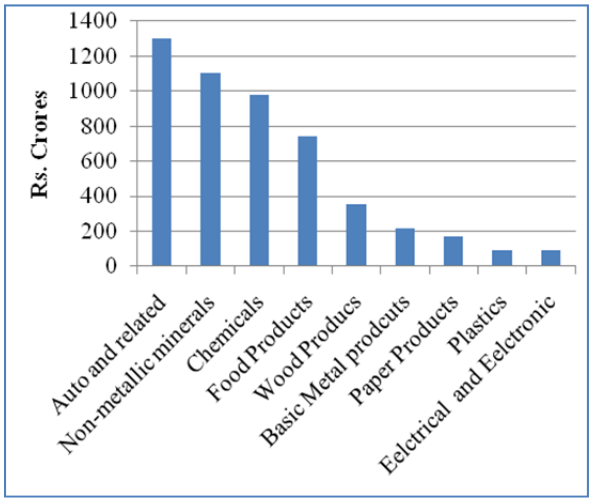
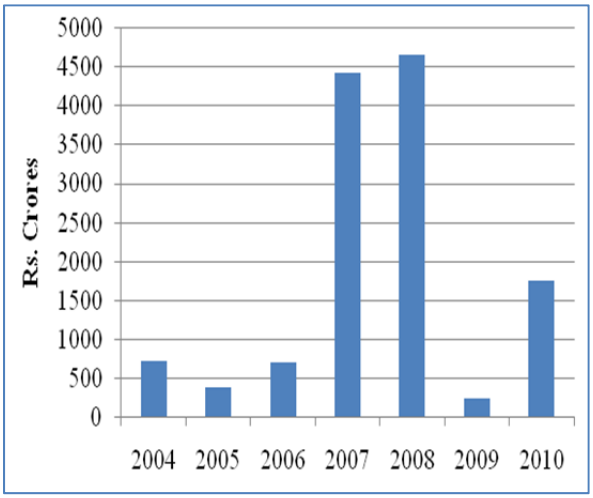


Figure 2. 7 Investment by Starting Date of Production

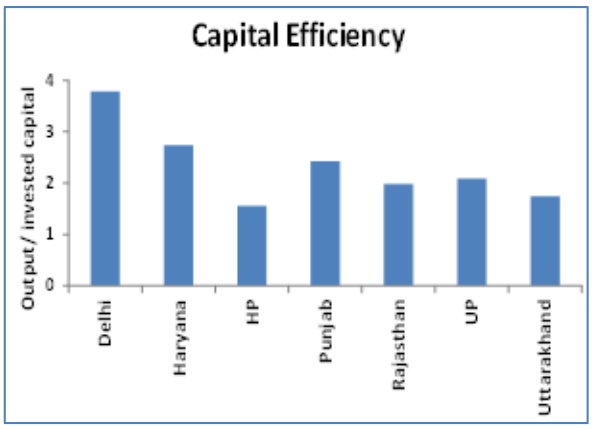


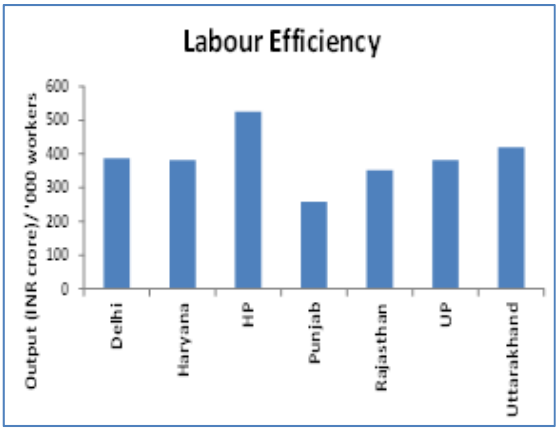
Source: Staff estimates based on information from the Uttarakhand Department of Industries.

2.15 Uttarakhand's long-term growth will need to draw upon its location advantages for attracting new industries and services, the expansion of existing firms, and the gradual spread of firms away from the NCR as costs of setting up new units in that location rise. Eventually, the initial construction boom that followed the formation of the new state is bound to run its course. There are limited opportunities to transfer land in the plains from agriculture and existing forestry to industrial use, and the cost of developing land for manufacturing production in the hills is very high. Fiscal incentives cannot be the main basis for building a world-class competitive economy. The special fiscal incentive package for migration of new industries seeking price shelters into Uttarakhand was not extended beyond end-March 2010,. However, substantial fiscal incentives will remain for the existing firms to expand their production base in Uttarakhand in the next decade by way of exemption from central sales tax and reduced corporate tax. The firms that came into Uttarakhand enjoy their tax-shelter status for 10 years, if production began before March 31, 2010. Past the 10-year period, sufficient agglomeration economies exist to keep and attract more firms. Interestingly, rudimentary estimates of average capital and labor efficiency in the manufacturing sectors of the North Indian States suggest that the newer manufacturing capacity in Uttarakhand is well-placed in relation to production in the neighboring States (Figure 2.8).[9]

[9] The capital efficiency relationship shown in the figure is likely to hold even if adjustments are made for the nominal value of land included in the ASI estimates of capital.

Figure 2.8 Capital and Labor Efficiency in Manufacturing in North India





Source: Annual Survey of Industries, 2009-10, Central Statistical Organization
Note: Capital efficiency is measured as gross output/invested capital; Labor efficiency is measured as output in Rs. crore/1000 workers

Diagnosing Constraints to Growth

2.16 In what follows, we use a growth diagnostics methodology to evaluate the factors that could constrain future growth in Uttarakhand.[10] Underlying the analysis is the assumption that private investment drives economic growth, and that private returns to economic activities induce investment. Factors such as technology, infrastructure, human capital and several non-tradable location specific factors affect private returns and the ability of private investors to appropriate these returns. Private appropriability reflects the extent to which social returns are translated into private returns and are negatively affected by government or market failures.

2.17 Government failures, or bad policy and poor institutional environments, include macroeconomic risks such as financial, monetary and fiscal instability, as well as microeconomic risks, such as insecure property rights, corruption, inefficient tax collection systems, cumbersome regulations and business registration procedures. Market failures include limited information and coordination externalities that negatively affect the ability to expand private sector development and adopt new technologies.

National Factors

2.18 Estimates of India's medium- and long-term *potential* output range between 7 and 9 percent; estimates by the Government and World Bank generally tend to be towards the high end of this range. The latest World Bank projections of medium-term growth estimate output expansion at an average 7-8 percent real rate during the next decade, with real consumption growing above 5 percent and external trade (volume) at 12 percent. Therefore, the overall expansion of the Indian economy should provide an environment that is conducive for Uttarakhand to pursue a moderate-to- high growth strategy. In addition, improving conditions for doing business in India (Center and States) will be a major factor in Uttarakhand's future growth. Increasingly, the Central Government is moving towards leveling the

[10] This a modified version of the framework first suggested in Hausmann, Ricardo, Dani Rodrik, and Andrés Velasco, 2005, Growth Diagnostics, John F. Kennedy School of Government, Harvard University (Cambridge, Massachusetts 2005). http://ksghome.harvard.edu/~drodrik/barcelonafinalmarch2005.pdf

playing field for competition among states. Indirect tax reform towards a two-tier Goods and Services Tax (GST) began in April 2010, and uniform implementation of the central government component across states will reduce the use of tax shelters as a means to attract industries. Under the Jawaharlal Nehru Urban Renewal Mission, in 63 cities with more than one million residents and in state capitals (Uttarakhand has three of these: Dehradun, Haridwar and Nainital), urban infrastructure and measures to improve governance are being funded. Power sector reforms are underway to improve efficiency using private participation and trading in electricity. With open access, transmission across the country, and the eventual trading of power between surplus and deficit regions, industries would locate for economic reasons. For land-locked states such as Uttarakhand, access to markets will depend also upon upgrading the national highway system, as roads carry the bulk of freight. Uttarakhand's ability to develop better access to the Golden Quadrilateral and North-South and East-West corridors will help sustain its future as a preferred industrial location.

Private Savings

2.19 Most firms in Uttarakhand are small-sized and, despite the spread of formal financial institutions, they tend to be funded internally by the savings of their promoters. However, Uttarakhand can tap virtually unlimited savings for investment because India's saving rate, at 30-35 percent of income, is high, and there are no regulatory barriers to free flows of capital among the states. FDI in India has been rising (except during 2010-11 when it fell for non-economic reasons), and the prospects are good. The central question is how much of the domestic savings and contributions from FDI can Uttarakhand actually attract? There is very little foreign investment in Uttarakhand. Commercial banks operating in the state have low credit-to-deposit ratios. This ratio stood at 35.2 percent in March 2011, compared to an All-India average of 75.1 percent and the Reserve Bank of India norm of 60 percent. Yet, Uttarakhand has twice the penetration of banks compared to the national average, with half of them in rural areas. A number of factors could explain the low credit-deposit ratio of commercial banks in the state, including higher financial savings propensities in the face of volatile income, better resource mobilization due to more extensive bank coverage of the population, the small size of farms and firms, which typically rely on internal rather than borrowed savings for operating business, and a general absence of bankable projects.[11] It is telling, however, that in non-random samples of agri-business and tourist sector firms conducted by the World Bank team and others, although there was evidence of a lack of knowledge about loans available from different agencies, access to finance was not listed a major obstacle. This provides some support to the view that internal savings are, at this time, adequate for the operation of businesses. However, leveraging could rise with the increasing size of firms, from changes in the competitive environment/profit margins, and from rapid expansion of the regional economy.

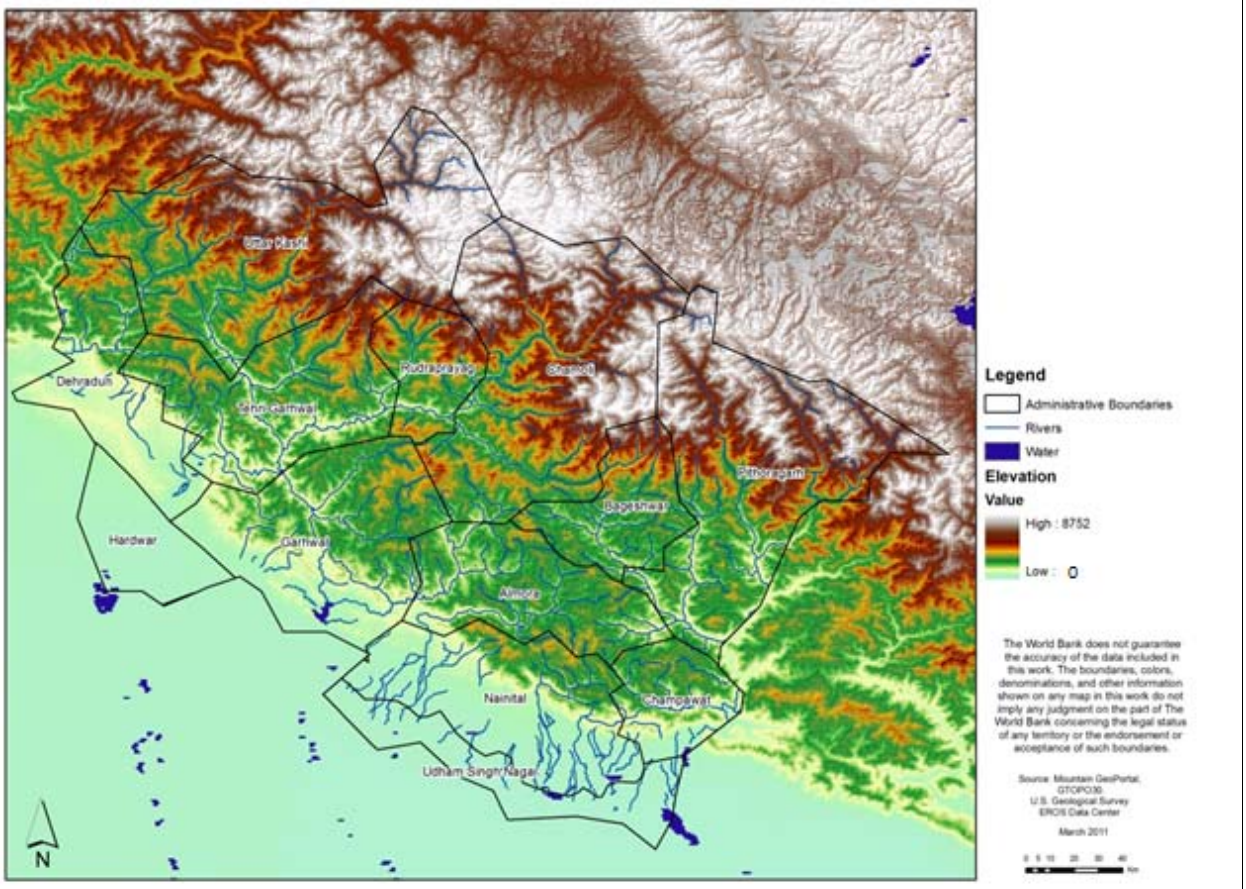
Land

2.20 The availability of land is likely to be a key constraint on growth (Figure 2.9). Uttarakhand is poorly endowed with usable urban land for development. The entire state is classified vulnerable to high-to-highest seismic risk. Only 8 percent of its area is available for non-agricultural uses, that is, an availability of 0.05 hectares per person. By contrast, Himachal Pradesh has three times as much land per person. Moreover, only a quarter of the geographical area is situated at an altitude of less than 1000 meters, which is a stark representation of the difficulty of the terrain. Small farm sizes inhibit land consolidation, and the protection of forests as environmental assets for the whole of India constrains the availability of land for the further development of agriculture. Seventy percent of the farm holdings in the

[11] For example, Reserve Bank of India statistics show that Uttarakhand is an outlier in the North India region where bank deposits per capita are concerned (Rs.45,000), with only Punjab and Delhi showing higher levels, but only Rajasthan and Uttar Pradesh have lower bank credit per capita levels than Uttarakhand's (Rs. 14,600).

state are less than half hectare in size, which is similar to farms in Himachal Pradesh.[12] The authorities restrict conversions of agricultural land to other uses by an ordinance of 2003.

Figure 2. 9 Geographical Features of Uttarakhand



2.21 The scarcity of land under an altitude of 1000 meters that is freely usable for purposes other than agriculture and near the main markets has put pressure on prices. With the population of the state projected to expand by about 30 percent in the next 10 years, land will become increasingly scarce. Moreover, such land is concentrated in just three districts—Udham Singh Nagar, Haridwar and Dehradun (Figure 2.10). These districts also have the best access to the regional market. Agricultural land is concentrated in two zones, one below 500 meters (Udham Singh Nagar, Haridwar and Dehradun) and the other around a height of 1500 meters but further away from the market (Figure 2.11).

[12] The data are from the Agricultural Census, 2000-01.

Figure 2.10 Land used for Non-Agricultural Purposes
(Size of bubble proportional to area in 100,000 hectares)

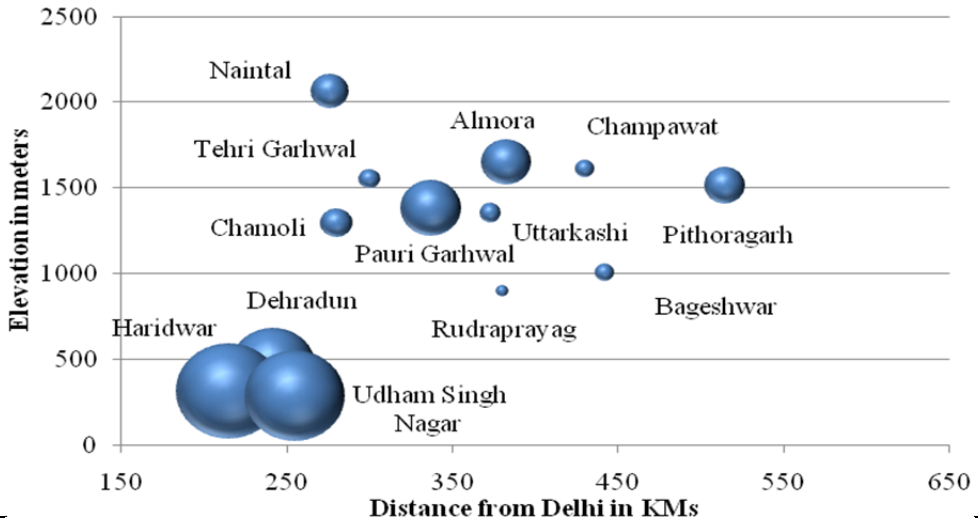
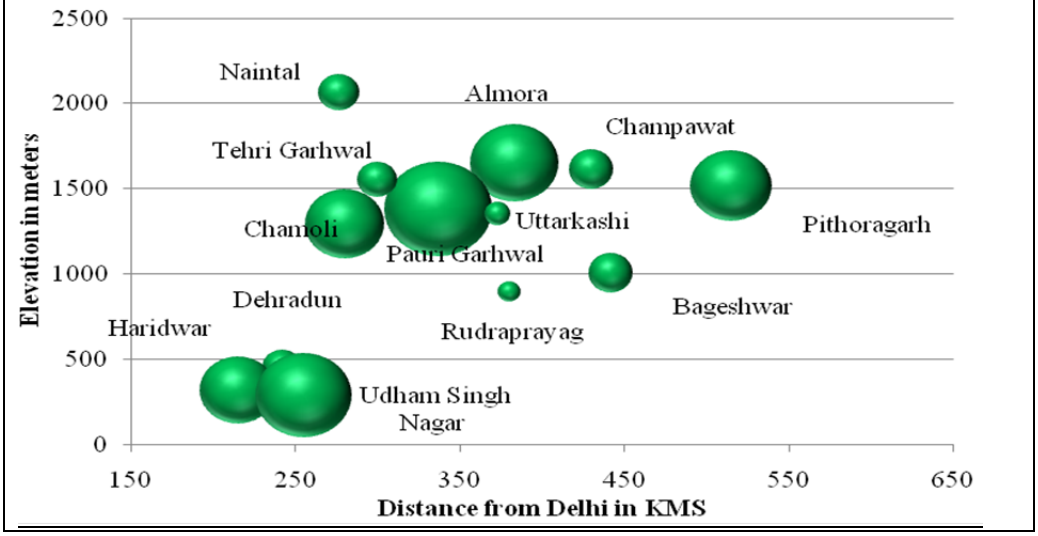


Figure 2.11: Land Used for Agricultural Purposes
(Size of bubble proportional to area in 100,000 hectares)



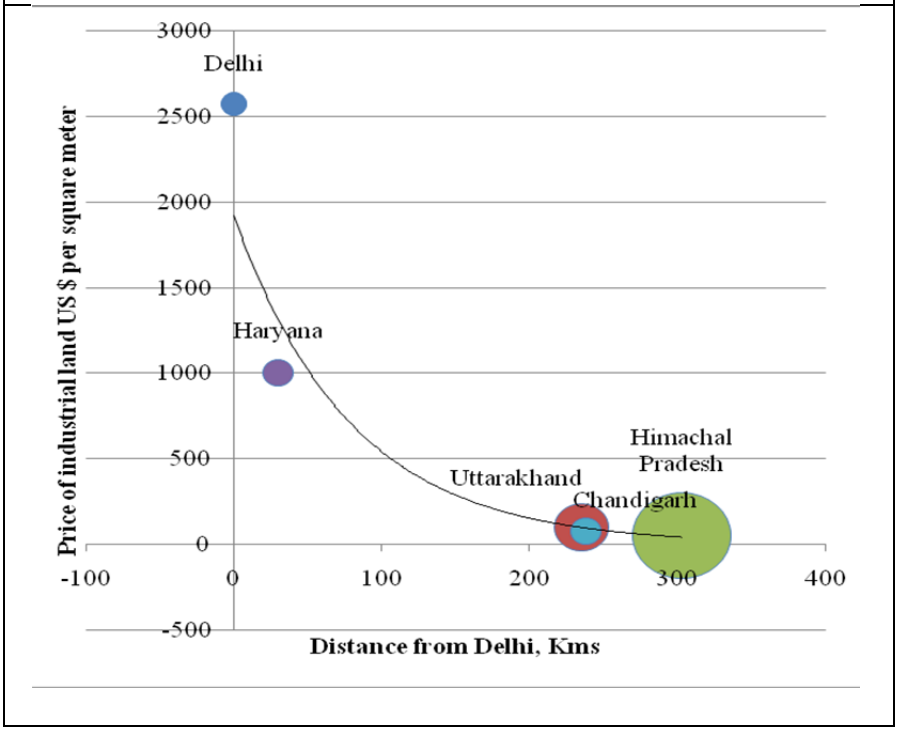
2.22 Since serviced land is essential for industrial growth, the State was able to grow rapidly after land was made available in industrial estates during its first decade, but the availability of land is increasingly constrained. The Government's industrial land policy (2008) prices plots at 125 percent of the highest bid in the previous round of bids for any given area, and earmarks 25 percent of the available land for small and medium enterprises, and another 25 percent for thrust (priority) sectors. In the face of growing competition from residential and other demands, this pricing and reservation policy was a boon to new investment. However, the main developed integrated industrial estates in Pantnagar (3339 acres) and Haridwar (2034 acres) are near full capacity as allotments are complete.[13] Although land has become available in smaller-sized private estate lots, they have not been as popular among industrial firms, and are often associated with speculative land purchases.

[13] Another integrated industrial estate at Sitarganj (1200 acres) in Udham Singh Nagar is under development.

2.23 With the expiry of the fiscal incentive package the demand for industrial plots could weaken but for the long-term investor an industrial plot in Uttarakhand is still far more affordable than other locations in the North India. Media reports claim that land prices quadrupled over the four years 2004-08.[14] The prices of industrial plots in prime locations in Uttarakhand recently surpassed those found in Himachal Pradesh and Chandigarh (Figure 2.12). This is potentially a red flag as, all else being equal the location decisions of firms are influenced strongly by distance from markets, land prices, and productivity at potential locations. For example, as pointed out earlier, worker productivity in industry in Himachal Pradesh (red) is higher than in Uttarakhand, and this is likely to be a determining factor if land prices in Uttarakhand continue to accelerate.

2.24 In general, land acquisition for infrastructure, industry and housing is becoming a contentious issue in many places in India. In Uttarakhand, ecological concerns further restrict availability. In the country as a whole, non-agricultural uses have expanded in the past by drawing heavily on waste and commons (tree crops).[15] Land area classified as "culturable waste" can augment the current stock for non-agricultural uses in Uttarakhand by only about 10 percent in Udham Singh Nagar and Haridwar districts—until now the two major investment destinations.[16] Acquiring private land is becoming increasingly difficult.

Figure 2.12: Industrial Plot Prices in Relation to Location and Productivity (Size of bubble represents worker productivity)



Source: Land prices from IBEF briefs updated for Uttarakhand, April 2010; productivity is measured using gross value added per worker from the Annual Survey of Industries, 2007-08

[14] http://www.business-standard.com/india/news/new-industrial-plot-policy-ups-prices-in-uttarakhand/327962/

[15] S. Mohanty, "Population Growth, Changes in Land Use and Environmental Degradation in India", unprocessed, 2007.

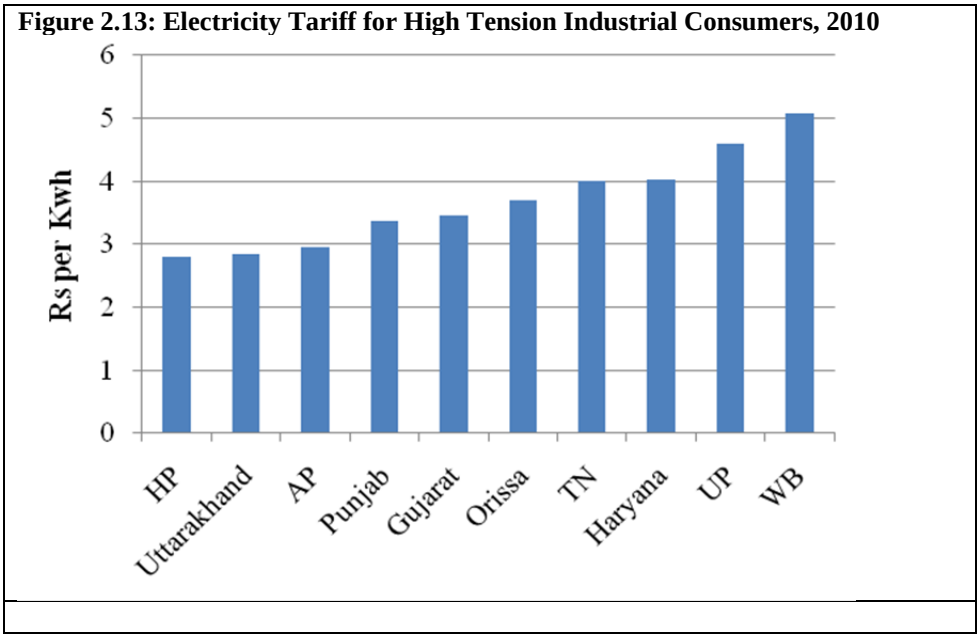
[16] Dehradun has considerable culturable wasteland, but Doon Valley environmental restrictions apply.

2.25 While the Central Government is examining several measures that could help with this situation—for example, a legislative amendment to the Land Acquisition Law (1894) was introduced in 2007 but is pending approval—State Governments are permitted to enact modifications to the overall legislation to suit their local contexts. The state level amendments encompass the process of acquisition, definition of "public purpose" that might include industrial use, compensation, and rehabilitation and resettlement. Practices vary among states. The definition of "public purpose" and the determination of compensation levels are key disputed areas in land policy implementation. Several approaches have been tried among the Indian states to make land available for development (for example, the land bank in Gujarat) and compensating the dispossessed (again, Gujarat's market price based compensation system and use of 30 year annuity payments is an example). In 2000, Uttarakhand inherited the state land laws of its parent —Uttar Pradesh—and has issued three amendments since then that restrict the purchase of land by outsiders in the state to 250 square meters from 500 square meters, and limit the diversion of land from agriculture. Unfortunately, successful approaches to the land acquisition model are yet to be devised by the Indian States, but this is an area that Uttarakhand will need to study and address with great urgency.

Power

2.26 The availability of power is likely to be a near-term constraint. A recent survey of non-large firms in agribusiness and tourism highlighted electricity and water as the largest obstacles to their operations.[17] In some designated areas (for example, the Doon Valley), because of environmental regulations, firms are unable to use captive generators to overcome this constraint. Uttarakhand has doubled its installed capacity for electricity over the last decade and the main source (85 percent) is hydropower, but only about 16 percent of potential has been realized. Hydropower is generally cheaper than other sources. Uttarakhand's electricity tariff is the lowest in the country (Figure 2.13). The tariff was cut after the state was formed. Demand has quickly outstripped availability and the state is a net-importer of power.

Figure 2.13: Electricity Tariff for High Tension Industrial Consumers, 2010

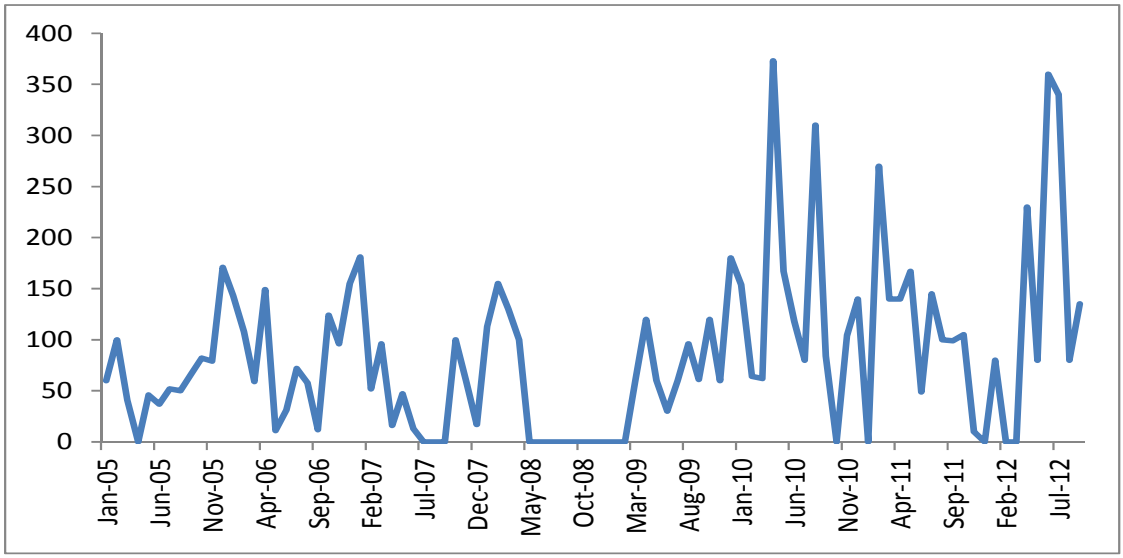


Source: State Electricity Regulatory Commission website

[17] See the BIC-GTZ survey (2010) of medium, small and micro enterprises in agribusiness and tourism. The survey results are indicative because the 160 sampled firms were not picked randomly.

2.27 Power intensive industries such as arc furnaces and steel rolling mills relocated to Uttarakhand to take advantage of cheap power.[18] However, as the manufacturing sector expanded, power consumption rose in tandem. Today, half the power available in the state is consumed by industry, compared to only a fifth in 2000. In the last two years, the peak power shortage has worsened as consumption grew by 10 percent and power availability (in-state and supplies from other states) rose by half that rate (Figure 2.14). Where permitted, private industries have been meeting the shortfall by own-generation, which is three times more expensive than power provided from the grid (currently Rs 3.5/Kwh). Compared to an estimated potential of around 25 GW (including mini-hydel), the state has developed only 3.124 GW. Additions to capacity planned by the Central Government and independent power producers for the next two years amount to about 1 GW. Projects in various stages of implementation and development could add another 11 GW in the future. If the planned power projects are built as scheduled (Central Government 7 GW, State Government 3 GW, and private producers 2 GW) and operational efficiency improves, the energy constraint should be eliminated for the foreseeable future.

Figure 2.14: Peak Power Supply Shortage, 2005-2012(MW)



Source: Power Ministry, CEIC database

Physical Connectivity

2.28 Uttarakhand has locational advantages in North India that cannot be fully exploited until physical connectivity improves. The rail network is small and confined mainly to the Plains. There are just two small-sized airports (Dehradun and Pantnagar) which connect with Delhi.[19] Production and urban centers in the Plains rely chiefly on road transport; animal transport is used in the Hills to access remote areas. Road transport is a moderate constraint on the operations of the vast majority of farms and firms in the plains, but is a severe obstacle to existing operations and the expansion of small firms in the hills and the tourism sector. Although road access to the NCR is likely to double in the near future, because of the mountainous terrain road connectivity within the state is limited.[20]

[18] See Uttarakhand Development Report, Planning Commission, Government of India, New Delhi, 2010.
[19] Three additional airports are planned in Chamoli, Uttarkashi and Pithoragarh.
[20] Common measures such as road density are less valid for areas with mountainous terrain than for flat areas. A more telling indicator is access to all-weather roads, which is abysmally low in the State; only a small proportion of the 66 percent of villages with fewer than 500 inhabitants has such access.

2.29 Uttarakhand's road network expanded by four percent per year between 2000 and 2010, including the upgrading of existing roads (Table 2.6). The in-State network has evolved mainly to connect to markets, cater to pilgrims, and for the military defense of this strategic State that shares international boundaries with two countries. The main road network runs mostly north-south rather than east-west. Village connectivity to roads in Uttarakhand is close to the national average of 60 percent. But, a significant portion of the 12,500 kilometers of rural roads is unpaved (38 percent) and in poor condition (43 percent).[21] Consequently, most firms engaged in agri-business sell to local rather than to distant markets, which limits income-earning and expansion possibilities. Also, most villages (66 percent) have less than 500 inhabitants hence the unit cost of providing services to them is significantly higher in Uttarakhand than in most other States of India. Road connectivity in the rural and hilly areas is being improved under a centrally sponsored scheme which aims to link all habitations with 250 or more people with good all-weather roads.

Table 2. 6: Expansion in Road Network, Uttarakhand, 2000-2007

Type of Road	2000	2007	Increase
National Highway	113	1328	1215
State Highway	1235	1553	318
Major District Roads	1482	580	-902
Other District Roads	6382	6705	323
Village Roads	5051	7247	2196
Light Vehicle Roads	1990	1995	5
Bridle Roads	3260	3349	89
Border Track Roads	546	517	-29
Total	**20059**	**23274**	**3215**

Source: Public Works Department, Government of Uttarakhand

2.30 The expansion of the in-State road network has been unable to cope with the increase in vehicle ownership. The number of registered vehicles registered has grown at a 10 percent annual rate, leading to severe traffic congestion. Consequently, travel times between some of the major Uttarakhand urban centers range from 6-7 hours for Dehradun-Udham Singh Nagar to 15-18 hours for Dehradun-Pithoragarh. Major centers of tourist interest outside of the Haridwar-Rishikesh area (close to Dehradun) involve road trips of 8-12 hours or more.

2.31 Uttarakhand's prospects as a regional economic hub are shaped by its ability to transport both inputs and people speedily, and to get product to market cheaply.[22] The kind of road delays experienced today for out-of-state shipments will have to fall sharply, together with improvements in other parts of its transport system. Half the overall delays occur on the four-laned Golden Quadrilateral highways for tolls, and the average speed achieved was 20-21 kilometers per hour. However, a major expansion of India's road network is underway that will benefit Northern India, including Uttarakhand. The main industrial districts of Haridwar and Udham Singh Nagar rely on National Highways 58, 72 and 87 for access to the NCR. The "four-laning" of Uttarakhand's link to the NCR is likely to be completed in the next few years under the National Highway Development Program Phases III and IV (Figure 2.15). Except for a small segment, the award of contracts for Haridwar's link to Delhi for "four-laning" under Phase III has been made. The contract for the Rampur-Kathagodam link (potentially beneficial to Uttarakhand producers for the eastward market links), is yet to be awarded. The "four-laning" of highways effectively doubles their current capacity.

[21] Uttaranchal State Road Investment Program, Asian Development Bank

[22] Freight costs for road transport are high: Haridwar-Delhi costs Rs. 2700 for a distance of 214 km. By contrast, Chandigarh-Delhi costs Rs. 700 (distance 238 km.), Lucknow-Delhi costs Rs. 1200 (distance 497 km.), Patna-Delhi costs Rs. 2500 (distance 1,015 km.), and Delhi-Mumbai costs Rs. 2300 (distance 1,407 km.).

Figure 2.15: Status of Four-Laning of Uttarakhand Road Links, September, 2010

Source: National Highways Authority of India.

Skilled Labor

2.32 The rate of literacy in Uttarakhand has increased from 72 percent of the population in 2001 to 80 percent in 2011, significantly higher than the national average of 74 percent. Literacy among males is 88 percent and female literacy has increased from 60 percent to 71 percent over a decade. Interestingly, both male and female literacy are higher in the hill districts than in the Plains, reflecting the success of government programs and strenuous efforts by the existing populations in those areas to acquire skills to improve opportunities for employment (often through migration). Gross enrollment in secondary and tertiary levels of education is above the levels of states in India with comparable income levels (Figures 2.16 and 2.17). The average years of schooling for people above the age of 15 years in Uttarakhand is

Figure 2.16: Gross Enrollment Ratio Secondary

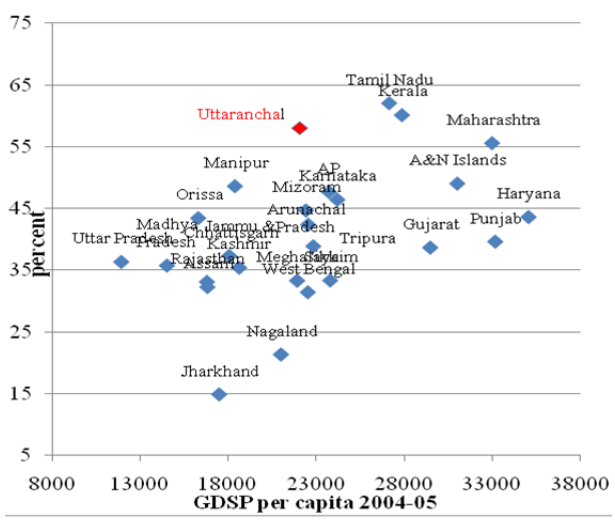
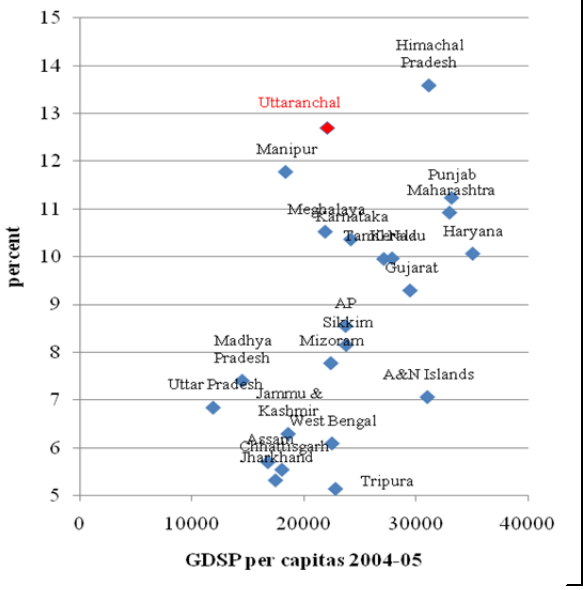


Figure 2.17: Gross Enrollment Ratio Tertiary



Source: Selected Education Statistics, 2005-06, Ministry of Human Resource Development, Government of India.

six, which is on par with the much richer and more industrialized states such as Tamil Nadu, Gujarat and Haryana. The pupil-teacher ratio in Uttarakhand is better than the national average.

2.33 The available evidence from successful teaching-research-business clusters around the world provides strong support for the development of high quality institutions for higher education. Uttarakhand started with a base of 64 such institutions in 2000, including universities, and general and specialized colleges. Their number had grown to 248 by 2009, with the largest expansion taking place among for-profit private institutions catering largely to the perceived skills-development needs of employees in the Plains.[23] With a handful of exceptions, the quality of existing institutions for higher learning is questionable. The ability to transform this sector will determine the State's ability to become a dynamic knowledge and business hub for North India.

2.34 Uttarakhand currently has a good supply of skilled labor biased towards science and engineering, although a relatively high proportion are from outside the State. The GTZ survey of firms did not highlight the availability of skilled labor as a constraint. Although the State government has a requirement to hire local labor at least to 15 percent of the persons employed in a firm, despite the massive entry of new firms in Uttarakhand most have been able to recruit close to 30 percent of their work force locally. Legislated minimum wages in Uttarakhand are higher than in Himachal, but in the middle of the distribution when compared to the other North India States (Table 2.7). Firms are able to hire workers at minimum wages. A higher turnover of the work force is experienced by firms in the neighborhood of other engineering firms because this class of firms is required to pay the statutory minimum wage, which is 20 percent higher than for non-engineering firms.

Table 2.7: Minimum Wages by Skill Levels (Rupees per day)

State / UT	Unskilled	Semi-skilled A	Semi-skilled B	Skilled A	Skilled B	Highly Skilled	Effective date
Himachal Pradesh	110	113		138.6			Feb-10
Punjab	142	149.1	155.3	158.9	169	179.8	Sep-10
Uttar Pradesh	151.9	173.2		192.2			Oct-10
Uttarakhand	155	170.2		188.9			Jul-10
Haryana	167.2	172.2	177.2	182.2	187.2	192.2	Jul-10
Chandigarh	170.4	180.1	176.2	196.4	187.8	211.8	Apr-10
Delhi	203	225		248			

Source: States' Labor Department websites.

2.35 Skilled labor is unlikely to become a constraint in the future. The supply of skilled labor is bound to expand in the coming decades. Uttarakhand has a growing and youthful labor force that will supply adequate local manpower for the coming years (Figure 2.18). The population is projected to grow at 1.4 percent per year until 2021, with the proportion in the working age group (15-59) rising from 55 percent to 61 percent (Figure 2.19). If Uttarakhand's educational infrastructure is upgraded and the supply of higher quality high school and college graduates enhanced, the State is likely to move up the production value chain and better exploit its location advantages. While this is a potential demographic dividend, the State's ability to retain and leverage this divided will depend on its ability to generate profitable opportunities for existing and new investors.

[23] See B. K. Joshi, Reflections on Reform of Higher Education in Uttarakhand, Occasional Paper 1, Doon Library & Research Centre, Dehradun, 2011

Figure 2.18: Uttarakhand Age Pyramid 2001

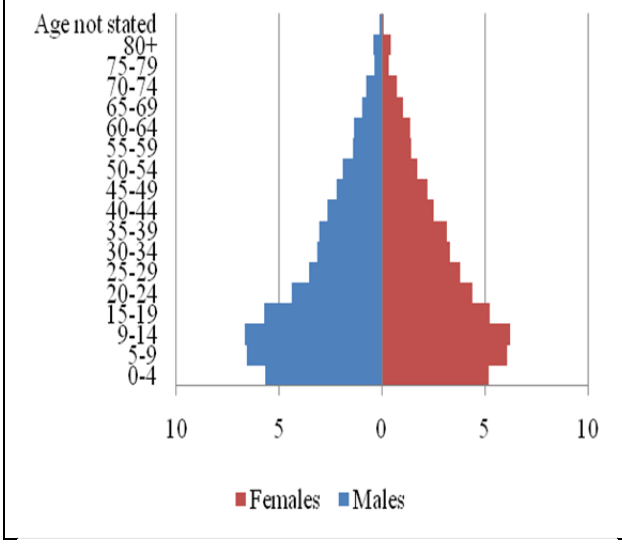
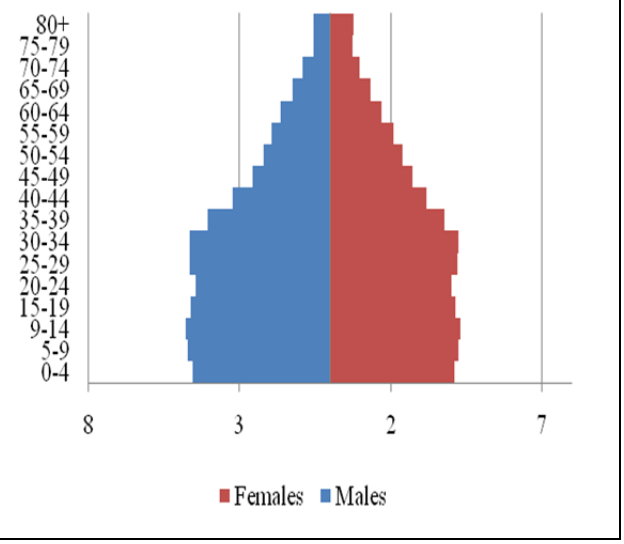


Figure 2.19: Uttarakhand Age Pyramid 2021



Source: Census of India

Regulatory Burden and Corruption

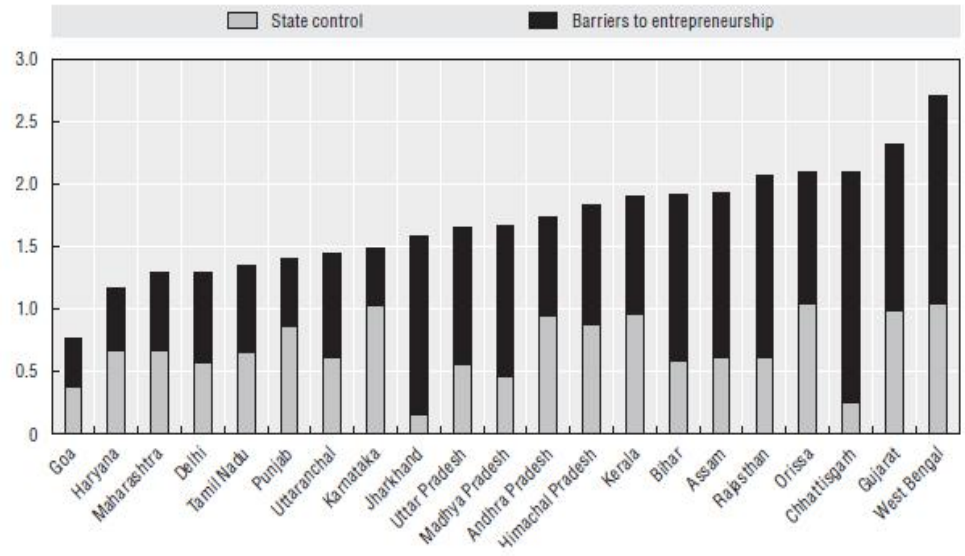
2.36 Overall, the *formal* regulatory burden in Uttarakhand is judged by one major survey to be low compared to other states.[24] Although there is room for improvement, at present these cannot be construed as a major constraint. The regulatory burden in product markets is on the lighter side, with the state ranked 7th among 21 States in 2008 that account for 98 percent of the GDP and population of India. Regulations faced by firms in Uttarakhand are a mix of Central Government rules and the State's own additions. Based on a review of procedures and discussion with regulators, the OECD study carefully disentangles the two and ranks Indian States by the state level regulatory burden placed on firms. By this survey, Uttarakhand is ahead of Karnataka, Andhra Pradesh, and Himachal Pradesh (Figure 2.20). Box 2.2 presents a summary of problems faced by service sector firms, and reinforces the finding that the formal regulatory burden may not be a major constraint on such firms.

Box 2.2: Operational Problems of the Service Sector Enterprises

Service sector companies complain about capital shortages and competition from big companies. Uttarakhand service firms report more problems than other industrialized states, but fewer than in Himachal Pradesh (Figure 1). The availability of capital for service sector firms is seen in many countries, and may be related to the relatively smaller proportion of physical plant and equipment in financial systems that continue to operate chiefly on the basis of physical collateral. The incremental reduction of reservation policies for small companies in India may explain why these firms consider competition from big firms to be an important constraint. Marketing difficulties and (regulatory) harassment are the next order of problems faced by service sector firms. Notably, inputs (power, fuel or labor) are minor complaints, unlike the results from most surveys of manufacturing firms.

[24] Paul Conway and Richard Herd, How Competitive is Product Market Regulation in India? An International and Cross-State Comparison, OECD Journal of Economic Studies, 2009.

Figure 2.20: Product Market Regulation at the State Level, 2008



Source: Conway and Herd, OECD, 2009

2.37 A key enabler of economic development is general governance. By one survey, poor households rank Uttarakhand to have governance challenges that are on a par with Himachal Pradesh, Andhra Pradesh, Maharashtra, and Punjab.[25] This is confirmed by the BIC-GTZ study referenced earlier, which surveyed agribusiness and tourism companies in 2010. Respondents noted also that the informality of the regulatory framework is not a major obstacle. However, as discussed in Chapter 6, there are broader concerns about economic management and governance in Uttarakhand that are of concern. As seen in many other countries, farms and firms in Uttarakhand may be able to work around formal and informal regulatory constraints in different ways, especially in those cases where the implementation of regulations is weak.

Coordination

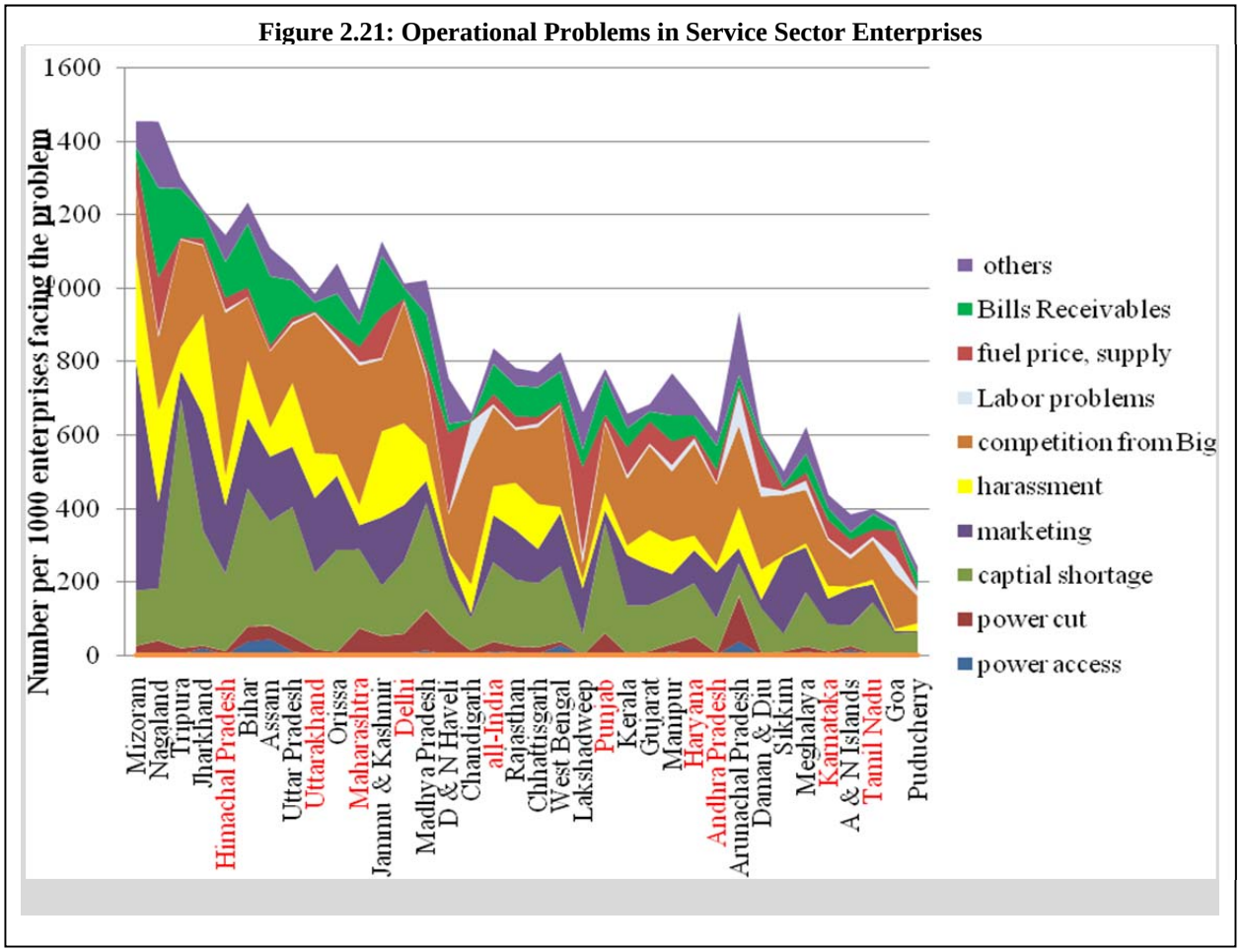
2.38 There are two types of coordination problems that could potentially constrain Uttarakhand's sustained growth. One has to do with the inability of entrepreneurs to capitalize on the existing location specific comparative advantages of Uttarakhand to make known products (absence of self-discovery). The other is the inability to create capabilities in Uttarakhand to make new products for which demand may not exist as yet (coordination failures).[26]

2.39 At present, Uttarakhand does not seem to suffer seriously from insufficient self-discovery. Generally, the diversity of products exported by a region could indicate its capabilities. A more diversified production structure is associated with higher incomes as a reward to capabilities. However, if the products are also relatively less prevalent (fewer regions produce them) then product diversification (especially in manufacturing) is considered to be sophisticated and fetches higher rewards. Uttarakhand's

[25] See Transparency International- CII, India Corruption Survey with Special Focus on BPL Households, 2007.
[26] The methodology is from Hausman, R., Klinger, B., and R. Wagner, Doing Growth Diagnostics in Practice: A 'Mindbook', CID Working Paper No. 117, September, 2008.

products are more diversified and less prevalent than the average for all Indian states (Figure 2.21). However, compared to industrially advanced states such as Maharashtra or Tamil Nadu, Uttarakhand's manufacturing output is as diversified but more commonly made.

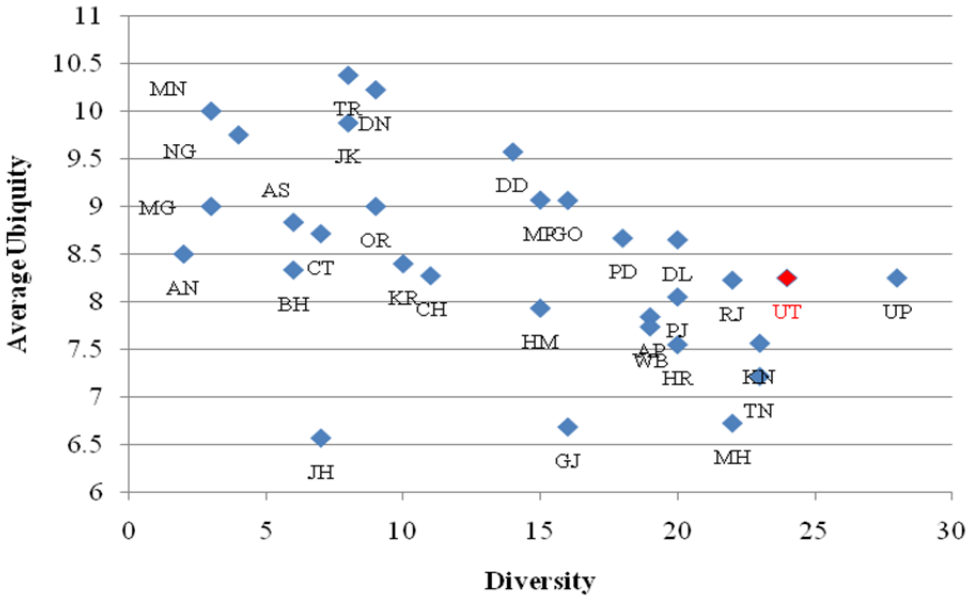
Figure 2.21: Operational Problems in Service Sector Enterprises



Source: Service Sector in India, NSS 63rd Round July 2006- June 2007.

2.40 An alternative measure—EXPY—also confirms that Uttarakhand's manufacturing output is sophisticated for its level of development. Averaging across all products produced by Uttarakhand from product-by-product comparisons with competitors' income levels, EXPY is a measure of relative sophistication in the State's production structure. Generally speaking, the level of product sophistication shown in Figure 2.22, where Uttarakhand is shown to be above the average for its level of income, depends partly on self-discovery by entrepreneurs. This does not imply, however, that no coordination problems arose in the evolution of this production structure. Rather, that if there were problems they are likely to have been successfully addressed by existing institutional mechanisms involving the Government and investors. This measure, EXPY, has been found empirically to be a good predictor of subsequent growth. It should be noted that by this measure, which is merely indicative, all the states created in 2000, Chhattisgarh, Jharkhand and Uttarakhand, are predicted to be well poised for higher growth in the future.

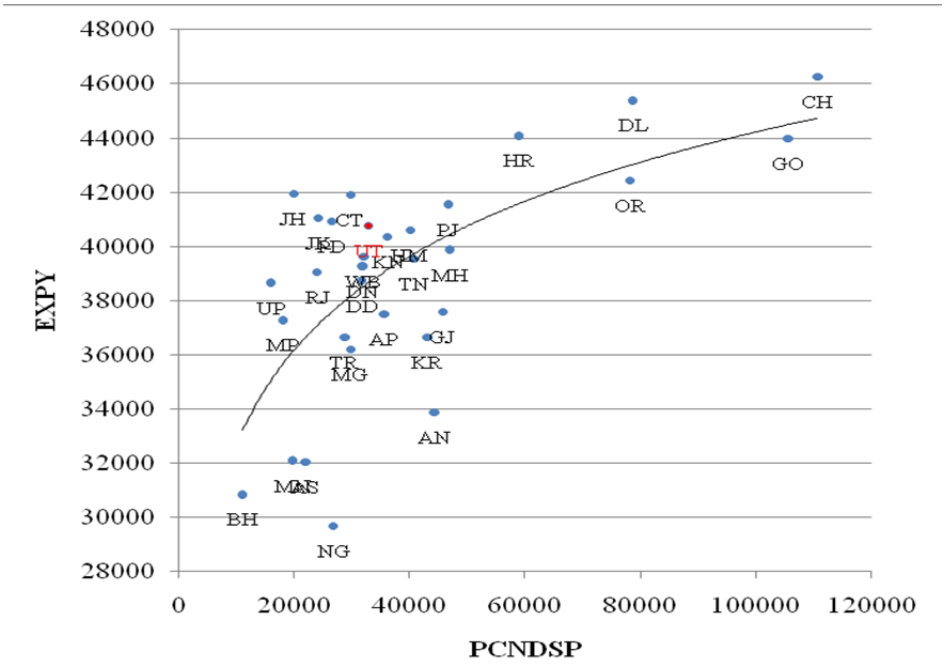
Figure 2.22: Sophistication of Manufacturing Output among Indian States, 2007-08



Source: Staff calculations based on CSO data at 3-digit level

2.41 The degree of the coordination and self-discovery challenge in moving to new activities can be indicated by the product space available to Uttarakhand (Figure 2.23). If the new products are close to the capability requirements of products that are produced in the State currently, it is less likely that co-

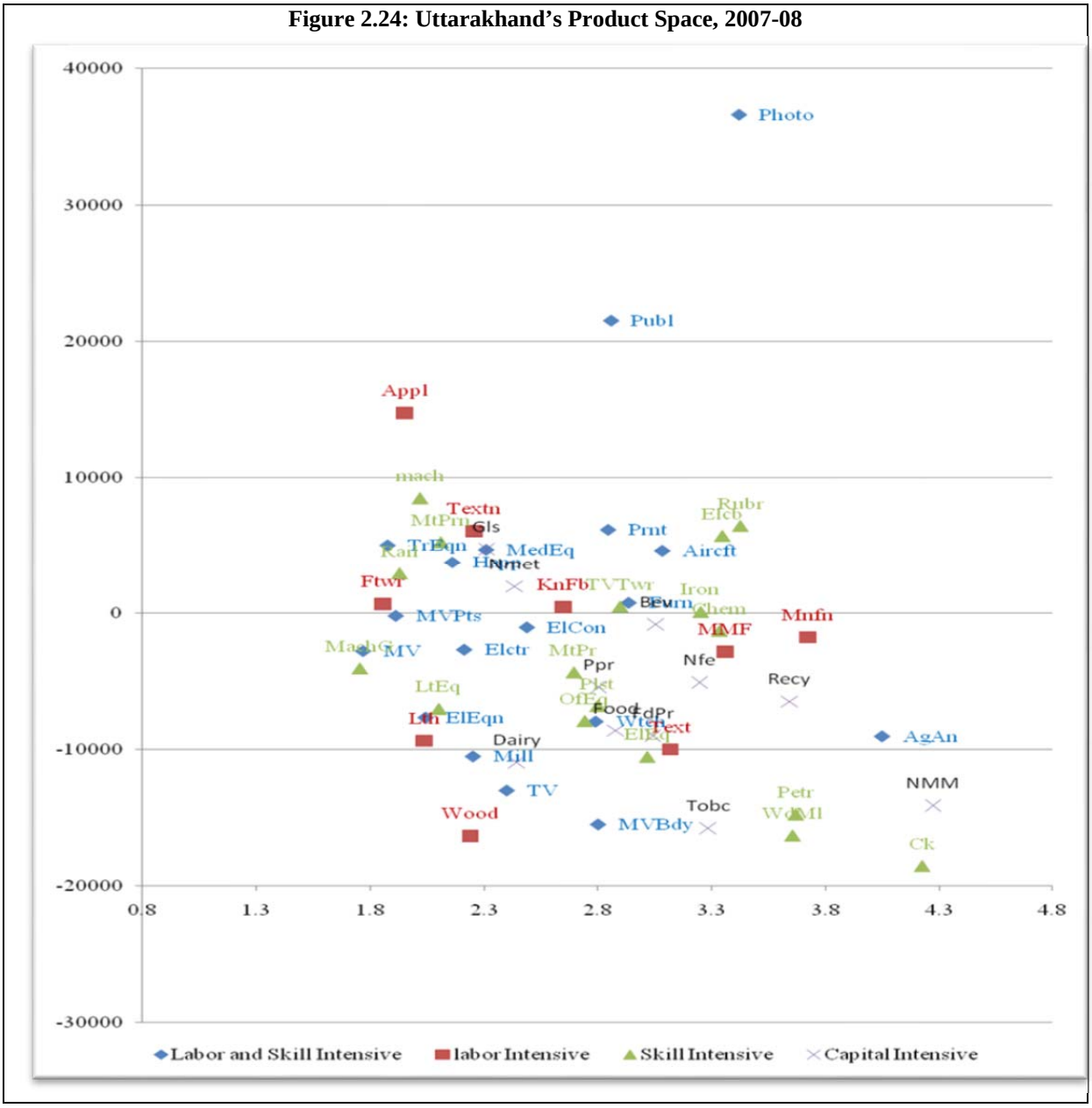
Figure 2.23: Manufacturing Output Sophistication and State Per Capita Income, 2007-08



Source: Staff calculations based on CSO data.

ordination problems will be large in further diversifying the production structure. Regions and firms usually move to seize opportunities in the immediate vicinity of their current product space to transition to higher growth. The sparser the product space surrounding a region's existing production structure, the more difficult the coordination problems are to identify new products that could be made profitably and to accumulate the necessary capabilities. Figure 2.24 helps diagnosing whether coordination between firms currently in production is likely to be a serious constraint in upgrading production structure.

Figure 2.24: Uttarakhand's Product Space, 2007-08



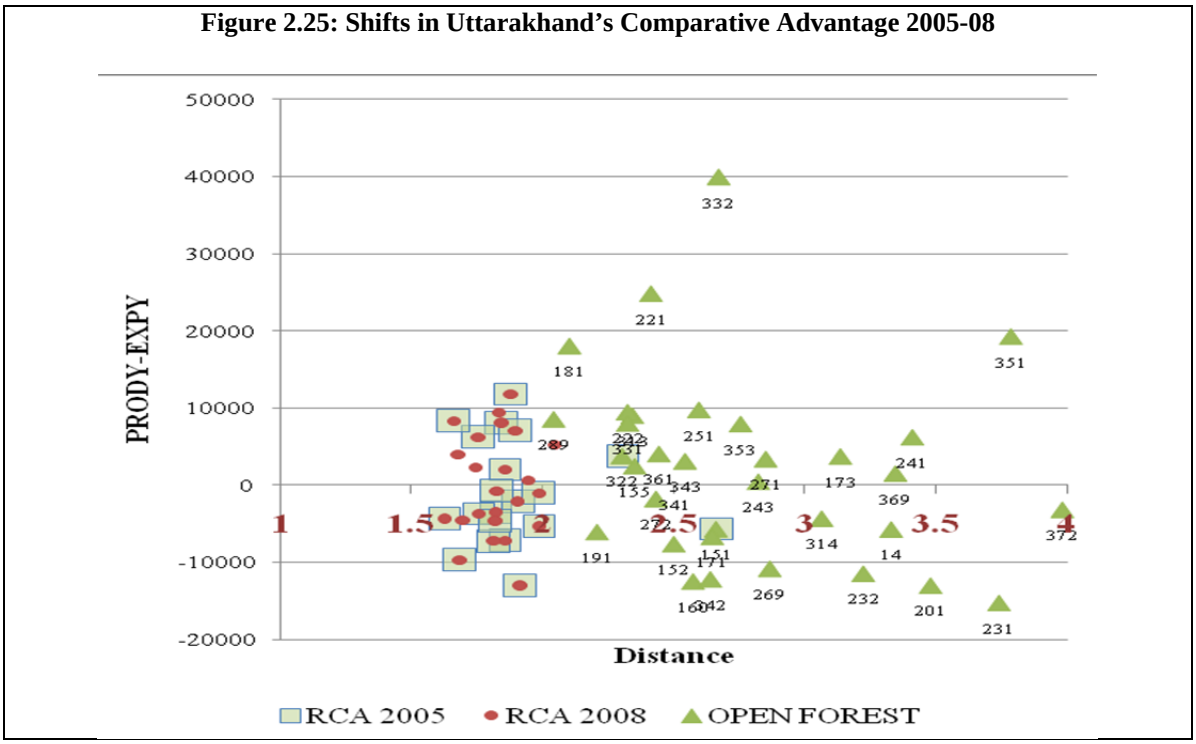
Source: Staff calculations based on Annual Survey of Industries, 2007-08. See Annex 2.1 for a listing of the industry codes.

2.42 The horizontal axis measures the distance (dissimilarity of products) and the vertical axis measures the difference between income level associated with a product (PRODY) and Uttarakhand's current income potential (EXPY). In the neighborhood of current distance of 1.8 to 2.5 in Figure 2.24,

there are many products available that are normally associated with income levels above Uttarakhand's EXPY. Diversification towards such products would be not too demanding in terms of coordination, especially as the predominant nature of these products is skill-intensive.

2.43 Generally speaking, dynamism in the acquisition of new products in the recent years provides additional support to the belief that coordination issues are unlikely to be a major problem, at least in the short and medium terms. Uttarakhand has developed revealed comparative advantages (RCA index >1) in six new industrial sectors between 2004 and 2008, but lost it in two sectors.[27] New areas included electricity control apparatus (312), footwear (192), computing machinery (300), metal casting (273), electronic components (321) and other textiles (172). The state retreated from the processing of food products (151) and transmitters, telephones (322). In net terms, the number of industries with RCA greater than unity expanded by 4 groups to reach 24 out of 60 potential 3 digit sectors. The six sectors in which Uttarakhand gained comparative advantage are interestingly the ones closest to 1.8, where the current RCA is concentrated, on the X-axis in Figure 2.23. For four of them, the associated income (PRODY) is above the average of competitors' per-capita income (EXPY). Even more diversification is likely to have occurred since 2007-08, particularly in the manufacture of motor vehicles and parts located at distance 2.8 on the X-axis, as leading automobile manufacturers opened new plants in the state. Figure 2.25 shows how Uttarakhand's comparative advantage in industries shifted between 2004 and 2008 and unexploited industries ("open forest") laid out in a grid of product space and potential incremental income (PRODY–EXPY).

Figure 2.25: Shifts in Uttarakhand's Comparative Advantage 2005-08



Note: "Open forest" refers to unexploited industries.
Source: Staff calculations based on Annual Survey of Industries, CSO.

[27] Revealed Comparative Advantage (RCA) is an indicator of the strength displayed by a region in exporting a product relative to all other products and regions. It is measured as the ratio of the share of a product in a region's production to the share of that product in production from all regions.

2.44 Although this kind of analysis is merely indicative, the results here confirm the earlier observations that the State's future lies in high value products—control and computing equipment, electronic components, motor vehicles and components, instruments, chemical and pharmaceutical and similar items, but also high value leather and textile manufactures and the like. Such products lose less of their value to transport and logistics costs, Uttarakhand's production structure may be positioned to diversify into these lines relatively more easily than into other product lines, and there is a supporting base of skilled labor and knowledge clusters whose potential can be exploited for this purpose. An opportunity has now presented itself with the expiration of the fiscal and pricing incentives regime to design a new industrial policy that would support such a transition. It should be noted that such a policy is relevant to the dominant form of enterprise in the Plains. Several considerations, discussed in the next Chapter, require a different set of industrial policies for the Mid and High Hills.

2.45 The automobile industry is an example of the kinds of high value production Uttarakhand may seek to promote as a regional manufacturing hub. The State is likely to retain its recently acquired edge in the automobile sector, with much of the growth coming from plants set up after 2003. The vehicles and components industry in India is large, at US $70 billion (2008-09), and it has been energized by the entry of foreign firms in 2002, which has boosted production and exports.[28] India is one of the top four world markets in the growth of vehicle ownership. Volume growth rates in vehicle production jumped 10 percent or more per year in all segments after 2002, except for mopeds and scooters (Figure 2.25). The auto components market also quadrupled in nominal terms between the same two periods to 22 percent per year.

2.46 Top manufacturers in India, who control two-thirds of the market in commercial vehicles and two-wheelers, have set up plants in Uttarakhand. One-fifth to one-fourth of the installed capacity for manufacturing by these manufacturers is located in Uttarakhand. With the fiscal incentives continuing to the 10th year of production, manufacturers have an incentive to maximize production from Uttarakhand for deliveries in the North Indian market. Even under periods of temporary slowdown in demand, firms are likely to keep production in Uttarakhand to improve profitability. The outlook for the sector is bright for both private transportation and commercial vehicles. Increasing incomes, burgeoning middle-class and improving road infrastructure provide support for demand for personal transportation aided by affordable prices. Ownership of vehicles (4-wheels or more: cars, buses, trucks, etc.) in India was at 17 per 1000 in 2002 with demand expected to grow twice as fast as per-capita incomes at 8 percent per year to increase eight fold in the next 20 years.[29] Two-wheeler and three-wheeler demand is a major market segment of India also poised for even faster growth in the medium-term. However, two-wheeler motorization in major Indian cities has surpassed that in middle-income Asian cities (Figure 2.26) and in the long-run as incomes grow demand will likely shift to cars.[30] To be able to participate in the booming automobiles market, Uttarakhand should make contiguous land available for the expansion of the cluster mode in which the industry operates with a major vehicle manufacturer drawing on hundreds of component manufacturers.

[28] The policy was changed to permit 100 percent foreign equity and no requirement to balance imports of parts by exports.

[29] Dargay J., Gately D. and M. Sommer. 2007 Vehicle Ownership and Income Growth, Worldwide 1960-2030. The estimates are based on a pooled time-series and cross-section model that accounts for country specific saturation levels of ownership that depends on urbanization and population density.

[30] http://www.embarq.org/en/india-transport-indicators

Figure 2.26: Production of Motor Vehicles

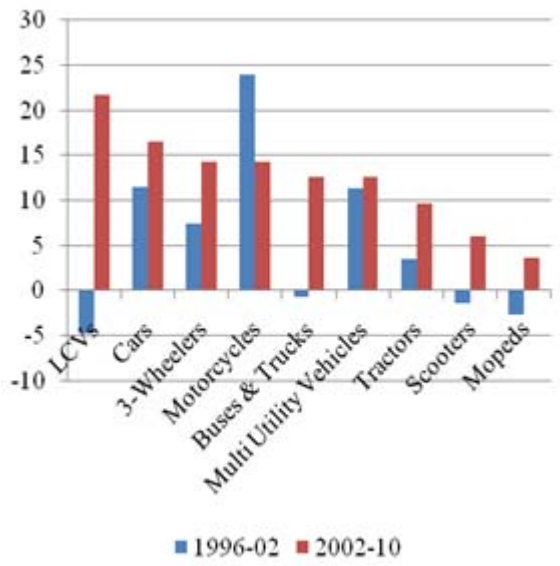
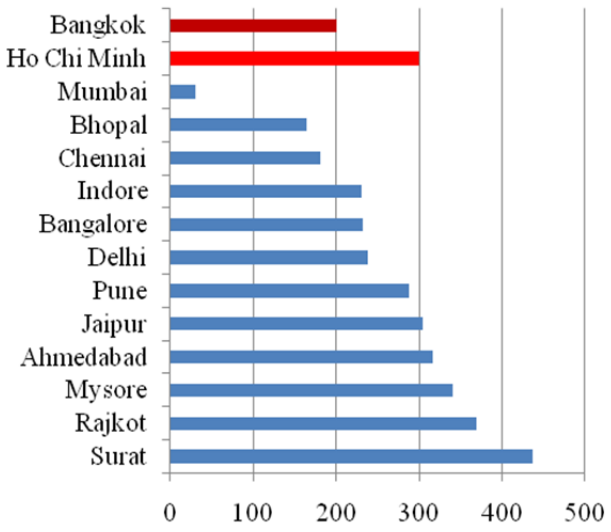


Figure 2.27: Two-wheeler Ownership per 1000 Persons



2.47 The Planning Commission in its Uttarakhand Development Report identifies several areas within agriculture where the State has opportunities for growth, such as organic farming and agro-processing. The State's endowment of multiple geo-climatic zones is an asset that is underutilized at present. The India Brand Equity Foundation identifies floriculture, horticulture and forest products as well.[31] Organic basmati rice, fruits and vegetable are assessed to have a growing potential in domestic and international markets. In agro-processing, peas, potatoes, mixed vegetables, ginger, juice production, jelly, jam are identified as specific growth areas that can be nurtured by public infrastructure and private participation including contract farming.

2.48 The potential for other high value goods is being exploited by the private sector, with little additional assistance from the Government. For example, Uttarakhand has already established itself as the sixth largest pharmaceutical cluster in India, with a production share of about 5 percent.[32] Clean environment and tax shelters were initially instrumental in attracting companies to invest in this product line, and the State's commitment to a clean environment and its favorable location will help deepen such investment. India is rapidly increasing its share in the global pharmaceuticals market. This has resulted from its earlier regime of process patents nurturing companies that were able to take advantage of the generic drug market that opened up in US and Europe upon the expiry of patents. The move to product patents in 2005, in line with WTO commitments, has created conditions for foreign companies to outsource drug production to India. The US$6 billion export market is set to expand rapidly because of contract manufacturing for the patented drug market.[33] Given its existing pool of scientific manpower, specialized institutions of higher learning, and a track record of established pharmaceutical companies, Uttarakhand could serve as an attractive destination for drug manufacture even if the tax advantages disappear.

[31] See Uttarakhand, India Brand Equity Foundation, November 2010, www.ibef.org/download/uttarakhand_190111.pdf

[32] Pharmaceutical Cluster in Dehradun, Small Industries Development Bank of India, 2009

[33] The Indian Pharmaceutical Industry, KPMG Report, 2006

2.49 The State's high level of literacy and the propensity of households to pursue education are likely to pay off in several ways. Highly-skilled Uttarakhand youth are contributing to the information and communications technologies (ICT) surge in India, but they currently seek opportunities outside the State. With its salubrious climate and potential to tap into this vast pool of educated labor, Uttarakhand has the potential to be the next tier of software hubs as costs escalate in the National Capital Region. The software technology park in Dehradun (60 acres) has not attracted as much investment as expected, although technology companies such as WIPRO have set up units. The State's share of India's exports of US$ 60 billion has remained insignificant, partly because promotional efforts coincided with the slowdown in the software industry in India after 2008. The recent expiry of incentives such as a refund of the service tax and the lower alternate minimum tax rates levied by the Central Government also could have dampened the enthusiasm of investors. For the long-term, however, the ICT industry in India is poised for further growth.[34] In addition to supportive infrastructure and regulations, the Government will need to address "livability" issues to retain its youth and other skilled professionals, for whom opportunities are increasing rapidly elsewhere in India and in the global market (see Box 2.3).

Box 2.3: Livability

Although it is beyond the scope of this report to assess urbanization and urban development issues in Uttarakhand, some considerations related to livability are pertinent for growth, inclusion and sustainability.

Not only are populations in certain urban clusters such as Dehradun, Haridwar, Nainital and Udham Singh Nagar growing at 2.5-3.5 per year, a hub-and-spoke model has been adopted by the authorities in the sparsely populated districts for concentrating social and other public services at selected urban locations. In both areas, livability is a primary concern and, as urban per capita incomes are higher, the range of urban services and amenities desired by the inhabitants of such areas is growing rapidly. Firms find they have to pay a premium to have staff locate to places where living conditions are difficult. Moreover, the rural population has already peaked in the State, and the median voter is in the Plains, so it is likely that such demands from urban areas will increase.

At the same time, a different sort of the livability challenge exists for remote settlements in the Mid and High Hills. Absenteeism among public service workers in the Mid and High Hills is a major problem, and two districts—Almora and Garhwal, with male literacy rates above 90 percent—have seen drops in population. For strategic reasons the authorities do not want such areas to be de-populated, the jobs-to-the-people versus people-to-the-jobs is therefore settled in favor of the former.

At the most basic level, the continued attractiveness of locations in Uttarakhand would depend on prospects for employment, the availability of infrastructure (especially housing and associated services such as electricity, water and waste management), health and education. The Habitat II City Development Index of the United Nations Center for Human Settlements provides such a measure. However, the ability to make Uttarakhand a preferred location for skilled workers and professionals who would support its rapid development, there is need for additional amenities. In addition to the above indicators, the Economist Intelligence Unit's "liveability" index includes factors such as stability (e.g., crime, civil unrest/conflict) and culture and environment (e.g., climate, corruption, civic amenities, social or religious restrictions).*

* A Summary of the Liveability Ranking and Overview, Economist Intelligence Unit, February 2011.

2.50 Tourism has traditionally been identified as a potentially large revenue earner for the State. However, there are at least three constraints on more rapid development. *First*, at the level of overall coordination and management, private sector entry is heavily controlled, and the participation of rural communities, especially in the Mid and High Hills, is limited.. Some of this is justified to protect the economic commons, especially given that several kinds of tourist development conflict with sustainable

[34] OECD, The Information and Communication Technology Sector in India: Performance, Growth and Key Challenges, dsti/iccp/ie(2008)7/final, 2010

use of the very resources that attract tourists to the State. At the same time, however, a massive push for enlisting the private sector's managerial expertise is need, rather than leaving the design, operation and marketing of tourism to Government departments alone. *Second*, apart from the religious sites, funding and infrastructure are inadequate to support new and more financially profitable forms of tourism, including eco-tourism, health resorts outside of the immediate vicinity of Dehradun, and winter sports. Here, consideration may be given to secondary roads and serviceable airstrips, in addition to basic sites and services and a favorable investment climate to seed the commercial construction of facilities and adventure tourism. *Finally*, the problems of maintaining the traditional sites, typically of great religious significance, and upgrading tourist sites at such places, are mingled with issues related to urban financing of infrastructure and security, and not exclusively the domain of the Tourism Department. Budget allocations to support tourism need to be seen in a more consolidated manner than at present, with the Department taking prime responsibility for targeting.

Annex 2.1 Industry Codes

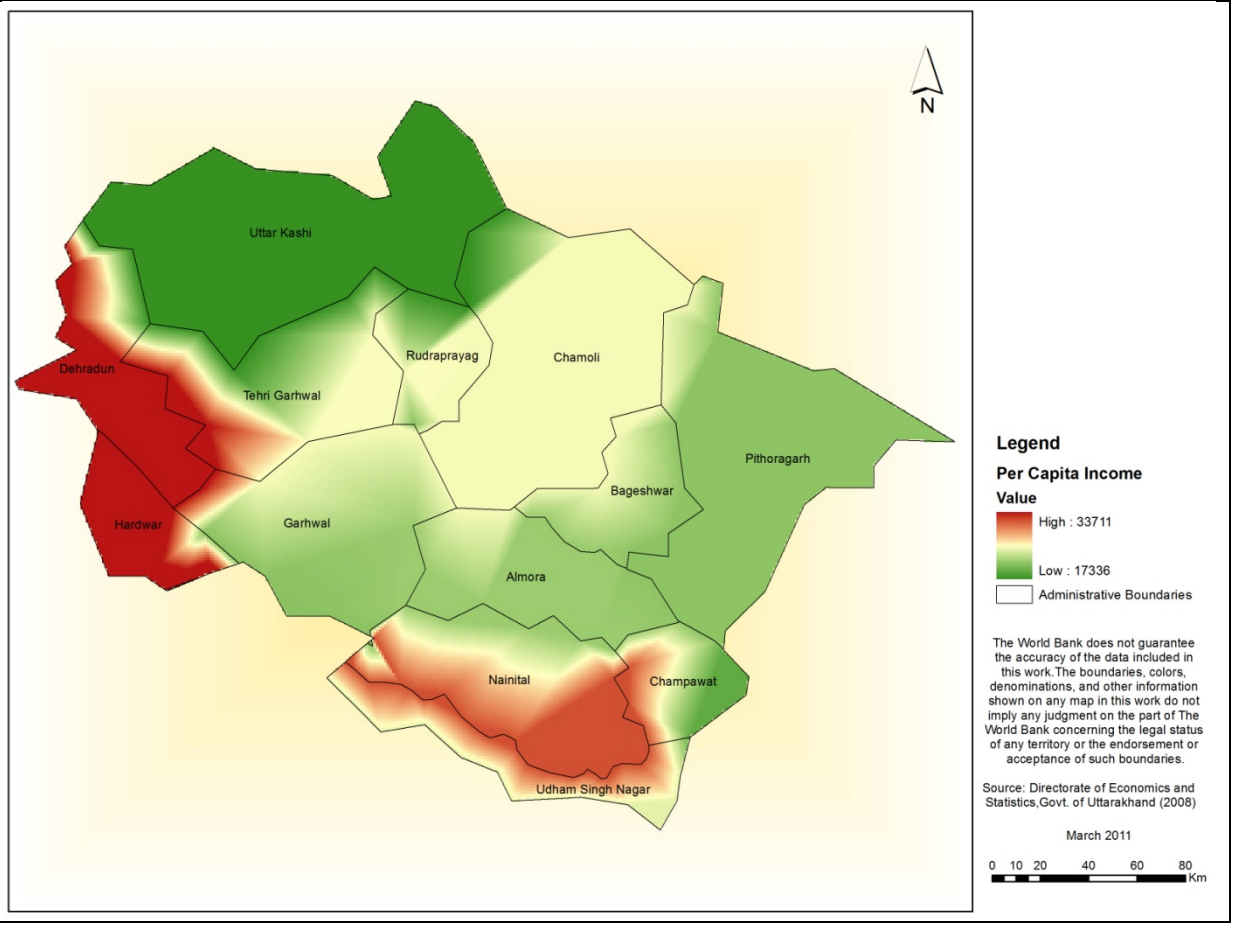
Abbreviation	NIC 2004	Description
Chem	242	Other chemical products
Mill	153	Grain mill products, starches and starch products, prepared animal feeds
Plst	252	Plastic products
Textn	172	Other textiles
Rubr	251	Rubber products
Bev	155	Beverages
NMM	269	Non-metallic mineral products n.e.c.
Food	154	Other food products
Nfe	272	Basic precious and non-ferrous metals
Eleq	311	Electric motors, generators and transformers
Elcb	313	Insulated wire and cable
Gls	261	Glass and glass products
Ppr	210	Paper and paper product
Prnt	222	Printing and service activities related to printing
Wood	202	Products of wood, cork, straw and plaiting materials
Eleqn	319	Other electrical equipment n.e.c.
Medeq	331	Medical appliances and instruments and appliances for measuring, checking, testing, navigating and other purposes
Furn	361	Furniture
Fdpr	151	Production, processing and preservation of meat, fish, fruit vegetables, oils and fats.
Publ	221	Publishing
Ofeq	300	Office, accounting and computing machinery
Iron	271	Basic Iron & Steel
Nmet	273	Casting of metals
Mtprn	289	Other fabricated metal products; metal working service activities
Mach	292	Special purpose machinery
Happ	293	Domestic appliances, n.e.c.
Dairy	152	Dairy products [production of raw milk is classified in class 0121]
Text	171	Spinning, weaving and finishing of textiles.
Tobc	160	Tobacco products
Wdml	201	Saw milling and planing of wood
Lteq	315	Electric lamps and lighting equipment
Elcon	312	Electricity distribution and control apparatus
Elctr	321	Electronic valves and tubes and other electronic components
Tvtwr	322	Television and radio transmitters and apparatus for line telephony and line telegraphy
Rail	352	Railway and tramway locomotives and rolling stock
Chemb	241	Basic chemicals
Mtpr	281	Structural metal products, tanks, reservoirs and steam generators
Lth	191	Tanning and dressing of leather, luggage handbags, saddlery & harness.
Ftwr	192	Footwear.
Petr	232	Refined petroleum products
Ck	231	Coke oven products
Appl	181	Wearing apparel, except fur apparel

Abbreviation	NIC 2004	Description
Machg	291	General purpose machinery
Mvbdy	342	Bodies (coach work) for motor vehicles; trailers and semi-trailers
Mvpts	343	Parts and accessories for motor vehicles and their engines
Photo	332	Optical instruments and photographic equipment
Treqn	359	Transport equipment n.e.c.
Agan	14	Agricultural and animal husbandry service activities, except veterinary activities
Mnfn	369	Manufacturing n.e.c.
MV	341	Motor vehicles
TV	323	Television and radio receivers, sound or video recording or reproducing apparatus, and associated goods
Wtch	333	Watches and clocks
Shp	351	Building and repair of ships & boats
Aircft	353	Aircraft and spacecraft
Elstg	314	Accumulators, primary cells and primary batteries
MMF	243	Man-made fibers
Recy	372	Recycling of non-metal waste and scrap
Knfb	173	Knitted and crocheted fabrics and articles
M&Q	142	Mining and quarrying , n.e.c.

CHAPTER 3: POVERTY AND INCLUSION

3.1 The focus on poverty and inclusion in the Government's planning is warranted because Uttarakhand was set up in large part to respond to a perceived problem of inclusion (see Figure 3.1). Namely that the hill districts of Uttar Pradesh had not benefitted sufficiently from the development strategy of the State and that they would be better off pursuing a development strategy as part of a separate State. The challenge is to overcome the growth constraints identified in Chapter 2 and promote key growth drivers in a manner that is consistent with reduced poverty and greater inclusion. In this respect, the development strategy for the Hills, although linked, is distinct in several ways from that for the Plains.

Figure 3.1 Income Disparity in Uttarakhand

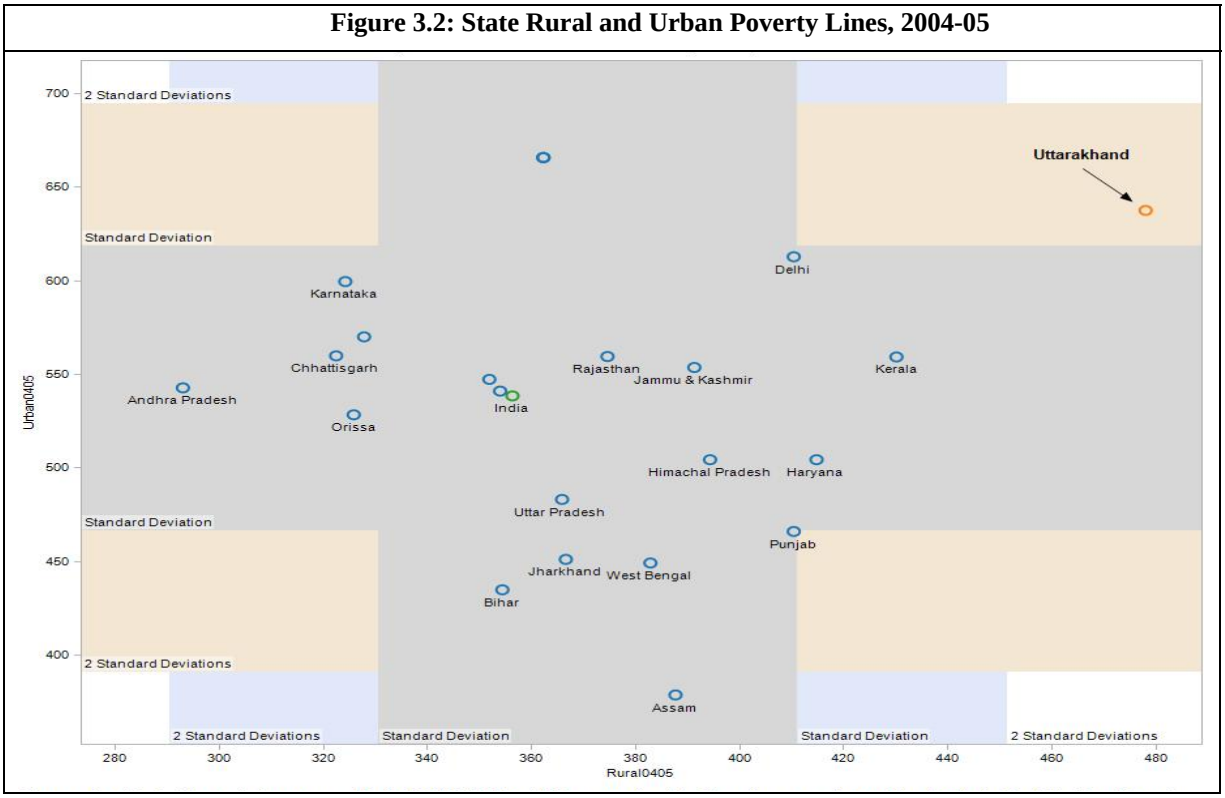


3.2 This chapter sets out to do three things. *First*, it attempts to characterize quantitatively the nature of poverty and inclusion in Uttarakhand, drawing upon a variety of data sources that have not been fully exploited to date. *Second*, it attempts to document—again, quantitatively—the programs that have been implemented throughout the state in an attempt to address the problems of poverty and inclusion. *Third*, it argues that rather than considering adding programs to address problems of poverty and inclusion, the focus should be on reassessing elements of the economic growth strategy for the Hills and making existing programs work better, through a systematic effort to link outcomes and outputs and a more active use of data to monitor and improve the performance of existing programs.

The Nature of Poverty and Inclusion in Uttarakhand

3.3 Given the focus of this chapter, the first task is to note what is known and not known about poverty. For Uttarakhand, the original estimates of poverty for 2004/05 and, especially, the change in poverty between 1993/94 and 2004/05 were highly suspect because of concerns about the poverty lines. However, while the previous poverty lines (and hence poverty estimates) for all of India were criticized for being too low, the poverty estimates for Uttarakhand appeared too high (at least relative to other states). This was due to the specification of 2004/05 rural and urban poverty lines for Uttarakhand that appeared implausibly high in relative terms. Figure 3.2 illustrates that the previous rural poverty line for Uttarakhand was more than two standard deviations from the mean and the urban poverty line was more than one standard deviation from the mean. Uttarakhand was the biggest outlier of all the states.

Figure 3.2: State Rural and Urban Poverty Lines, 2004-05



3.4 In November 2009, an Expert Group chaired by Suresh Tendulkar released a report on behalf of the Planning Commission which contained new estimates of the poverty lines for 2004-05.[35] For Uttarakhand, the Expert Group did not actually change the rural and urban poverty lines for 2004-05 by very much. The revised 2004-05 rural poverty line for Uttarakhand is now Rs.486, compared with the original value of Rs.478 (a 1.6 percent increase). The revised 2004-05 urban poverty line for Uttarakhand is Rs.602.4 compared with the original value of Rs.637 (a 5.5 percent decrease). However, the revised poverty lines for other states changed dramatically, which changed the relative position of Uttarakhand. The revised poverty lines for Uttarakhand are now well within one standard deviation of the mean for both urban and rural areas, as can be seen from Figure 3.3.

[35] Report of the Expert Group to Review the Methodology for the Estimation of Poverty, Indian Planning Commission, Nov. 2009 (http://planningcommission.nic.in/reports/genrep/rep_pov.pdf)

Figure 3.3: Revised State Rural and Urban Poverty Lines, 2004-05

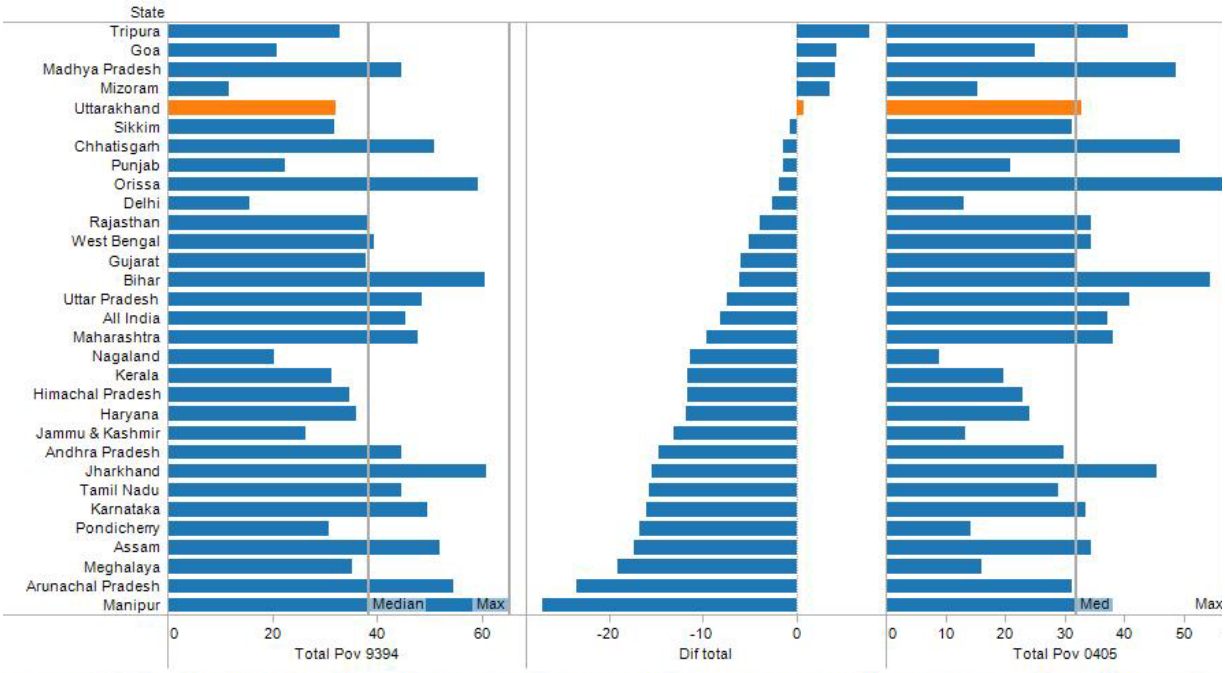
Source: Report of the Expert Group to Review the Methodology for Estimation of Poverty, GoI Planning Commission, November 2009.

3.5 In addition to revising the poverty lines for 2004-05, the Expert Group also revised the state poverty lines for 1993-94. For 1993-94, the changes were greater for the districts that subsequently comprised Uttarakhand. The previous 1993-94 rural poverty line for Uttarakhand was revised upward from Rs.213 to Rs.249.5 (a 17 percent increase) and the urban poverty line for Uttarakhand was revised upwards from Rs.258.7 to Rs.306.7 (an increase of 18.5 percent).

3.6 The net results of the changes to the poverty lines for the two years a decade apart are a set of plausible estimates of the change in poverty over time in Uttarakhand, especially when compared to the trends in other states. Because the estimated changes were not judged to be credible, they did not receive a great deal of attention within and outside of Uttarakhand. However, even with these revised poverty lines, it is apparent that poverty hardly budged in Uttarakhand between 1993-94 and 2004-05, and its performance has lagged behind that of most other states. Thus, while Table 2.1 and 2.2 in the previous chapter show that average per capita incomes in Uttarakhand are above the median for the rest of India, and have been improving relative to the other states, this has not been translated adequately into an increase in the income of the poorest groups.

3.7 This is apparent in Figure 3.4, which presents the total poverty rates in 1993-94 and 2004-05 as well as the change in poverty for all the states. The results show that while poverty in Uttarakhand was below the median value in 1993-94, the lack of progress in Uttarakhand, coupled with the relatively better performance in other states, pushed Uttarakhand over the median by 2004-05.

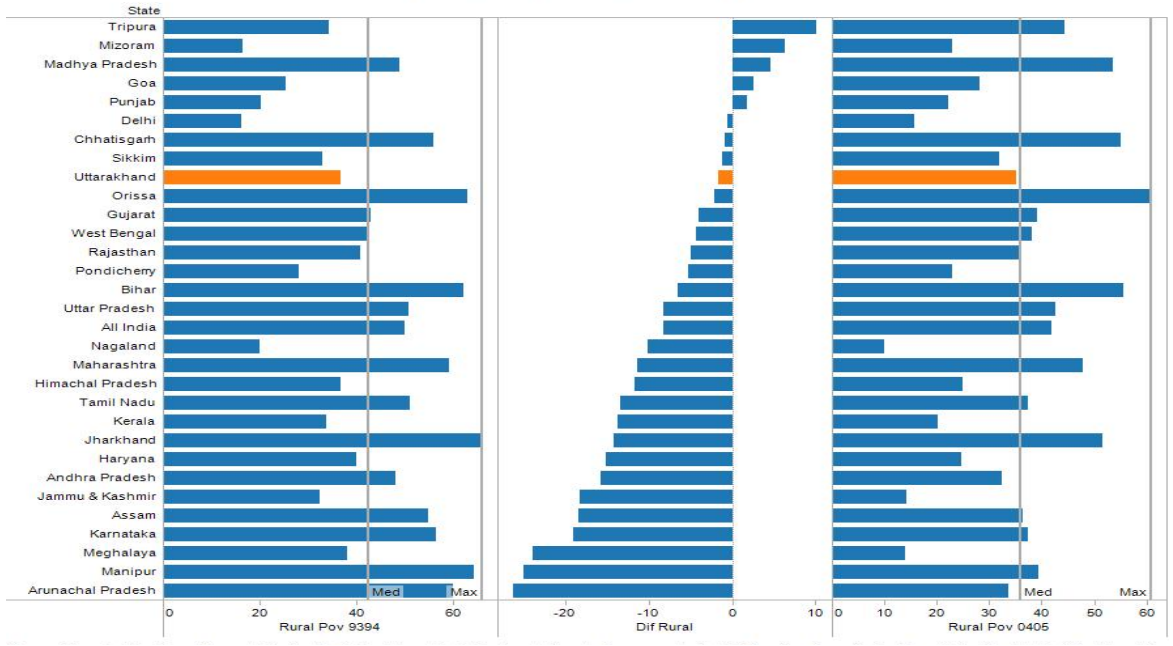
Figure 3.4: Total Poverty Rates across States
From Tendulkar Expert Commission, November 2009



Source: Report of the Expert Group to review the Methodology for Estimation of Poverty, GoI, Planning Commission, Nov. 2009. The data for Uttarakhand for 1993 correspond to the values of the districts which were then in UP and which were split off to form the states of Uttarakhanad.

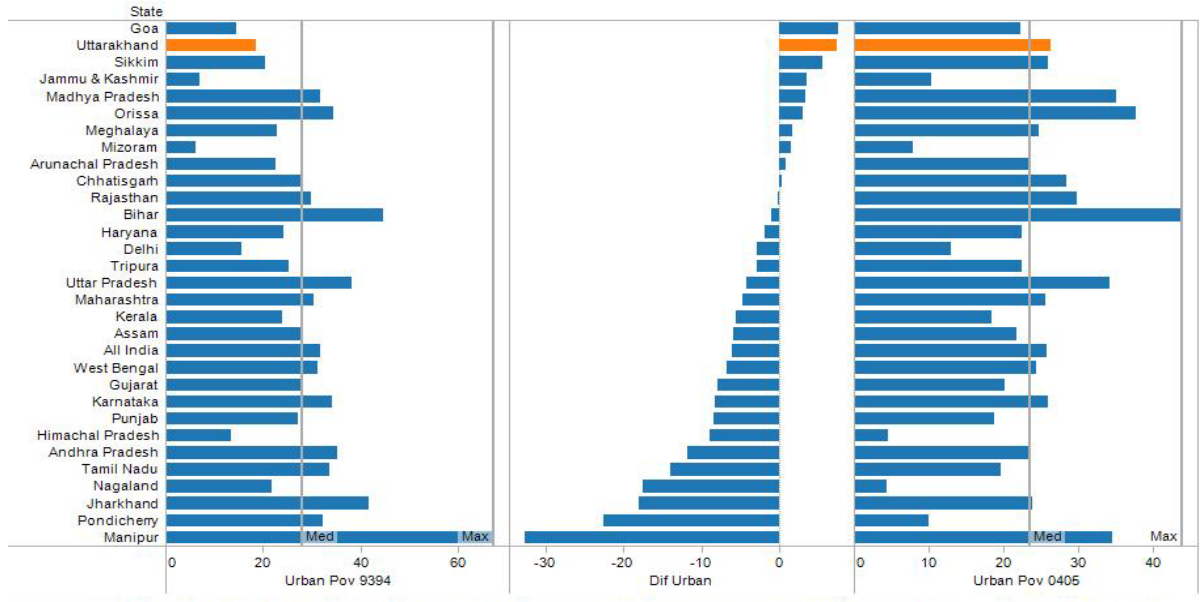
3.8 Ideally, the performance of Uttarakhand as a state would be measured by a comparison of the poverty rates from the 55th round of the National Sample Survey (NSS) conducted in 2000-01. This was not done because the Expert Group report concluded that the 55th round was not comparable to either the earlier 1993-94 50th round of the NSS or the 2004-05 61st Round. It is possible that performance in the Uttarakhand districts of Uttar Pradesh deteriorated between 1993 and 2000 and that this served as an impetus for the creation of the state. It is also possible that the performance from 2000 to 2005 could have turned around. However, it is not possible to provide a comprehensive assessment unless a detailed review of the information content in these rounds as well as the 2000-01 55th Round is completed. On the basis of estimates in the Expert Group report, while in rural areas there seems to have been a small reduction in poverty, in urban areas poverty actually increased (Figures 3.5 and 3.6). Over this period, the deterioration in urban poverty was only exceeded by that of Goa. Although a detailed assessment of poverty trends since then is not possible given the limited availability of data, it is important to note that faster growth and expansive public spending programs since the mid-2000s have brought down the total poverty rate for the State. The new estimates, based on the Tendulkar methodology, show that the poverty head count fell from 32.7 percent of households in 2004-05 to 18 percent in 2009-10, which is a very rapid rate of poverty reduction.

Figure 3.5: Rural Poverty Rates across States



Source: Report of the Expert Group to review the Methodology for Estimation of Poverty, GoI, Planning Commission, Nov. 2009. The data for Uttarakhand for 1993 correspond to the values of the districts which were then in Uttar Pradesh and which were split off to form the states of Uttarakhand.

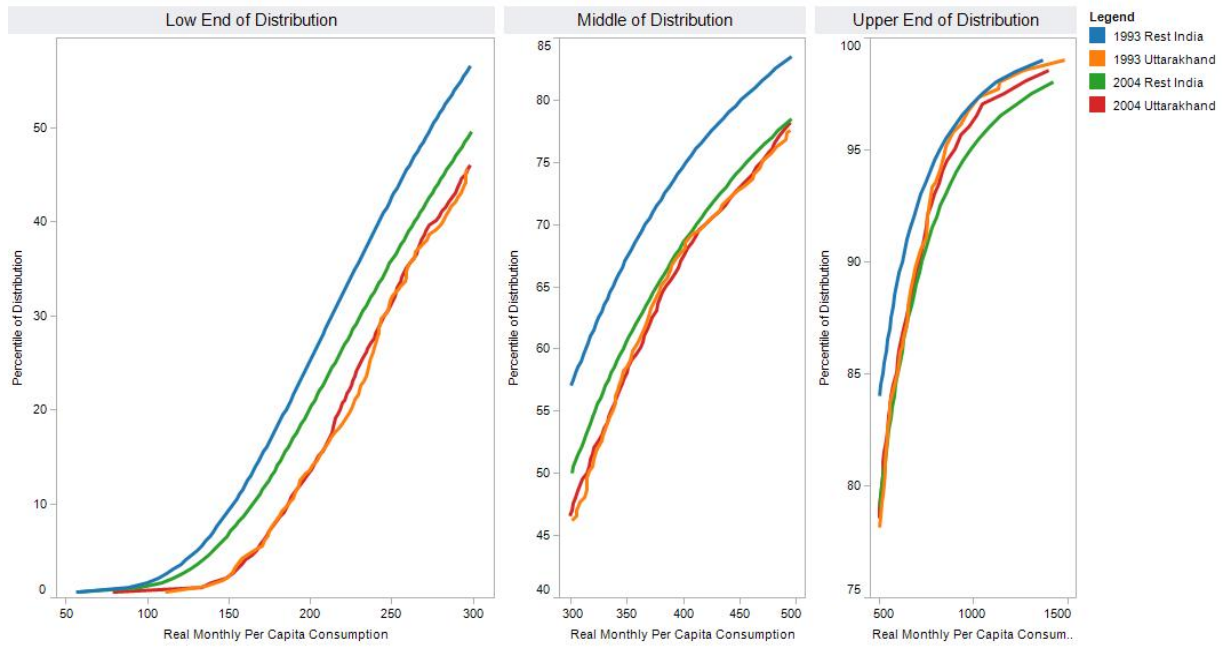
Figure 3.6: Urban Poverty Rates across States



Source: Report of the Expert Group to review the Methodology for Estimation of Poverty, GoI, Planning Commission, Nov. 2009. The data for Uttarakhand for 1993 correspond to the values of the districts which were then in Uttar Pradesh and which were split off to form the states of Uttarakhand.

3.9 Given the uncertainty about the poverty rate, it is useful to step back from the question of what is the appropriate poverty line and look, in addition, at the behavior of the overall distribution of consumption over time. In Figure 3.7, it is clear that selecting different poverty lines would not change the picture of what has happened to poverty over time. The graph shows the distribution of consumption for Uttarakhand and the rest of India, divided into the lower, middle and upper part of the distribution—each with a different scale so that the detail would not be lost.

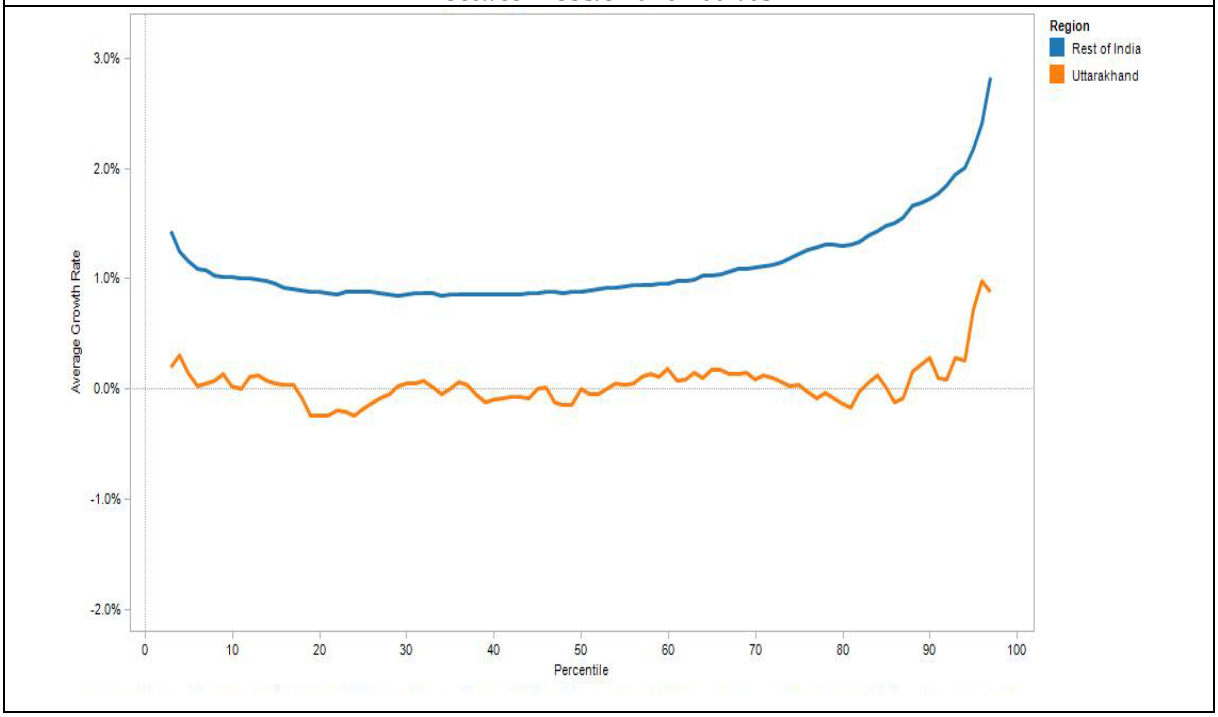
Figure 3.7: Distribution of Real Monthly Per Capita Consumption, 1993-94 and 2004-05 (1993 prices)



3.10 The distribution is presented as a Pen's Parade, which shows the value of real monthly consumption prevailing at different points of the distribution. One way of interpreting the graph is to fix the percentile and read across for the different regions and for the different years. For example, at the 30th percentile in the rest of India, the real monthly per capita expenditure was Rs.213.6 in 1993/94 and grew to Rs.231.1 (in 1993 prices) by 2004/05—a gain of 8.2 percent. At the 30th percentile for Uttarakhand, real monthly per capita expenditure moved only from Rs.246.7 in 1993/94 to Rs.248.1 in 2004/05. Alternatively, one can fix the real monthly per capita expenditure and ascertain what proportion of the population had values less than that level. For example, fixing the real monthly per capita expenditure at Rs.200 in 1993 prices, the graph shows that, for the rest of India, 25 percent of the population had values less than Rs.200, but this fell to 20 percent by 2004/05—signifying an improvement in real expenditures. For Uttarakhand, the percentage below Rs.200 remained at 13.6 for both years. It is evident that while the distribution of real consumption for the rest of India shifted out, the distribution of real consumption for Uttarakhand hardly moved.

3.11 While this graph shows the relative position of the distributions of real consumption for Uttarakhand and the rest of India, Figure 3.8 presents growth incidence estimates, showing more clearly how the patterns of growth have diverged. However, the growth incidence curves do not show the absolute level of real monthly per capita expenditures which are revealed in the Pen's Parade. Thus, it is useful to check both types of figures.

Figure 3.8: Growth Incidence Curves between 1993/94 and 2004/05



3.12 Drilling down to see the growth incidence estimates separately for agriculture, manufacturing and services presents more of a troubling picture for Uttarakhand (Figures 3.9, 3.10 and 3.11, respectively). Only in agriculture were there some parts of the income distribution that witnessed positive growth in real per capita expenditure over extended ranges of the distribution.

Figure 3.9: Growth Incidence Curves-Agriculture between 1993/94 and 2004/05

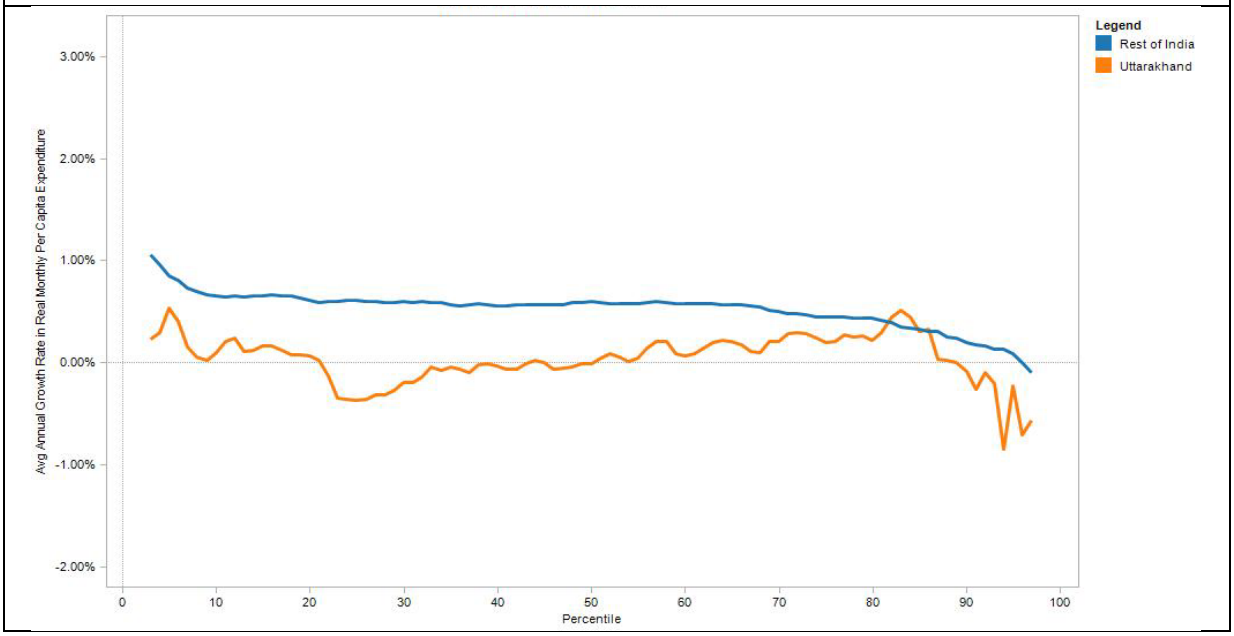


Figure 3.10: Growth Incidence Curves- Manufacturing between 1994/95 and 2004/05

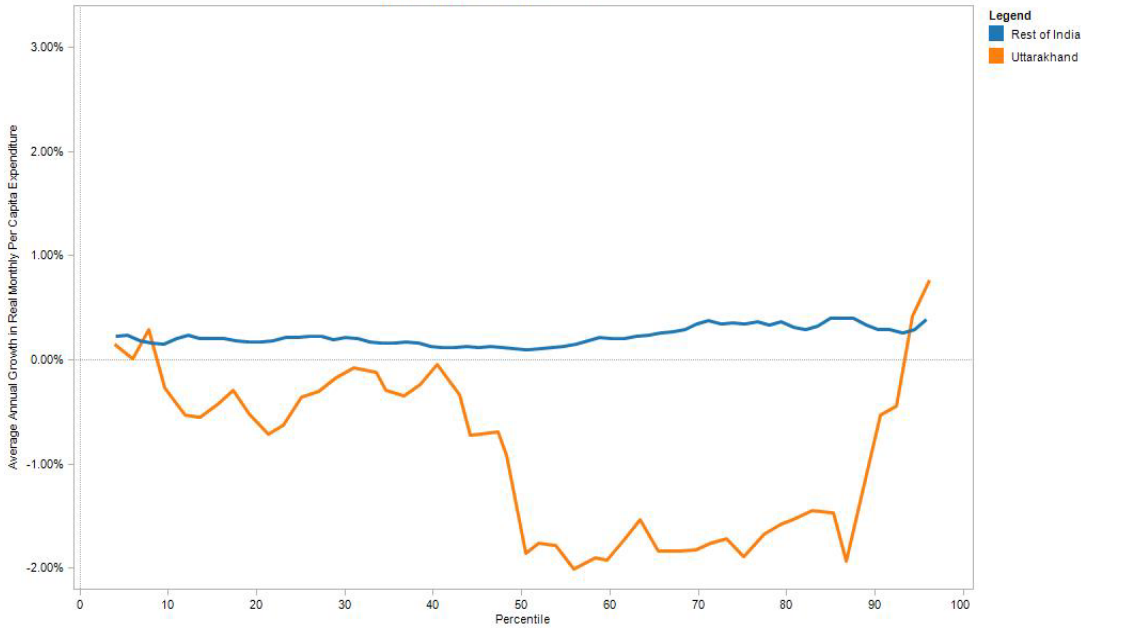
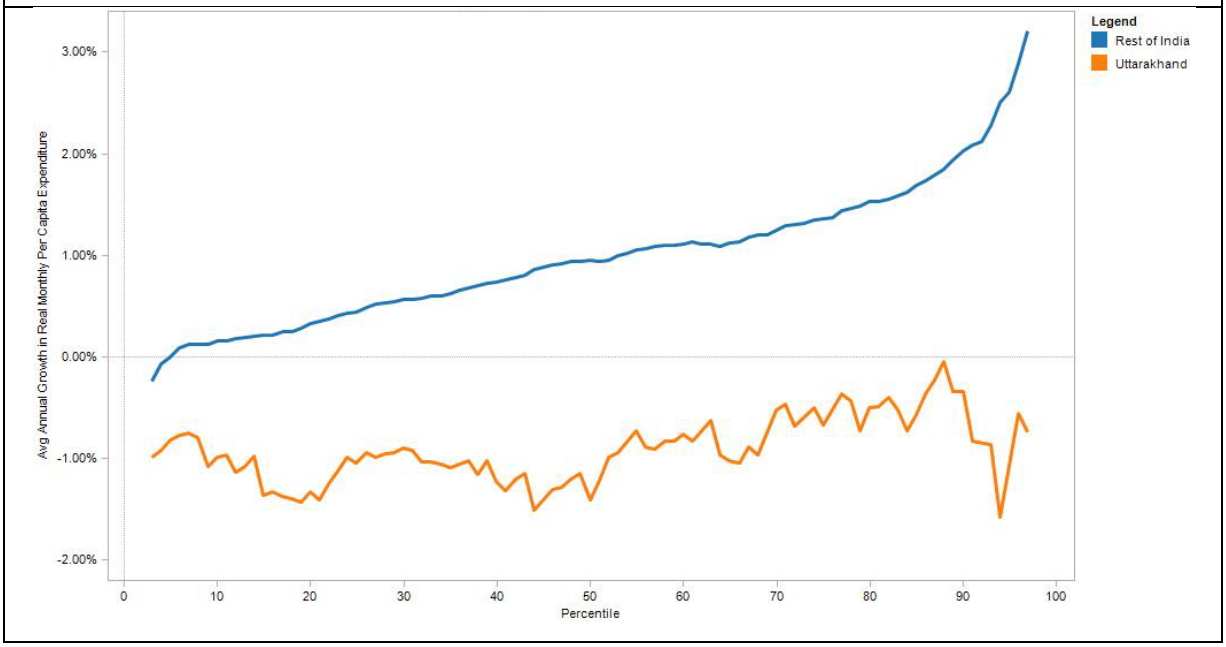


Figure 3.11: Growth Incidence Curves- Services from 1993/94 to 2004/05



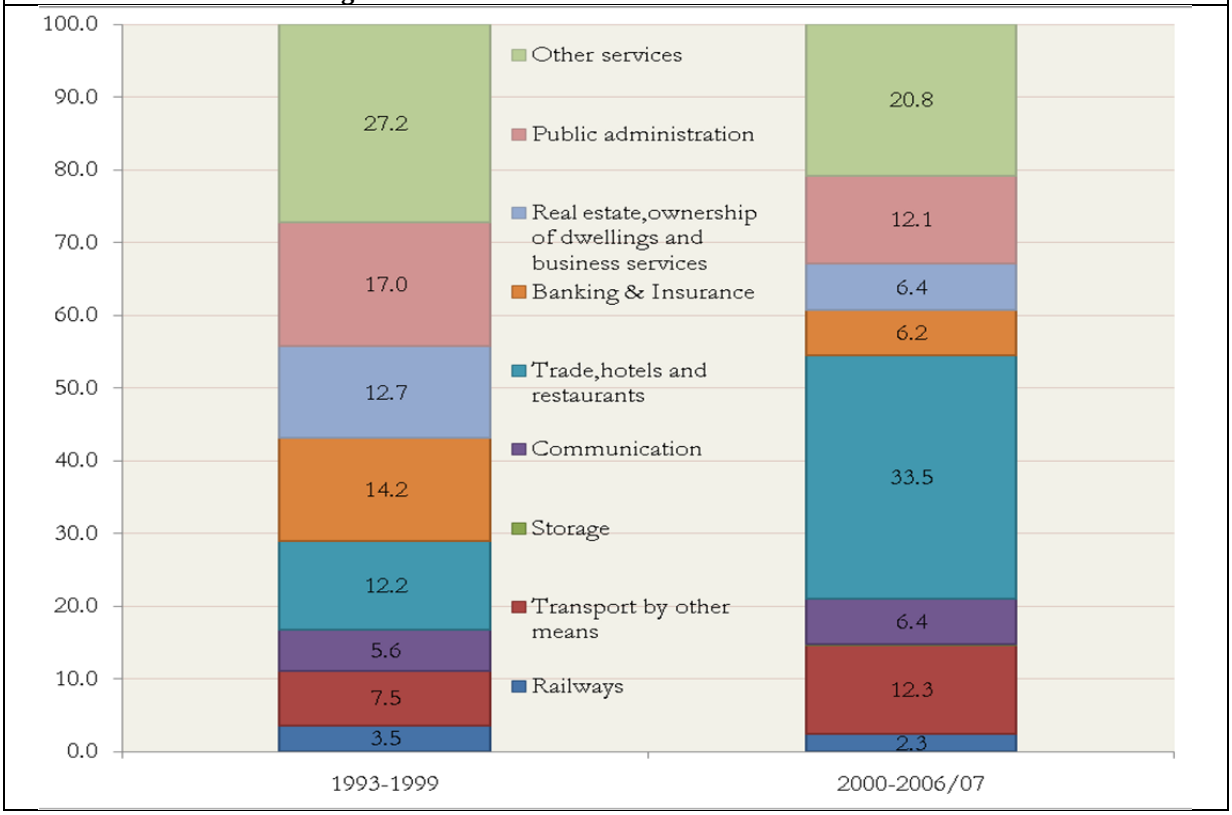
3.13 The growth incidence curves for manufacturing refer to the expansion that took place between 1993-94 and 2004-05. It is unfortunate that the 2000-01 NSS survey is not considered comparable to either the 1993-94 or the 2004-05 survey because it is precisely around 2000-01 that there is a distinct break in the pattern of growth in manufacturing that corresponds with the introduction of economic incentives to manufacturing with the creation of the state. As shown in Chapter 2, prior to the creation of

the State registered manufacturing contributed negatively to growth. After the creation of the State, registered manufacturing turned around and became the second largest contributor to growth (after construction). While this rebound has undoubtedly resulted in a better situation than if the analysis had been done for 2000, it still has not been enough to place those working in the manufacturing sector in a better situation in real terms than in 1993.

3.14 It is apparent from the growth incidence curves that only towards the upper end of the distribution (beyond the 85th percentile) do growth rates start to turn up and it is only beyond the 92nd percentile that growth rates turn positive. It will be important to recalculate these growth incidence curves for manufacturing when the 2010 NSS data becomes available to check whether the expansion in manufacturing that explains a good part of growth in GSDP is also generating growth in consumption for a large group of workers.

3.15 Relative to agriculture and manufacturing, real growth in consumption in the service sector in Uttarakhand has been the most disappointing. In services, real growth throughout the distribution has been negative. This is in sharp contrast to the situation in the rest of India where the growth incidence curve is positive throughout for all but the lowest percentiles and is quite strong at the upper end of the distribution. Indeed, for the rest of India, the real success story has been in services. The explanation for the difference in performance in services in Uttarakhand as compared with the rest of India lies in the particular composition of services in Uttarakhand. As seen in Figure 3.12, between 1999 and 2006, the major contributor to growth in services had been the trade, hotel and restaurant subsector. These are typically not very high paying jobs, particularly when the tourists are overwhelmingly domestic rather than international.

Figure 3.12: Contribution to Services Sector Growth



3.16 Table 3.1 complements the information provided by the figures of the growth incidence curves by indicating the level of monthly real per capita expenditure at different points of the distribution for the three sectors. The main observation to make from this table is that in virtually all points of the distribution within each sector, the real per capita expenditure in 2004/05 was lower than in 1993/94. Only in agriculture at the 50th and 75th percentile, were real consumption levels higher in 2004/05 than in 1993/94, but even then the improvements were minimal. Despite this relatively poor performance in each of the three sectors, the aggregate growth incidence curve shown in Figure 3.8 indicates little growth, but no strong deterioration. This seeming contradiction is explained by the fact that there was a significant shift across the sectors, with households moving out of agriculture (where there are lower returns) and into the relatively higher remuneration sectors of manufacturing and services (Table 3.2). This shift was a positive one for overall welfare levels in the state, but the expansion in the supply of workers in services and manufacturing undoubtedly is one of the reasons why the real returns in both manufacturing and services fell in real terms over this period.

Table 3. 1: Monthly Real Per Capita Expenditure by Sector in 1993-94 and 2004-05 (Rupees, 1993 prices)

	Monthly Real Per Capita Expenditure	Monthly Real Per Capita Expenditure	Confidence Interval 1993-94		Confidence Interval 2004-05	
	1993-94	2004-05	Lower Bound	Upper Bound	Lower Bound	Upper Bound
25th percentile						
Agriculture	231	225	219	245	217	232
Manufacturing	221	208	193	243	198	216
Services	315	284	291	334	270	292
50th percentile						
Agriculture	285	289	269	297	279	296
Manufacturing	375	261	275	434	249	274
Services	453	390	400	491	370	405
75th percentile						
Agriculture	375	382	355	404	369	401
Manufacturing	543	381	469	646	349	417
Services	654	597	593	758	555	789

Table 3. 2:Share of Population in Sector, 1993-94 and 2004-05

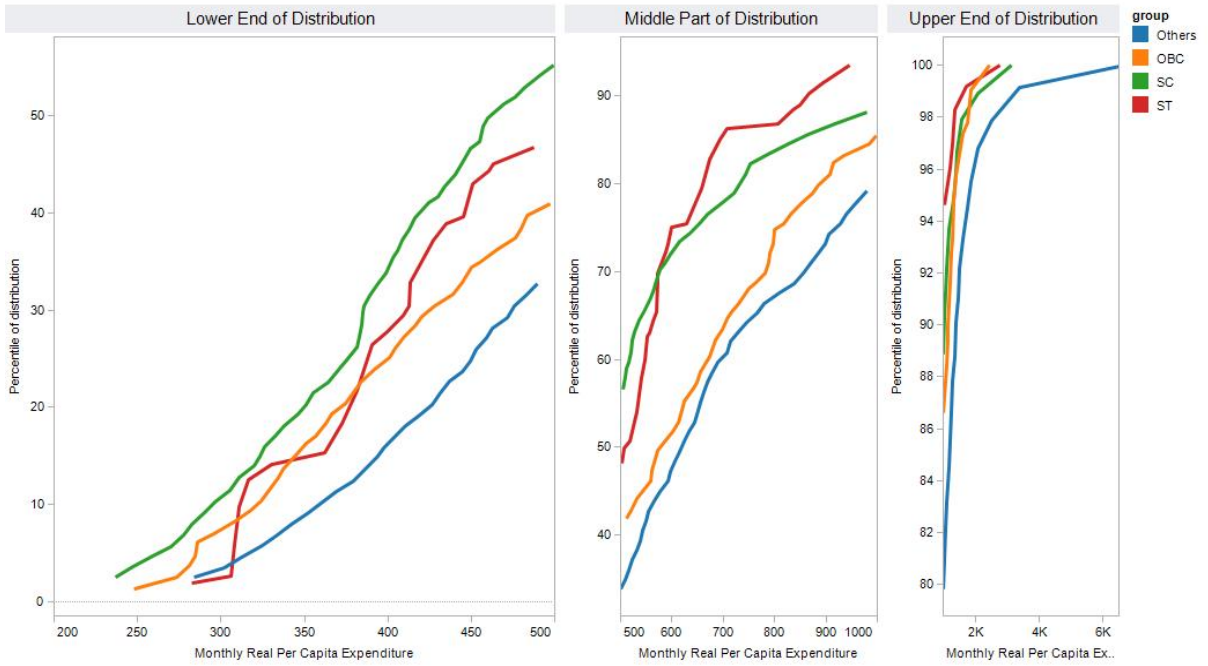
	1993-94	**2004-05**	**Change**
Agriculture	65.2%	52.3%	-12.9%
Manufacturing	12%	17.5%	5.5%
Services	22.8%	30.2%	7.4%

Source: NSS 50th and 61st Rounds

Situation of Scheduled Tribes (ST) and Scheduled Castes (SC)

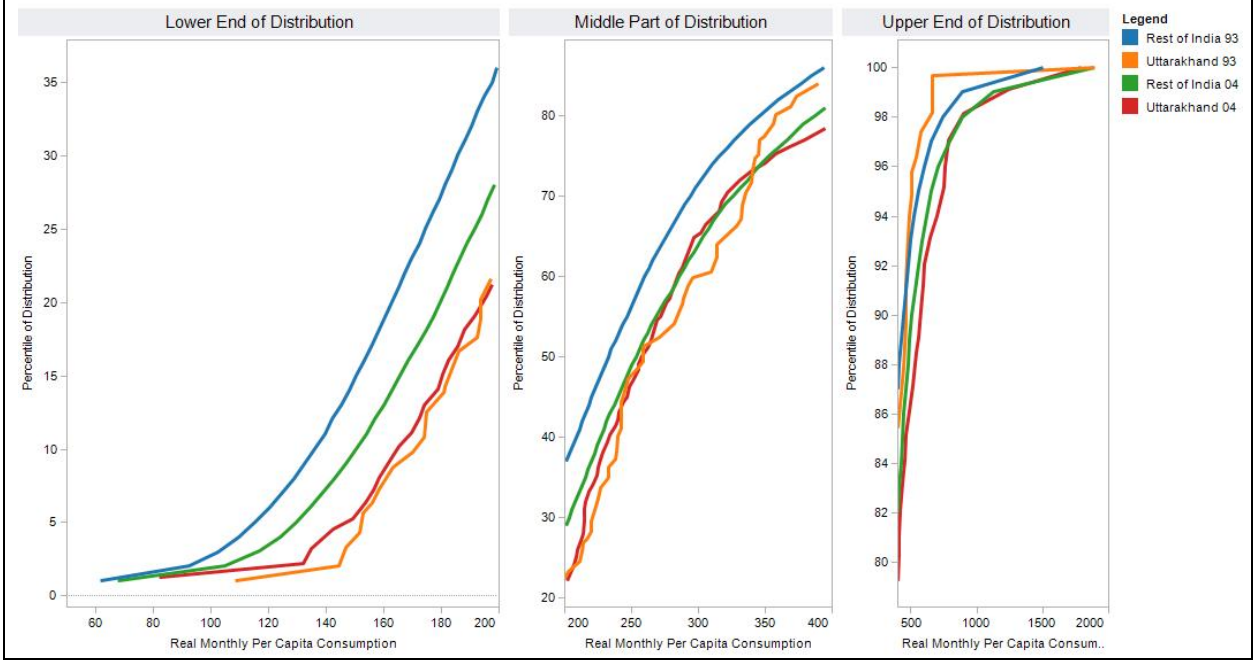
3.17 Figure 3.13 shows the distribution of consumption for scheduled tribes and scheduled castes in 2004-05. Clearly the differences are large. At the 20th percentile, real monthly per capita expenditures are Rs.351.5 for scheduled castes and Rs.427.2 for others (non OBC, SC or ST)—a difference of 21.5 percent.

Figure 3.13: Distribution of Real Monthly Per Capita Expenditure—Scheduled Tribes, Scheduled Castes, OBC and Others, 2004-05



3.18 Unfortunately, the 1993-94 NSS survey was not large enough to generate information on scheduled tribes, so it is not possible to track how their consumption fared between 1993-94 and 2004-05. However, it is possible to identify the distribution of consumption of scheduled castes over time. Figure 3.14 shows that there was not much change in real terms in Uttarakhand. Scheduled castes do better in Uttarakhand than in the Rest of India, but the gap has narrowed since there was an improvement in the Rest of India but not in Uttarakhand.

Figure 3.14: Distribution of Real Monthly Per Capita Consumption—Scheduled Castes



Situation in the Hills and Plains

3.19 Figure 3.15 shows the relative position of households in the Plains, Mid Hills and High Hills. The districts that make up the 3 regions are listed in Table 3.3.

Figure 3.15: Distribution of Consumption in Plains and Hill Districts, 2004-05

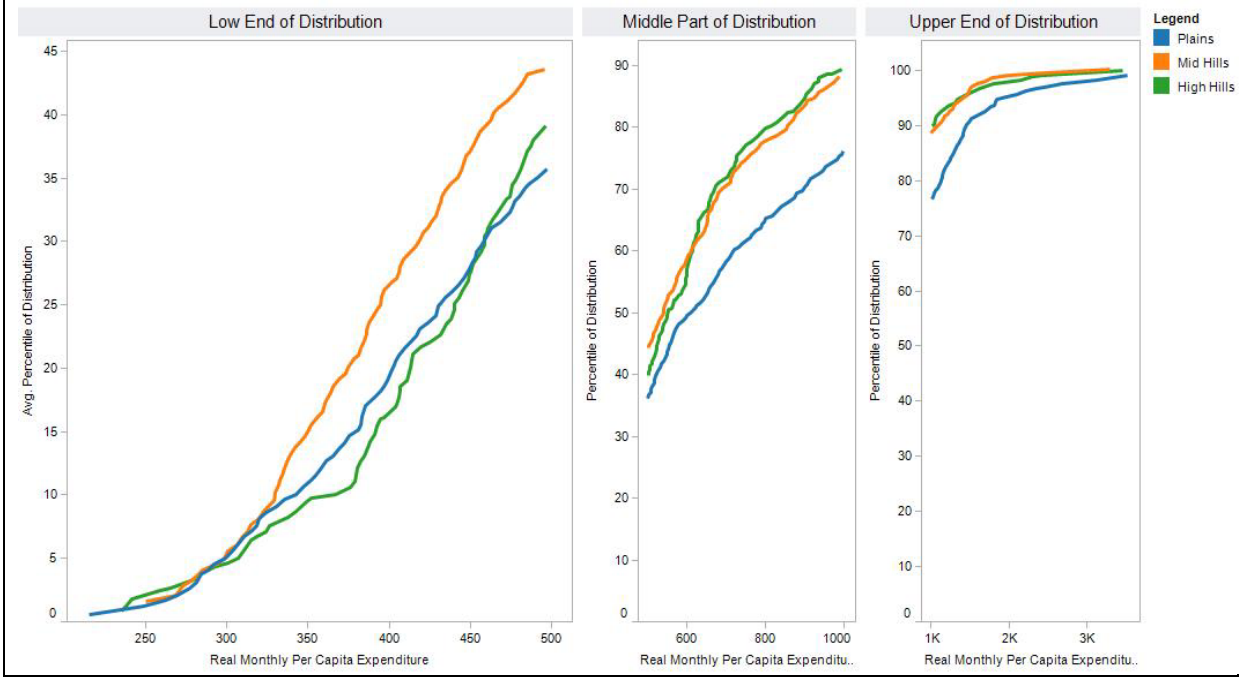


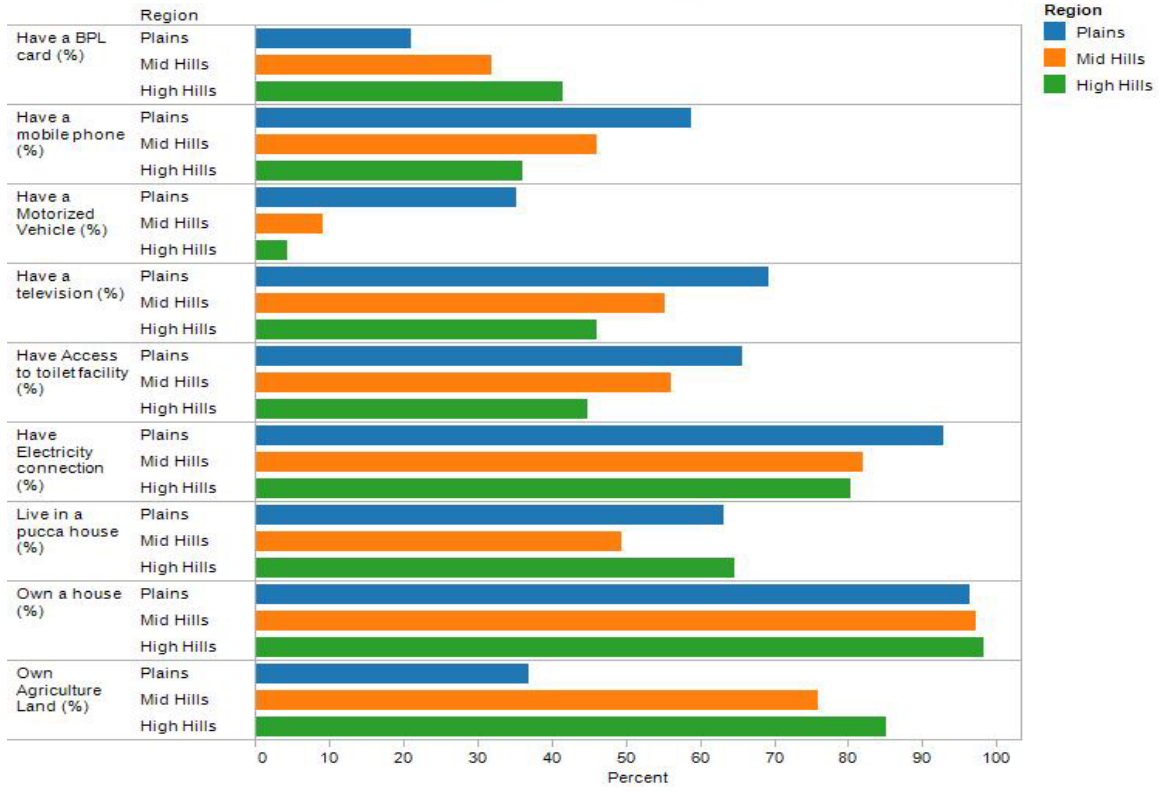
Table 3. 3: Classification of Districts by Topography	
Plains	Dehradun, Haridwar,Udham Singh Nagar
Mid Hills	Almora, Bageshwar,Champawat, Nainital, Pauri Garthwal, Tehri Garhwal
High Hills	Chamoli,Pithoragarh, Rudraprayag, Uttarkashi

3.20 At the low end of the distribution, households in the Mid Hills are significantly worse off than households in either the High Hills or the Plains. It is perhaps surprising that there is not much difference between households in the Plains and the High Hills at the low end of the distribution. However, in the middle and upper end of the distribution the expenditure levels of the Plains dominate that of the other regions.[36]

3.21 There are some additional socioeconomic indicators that were collected at the district level in the 2008 District Level Household Survey. The primary emphasis of that survey was child and reproductive health, but it contained information on the characteristics of households that can be used to generate useful indicators. In Figure 3.16 (and all other ones that follow that present information for Plains, Mid & High Hills), the values are generated by taking a weighted average of the individual districts that make up the region.

[36] Unfortunately, the 1993-94 survey did not collect information on districts so it is not possible to track how expenditures varied by region. The districts were not reported because the 1993-94 survey was 4 times smaller than the 2004-05 survey and would not have had enough observations to present results at the district level

Figure 3.16: Core Socio-Economic Indicators for Plains, Mid & High Hills, 2008 (from District Level Household Survey)



3.22 A considerable amount of information is also available on education and health across the different districts of Uttarakhand.[37] From the 2008 District Level Household Survey, the percentage of both girls and boys aged 6-11 in school in all 3 regions – Plains, Mid & High Hills – are above 99 percent. Figure 3.17 shows school enrollment by grade for boys and girls, as well as the gender parity ratio for all grades. It is evident that there is not a big drop off in gender parity across the grades. There are also not very large differences across the Plains and Hills.

3.23 There does appear, however, a more rapid drop off in enrollment in the Plains than in the Mid or High Hills. Figure 3.18, which presents the enrollment in each grade as a percentage of the Grade I enrollment, makes the relatively less favorable outcome in the Plains more evident. If there is a very rapid population growth in the Plains, this could generate this type of pattern. However, it appears to be greater than what would be expected only from demographic change, and is more likely to reflect more rapid drop out in the Plains than in the Hills.

[37] For education, there are District Level Report Cards (see www.dise.in) and very large household surveys across districts focused on education carried out by the Pratham Foundation (see www.pratham.org). For health there are the 2nd and 3rd Rounds of the District Level Household Survey.

Figure 3.17: Boys and Girls School Enrollment by Grade, 2007/08

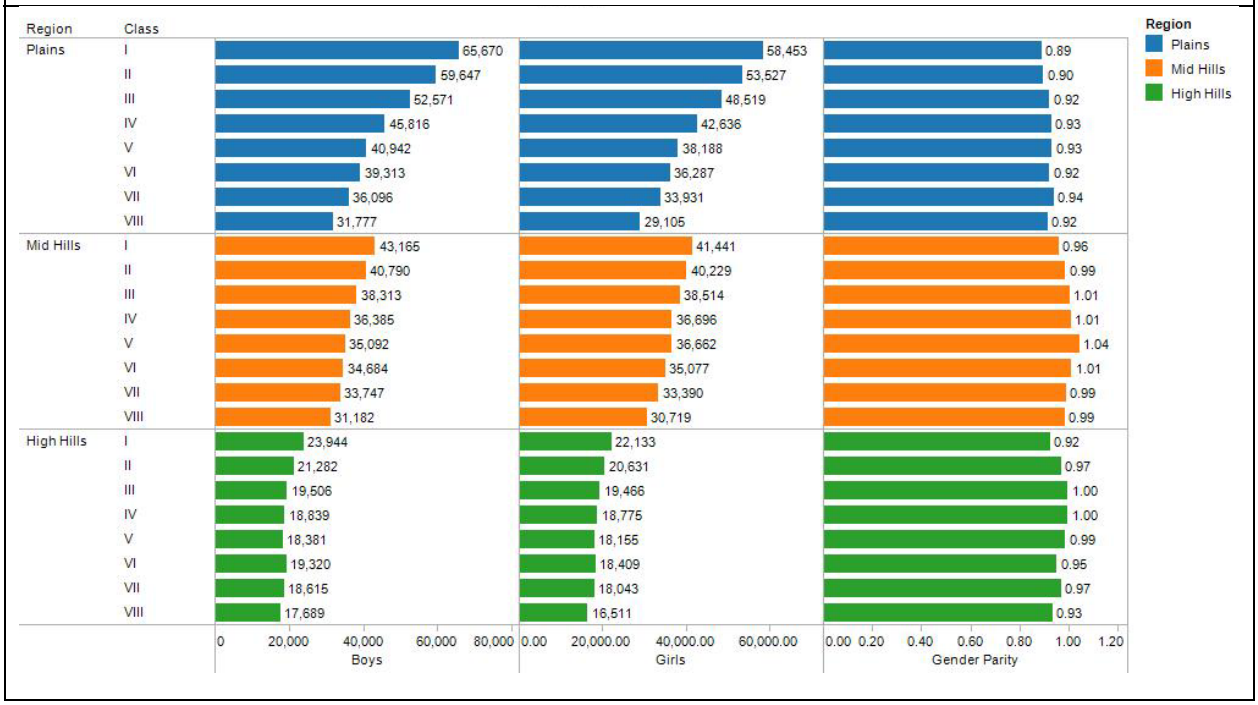
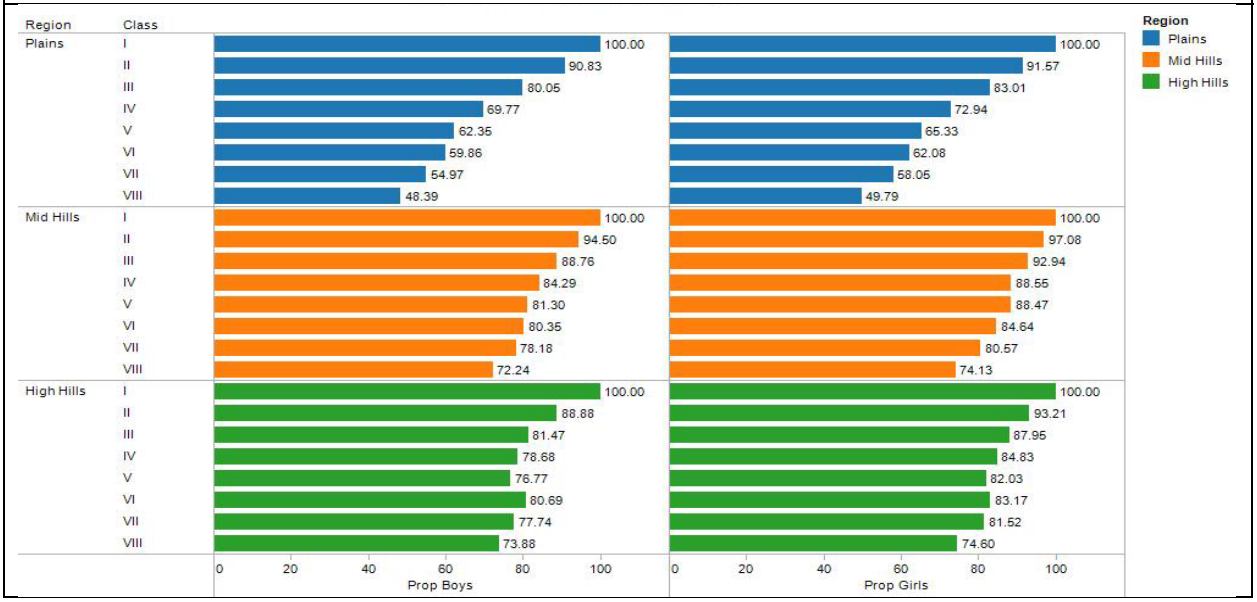


Figure 3.18: Size of Classes as Proportion of Class I—Plains, Mid and High Hills



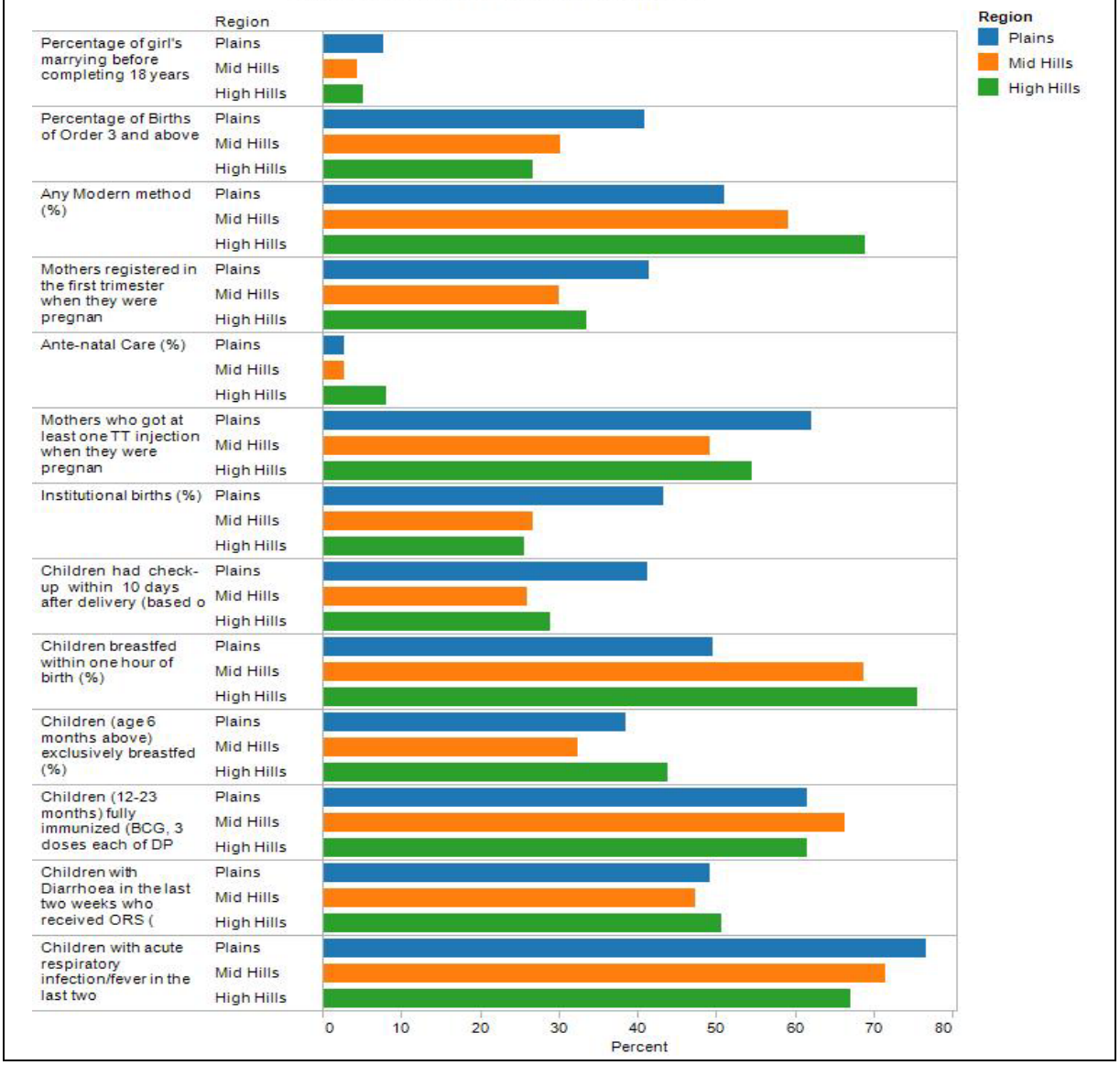
3.24 The Pratham Foundation has been conducting reading tests across districts in India for the last several years and has made that information available in their Annual Status of Education Report. Weighting the district reports by enrollment in the respective grades, yields the following results (Table 3.4) for Reading Ability at Std I-II and Std II-V for 2006/7 and 2008/09 (The data were averaged over the two year period to generate additional observations).

Table 3. 4: Reading Ability of Children in Uttarakhand				
	Std I-II		**Std III-V**	
Region	2006/07	2008/09	2006/07	2008/09
Plains	81.7	82.1	74.4	74.6
Mid Hills	83.9	85.3	74.8	76.9
High Hills	84.1	81.4	75.7	75.7

Note: For Std I-II percentage of children who can read letters, words or more. For Std III-V percentage of children who can read level I (Std I text of more).
Source: Annual Status of Education Report (ASER), ASER Center, produced by PRATHAM (www.pratham.org), various years.

3.25 Based on the pattern of enrollment across grades and on the reading ability measures, it would appear that the Hills are certainly no worse than the Plains in educational outcomes – and may even be a bit better.

Figure 3.19: Health Indicators, Plains, Mid and High Hills, 2008

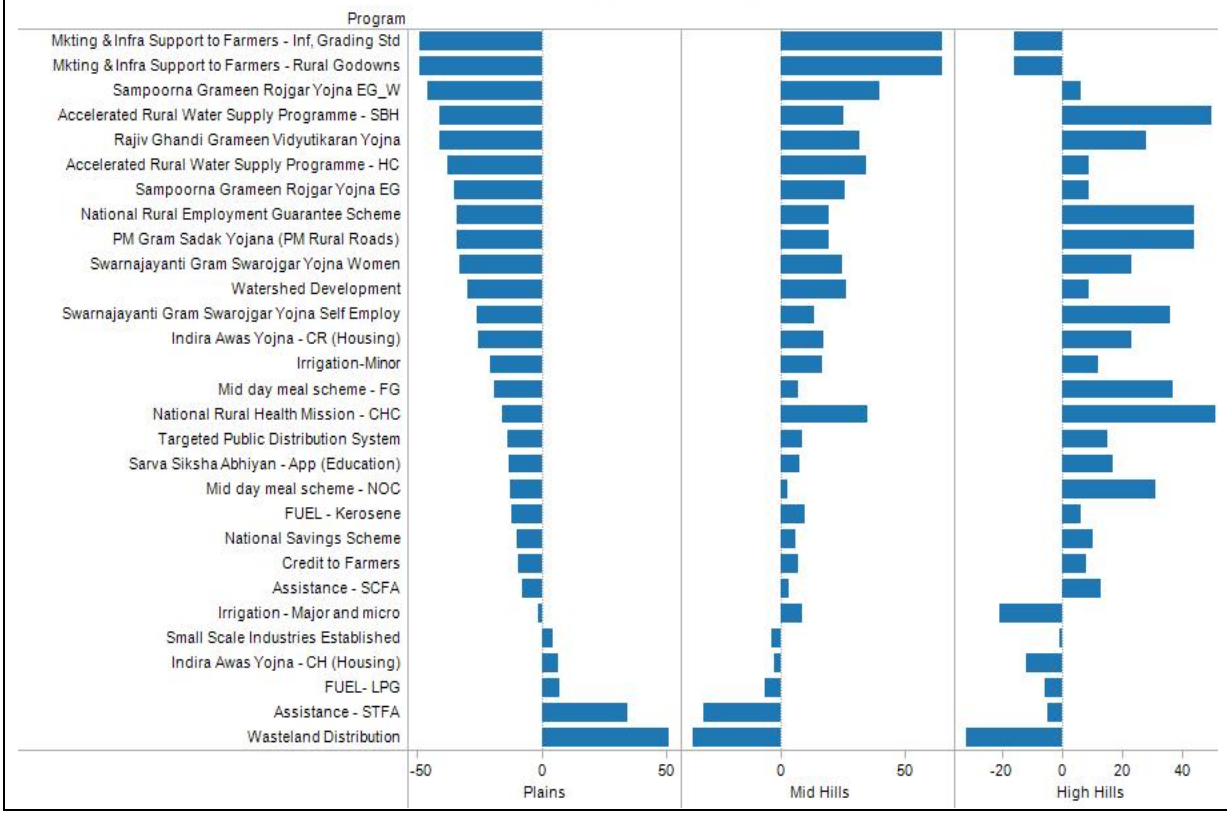


3.26 Turning now to health, Figure 3.19 presents a selection of key health outcome variables for the Plains, Mid & High Hills in Uttarakhand from the latest available source.[38] As with the education indicators, the data do not indicate that the outcomes for the Plains dominate that of the Mid & High Hills. In family planning, breastfeeding practices, immunization, application of ORS for children who had diarrhea, and incidence of Acute Respiratory Illness, the Hills did as well or better than the Plains. Only in institutional births and in checkups did the Plains do significantly better than the Hills. This may reflect greater and easier access to institutional facilities in the Plains.

Programs to Address Poverty and Inclusion

3.27 We turn now to the programs that are designed to address some of the problems of poverty and inclusion detected in the previous section. Figure 3.20 depicts how the programs are weighted towards the Plains, Mid & High Hills. The graph was constructed by first calculating the share of the output for each program in the Plains, Mid and High Hills, summing the output across all districts making up the region. The second step was to subtract the share of population in the region from the share of output. A negative number for a program in a region indicates that the region receives a lower share of the output of the program than would be expected given its population. We present three separate depictions (Figures 3.20, 3.21 and 3.22), sorting by the magnitude of this difference separately for the Plains, Mid & High Hills to make the patterns clearer.

Figure 3.20: Priority Socio-Economic Programs in Plains, Mid and High Hills (ordered by relative weight in Plains)



[38] The 2008 District Level Household Survey conducted by the International Institute for Population Sciences (IIPS), Mumbai for the Ministry of Health and Family Welfare.

Figure 3.21: Priority Socio-Economic Programs in Plains, Mid and High Hills (ordered by relative weight in Mid Hills)

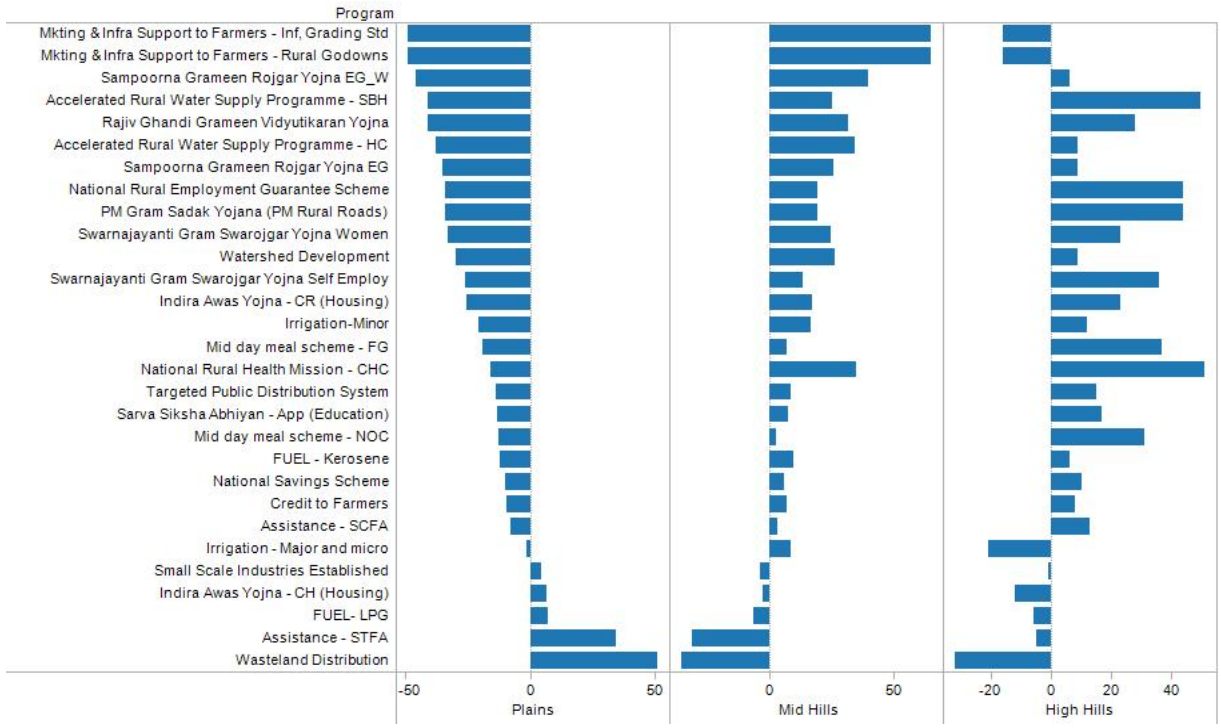
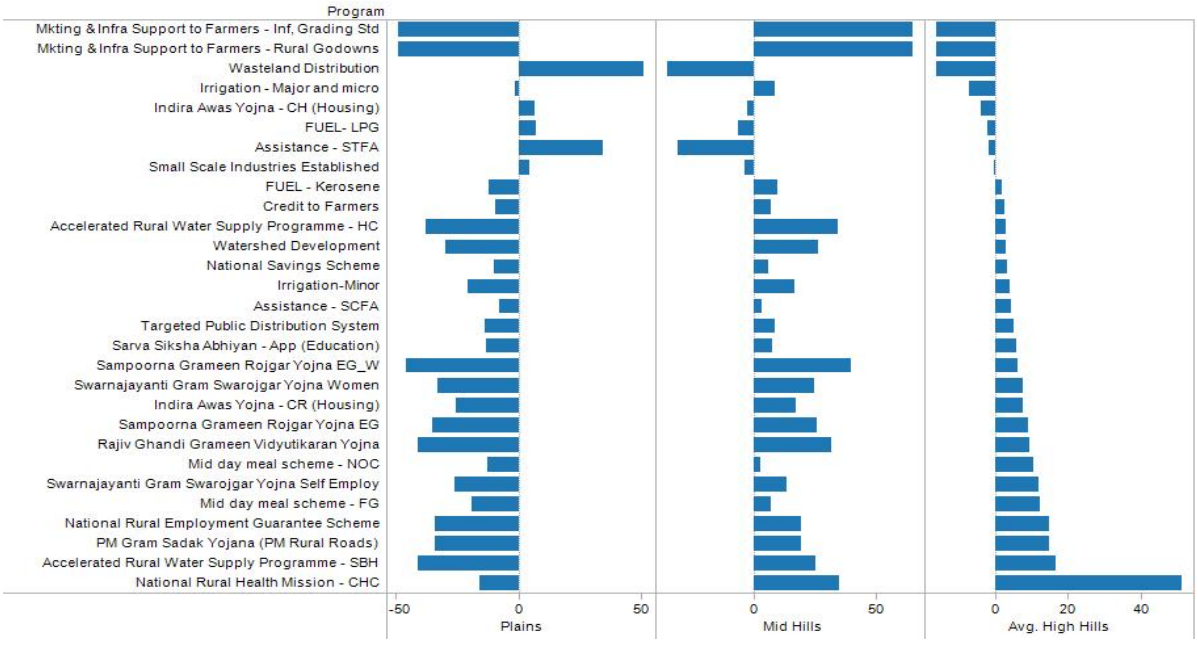


Figure 3.22: Priority Socio-Economic Programs in Plains, Mid and High Hills (ordered by relative weight in High Hills)



3.28 The main conclusion from these three figures is that the majority of programs designed to address poverty and inclusion are oriented towards the Mid & High Hills. And, judging by the relative size of the bars, it appears as if the programs are directed more for the Mid than the High Hills.

3.29 While this information suggests that the priority programs are being directed to the Hills – which is good – it doesn't say much about whether the programs are operated at a scale appropriate for the magnitude of the problem or whether the program is actually effective in achieving its desired outcomes. The programs vary widely in the extent to which they identify clearly the scale of the problem and their effectiveness. One of the best programs in this regard is the National Rural Health Mission (NRHM), which benefits from a comprehensive and well thought out management information system (see http://www.nrhm-mis.nic.in/). Table 3.5 taken from one of the Health Management Information System reports is noteworthy in that it compares the achievement against the needs assessed. This is something that should be done with other programs, but is not often done.

Table 3. 5: Performance Statistics: Diphtheria and Tetanus—DT (Second Dose)

State/UT/Agency		Need Assessed 2008-09	Achievement during April to March			% Achvt of need assessed	Data Entered %
			2008-09	2007-08	% Change		
I. MAJOR STATES (Population > 20 million)	Andhra Pradesh	14,71,000	12,21,261	14,30,812	-14.6	83.0	98.9
	Assam	6,60,000	1,97,421	3,78,640	-47.9	29.9	89.8
	Bihar	24,82,000	6,27,441	13,98,693	-55.1	25.3	86.0
	Chhattisgarh	5,38,000	5,53,451	6,03,972	-8.4	102.9	88.0
	Gujarat	11,18,000	6,64,348	10,00,058	-33.6	59.4	100.0
	Haryana	5,08,000	5,24,047	5,92,747	-11.6	103.2	93.7
	Jharkhand	7,29,000	2,42,635	5,46,299	-55.6	33.3	81.9
	Karnataka	10,61,000	6,51,372	96,276	576.6	61.4	94.5
	Kerala	5,50,000	3,22,088	3,86,770	-16.7	58.6	99.4
	Madhya Pradesh	16,50,000	10,21,641	16,01,603	-36.2	61.9	58.2
	Maharashtra	20,97,000	17,83,478	20,54,276	-13.2	85.0	97.1
	Orissa	7,71,000	5,58,054	9,09,694	-38.7	72.4	95.3
	Punjab	4,66,000	4,34,783	5,67,743	-23.4	93.3	99.2
	Rajasthan	16,03,000	9,49,332	8,72,022	8.9	59.2	100.0
	Tamil Nadu	10,33,000	7,19,162	10,70,678	-32.8	69.6	92.7
	Uttar Pradesh	47,50,000	20,01,329	4,76,412	320.1	42.1	58.2
	West Bengal	16,70,000	5,94,348	10,54,207	-43.6	35.6	96.5
II. SMALLER STATES/U.T.s (Population < 20 million)	Arunachal Pradesh	25,000	12,642	5,718	121.1	50.6	91.1
	Delhi	3,22,000	47,207	1,18,555	-60.2	14.7	97.2
	Goa	33,000	19,142	25,580	-25.2	58.0	100.0
	Himachal Pradesh	1,19,000	1,10,500	1,12,845	-2.1	92.9	100.0
	Jammu & Kashmir	2,18,000	2,23,281	2,64,366	-15.5	102.4	85.6
	Manipur	49,000	14,246	13,486	5.6	29.1	95.4
	Meghalaya	52,000	87,855	1,19,471	-26.5	169.0	85.7
	Mizoram	20,000	5,340	17,198	-68.9	26.7	42.4
	Nagaland	45,000	12,986	21,052	-38.3	28.9	85.6
	Sikkim	12,000	9,482	13,378	-29.1	79.0	91.7
	Tripura	72,000	35,765	47,069	-24.0	49.7	100.0
	Uttarakhand	2,02,000	1,71,848	1,92,256	-10.6	85.1	100.0
III. UNION TERRITORIES	A &N Islands	9,000	2,125	2,484	-14.5	23.6	12.5
	Chandigarh	26,000	13,358	14,945	-10.6	51.4	100.0
	Dadra & Nagar Haveli	6,000	6,646	5,856	13.5	110.8	91.7
	Daman & Diu	5,000	1,569	3,887	-59.6	31.4	16.7
	Lakshadweep	2,000	43	690	-93.8	2.2	25.0
	Puducherry	25,000	6,130	19,100	-67.9	24.5	22.9
OTHER AGENCIES	M/O Defence	.	12,486	15,773	-20.8	.	75.0
	M/O Railways	.	11,052	14,354	-23.0	.	75.0
TOTAL	All India	2,43,99,000	1,38,69,894	1,60,68,965	-13.7	56.8	84.8

Explanatory Note:

1. Data Source: DT IMMUNISATION = Item Code (M 10.3.2) HMIS Formats
2. Need Assessed=Estimated No of Children of 5 years of age during current year {Formula=Pop*Proportion of 5 years of Children Where Pop=Mid Year Projected Population (RGI); Proportion of 5 years of Children=Proportion of 5 years of Children in Census 2001}
3. Data Entered % = {Data entry done for the State (Sum of No of Districts reporting in each month/Total no of Districts*No of Months)*100 during 2008-09 }
4. . = Data not reported by States/ Ministry

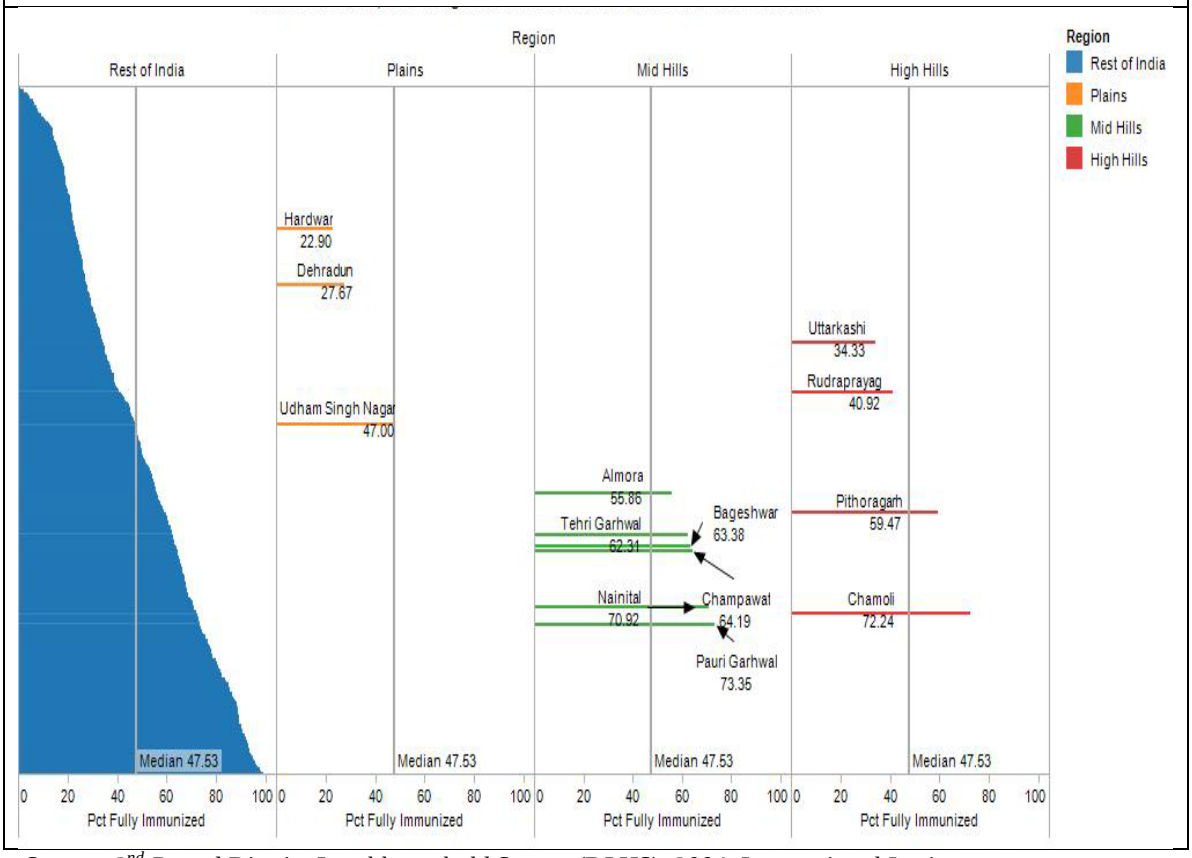
3.30 Another good practice of the NRHM is their setting of expected outcomes and then monitoring progress, as in Table 3.6 taken from their report for 2005-2010.
(see http://www.mohfw.nic.in/NRHM/Documents/5_Years_NRHM_Final.pdf)

Table 3. 6: Assessment of Progress under NRHM

	Expected Outcomes	Baseline and Achievement as per last Independent Survey
1.	IMR reduced to 30/1000 live births by 2012	IMR was 58 in 2005. It is down to 53 in 2008. There has been a 3 point decline in rural IMR as against 1 point in urban IMR in 2008. More concerted efforts to tackle malnutrition and neo-natal mortality will facilitate a 5 point decline required for achievement of expected outcome. 5 States have achieved the goal and 12 States are in the 30-40 range.
2.	Material Mortality reduced to 100/100,000 by 2012	MMR was 301 in 2001-03. It was 254 in 2004-06. JSY was launched in 2005 and early gains are captured in the reduction. The thrust on institutional deliveries and assured referral transport, together with efforts to improve the quality of care in facilities is likely to further increase the pace of reduction of MMR. 8 States are below 200 in 2004-06 and Kerala was already at 95.
3.	TFR reduced to 2.1 by 2012	TFR was 2.9 in 2005. It reduced to 2.6 in 2008. 14 States/UTs are already below replacement level. 7 States and UTs are between 2.2 and 2.6. Bihar, UP, MP, Rajasthan, Jharkhand, and Chhattisgarh have TFR between 2.7 and 3.9.
4.	Malaria Mortality Reduction Rate-50% up to 2010, additional 10% by 2012.	45.23% reduction in malaria mortality reported in first two years (2006 to 2008). There is an issue of under reporting of cases which also needs to be examined.
5.	Kala Azar Mortality Reduction Rate 100% by 2010 and sustaining elimination until 2012	21.93% reduction in deaths from 2006 to 2008.
6.	Filaria/ Microfilaria Reduction Rate-70% by 2010, 80% by 2012 and elimination by 2015	26.74% reduction from 2006 to 2008.
7.	Dengue Mortality Reduction Rate-50% by 2010 and sustaining at that level until 2012	56.52% reduction of deaths in first two years (2006 to 2008).
8.	Cataract operations-increasing to 46 lakhs until 2012	Already being achieved every year.
9.	Leprosy Prevalence Rate-reduced from 1.8 per 10,000 in 2005 to less than 1 per 10,000 thereafter.	Target achieved in December 2005 and maintained thereafter
10	Tuberculosis DOTS maintain 85% cure rate through entire Mission period	87% cure rate has been maintained. Case deduction rate has moved from 70% to 72%.
11	Upgrading Community Health Centers to Indian Public Health Standards	Physical infrastructure, up-gradation, human resource augmentation, equipment provision taken up in nearly all Community Health Centers. DLHS-III found 90.1% having normal delivery services. Since the IPHS provides for a high standard, it will take some time before augmentation is as per IPHS. However, service guarantees have shown considerable improvement in the Common Review Missions.
12	Increase utilization of First Referral units from less than 20% to 75%.	Though no separate data on utilization levels in FRUs is currently available, the Common Review Mission has reported much higher utilization of in-patient facilities due to increased institutional deliveries.
13	Engaging 2,50,000 female Accredited Social Health Activists (ASHAs) in 10 states	7.49 lakh ASHAs in all States/UTs (except HP and Tamil Nadu) have been selected. 5.65 lakh have completed training up to IV module. 5.20 lakh has provided drug kits.

3.31 The type of results orientation that is being pursued in these national programs and which involve producing results at the state level can and indeed should be pursued at lower levels of government. An example of the type of information that should trigger some additional analysis and should feedback into policy can be seen by looking at what happened to immunization rates in different districts in Uttarakhand. Figure 3.23 shows the results for immunization in 2004 for the different districts, obtained from the 2004 District Level Household Survey. The results for the Plains surprisingly lagged those of the Mid and High Hills and were below the median for the Rest of India.

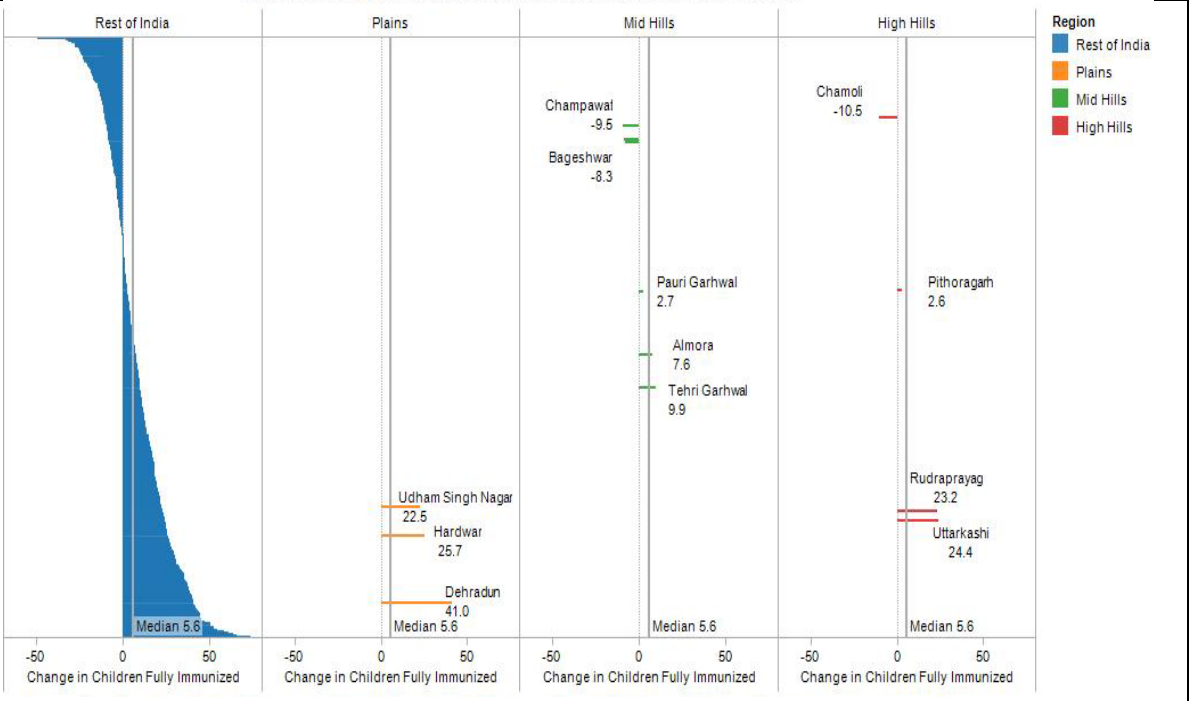
Figure 3.23: Immunizations Rates for Children Aged 12-23 months, 2004



Source: 2nd Round District Level household Survey (DLHS), 2004, International Institute for Population Sciences (IIPS), Mumbai.

3.32 Data were also collected on immunization in 2008, allowing one to track the changes over time. Figure 3.24 indicates that there were tremendous variations in the change over time in Uttarakhand. The results in the Plains improved markedly, while the results for some districts in the Mid and High Hills were quite poor. It is beyond the scope of this report to explore why the changes varied so much between 2004 and 2008, but clearly this is a task for the managers of the immunization programs to pursue and resolve the problems, if they have not already done so.

Figure 3.24: Changes in Immunization Rates, 2004-2008



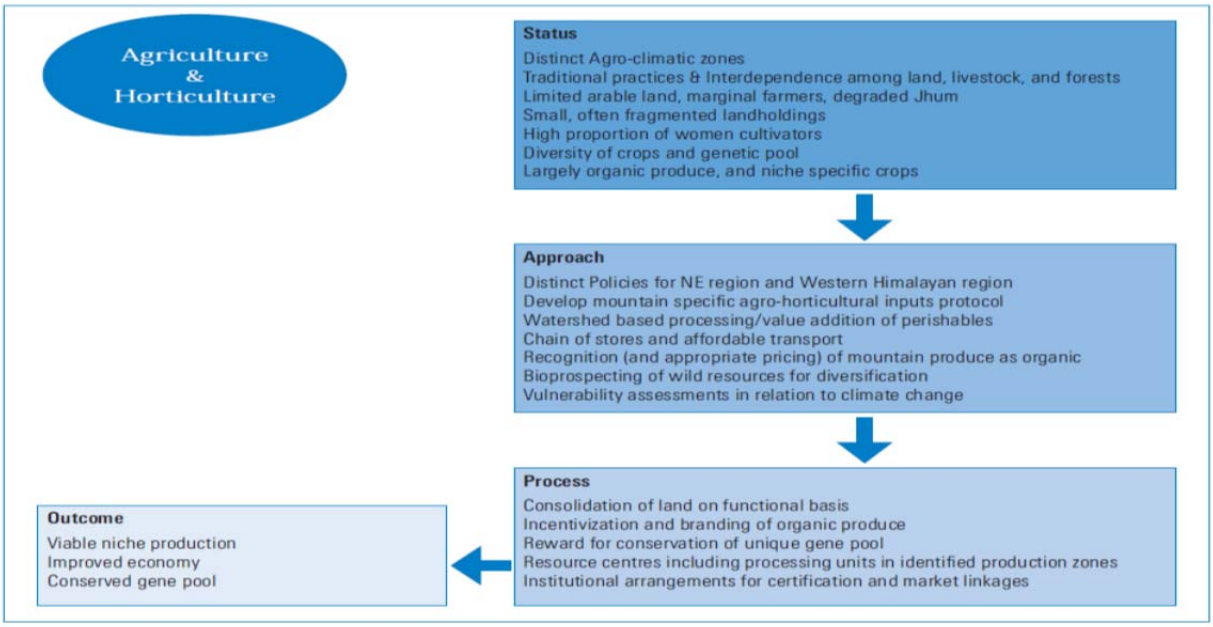
Source: 2nd and 3rd Rounds District Level Household Survey (DLHS), 2004 &2008, International Institute for Population Sciences (IIPS), Mumbai

3.33 An effort to extend the type of results orientation being pursued in the NRHM program would undoubtedly help make the other programs more effective in addressing poverty and inclusion. However, this does not address how well the programs match up with the nature of the problems in Uttarakhand. Again, there is some existing work on which to build. The report of the Hills State Task Force to the Planning Commission lays out a Schematic Plan that could be used to help assess how well the programs match the nature of the problems. The Schematic Plan for Horticulture Development, an important area for Uttarakhand is presented below (Figure 3.25).

3.34 Starting from this schematic plan, one could then map the agricultural programs that are in the existing list of high priority programs against this plan and see to what extent they respond to the assessment of the problem. It would then be useful to generate indicators for the outcomes suggested in the Schematic Plan. An extensive set of data is generated on production and productivity and is published in the National Horticultural Database 2009 (see www.nhb.gov.in).

3.35 These can be used to generate some outcome indicators. Following the approach in the NRHM program, it would be useful to generate expected outcomes and attempt to ascertain whether the existing programs are likely to lead to the desired outcomes or whether it would be worth modifying the existing programs. This type of *ex ante* analysis is logically prior to carrying out the monitoring of a program. It is important to first ascertain that the programs are, in principle, capable of achieving the desired outcomes.

Figure 3. 25: Schematic Plan for Agro-horticulture Development in the IHR



Pro-Poor Growth in the Hills

3.36 Experience around the world suggests that land-lockedness, remoteness, and mountainous terrain can stunt economic growth and standards of living.[39] Typically, policies for territorial development highlight, correctly, the role of the Government in increasing interactions between leading and lagging areas and not being exclusively concerned with stimulating development in areas that seem economically unattractive to both farms/firms and workers. In this framework, policies that are "spatially blind"—e.g., common institutions, policies and standards for service delivery, removing barriers to labor mobility—together with "spatial connectivity"—e.g., transport and communications—are seen as the core of the strategy, while "spatially targeted" interventions to stimulate economic development are seen as a much smaller part, possibly even a last resort.[40] Along these lines, the development strategies for both the Plains and the Hills should be based upon the promotion of accelerated pro-poor growth. Chapter 2 of this report recommended a growth strategy mainly for the Plains that deepened industrial policies to leverage current agglomeration economies and intensify the development of high value goods and services that tapped the State's good human resource endowments. However a targeted growth strategy that that resembles as well as differs in critical ways is required for the Hills. Despite high levels of literacy and good social indicators, growth prospects in the Hills are circumscribed by sparse population, severely adverse terrain, high costs of construction and service delivery, and general livability challenges.[41]

[39] See, for example, Martin F. Price, Libor F. Jansky and Andrei A. Iatsenia, Key Issues for Mountain Areas, United Nations University, Tokyo, 2004. Practical guidance on pro-poor growth is available in: Pro-Poor Growth in the 1990s: Lessons and Insights from 14 Countries, World Bank, Washington DC, 2005, and Inclusive Growth and Service Delivery: Building on India's Success, World Bank, Washington DC, 2006.

[40] See World Development Report 2009: Reshaping Economic Geography, World Bank, Washington DC 2008.

[41] For example, depending on topography, the cost of building an all-weather road in the Mid Hills could be three times as much as in the Plains. Doubling the number of lanes on a main road in the Plains costs approximately Rs. 5 crores per kilometer in the Plains; this could rise to Rs. 10 crores in the Mid Hills. According to the findings of the GTZ report cited earlier, the costs of moving goods to a primary market in a hill district is as much as 5 to 10 times the cost in the Plains as the supply chain infrastructure has not been developed adequately.

3.37 There is an extensive development literature on economic activities that are likely to increase returns to (mainly non-forest) land and labor in the Mid and High Hills.[42] Among these, community forestry, horticulture and tourism stand out as lines of activity with the greatest potential. The State's Integrated Industrial Development Policy was introduced in February 2008 to essentially unlock the potential economic value in these areas, but progress has been uneven. In general, in addition to the specific locational problems that affect the economic development of these areas, over-regulation and official or officially-sanctioned monopolies in service provision, lack of coordination among the numerous well-meaning agencies mandated to show results in the Hills, an inadequate commercial and economic orientation, and largely emasculated community organizations have been identified as the main constraints. So far, consumption-oriented government programs have been able to maintain populations in the Hills. However, as this is not a feasible strategy for the longer-term, a single-minded focus on the identified growth drivers is needed.

3.38 The Government is making incremental progress along a broad front. For example, after several years in limbo the Uttarakhand Agriculture Production Marketing (Development and Regulation) Act was approved in April 2011. The Act is based on a model provided by the Central Government and replaces previous legislation that severely constrained the entry of new firms technology, and new value chains into Hill agriculture, specifically in horticulture. With the easing of restrictions on contract farming and private marketing and aggregation, and if logistics and transport challenges such as cold storage (including refrigerated vehicles), the construction of smaller airstrips for light aircraft, and establishment of standardized quality assurance centers are developed, it is likely that Uttarakhand's competitive advantage in horticulture can be harnessed for raising standards of living in the Hills. As much of the farming in the Hills is organic (most farming communities cannot afford agricultural chemicals), opportunistic branding can be used to increase the market premium on Uttarakhand's labor-intensive mountain products such as out-of-season fruit and vegetables, spices and aromatics, flowers, and medicinal products.

Conclusions

3.39 Three main conclusions emerge from the examination of poverty and inclusion in this chapter. *First*, poverty did not fall much between 1993 and 2005. Indeed, growth in real expenditure for agriculture, manufacturing and services was negative across much of the income distribution and considerably lower than growth rates in the rest of India. However, the overall distribution of consumption stayed stagnant rather than deteriorating because the shift of workers into the higher return activities offset the deterioration in returns within each sector. This pattern of observing declining returns in all sectors, but overall little deterioration in welfare because people shift out of the relatively lower remuneration sector of agriculture will generate greater equality. At the upper end of the distribution of the manufacturing sector, there are some signs of growth – reflecting the promotion of the sector. But until the returns start growing more widely within manufacturing and begin to be extended into the other sectors, there will not be sizable growth in incomes and consumption for residents of Uttarakhand. The evidence to date suggests that a pro-poor growth strategy, as opposed to anti-poverty programs based on targeted consumption-oriented interventions, is yet to emerge in Uttarakhand. The pro-poor growth strategy will require addressing some of the constraints identified in Chapter 2. In particular, there will need to be efforts to generate greater progress in niche agriculture and horticulture and in higher value services. Uttarakhand has not benefited greatly from the growth in services that has fueled much of the growth in the rest of India. As the government develops its programs and policies to facilitate private-

[42] Among others, comprehensive recommendations are contained in Surabhi Mittal, Gaurav Tripathi and Deepti Sethi, Development Strategy for the Hill Districts of Uttarakhand, ICRIER Working Paper No. 217, July 2008 and Sabyasachi Kar, Inclusive Growth in Hilly Regions: Priorities for the Uttarakhand Economy, IEG Working Paper, E/281/2007, New Delhi, 2007. The recent Uttarakhand Development Report of the Planning Commission is by far the most comprehensive survey of these issues.

sector led growth, particular attention should be paid to the likely consequences on poverty and equality. Monitoring progress can be useful and, in that context, repeating the exercise of calculating growth incidence curves for the different sectors is recommended as soon as the 2010 NSS data becomes available.

3.40 *Second,* while there may not be a pro-poor growth strategy yet in place, the distribution of public service and public programs across the high and mid hills and the plains do not reveal strong distortions in favor of the plains. For example, while consumption levels are higher in the plains, the education and health outcomes of households in the Mid and High Hills are relatively good compared to outcomes of households in the Plains. Moreover, the data suggest that the main government programs designed to address poverty and inclusion are weighted relatively more to the Hills than the Plains and, within the Hills, to the Mid rather than the High Hills.

3.41 *Third,* given that a set of programs directed towards solving problems of poverty and inclusion exists already, it is likely that there would be higher payoffs to extending the results orientation to additional programs than introducing new programs. The existing programs should be made to work better. In this effort, the state government can and should build on the nascent efforts to improve performance. There are several national programs that specify expected outcomes, assessing their achievements relative to needs and monitoring outcomes. Moreover, increasingly there are extensive data sets in education, health, forestry, horticulture and other sectors which can be exploited to extend the strong results orientation which is being pursued in some programs to a wider set of programs.

CHAPTER 4: SUSTAINABILITY

4.1 As mentioned earlier, Uttarakhand is a mountain state with only about ten percent of its total geographical area in the plains. It is also a region of outstanding natural beauty, with tremendous potential for tourism, once many of the physical connectivity and policy issues in that sub-sector are resolved. Moreover, given the importance of its glaciers, soils, rivers, forests and bio-diversity to economic, environmental and recreational uses, it is appropriate that sustainable development issues lie at the core of Uttarakhand's growth strategy.[43]

4.2 Uttarakhand's importance is linked not simply to the long term welfare of the population in the state or those living in its vicinity, but to India and the world. The degradation of mountain ecosystems contributes to many of today's environmental problems, including climate change, natural disasters and agricultural productivity. Even more, although remoteness is a critical issue for communities within this mountain state, Uttarakhand itself is embedded within a global web of interconnected markets and institutions and operates within the broad policy frameworks of a rapidly changing Indian economy. Policies for the State cannot be made in isolation of this broader context. At the same time, if Uttarakhand is expected to maintain or enhance its environmental services to the rest of the world, the right incentives are needed so it can both improve living standards for this generation and safeguard the environment for the next.

4.3 Uttarakhand officials charged with the economic development of the State have accepted the principle that there are close and complex links among growth, inclusion and natural resource sustainability. This stems from understanding through the state's recent experience with agriculture that growth in income (well-being) is grounded in the concept of sustainability (that is, well-being that does not decline over time).[44] This would come from the balanced use and augmentation of the state's wealth—physical (or produced) capital, natural resources, and intangible capital (such as skills and know how, social capital and governance elements that boost the productivity of the economy). Lately, state officials have been arguing that Uttarakhand deserves compensation for "under-exploitation" of its natural resource base, which results in the provision of conservation and other environmental services as a public good to India and the rest of the world. It seems that, with the recent award of Rs.205.4 crores as a forest maintenance grant to the State by the 13th Finance Commission, and incentives for grid-connected renewable energy, this principle has been accepted at the Central level,

4.4 But, fiscal transfers are not sufficient to ensure sustainability. As with mountain states around the world, the sustainable development of Uttarakhand faces complex public policy tradeoffs among growth and employment imperatives, conservation of the rich resource base, and the delicate interplay between its social fabric and inclusion needs on one hand and institutional coordination on the other. Therefore, it is sometimes asserted that an excessive focus on economic growth linked to the dynamic regional and national economies could rapidly overwhelm the need for sustainable development. The challenge lies in weighting the public policy needs appropriately to achieve balance between ecology and economics.

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[43] Two of India's most important rivers—the Ganga and the Yamuna—and their tributaries Alakananda, Bhilangana, Bhagirathi, and Tons, among others, originate from the glaciers of Uttarakhand. Eight of the sixteen forest types of India are found in Uttarakhand. The State has six national parks and six wildlife sanctuaries covering, respectively, an area of 4,916 sq. km. (8.9 percent of its geographical area) and 2,419 sq. km (4.5 percent). The Protected Areas Network (PAN) accounts for about 18.7 percent of the forest area. According to the 2006-07 Annual Plan, the recorded forest area in Uttarakhand is 64.8 percent although vegetation cover is only 43.5 percent. Over 5,411 hectares of forest have a canopy density of less than 40 percent.

[44] Sustainable development is a multi dimensional concept consisting of three interfaces: ecological security, economic efficiency and social equity.

4.5 This chapter identifies some of the key challenges Uttarakhand faces in reaching such a balance, and the steps it is taking to get there. It looks first at specific initiatives identified in the earlier chapters on economic growth and inclusion where ecology-economics linkages are strong—roads, tourism, and industrial development—then at some broad resource availability issues related to forests and power.[45] It ends with a longer discussion of hydropower, which is front and center in the development debate in Uttarakhand, and the key element in its future prosperity.

Growth Initiatives: Environmental Considerations

4.6 The discussion of Chapters 2 and 3 highlighted the importance of maintaining the "livability" of the State in tandem with promoting labor-intensive activity and strengthening the performance of existing programs for inclusion. Several of the actions required to achieve these objectives are influenced strongly by sustainability concerns. This section identifies some of the considerations that affect the construction of roads, tourism, the development of labor-intensive manufacturing, and public-private initiatives, each of which is considered to be an important leg of the inclusive growth strategy.

Roads

4.7 The lack of physical connectivity limits the expansion of labor-intensive employment in the Mid and Upper Hills of the State, chiefly by limiting the scale of operations possible in remote areas even when concentrations of population make such expansions possible. Similarly it stunts the development of urban settlements where, typically, productivity is higher and co-location economies operate that lower the cost of delivery of services. Railway services are limited to the Plains, while air connections are sparse. The Government is progressively addressing the expansion of the road network to cover the remaining 36 percent of the villages that remain unconnected, while upgrading the existing network elsewhere in the State. The task of road development and maintenance is chiefly in the hands of the State's Public Works Department. In addition, the Border Roads Organization (BRO) and several local bodies are responsible for building strategic and other mountain roads in the State.

4.8 The main environmental challenges in road development are soil erosion, managing debris loss (approximately 555 cubic meters for every kilometer of construction), resettlement of human settlements and animals, loss of tree cover, and disruptions in groundwater courses and the output of springs. Moreover, cloudbursts, landslides and flash floods have a higher incidence in mountainous areas, exacerbating the difficult conditions that exist for road building on sloping terrain. There are clear cross-benefits here between promoting inclusive growth and environmental management, which justifies a strong effort at inter-departmental and inter-sectoral coordination.

4.9 Three actions, beyond the ones already underway through the Government's road construction plans, need priority attention. First, the construction of a detailed Geographic Information System (GIS) database for the State is a fundamental requirement for the strategic management of inclusive growth and sustainable development. Such a database could start with detailed geo-morphological information, land use maps, and area mapping to identify areas prone to seismicity, landslides and erosion. This information is essential for further expansion of the road network and eventually should be made a mandatory part of the basis for decisions regarding new roads and expansions. Second, the inter-

[45] A number of recent publications provide deep background on natural resource availabilities in Uttarakhand and ideas for their sustainable development. See Planning Commission, Uttarakhand Development Report, Government of India, Academic Foundation, 2009 (Overview and Chapters 1, 2, and 14), and Planning Commission, Report of the Task Force on Hill Area Development, Government of India, 2010. Therefore, this Chapter limits itself to providing background on just those few elements of the resource management picture that are necessary to identify the main issues discussed.

temporal, local and global environmental costs need to be anticipated and adequately incorporated into road investment decisions. Third, the State can also introduce pre-identified debris disposal sites along with more extensive bio–engineering interventions for the stabilization of slopes. Some areas are particularly prone to accidents. They must be addressed through adequate safety measures and better road geometry.

Tourism

4.10 Uttarakhand had a floating population of 31.1 million tourists in 2010 who enjoyed the religious, scenic, nature, wildlife and adventure tourism offerings of the State. This sub-sector is a likely growth driver, yet its potential seems to be grossly under-exploited. For example, a recent study estimated a direct and indirect multiplier of just 0.736 for income and just 1.126 for employment generated in Uttarakhand tourism.[46] Moreover, while tourists place demands on the infrastructure and other facilities in the State, tax collections from them are low. These problems can only multiply, as both the Government of India and the State Government have ambitious plans for the growth of tourism. Further, there has been a sharp increase in private sector investment interest in services related to making the State a temporary destination, from time-sharing properties in scenic areas to plush resorts and healthcare.

4.11 Coordination difficulties among the agencies that influence tourism development in the State account for many of the environmental challenges faced by the sub-sector. The environmental demands from the sector stem, first, from the need to provide sufficient quantities of electricity, clean water and solid waste management at tourist sites, in addition to managing the spillovers from physical projects. A second set of issues is related to the linkage between scenic, adventure and nature tourism and the large number of existing and proposed hydropower projects in the State. Such projects often affect river flows negatively, thereby affecting river-related activity, which is a major draw for higher-paying tourists.

4.12 A master plan for tourism needs to spell out a systematic agenda for inter-sectoral coordination and its governance. This would help integrate the work of agencies involved in industrial licensing, forest management in eco-sensitive areas, roads and connectivity, power supply, drinking water and sanitation and the management of river flows. While much of the tourism planning in the State has, understandably, been centered on pilgrimage sites, adventure tourism and river rafting are high potential lines of business for which cross-sectoral linkages with hydropower development need to be considered. A key element is to ensure that there is adequate water in the rivers and that connectivity and other needed physical and service facilities are provided at adequate levels to build the right brands. Specifically, an important role for the State—and to date an unrealized opportunity—is to contribute to decision-making processes on minimum flows in rivers by carrying out basin-level assessments to generate primary data and recommendations. Early agreement on keeping some rivers untouched ("wild rivers") will accelerate the development of this product niche.

Manufacturing

4.13 In February 2011, the Uttarakhand Environment Protection and Pollution Control Board (UEPPCB) identified 374 firms, among them some of the leading industrial giants in the State, that were causing hazardous waste pollution. In the previous year it had closed 52 firms for not handling their hazardous waste in accordance with regulations. These are two examples of the linkage between economic growth and the environment that is being addressed by the authorities.

[46] See Uttarakhand Development Report, Planning Commission, 2009, pp. 378-379. The report interprets the elasticities to mean that each Rupee a tourist spends in the State results in just 74 paise of income, and each lakh of tourist expenditure creates just 1.126 jobs. Most tourists are domestic, generating lower revenues than the 2-3 percent who are from abroad.

4.14 There is reason for concern that the problems of polluting industries could spread, as the growth of industry remains a thrust area in the State's economic development strategy. Moreover, although the contribution of the industrial sector to Uttarakhand's output seems to have increased over the past decade, construction accounts for the increase; the share of manufacturing has fallen, yet it will need to rise if productivity is to increase faster than in the past. Some manufacturing industries identified to be favorably placed with respect to growth in the State are also known for higher air and water pollution than average. Much of Uttarakhand's manufacturing is concentrated in urban and peri-urban areas, which facilitates environmental management to some degree. Industrial agglomeration brings with it scale economies that are beneficial not just in terms of production, but also in the provision of support facilities—housing, cultural amenities, transport—and environmental treatments—water, sewerage, solid waste, and pollution control.

4.15 UEPPCB has designated three large firms—Bharat Oil, Continental Petroleum, and Ambuja Cement—for waste management from industry, the first firm using a common facility while the other two carry the waste out of the State. Although several firms are able to establish their own hazardous waste management facility, there is a need for the Government to provide common facilities. Not only is it desirable to target common facilities to pollution management, but there is need for the forceful implementation of common standards for the environmental licensing of new industries and mainstreaming environmental management and monitoring guidelines in the sectoral guidelines of the industrial policy. This is especially true for the environmental issues emanating from the promotion of small firms in the Mid and Upper Hill areas, where the management of scattered point sources of pollution cannot be handled through public resources.

4.16 Uttarakhand has introduced a number of commendable new initiatives to address the growing threats to its fragile ecology, although several issues related to inter-departmental coordination remain to be addressed. The initiatives include, for example, (a) broadening the state pollution agency's regulatory role; (ii) establishing the GANGA-XGN online consent management system to permit industry and hospital units to be established and to operate under the Air, Water and Hazardous Waste Acts and Rules; (iii) NoC and environmental monitoring systems for industries; (iv) a requirement for environmental statement reports from agencies and industry; and (vi) creation of a Disaster Mitigation and Management Center.

4.17 However, the State's current approach to environmental management has not been internalized by sectoral departments. More often, the approach taken by departments is to obtain the *de jure* permissions, rather than use the existing regulatory frameworks to guide policy or planning. Capacity limitations—both the absence of adequate data and expert staff—are a major factor explaining the inability to integrate environmental planning more fully. For example, UEPPCB staffing is limited, which limits its ability to influence development decisions from the perspective of environmental planning. Similarly, the Forest Department is mandated under the Forest Conservation Act to monitor the green cover of the State. As in the case of UEPPCB, the Government mainly relies on it for clearances for activities that have conservation impacts. Thus, the role of UEPPCB and the Forest Department are severely attenuated, even non-existent, in the State's planning exercise, which is suboptimal from the development perspective. The lack of a database on the environment and on natural resources, and the inability to collate, analyze, manage, and share across multiple agencies the required information is another important bottleneck to environmental mainstreaming in policymaking and planning in the State.

Public Private Partnership Initiatives

4.18 The Government of Uttarakhand is promoting the role of private sector investment for socio-economic development through investments. Public Private Partnerships (PPP) have been determined to have potential in addressing financing constraints and the management of public goods and services.

Additionally, they can enable the Government to fulfill its responsibilities in delivering socio-economic goods and services efficiently, effectively, with improved accountability, quality and outreach of services.

4.19 The Asian Development Bank (ADB) has been assisting the Government of India in mainstreaming PPP through a number of technical assistance (TA) projects at the state, central and project levels. Uttarakhand is one of the states where ADB has funded the creation of an ADB-PPP Cell that I staffed with experts. The creation of this unit has helped in building momentum for PPP, with several projects delivered since 2008—especially in the health sector—and has received a positive response from private investors (Table 4.1: PPP Projects, March 2012).

Table 4. 1: PPP Projects, March 2012

Sector	Total	Operational	Under Construction	Bid Process Complete	Under Bidding	Concept Stage
Energy	15	0	2	4	6	3
Tourism	24	0	1	0	12	11
Transport	8	2	0	1	1	4
Agriculture	8	0	0	0	2	6
Social/Health	31	6	3	2	7	13
IT	0	0	0	0	0	0
Roads	2	0	1	0	0	1
Urban	7	1	2	1	1	2
Total	**95**	**9**	**9**	**8**	**29**	**40**
Value (Rs Cr)	**5,168**	**180**	**526**	**708**	**1,063**	**2,690**

4.20 The Government of Uttarakhand is preparing a policy for PPP. The policy objectives are to create a conducive environment for PPP in the state with emphasis on developing a pipeline of projects, conducting value-for-money analysis, formulating a risk sharing framework, implementing a transparent bidding process, introducing a mechanism for appraisal/approval/monitoring and strengthening the regulatory framework.[47] The status of PPP projects are monitored periodically by a high level committee chaired by the Chief Secretary.

4.21 The Government of Uttarakhand has floated a State Viability Gap funding (UVGF) scheme with special emphasis on the development of PPP Projects in the hill areas. The UVGF covers the social sector in addition to all other priority sectors. It has also developed an Infrastructure Project Development Fund (UIPDF**)** to finance project development activities by administrative departments. It is actively participating in the National PPP Capacity Building (NPPPCB) initiative of the Government of India and ADB. The Administrative Training Institute (ATI), Nainital has been designated as the nodal agency for delivering various levels of training in all aspects of PPP Project Management. Together with the PPP Cell, its programs have been attended by over six hundred (600) officials since 2008.

Resource Management Challenges[48]

4.22 The pressure on Uttarakhand's natural resource base is evident in a number of indicators. For a region that is growing as rapidly as is Northern India, the deficit in the supply of power has begun to operate as a major brake on economic growth and the livability of urban areas. Given the hydropower potential of the State, the generation of power is, in the end, an issue of natural resource management. Surprisingly, despite containing some of India's most important rivers, water security has emerged as a

[47] Currently, the PPP procurement process in Uttarakhand is guided by Chapter 6 of the Uttarakhand Procurement Rules 2008.

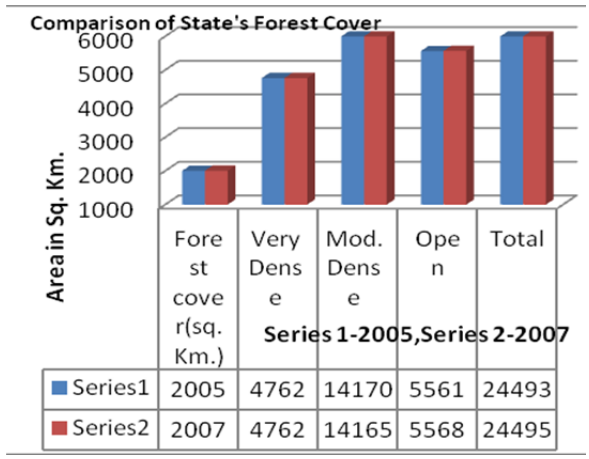
[48] A detailed discussion of governance and administration related to resource management is contained in Chapter 6.

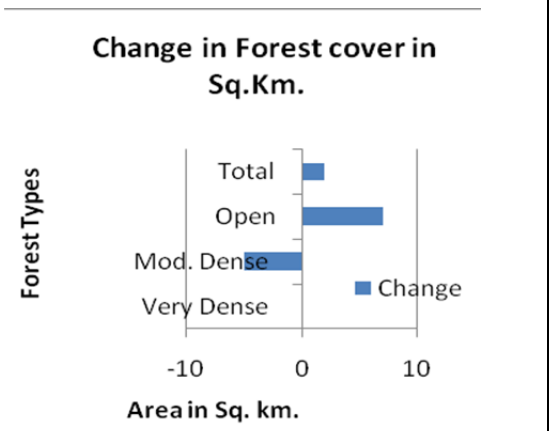
problem. Recharge levels in its springs have fallen sharply, so that competing uses for groundwater have strained water supplies for domestic use, especially in areas that have little or no access to piped water (nearly 40 percent of the population). Soil erosion (about 65,000 hectares each year), declining soil fertility (N=0.15%, Organic Content=0.17%, P=0.05%) and the availability of cultivable land have become increasing constraints over the past decade. Clearly, some of the pressure comes from climate change and other factors, and may require measures for mitigation but, more importantly, adaptation. The introduction of new techniques such as the System for Rice Intensification, which is spreading in Uttarakhand with little or no government support to other field crops, is a good example of private adaptation to climate change.[49] Equally, however, the Government has begun to face up to the challenge by introducing conservation measures. However, giant steps in resource management that go beyond standard conservation are required to tap Uttarakhand's bountiful resources in a sustainable way. This section briefly examines the cases of forests and electricity to illustrate some actionable resource management issues in the state.

Forests

4.23 Uttarakhand gained just two square kilometers of forest cover from 2005 to 2007 (Figure 4.1). The share of very dense forests showed no improvement, dense forests decreased by five square kilometers, and open forests increased by seven square kilometers. As improvements in open forest areas depend mainly on the new plantations, this trend is not encouraging. It suggests that increases in forest cover stem from new plantations rather than an improvement in bio-diversity. Policy actions by the Government of India—for example, those leading to forest protections and, recently, to the Finance Commission's grant to Uttarakhand for environmental services—reflect its belief that forests are undervalued in India as providers of ecosystem services and goods.[50] The management of Uttarakhand's

Figure 4.1: Comparison of Forest Cover (2005-2007)





Source: India State of Forest Report 2009, Forest Survey of India

[49] SRI breaks away from traditional flood cultivation practices in rice and has been found to raise yields and labor productivity significantly while reducing sharply the need for water, fertilizer and pesticides as well as the release of methane and other gases that are thought to contribute to global warming. It is an easily-learned technique that is spreading rapidly in parts of India, China, Southeast Asia and Africa through demonstration effects among farmers. See http://www.wassan.org/sri/documents/shambu_sri.pdf for a brief history of its spread in India.

[50] A conservative estimate based on an assessment presented in 2007 is that Uttarakhand's forests provide ecosystem services equivalent to about Rs.250 billion each year. See, S. P. Singh, Himalayan Forests Ecosystem Services: Incorporating In National Accounting, CHEA, Nainital, 2007 for the base estimate for 1994.

forests is particularly difficult as the resource is controlled/owned by four types of entities—the Forest Department (FD), the Revenue Department (RD), communities, and private owners. However, with nearly 70 percent of the total forest of the State managed by the FD, a targeted policy that focuses on its operations is vital to achieving public policy objectives in this sub-sector. It is important to recognize, however, that coordination with sectors and agencies is needed to generate integrated solutions to sustainability problems. This is illustrated in Box 4.1, which explains some of the reforms affecting the Forest Department's responsibilities in neighboring Himachal Pradesh.

Box 4. 1: Payment for Ecological Services—A Sustainable Development Initiative

The Government of Himachal Pradesh intends to implement the concept of "payment for ecological services" (PES) in the Renuka Dam project, with the Forest Department earmarking Rs. 10 crore for the purpose. The allocation of funds has been made in accordance with the new guidelines framed by the government for the implementation of Catchment Area Treatment (CAT) plans, under which at least 10 per cent of the total amount has to be spent on the PES to provide direct financial benefits to the community. The Forest Department of the state is preparing a "scoping document" through an independent agency working in the areas of natural resources management, clean energy and climate change, which has provided a blueprint for the conservation of the ecosystem with the involvement of the local population.

The focus of the initiatives will be on improving water quality and discharge in various tributaries in the catchment by checking soil erosion and enhancing water retention. The measures will not be confined just to afforestation and check dams but will also include changes in land use and agrarian practices to help preserve and restore the forest ecosystem by improving biodiversity and water sources. However, the cornerstone of the PES is to enhance livelihoods and maximize benefits to villagers. For this, the strategy is to meet the needs of the forest-dependent communities through improved non-wood forest products and by promoting eco-tourism. Under this initiative, the quality of water and discharges would be monitored constantly and payments will be made to villagers only when there are discernible improvements. The parameters and procedures for scientific monitoring of the eco-system have been developed. To begin with, a pilot scheme would implement the new approach, which would then be extended to cover the entire catchment. The models developed, if successful, will be replicated in other projects. It is believed that if financial benefits flow directly to local populations they will come forward to adopt eco-friendly farm practices and preserve green cover and the environment.

It is important to recognize here that, in addition to learning from other regions in India and abroad, Uttarakhand's own efforts in this area ought to be recognized. The Government is taking steps toward greening the State. For example, the Uttarakhand Renewable Energy Development Agency (UREDA) has received CDM certification on production of electricity through Micro Hydel Projects and supplies to villagers to replace dependence on kerosene in off-grid areas. UREDA will get about 8668 CER annually for reducing carbon emissions. As mentioned in the text and by several other observers, the 13th Finance Commission made a beginning with respect to Uttarakhand in partial compensation for the environmental services it provides. However, clearly, the ecological services provided by the State to the rest of the world are significantly higher than the amount allocated. The sooner a start is made on a value assessment of such ecological services and the preparation of complementary analysis, such as a forest development index, the easier it will be for the State to prepare comprehensive strategies. The possibilities of developing the first State-level initiatives into a full-blown greening program, as is being practiced in Himachal Pradesh with World Bank policy and institutional support, need to be grasped.

Source: Government of Himachal Pradesh Press Statement.

4.24 The rural population depends heavily on fuel, fodder and timber from the forests for livelihood security. Fuel-wood consumption ranges from 2.8 kilograms per person each day at higher altitudes (>2000 meters) to 1.42 kilograms at lower altitudes (1000-1500 meters). This translates into almost two million tons of fuel-wood per year for the Mid and Upper Hills, or about one million tons of carbon. As community forests are often unable to meet local demands, inhabitants in these areas intrude on reserve

forests to meet their needs. It is estimated that the role of forests in supporting agriculture and animal husbandry is substantial, with 10-12 energy units of forest biomass required to generate one unit of energy from agriculture. The resource management system consists of small and fragmented holdings, four-fifths of which are managed by women as a consequence of the out-migration of men seeking jobs in the Plains or elsewhere. Therefore, the Government is pursuing community-based approaches that incorporate several elements of economic, social and environmental interventions and build on existing institutions such as Van Panchayats and Gram Panchayats.

Power

4.25 Uttarakhand's installed electricity generating capacity in 2011, including the private sector, is about 1,798 MW, and the total available capacity, including the central sector share, is 2,455 MW (Table 4.2). Against this, the State is required to meet a peak demand of 1,450 MW during 2010-11. During the same period the deficit in peak energy demand was about percent during 2009-11. As shown in Figures 4.2 and 4.3, the State has not faced any difficulties in meeting the annual energy demand, but has faced problems in meeting peak hour demand. It is well known that, nationwide, inefficiency in the power sector amounts to 37 percent for transmission and distribution losses, 15-20 percent for utilization losses, and there are deficiencies in other demand side management measures. However, even after applying such coefficients to the Uttarakhand situation, the level of imbalance, given the installed capacity, points to problems with the management of the State's electricity infrastructure. Undoubtedly, the projected peak hour demand and annual energy demand for Uttarakhand for the immediate future are not as large as in its more industrialized neighbors (Table 4.3). The installed capacity of 2455 MW, even at a conservatively assumed annual load factor of 35 percent, can provide roughly the projected energy demand in 2011-12. If we take into account the share of Uttarakhand from forthcoming central sector projects and its own committed projects, there could be a surplus for the next few years, provided the electricity infrastructure is operated and maintained more efficiently and measures are taken to reduce system losses.

Table 4. 2: Installed Power Capacity (MW)

Source	**MW**
State Sector Hydro	1252.2
Thermal	-
Renewable	134.0
Private Sector Hydro	412.1
Central Sector Hydro	656.9
Total	2455.2

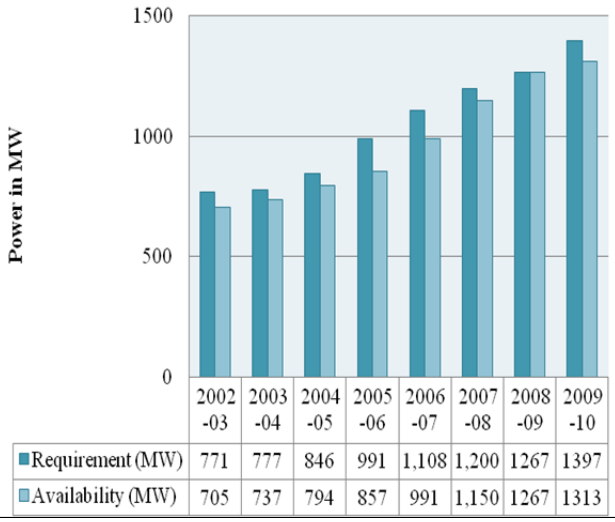
Source: CEA Website, March 31, 2011

Table 4. 3: Electric Power Forecast

	2008 - 09	**2009 - 10**	**2010 - 11**	**2011- 12**
Peak Demand (MW)	1,238	1,330	1,428	1,533
Annual Energy (GWH)	6,752	7,275	7,838	8,445

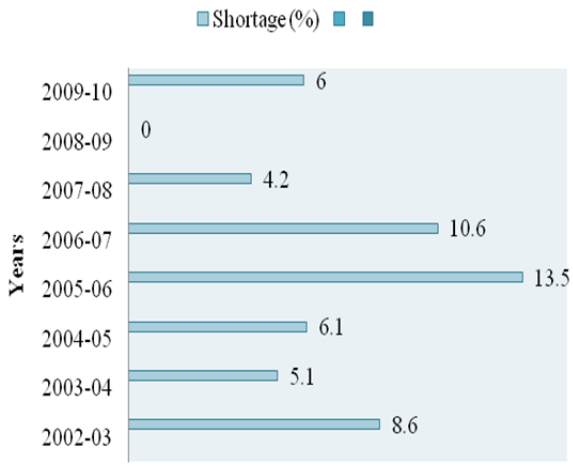
Source:17th EPS, CEA.

Figure 4.2: Power Demand and Supply (MW)



	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Requirement (MW)	771	777	846	991	1,108	1,200	1267	1397
Availability (MW)	705	737	794	857	991	1,150	1267	1313

Figure 4.3: Peak Period Balances (% of total requirement)



Source: CEA Website, March 31, 2010.

4.26 Considering the data from the Central Electricity Authority (CEA) it would appear that Uttarakhand's power requirement varies from about 19MU/day during summer to about 23 MU/day during winter. Its own generation varies from about 12.5 MU/day during summer to as low as 7 MU/day during winter. Together with the share from the Central Sector projects of the Northern Region, the State has a surplus during the summer and a small deficit during the winter. However, the ability to generate a surplus is depends entirely on the nature of the southwest monsoon. Given this situation, the importance of Uttarakhand's water resources cannot be overstated, as they play a direct role in power generation and also provide the lifeline of the economy in terms of residential, irrigation, industrial, environmental and recreational uses. The pressure on water resources is extremely high, and challenges in this area need to be addressed as the highest priority in the State's economic planning. As an illustration, it is estimated that a community of 50 households requires a water supply of 8.8 liters per minute to meet its demand for a minimum 40 liters per person per day. Unfortunately, because of increasing population and water use conflicts with other sectors, it has become increasingly difficult to provide drinking water for the population. There was a 50 percent decrease in water discharges in the State during 2009-10. With erratic rain fall and degraded river catchments, providing water in the hills, where ground water has been rapidly depleted, is especially difficult. As in other resource management areas, there are multiple agencies working on water issues with inadequate coordination among them.[51] This is a major obstacle to sustainable management of the regionally abundant but locally deficient water resources of the State.

4.27 Uttarakhand's hydropower potential of 20,000-25,000 MW (12 percent of the total for India) is one of its most important strategic assets for the State's development. Of this, 16 percent has been harnessed, and 40 percent more is expected to be exploited through projects in the pipeline. By comparison, Himachal Pradesh has developed about 32 percent of its hydropower potential, while the country as a whole has developed about a quarter of its total potential. Power consumption is about 824 kWh per person each year, despite having a low proportion of villages with electricity, which is far above the nationwide average of 592 kWh and Himachal Pradesh's 794 kWh. Nearly half the population in each district is without electricity.

[51] These include the Uttarakhand Jal Vidyut Nigam, Uttarakhand Peyjal Nigam, Uttarakhand Jal Sansthan, Swajal and the Watershed Directorate.

4.28 Hydropower has the advantage of low operating and maintenance costs, projects with long life spans, and no greenhouse emissions. For Uttarakhand it is a potentially significant source of revenue. However, the pace of hydropower development has been slow so far, and for a variety of reasons it is not expected to increase rapidly in the immediate future. The State has followed a mixed model for the development of its hydro resources: a State sector (led by UJVN), a Central sector (consisting of NHPC, NTPC, SJVN, and THDC), and a private sector (consisting of JP, L&T, GVK and other entities). Projects in the same river basin have been assigned to a number of different public and private operators. This approach to allocating projects has the advantage of bringing in much-needed capital and diversifying the investor/operator base but has the potential for controversy, even conflict, as the different project promoters/operators may have different priorities. Such differences could relate to quantities of water use, the time of day when maximum drafts occur, or interactions with water user groups.

4.29 The Government may find it useful to move beyond the present planning paradigm based on the individual projects to an integrated approach based on river basin management that incorporates the environmental and social aspects into the process of economic exploitation of this resource. This would require the management of the river catchment area, sediment in the riverbed, management of social and environmental impacts, and comprehensive assessments of the implications for the entire river basin of the long-term evolution of basin hydrology and river geomorphology, including the possible impact of climate change. The Supreme Court cited the absence of a cumulative development plan as one reason for halting work on two of the Kotli Bel projects. In 2010, MoEF announced that clearance of hydropower projects in the Bhagirathi-Alaknanda basin would be conditional on the recommendations of a cumulative impact assessment, which was completed in April 2011. It would be normal to expect the Bhagirathi River Valley Development Authority (BRVDA was created in 2005) to play a role in managing the cumulative impact of hydropower, at least along the Bhagirathi. However, it has been relatively inactive. It has no budget of its own and inadequate capacity to conduct such an exercise. The institutional mandate of the National Ganga River Basin Authority (NGRBA) is still evolving, but it is clear that close cooperation between the State Government and NGRBA (as well as MoEF and the CEC) will have a powerful effect on the effectiveness of future hydropower development. Cumulative impact assessments are a solid platform upon to which to build such cooperation.

4.30 The Central Government establishes minimum flow requirements as part of the environmental clearance process. So far, Uttarakhand has not overseen any basin-level cumulative impact assessments that ideally would inform the MoEF decision-making process. Further, the State has a vital role to play in the enforcement of the agreed norms. Himachal Pradesh, by contrast, has stipulated that all hydropower projects must maintain a minimum environmental flow equivalent to at least 15 percent of the natural flow of water during the lean season.[52] Some argue that Himachal Pradesh has not gone far enough in this regard, and that the stipulated minimum environmental flows should be based on a percentage (or range) of the natural flow of water throughout the year and not just the lean season.

4.31 MoEF has not set a designated minimum flow, arguing that the flow required to sustain ecological life will vary from river to river. However, environmental impact assessments (EIA) for projects now need to specify the minimum flows required for particular projects on particular rivers, but these tend to be set quite low.[53] In light of this, Uttarakhand could consider adopting environmental flow

[52] The issue of the baseline for determining 'natural' water flows is a highly complex one that this note will not address. For more on the issue of how to assess environmental flows, see V. Smakhtin and M. Anputhas, An Assessment of Environmental Flow Requirements of Indian River Basins, Research Report 107, International Water Management Institute (Colombo: IWMI, 2006).

[53] The now halted Pala Maneri project in Uttarakhand, for example, specifies a minimum flow that works out to only 6.7 percent of the lean season flow. Flows are calculated using historical data available with the Central Water Commission; the Central Water Commission has recently refused to divulge flow data for the Ganges publicly

standards for all hydropower projects in the state: this could either take the form of a minimum standard on the lines of Himachal Pradesh or a more sophisticated system with standards varying, depending on the type of river and the ecological and cultural values associated with them.[54] These flows are not always easy to monitor technically but the Government could experiment with entrust the task of monitoring them to specific local communities or outsource this to qualified private companies if necessary. This will go a long way in reassuring sceptics that the government is serious about developing its hydroelectric potential in a responsible manner.

4.32 Delays in implementing environmental management activities such as catchment area treatment (CAT) plans and compensatory afforestation are a threat to the sustainability of development projects. It is critical to synchronize these activities with project implementation schedules so that maximum benefits are obtained. However, given the limited capacity of local government institutions and agencies, such as the Forest Department, to implement environmental management activities, it may be worthwhile to consider outsourcing this responsibility. Alternatively, the project implementation agency can be made responsible for carrying out the activities under the CAT plan, and for other important tasks in the area of environmental management. In parallel, it would be advisable for the State to put in a place a plan for building the capacity of state regulatory agencies for implementing and supervising such activities.

4.33 Monitoring the implementation of CAT plans is equally important. The State could explore the possibility of using Van Panchayats or Panchayati Raj institutions for monitoring. If communities are invited to partner the environmental management measures within hydro projects—for example, muck disposal, CAT plan implementation, and monitoring minimum flow requirements—it is likely that this work will be more effective and sustainable and public ownership of the State's hydropower program will increase. Box 4.2 illustrates the Himachal Pradesh experience in this area. Box 4.3 updates the situation with respect to cumulative impact assessments in India.

Box 4.2: Catchment Area Treatment – A Priority in Himachal Pradesh

Himachal Pradesh has started priority catchment activities in hydropower projects in the Satluj basin. The State has progressed in scaling up the implementation of CAT plans and establishing appropriate monitoring mechanisms—including assigning responsibility for specific areas to an 'Eco' Battalion of ex-army men, completing baseline photography, awarding a monitoring contract to a third party, identifying four hydropower projects for initiating CAT plans related to soil and moisture prevention works, and constituting in-house monitoring teams. In order to utilize the expertise in the hydropower agencies of the Satluj basin in soil conservation, the Government has also finalized procedures for implementing soil related CAT plans by independent power producers or hydropower promoters. It has constituted the state Compensatory Afforestation Fund Management and Planning Authority (CAMPA) to organize, control and manage funds deposited with the Central Government for afforestation and CAT plan schemes. The Central Government will provide these funds to the state CAMPA in a phased manner.

In order to begin the process of having river basin level CAT plans for all its major river basins, Himachal Pradesh is preparing an integrated CAT plan for the Satluj basin. This was an excellent step for promoting better decisions on catchment area treatment at the basin level. The Government has also scaled up a similar methodology to apply in the Ravi, Chenab and Beas river basins and has initiated processes to obtain expressions of interest from prospective agencies to undertake this task.

Source: World Bank Implementation Completion Report on Himachal Pradesh Development Policy Loan

claiming that national security concerns are at stake. See, India Environment Portal, "To Flow or Not to Flow" at http://www.indiaenvironmentportal.org.in/node/263845

[54] The point of an environmental flow is to ensure "an ecologically acceptable flow regime designed to maintain a river in an agreed or predetermined state", according to Smakhtin and Anputhas, *op. cit.* page. 8. Rivers that are already degraded will need a lower environmental flow than rivers in a more pristine condition, hence EF standards would have to vary, sometimes considerably.

Box 4.3: Cumulative Impact Assessment

Following a national debate on the need to focus on the cumulative, basin-level impacts of hydropower development, the Ministry of Environment & Forests (MoEF) has used its regulatory powers to forge a sustainable hydro development agenda. In July 2010, MoEF the Alternate Hydro Energy Centre of the Indian Institute of Technology, Roorkee, and the Wildlife Institute of India (WII), Dehradun, to examine the hydropower development plans for the Bhagirathi and Alaknanda Rivers. IIT Roorkee examined the carrying capacity of the rivers for hydro development, while WII assessed the possible impacts on terrestrial and aquatic biodiversity in the basins of these two rivers which converge to form the Ganga at Devprayag. The draft findings of both reports were submitted to MoEF in March and May 2011, respectively, and the final IIT-Roorkee report has recently been made public by MoEF.

Based on the recommendations, MoEF has begun to put in place a stricter environment regulatory regime for hydropower projects being planned on these rivers. This includes denying clearances to projects deemed to have adverse biodiversity impacts that cannot be sufficiently mitigated. MoEF also included much higher stipulations for the minimum flow the cleared projects would be obliged to maintain in the river at all times.

Three of the first five projects on the Alaknanda that went before MoEF's Forest Advisory Committee for clearance to divert forest land for their infrastructure were denied clearance on the grounds that they "support significant ecological/wildlife values that include irreplaceable components. Any form of development in these areas will have irreversible and un-mitigable negative impacts on these values".
The two projects accorded clearance were allowed to go forward on the condition that they would, once constructed, maintain minimum flows in the river that were significantly greater than those originally stipulated by MoEF (in one case, more than five times greater).

MoEF has also announced its intention to extend this higher environment flow regime to all proposed projects in the two river valleys. It called upon the States of India to take on the general responsibility for carrying out cumulative impact assessments of their development programs in hydro as well as other sectors.

4.34 Given the importance of hydropower to Uttarakhand, it would be useful for the State to develop a similar and robust basin wide development model for monitoring the environmental and social aspects of hydropower development. It is possible to link this step with payments for ecological services, and local communities could benefit in addition through the protection and conservation of the forests and other assets created under CAT plans.

Benefit Sharing & Local Area Development

4.35 Local communities are the most directly affected by the development of hydropower projects. The State Government could help ensure smooth implementation of hydropower projects by carrying out a program to communicate the benefits of projects to the affected local populations as well as the general public. Because the development of hydropower is a long- term process in which most of the costs and negative impacts are imposed early in the development and construction process, whereas the benefits only become visible later, local people are often skeptical of large projects that tear up their environment, generate air, noise, and water pollution, and disrupt their lives for several years. It is, therefore, important that the Government make a serious effort to convince people that the long-term benefits of hydropower development will outweigh the costs that have to be borne in the first few years. For such persuasion to be credible, a communication strategy needs to be supported by a strong commitment to project development in a way that minimizes harm to the environment, the disruption to local people, and offers a rehabilitation and resettlement package that makes people better off, rather than worse off or just as badly off. Encouraging participation at all phases of project development will help dissolve some of the suspicion that surrounds the issue of hydropower.

4.36 Because of the disproportional impact on local communities, sometimes including the permanent loss of the use of the water at specific locations, the State needs to develop better benefit-sharing mechanisms. This would help ensure sustainable and equitable development, and moderate opposition to hydropower development that could emerge in the absence of any benefit-sharing mechanisms. An option to consider is to give local communities a share of the specific project benefit streams over time (for example, the one percent of project revenue, as provided under the National Hydropower Policy, 2008). In order to make the national level recommendations operational, the State Government needs to adopt a policy on benefits-sharing and to prepare the subordinate documents that will govern the procedures for the use of these funds which, over time, will become significant. The financial cost of this will be very small compared to the revenue streams of the project (as overall project returns are generally high and the beneficiary communities generally small in terms of population). The positive impact on local social and economic development should help build public support for the Government's hydropower development program. There are various models in existence, but the determining factors in the case of Uttarakhand are the limited capacity of local official agencies to manage revenue streams and decide on development priorities and the small absorptive capacity of local areas to make use of the funds generated. In one such model, the project implementing agencies would themselves undertake local area development. The selection of economic and social development schemes and their monitoring would be the responsibility of a body that would consist of representatives of the project authority, the affected villages/Panchayats, and the local district administration. Should revenue absorption be a problem, estimated surplus could be channeled to broader areas according to strictly enforced guidelines. The specific models to be used need to be researched extensively, before one is adopted.

CHAPTER 5: PUBLIC FINANCING

5.1 The expansion of the private sector and its opening to the global economy has resulted in significant changes in the dynamics of the Indian economy. Private investment rose from 6 percent of GDP in 1960 to 13 percent in 1990 and a recent peak of 25 percent in 2007, just before the global financial crisis. Commensurately, the development planning process in India has evolved, with indicative planning largely replacing the central planning model. Resources provided through the Five-Year Plans, Finance Commission dispositions and state level revenue collection processes have declined progressively as a share of the investible resources available to the Indian states. Nevertheless, public resources continue to play an important role in several states and, among them, Central Government resources play a dominant role in states such as Uttarakhand that have "Special Category" status.

5.2 The role of public finances in Uttarakhand is shaped by several considerations. As discussed in Chapter 2, expansion of the state's agricultural and industrial sectors faces geographical limitations which limit the tax base and the feasibility of raising user charges to augment its own revenues. At the same time, two facts dominate the need for high public expenditure—the state has sensitive international border areas up in the hills, and the very rationale for creating the state was earlier neglect and aspirations for better public services. Finally, there is tremendous pressure for the creation of employment within the state and, especially, in the Mid and High Hills, despite geographical constraints on large scale organized productive activities in these areas.[55] With this as a backdrop, Chapter 5 assesses the role and vulnerabilities of the public finances of Uttarakhand, as well as its prospective fiscal position under alternative scenarios.

Overall Fiscal Trends

5.3 Fiscal balances improved substantially from 2003-04 to 2006-07, with the revenue deficit of 3.7 percent of GSDP turning into a revenue surplus of 2.9 percent, and the fiscal deficit dropping from 6.9 percent to 2.8 percent (Table 5.1). However, subsequently, the revenue surplus was eroded, and 2009-10 ended with a revenue deficit of 2.5 percent. The fiscal deficit followed a similar pattern, with the temporary reduction in 2008-09 to 4.6 percent of GSDP, despite a significant worsening of the revenue account balance, achieved only through a substantial cutback in capital expenditure. It jumped to 8.6 percent of GSDP in 2009-10, which is a fairly high level by any standard, although not the highest during the decade. Similarly, the small primary surplus of 2006-07 turned into deficits immediately afterwards, and the level in 2009-10 (5.2 percent of GSDP) is only a little below the highest recorded deficit during the last decade. In general, therefore, the broad fiscal position seems to have deteriorated in Uttarakhand.

A decomposition of the broad trends shows that the marked deterioration of 2009-10 is distinct from the gradual erosion that was taking place in the 2006-09 period. The two years following the very encouraging fiscal outcomes of 2006-07 saw a small drop in revenue receipts combining with a small increase in expenditures to produce a gradual worsening of the broad fiscal balances. However, in the following year, 2009-10, there was a significant increase in revenues (from 21.5 percent of GSDP to 24.1 percent), mainly from own revenue sources.

[55] A similar situation exists in the contiguous state of Himachal Pradesh. Successive governments in that state have succumbed to the pressure for jobs by rapidly expanding the number of government employees and generating a large wage and pension bill.

Table 5. 1: Broad Fiscal Indicators (percentages of GSDP)							
Category	**2003-04**	**2004-05**	**2005-06**	**2006-07**	**2007-08**	**2008-09**	**2009-10**
Revenue Receipts	**17.6**	**17.2**	**21.2**	**23.5**	**22.2**	**21.5**	**24.1**
Own Tax Revenue	*6.0*	*6.1*	*6.8*	*8.0*	*7.7*	*7.6*	*7.8*
Own Non-tax Revenue	*1.8*	*2.3*	*2.5*	*2.1*	*1.9*	*1.7*	*3.1*
Tax Devolution	*2.1*	*2.2*	*3.9*	*3.6*	*4.0*	*3.8*	*3.4*
Central Grants	*7.7*	*6.6*	*8.0*	*9.8*	*8.6*	*8.4*	*9.8*
Revenue Expenditure	**21.3**	**21.2**	**21.4**	**20.6**	**20.4**	**20.9**	**26.6**
of which:							
Salaries and Wages	*5.7*	*5.0*	*5.3*	*4.9*	*6.3*	*8.3*	*11.5*
Interest Payments	*2.9*	*3.4*	*3.1*	*3.1*	*3.1*	*3.0*	*3.3*
Pensions	*1.4*	*1.5*	*1.7*	*1.7*	*1.8*	*2.9*	*3.0*
Capital Expenditure	**2.6**	**4.8**	**6.5**	**5.4**	**6.3**	**5.0**	**6.3**
Revenue Balance	*-3.7*	*-4.0*	*-0.3*	*2.9*	*1.8*	*0.6*	*-2.5*
Fiscal Balance	*-6.9*	*-9.2*	*-7.2*	*-2.8*	*-4.9*	*-4.6*	*-8.6*
Primary Balance	*-4.0*	*-5.8*	*-4.1*	*0.3*	*-1.8*	*-1.6*	*-5.2*

Source: Finance Accounts and Budget document.

5.4 At the same time, there was an even greater increase in expenditures (revenue and capital combined), from about 26 to 33 percent of GSDP.[56] The jump in expenditures resulted from an expansion of salary and wage payments, which had dropped from 5.7 percent of GSDP in 2003-04 to 4.9 percent in 2006-07, but rose substantially in every year after that. They more than doubled to 11.5 percent by 2009-10. Other components of revenue expenditure also increased, but by smaller margins. The substantial rise in pensions clearly reflected the impact of the pay revisions in the state following the Sixth Pay Commission awards for Central Government employees. Expenditures for the first three years after salary revision (starting 2008-09) include the effect of payment of salary arrears apart from the regular increase in salaries; a government decision was taken to spread the payment of arrears over a 3-year period to avoid a larger spike in expenditures.[57] The fiscal imbalance is likely to have continued for 2010-11 as well, because the main reason—payment of salary arrears—remains. However, the official budget estimates for 2010-11 built in a smaller wage and pension bill compared to the revised estimates for 2009-10. The Government expected to manage a marginal revenue surplus and a fiscal deficit of only 3.4 percent of GSDP on the strength of an all-round expenditure compression and a substantial increase in tax devolution from the center. Expenditure compression is a necessary component of such an

[56] The projected figures for GSDP reported by the state government in the fiscal policy document for 2010 (part of the budget papers) has been used for the purpose of deriving the percentages in Table 1.

[57] There are no definite estimates of the impact of pay revisions in nominal terms in the state, but some approximations are possible. Total salary arrears to be paid would be about Rs. 3050 crore, including those for state government employees and others whose salaries are embedded in the regular grants made by the state government. Arrears on account of pensions would be an additional Rs. 822 crore. Without the arrears, the salary revision is estimated to have increased the wage bill of the state government by about Rs. 1400 crore, with an additional Rs. 280 crore on account of pensions.

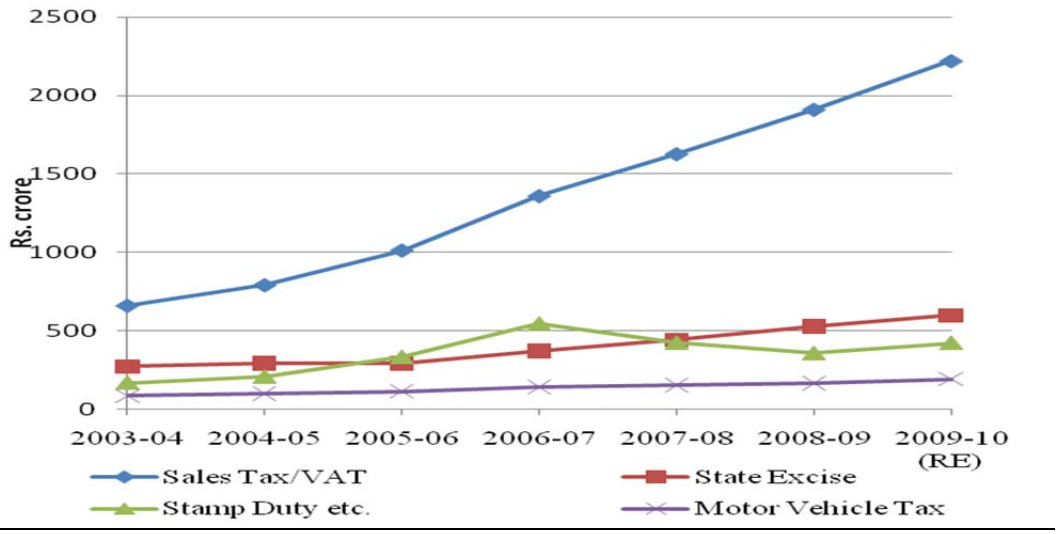
improvement. A closer look at the different components of the fiscal situation is needed to determine where the stress points lie and possible directions for maintaining fiscal sustainability.

Revenues

Own Tax Revenues

5.5 Own tax revenues of the state are collected primarily through the sales tax/VAT, state excise (mainly collections from liquor consumption), stamp duty and registration fees, and motor vehicle taxes. In addition, there are other minor taxes such as the land revenue and entertainment taxes and the electricity duty. Figure 5.1 shows the trends since 2003-04 in revenue from the four major taxes. Clearly, the sales tax is both the largest and most buoyant revenue source among the four major taxes, and its share of own taxes is rising. The state excise tax has also been relatively buoyant since 2005-06. Motor vehicle taxes have been less buoyant, while stamp duties were quite buoyant until 2005-06, after which its buoyancy is negative. These and some of the minor taxes are discussed in some detail below.

Figure 5.1: Revenue from Major Taxes



Sales or Trade Tax/VAT

5.6 The prospects for the sales tax are unclear because of the uncertainties regarding the introduction of the Goods and Services Tax.[58] The present system in the state is a mix of single point taxation of some commodities ('non-VATable') and a VAT-type multipoint tax with setoffs for other commodities.[59] At

[58] The indirect tax regime in India is proposed to be replaced by a comprehensive dual Goods and Services Tax (GST) with the Central GST and State GST to be levied concurrently by the Centre and the States. GST would replace most indirect taxes currently in place. The tax base is anticipated to be comprehensive, including virtually all goods and services, with minimum exemptions.

[59] The former group of commodities includes major petroleum products and foreign liquor, and accounts for 25-30 percent of total collections under this tax. The rates for commodities in this group are fixed individually. The other group is taxed at three rates: one percent (special rate for gold and jewellery), 4 percent and 12.5 percent. The threshold level of turnover for this tax is Rs. 5 lakh, but there is no threshold level for dealers who only import from outside the state for sale within the state.

the national level discussions between the states and the Central Government have made some aspects clearer, but others are yet to be agreed. The issue of applicable rate(s) seems to have been settled, with three rates to be applied – 6 percent, 8 percent and 12 percent, excluding the special rates. This alone is likely to push the revenues up in Uttarakhand, provided the relevant price elasticities of demand for them are not too high. This is because commodities taxed at 4 percent will become taxable at 6 or 8 percent, while most of the commodities taxed at 12.5 percent at present will be taxable at 12 percent, with a few to be taxed at 8 percent. The 'non-VATable' group is likely to be taxed in the same manner as now, although whether liquor will continue to be taxed under GST or not is uncertain. The exemption list of the state is likely to remain largely the same. In principle, the addition of services to the tax base under GST should also add to the revenues, but collections are unlikely to be large as the services sector in Uttarakhand is small relative to many other states and just services classified as final goods would add to the tax base. On balance, it appears that the state will not lose, and in all probability it will gain revenue from the introduction of GST; the counterpoint is that the general price level in the state could see a rise, affecting households and businesses adversely. Further, good administration of the GST will be key, irrespective of the final organizational structure—adaptation of the existing sales tax machinery under the state's supervision, or part of an autonomous revenue authority that pools together relevant central and state machineries.

State Excise Tax

5.7 The state excise revenue from alcoholic beverages is obtained from two main sources: country spirits, and beer and other "malt" and "foreign" liquor. A little less than a third of the total state excise collections are from country liquor, while a little more than 60 percent of the collections are from beer and other foreign liquor. Since all types of alcohol/spirits are under the control of the state excise department, taxes and various fees are also collected on industrial alcohol and on medicines and cosmetics containing alcohol. These and miscellaneous receipts account for the remainder, about 10 percent of the total collections. In most states of India, state excise collection from liquor has two elements—one representing the license fees collected from the vendors and the other a tax per unit of sale or excise duty proper. The relative contribution of these two elements varies from one state to another; in Uttarakhand, the duty element is larger.

5.8 The supply chain for liquor—production or import, export, wholesale and retail sale—is fully controlled, subject to licensing and payment of specified fees. In particular, licenses for retail sale outlets are usually limited by policy, and there is excess demand driven by assured and substantial profits with little risk. As such, the precise manner of allocating these licenses among prospective vendors—known as "settlement policy"—is often an important determinant of revenue collections from licenses. A revenue maximizing manner of settlement would be through auctioning the licenses, and this is used in some Indian states. But most states find it difficult to keep the auctions fair and prevent cartelization. Uttarakhand uses a lottery system, subject to conditions. Only vendors from within defined coverage areas are allowed to apply. Further, the license fees are based on a minimum guaranteed lifting (MGL) of excisable products specified for each vend, and a per unit fee applied to MGL; if the actual lifting is higher liftings attract higher pro-rated license fees. The excise policy judges demand by the number of applications for each vend, and hikes the unit vend fees according to demand according to a specified schedule in the excise tax policy. In principle, such a system has some elements of arbitrariness and discretion, while failing to garner as much revenue as would be available from a fair auction.

5.9 Table 5.2 shows recent rates. Although excise officials claim the rates are relatively high, in fact only the rates on country spirit are high than in surrounding states. Further, a look at the change in the specific duties on foreign liquor and beer indicate that the implicit *ad valorem* rates have been actually dropping over the years, considering the increase in prices of these products. This system automatically charges lower rates on liquor with lower alcohol content, which is an internationally accepted norm. However, the specific duties rob the tax of built-in elasticity (even buoyancy could be affected adversely,

since discretionary changes in rates are not too frequent), and the single rate on all types of foreign liquor is not based on ability to pay. Under this system, very expensive wines, such as sparkling wine, would be charged a lower rate compared to much cheaper liquor like rum. Inclusion of an *ad valorem* element in the taxation of foreign liquor other than beer may be useful.[60]

Table 5. 2: Rates of Excise Duty (Rs.)

Year	Country Spirit (36% v/v) per bulk litre	Foreign Liquor (42.8% v/v) per LPL	Beer (5% v/v) per bulk litre	Beer (8%v/v) per bulk litre
2005-06	70	55	13	25
2006-07	70	55	13	25
2007-08	75	56	13	25
2008-09	75	56	13	25
2009-10	95	58	15	28
2010-11	105	61	15	30

Source: Government of Uttarakhand.

5.10 Non-military consumption of all types of liquor, foreign liquor and beer in particular, has been growing fast. While country liquor consumption in the state has gone up by about 50 percent between 2005-06 and 2009-10, beer consumption has increased by almost 250 percent (from 4,938 thousand bottles to 13,133 thousand), and foreign liquor consumption has increased from 12,252 thousand bottles to 19,993 thousand, i.e. by more than 50 percent. Thus, if an *ad valorem* element can be introduced on foreign liquor, the market is likely to be able to bear a little additional tax.

Stamp Duty and Registration Fees

5.11 This source of tax revenue consists of several elements such as judicial and non-judicial stamp duties and registration fees on various legal and financial instruments. But the overwhelming bulk of revenue is raised through the stamp duty on conveyances (i.e., temporary/revocable or permanent/irrevocable changes of right of use) of real estate. The rate of stamp duty on conveyances is legally defined as a progressive one based on slabs of the value of transaction, but the categories are such that most transactions are assessed at the highest slab, making the rate effectively proportional. This rate was 8 percent (plus 2 percent of additional stamp duty) from 2000-01 until 2007-08. In 2008-09, the basic rate was reduced to 7 percent, and the additional stamp duty was reduced to one percent in 2009-10. In the current financial year, the basic rate has been brought down to 6 percent and the additional duty has been abolished.[61] However, this is probably not the primary reason for the lack of buoyancy in stamp duty collections in the

Table 5. 3: Documents Registered in Uttarakhand

Year	Number of Documents Submitted	Duty Assessed (Rs. Lakh)
2000-01	81,023	8,938
2001-02	85,431	10,325
2002-03	97,874	12,748
2003-04	95,092	16,893
2004-05	102,970	20,775
2005-06	130,250	33,338
2006-07	167,861	54,624
2007-08	145,320	42,417
2008-09	116,042	35,744
2009-10	139,665	39,875

Source: Government of Uttarakhand

[60] However, it can be said that there is an *ad valorem* tax on liquor at present, since alcoholic beverages excluding country spirit are subject also to sales tax. However, the continuation of the sales tax after the shift to GST is subject to discussion.

[61] The reduction in rates, though recommended some time ago by a Committee of the Finance Ministers of States, is presumed to be prompted in the current instance by conditionality for central assistance under the JNNURM scheme, which requires stamp duty rates on conveyances to be reduced to 5 percent. As such, a further reduction of one percent in the tax rate seems imminent.

recent years. The growth in stamp duty was arrested in 2007-08, a year before the rate reduction program started. The stagnancy in collections had more to do with loss of tax base. This becomes clear from the data reported in Table 5.3.

5.12 As the numbers show, the number of documents submitted for registration grew steadily from the year Uttarakhand became a state until 2006-07. In fact, 2005-06 and 2006-07 saw a big jump in the numbers. This followed from the expansion of the major urban centers of the state after attaining statehood, large-scale migration into those urban areas and consequent heightened activity in the real estate sector. The rapid expansion of the Indian and Uttarakhand economies also contributed to the growth of the real estate sector. The slowdown of the economy and lower expectations reversed the trends in 2007-08, which was reflected correspondingly in revenue collections. Growth in real estate activities has resumed since 2009-10, and revenue collections have responded, despite a reduction of two percentage points in the tax rate. Clearly, the dominant determinant of revenue collections is the growth in real estate activities. It is unlikely, therefore, that the reduction in the tax rate will have a negative impact on revenue collections in the short term.

5.13 Even so, an important factor in stamp duty administration and collection is likely to assume greater significance when the current real estate boom moderates. This is the issue of valuation of property, which has been a major issue in many other states in India. To be sure, the halving of the tax rate from 10 to 5 percent ought to reduce the tendency towards undervaluation of properties, as the premium on evasion becomes smaller with a reduction in the tax rate. Still, the correct valuation of properties is important, along with the de-linking of stamp duty assessment from reported values and linking it to market or assessed values instead. In fact, a substantive revision of the basic Central Act governing registration of instruments and levy of stamp duty is on the cards; this is likely to remove several legal lacunae in the system. But valuation is a matter of state level administration which has to be tackled at the state level. A good example in this respect is the Valuation Board set up in West Bengal at the state level. This system avoids local level collusion, uses technically qualified personnel to adopt sound methods of valuation, and is relatively free from political interference. An additional advantage of improving the valuation system would be the positive externalities for property tax administration.

Motor Vehicle Taxation

5.14 Motor vehicle taxes consist of a basic rate specified for different types of motor vehicles and an additional tax on goods vehicles and stage carriages (passenger buses running on specified routes) registered in the State. For tax purposes, motor vehicles can be classified into three broad categories: (a) private vehicles including two-wheelers, private automobiles, and trailers attached to private automobiles, (b) commercial vehicles including 3-wheeler goods vehicles, other goods vehicles, tankers, multi-axle vehicles, 3-wheeler auto-rickshaws, and stage carriages of all sizes, and (c) contract carriages of all types.[62]

[62] Vehicles in category (a) are charged a one-time tax, and bear a relatively light tax burden, with automobiles bearing the only *ad valorem* rates in the entire motor vehicle tax system. In category (b), passenger vehicles are taxed on the basis of seating capacity and the class of route the vehicles take, while goods vehicles are broadly taxed on the basis of gross weight. Contract carriages bear a specific rate based on the type of vehicle. An additional tax is levied on goods vehicles based on gross weight, with substantially different rates prescribed for hill routes and plains routes. Also vehicles exclusively carrying agricultural produce, minerals and petroleum goods are taxed at half the applicable rate. Finally, an additional tax on stage carriages is reckoned per seat and differentiated by type of route—plains or hills. With respect to the additional tax, out-of-state passenger vehicles can choose between quarterly or temporary (per day) rates of tax, which differ according to the type of vehicle. Goods vehicles registered outside the state can obtain a national permit honored in the state if an annual rate for the state has been paid. Otherwise, they are required to obtain temporary permits paying a daily rate that is differentiated on the basis of the size category of the vehicle.

5.15 A large part of the revenue under this head is raised from commercial vehicles. The relative tax rates on different types of vehicles are roughly aligned with expected road damage caused by different types of vehicles. The same type of consideration could justify differential rates for roads in the hills and plains. However, the taxation of goods vehicles and contract carriages could benefit from rationalization. The differential taxation of goods vehicles on the basis of use or route presupposes that each vehicle has a fixed area of operation or use. This is contrary to normal practice, except in the case of special purpose vehicles such as petrol/diesel tankers or refrigerated milk tankers. Efficient use of a vehicle fleet also requires the owner to allocate vehicles according to demand, and not fix uses or routes *a priori*. Moreover, such a system is costly to enforce.

5.16 For commercial passenger vehicles, the same type of consideration applies to contract carriages, although the rates (correctly) do not differentiate by type of route. However, in the case of stage carriages, the routes are indeed fixed and known, hence tax rate differentiation is practical. It would thus seem that rationalization would require the abolition of rate differentiation on the basis of route or use for goods vehicles. If the government decides to charge more for the use of hill roads, it may consider a transferable hill road permit system for goods vehicles. While this will not make enforcement any easier, it would at least allow transport operators to legally de-couple vehicles from routes.

5.17 Another area for possible rationalization is the light taxation of contract carriages relative to stage carriages. There is no clear reason for treating the same type of vehicle (buses) differently on the basis of how they are used. Further, stage carriages in any case pay more to the government through payments for route permits. Contract carriages can actually pay taxes slightly higher than stage carriages, and a transferable hill road permit could be introduced for them too, to align with the higher tax paid by stage carriages that ply hill routes.

Other State Taxes

5.18 Apart from the four major taxes, the own tax revenue of Uttarakhand also includes land revenue, the hotel receipts tax, entertainment tax and electricity duty. Of these, the first three land account for only small amounts (less than Rs. 10 crore). The collection of land revenues has dwindled for political reasons in most of the states in India. The hotel receipts tax and entertainment tax have small bases, for the former the result mainly of a policy decision (high level of tax base threshold) while the small base of the entertainment tax is outside the control of the state government. For its part, the Government has tried to widen the base as much as possible (from cinema theatres to cable TV, DTH TV services and even ropeways). The revenue from the electricity duty is more substantial, at around Rs. 70 crore in 2008-09. The receipts fluctuate somewhat, mainly because of irregular manner remittances to the government accounts by the collection agency (UPCL, a public sector entity owned by the state government). This tax is a unit rate on electricity consumption, and in that sense a simple addition to the price of electricity. Thus, the collection from this tax depends entirely on the use of power and success in collecting the dues against the electricity supplied.

Property Taxation

5.19 The property tax is the dominant own revenue source for urban local bodies (ULB) in the state. Improvements in property tax collection would benefit the ULB directly. However, it should also help the state government indirectly by reducing the need for the transfers on which the ULB are presently heavily dependent. Unfortunately, actual collections are below potential by substantial amounts, due to several shortcomings in the structure and administration of the tax. The system of taxation is based on an

annual rental value method. In combination with the capital cost based estimation procedures and constrained by the operation of the Rent Control Act, the estimated property tax bases bear no resemblance to market rents. Box 5.1 presents a summary of possible reforms to strengthen this important tax base, some of which have been suggested by the 13th Finance Commission and other bodies.

Box 5. 1 Directions for Reform in the Property Tax

- Given the difficulties in assessing market values, a system with a nominal base rate per unit of built-up area, and proportional additions to the base rate determined by several objective criteria that determine market value (such as location, use, and type of construction) is a preferred option. However, actual rents should also be part of the assessment, with the property owner paying the higher of the tax that is computed by the two methods. A similar (but different) rate should be prescribed for vacant land; other taxes on vacant land could be merged with property taxation.

- At least two preconditions need to be addressed because property values rise through general inflation as well as property-specific factors (for example, new communications and transport connectivity: (a) the need for frequent revision of rates is eliminated by an indexation mechanism, and (b) the quality of information on properties is good and regularly updated. The latter would require a specialized agency with no local biases—a state level valuation board could serve this purpose. The same agency can also lend its services for the administration of stamp duty, where valuation is a key consideration. It is particularly important to note that maintaining the information would not be a one-shot process, but requires a steady flow of relevant information. This would, in turn, require the state government to ensure that other agencies dealing with matters that have a bearing on property taxation (e.g. those approving building plans, or providing power/water and permits) channel the relevant information to the valuation agency on a regular basis.

- Geographical Information Systems (GIS) could facilitate the process, but the ULB also need to conduct regular surveys of properties to update the GIS and feed information to the specialized valuation agency. This is likely to involve substantial one-time costs and, subsequently, smaller but not insignificant costs. Given their financial condition, the ULB are unlikely to be able to afford the costs (JNNURM funds may be available for a limited number of ULB). A grants-based time bound program based on cost sharing with the Central Government is required. The 13th Finance Commission has included the setting up of a state level Property Tax Board in its report, but the nature of this agency is seen there as advisory and for monitoring rather than actually task-oriented.

- Current property registers contain omissions both within and outside the municipal limits. While a GIS backed up by surveys should be able to cater to the first type of omission, the second requires state level action on expanding the jurisdiction of the municipalities. Given the current advantages of remaining rural, most effectively urban areas outside municipal jurisdictions would resist inclusion, and such attempts are likely to cause socially unproductive political maneuvering. It is therefore advisable to establish statutory objective criteria in the relevant laws to introduce a semi-automatic process for expanding municipal jurisdictions to respond to urban growth. This will also address the second type of omission.

- As with most modern taxes, self-assessment, backed by sufficient information to undertake sample audits, could be introduced. The state governments should fix the floor rates and not bands for the property tax. The relevant state legislation could provide stringent penalties for ULB that do not comply (for example, being excluded from the State Finance Commission's transfers). Also, the state must limit the applicability of the Rent Control Act to a strictly limited category of cases. To the extent feasible, the legislation governing property taxation may also make it independent of the Rent Control Act.

- The property tax system should provide adequate incentives, such as rebates, for the timely payment of tax; it should also make it as easy as possible to pay the tax, using ICT as much as possible. A failure to pay taxes needs to draw effective penalties. In this context, the possibility of contracting out the job of tax collection may be considered. The relevant law will also need to provide a procedure for the recovery of taxes from delinquent taxpayers, if such provisions do not exist.

Non-tax Revenues

5.20 The major sources of non-tax revenues in Uttarakhand are forestry, power and royalties from (minor) minerals. Table 5.4 provides data on total and major non-tax revenues in Uttarakhand.

Table 5. 4: Finance Commission Transfers to Uttarakhand

Type of Transfer	12th Finance Commission	13th Finance Commission
Shares in Tax Devolution (%)		
Service tax	0.952	1.138
Other taxes	0.939	1.120
Grants to Local Bodies (%)		
Share in total PRI grants	0.81	0.94
Share in total ULB grants	0.68	0.82
State-Specific Grants (% share in total)	3.38	2.50
Total Grants (% share in total)	1.61	1.57

Source: Reports of the 12th and 13th Finance Commissions

5.21 Revenues from forestry are large, but expenditures are larger. Since much of the state is under forest cover, finding ways of increasing forest revenues could help in maintaining financial balance. The large revenues indicate that despite several constraints on exploiting forest resources like timber, the Government tries to raise as much revenue as it can from this sector.[63]

5.22 However, there are problems in implementation, as the concerned department generally does not consider itself to be a revenue-raising body. Rather, it views its main mission as maintaining the health of the forests and wildlife. An administrative rearrangement that separates the revenue-earning function from forestry maintenance, with clearly demarcated responsibilities for each unit, could assist the budget position.[64] Even so, to raise a substantial amount of resources, it is necessary, first, to identify and systematically promote one or a few major exploitable forest resources. Some states have obvious choices, such as *tendu* leaves in Chhattisgarh and Orissa. The choices are not obvious in Uttarakhand, so a systematic identification exercise is needed for forestry resources that can be promoted and exploited without negatively affecting the ecology.

5.23 In the case of revenues from hydro-electricity generation, the revenue source is the 12 percent "free power" premium received by the Government on the production of electricity. However, in practice, the premium is not paid directly to the Government but is adjusted against power purchases by the Uttarakhand Power Corporation Limited (UPCL), the public sector entity state power utility. Under the guidelines, UPCL should then remit these amounts in full to the government, but this does not always happen because the large losses of UPCL sometimes causes appropriation of these premiums partly or fully by this agency itself. This explains the volatility in revenue collections from the hydel generation of power. Clearly, unless the financial health of UPCL is improved or an alternative structure is established, it will be difficult to ensure the full flow of revenues to the Government. Apart from this, the receipts from the power sector have been negatively affected by the shortfall in planned/expected growth in hydro-electricity generation because of environmental/ecological concerns. This conflict is likely to persist, so the State will likely need to be conservative in projecting revenue from this sector for future

[63] The Government has also tried several new ways to raise revenues, but not always successfully. For example, an attempt to develop bamboo plantations on forest land through a PPP mode did not meet with much success. The concerned department has also taken steps such as renovating numerous forest rest houses, accompanied by a hike in the tariffs. However, this scheme failed to raise much revenue because there were few paying visitors.

[64] It is believed that the bamboo plantation scheme failed because a lack of clear criteria and accountability for success. Similarly, the forest rest houses scheme was unable to earn profits because it was not marketed effectively to the right target groups through association with tourism agencies and complementary tourism initiatives.

years. As a large number of generation projects come up and the State becomes a surplus producer, this arrangement will need to be adjusted to allow the "free power" revenue to flow directly to the State.

5.24 Income from royalties is primarily from minor minerals, as the state is not a large producer of major minerals such as coal, iron ore and manganese. The minerals exploited consist mainly of various types of stones and sand. The rates of royalty on these are determined at the state level (unlike those on major minerals, which are determined centrally), but enforcement is a major problem. By its very nature, the exploitation of minor minerals is more or less a scale-independent operation, nor are the deposits confined to specific areas. In Uttarakhand, some state-owned enterprises such as Kumaon Mandal Vikas Nigam (KMVN) and Garhwal Mandal Vikas Nigam (GMVN) engage in the extraction and sale of minor minerals; enforcement is not an issue with these operations. But in many other cases, minor minerals are sometimes clandestinely extracted and sold in the market without the payment of royalty. Mounting a full-fledged enforcement system may not be cost-efficient, but some amount of enforcement is necessary to make the payment of royalties more than a voluntary contribution. This can perhaps be achieved by alerting the departments that do carry out enforcement activities (such as the motor vehicles department, sales tax department, forest department and police) to look out for illegal mining or transportation of minor minerals and inform the concerned officials of suspicious cases. Even a few prosecutions can have a salutary impact on compliance.

5.25 Apart from these sources of non-tax revenue, there are usually some areas where, in the interest of greater efficiency in the use of a limited resource, high levels of subsidy may need to be reduced through higher user charges. Foremost among such resources is water. There are three main types of use of water: domestic, industrial and for irrigation. While water supply (particularly distribution) is a function delegated to local bodies in many states, in Uttarakhand it is the responsibility of state government agencies. The responsibilities have been split between two parastatals. One, the Uttaranchal Peyaj Jal Sansadhan Vikas Evam Nirman Nigam (or the Corporation) carries out the initial capital works, and the other the Uttarakhand Jal Sansthan (or the Board) then takes over with distribution and maintenance. Since the Corporation does not deal with consumers, the issue of user charges relates to the Board only.

5.26 Residential water supply is largely unmetered. Therefore, pricing water according to consumption is not an immediate option, although it is needed to introduce efficiency in water use. The water tariff is a fixed charge, rising with higher slabs of annual rental value (ARV), determined by the concerned local body. If the local body does not determine the ARV, or the consumer is outside the jurisdiction of a local body, the Board assesses the ARV. This is clearly an unsatisfactory system: the ARV computations are known to be gross underestimations (see discussion above under property taxation), therefore provide no incentives for water use efficiency. In rural areas and for households with no ARV assessment, water charges are fixed in four slabs, based on the number of taps. Non-residential connections that have meters installed are charged per kilolitre. However, there are many unmetered connections in the non-residential groups as well; these are charged a fixed sum per month (varying from Rs. 143 to Rs. 575) based simply on the type of beneficiary (for example, government, semi-government, municipal, industrial, other commercial).

5.27 One common feature of the tariff structure across all categories is the rate differentiation on the basis of whether the supply is based on gravity, minor pumping, or high-pressure pumping. This approach attempts to link user charges to the cost of supply and, in this respect, it is appropriate. It is difficult to comment on the suitability or otherwise of the specific rates fixed, but an indicator of their inadequacy is the fact that, according to the accounts of the Board for 2008-09, total income including interest was Rs. 82 crore, while operating expenditure was Rs. 138 crore. The deficit was made up with grants. The detailed budget of the water supply and sewerage department also shows substantial transfers for the purpose of rural and urban water supply; clearly, these are in the nature of a subsidy. It thus

appears that there is scope for further increasing the rates. However, a more important task is to introduce greater efficiency in water use, and this cannot be done without metering water consumption. This is something that must be accomplished despite high initial costs (perhaps over a period of time in phases). The other issue relates to the use of groundwater through pumps. A price has to be put on depleting sub-soil water resources, even if it may be administratively difficult to monitor actual water consumption. Many jurisdictions in India and abroad use a presumptive charge based on the capacity of the motor used for pumping.

5.28 Tourism is a sector that the state has identified as a driver of growth. The development of tourism affects various facets of the state economy (such as employment, income generation, and area development), and need not necessarily show up in the incomes of the Government. However, when the Government is directly involved in tourism, it is normal to expect some direct benefits to its coffers. It is, therefore, a pertinent question whether government commercial interventions in this area are geared to benefit from the targeted growth of tourism. Initial indicators suggest that this is unlikely.

5.29 The two public agencies involved in this sector are the GMVN and KMVN mentioned above. Both have other activities apart from tourism, for example, they sell liquor and retail petroleum products. Their operations take two main forms: package tours, including special tours of religious significance, and running tourist rest houses (TRH) spread across the state. Table 5.5 provides some information on the profitability of the TRH run by the two agencies.

Table 5. 5: Profit/Loss from Operating TRH (Rs. Crore)

	2002-03	2003-04	2004-05	2005-06	2006-07
KMVN	0.35	-0.29	-0.14	0.28	1.17
GMVN	-1.37	-1.05	-0.05	-0.58	N.A.

Source: Audit Reports (Civil) of Uttarakhand, 2005-06 and 2006-07

5.30 The figures reported above tell their own story. Despite owning valuable assets such as the TRH handed over to them by the government, these agencies have failed to attract tourists and make proper use of the assets. They have been able to tap only 7-9 percent of the tourist inflow (KMVN), and their average occupancy ratio during the year does not cross 25 percent (GMVN). There may be structural and other reasons behind this performance, but unless the performance of these two agencies improves greatly, the Government is unlikely to benefit directly from the targeted development of tourism, despite investing substantially in the sector. Government policy also needs better co-ordination. The government has set up an apex level body to formulate tourism policy affecting ground level operations, but it has no representation for the two agencies (GMVN and KMVN) that constitute the government's face for Uttarakhand tourism. Such anomalies clearly create additional inefficiencies. As it stands, it appears that private franchisees do a better job with respect to the TRH type facilities as compared to KMVN and GMVN, and such a move could bring in higher revenues as well. There is a possibility that private franchisees may not be forthcoming for all existing TRH, but a pilot project may help determine future directions.

Central Transfers

5.31 Uttarakhand depends heavily on Central transfers. Tax devolutions (the state's share of central taxes) and grants together have ranged between 51 and 58 percent of the state's revenue receipts. While devolutions have been above the state's non-tax revenues, they have been below own-tax revenues. However, Central grants remain above all components of total revenue receipts. This is not unusual for

Special Category states, which receive preferential treatment from both the Finance Commissions and the Planning Commission because of substantially higher per unit costs in the supply of public services.[65]

5.32 Tax devolutions to Uttarakhand from the 13th Finance Commission (13th FC) were more favorable than under the 12th Finance Commission (12th FC), but the reverse is true of grants (Table 5.6). However, in aggregate the 13th FC transfers are larger than those received under the 12th FC, although at current rates of inflation it is not clear if this holds true in real terms. The bulk of the Finance Commission awards have been unconditional transfers. However, the 13th Finance Commission has increased the conditionality associated with transfers, which could create some difficulties. For example, transfers to local bodies are conditional upon several policy initiatives and achievements, which may not be easy to implement on the tight frame of the awards; to a smaller extent this applies to several state-specific transfers too. The fiscal reform path charted by the 13th FC for Uttarakhand, particularly for the early years, is likely to be problematic in view of the payments to be made to liquidate arrears on salary increases. The substantive squeeze on expenditures for the current financial year could be influenced by the fiscal reform requirements of the Commission.

Table 5. 6: Use of Resources under Centrally Sponsored Schemes (Rs. Crore)

	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Sanctioned Outlay	771.7	725.7	697.6	704.8	1048.6	1285.8	1373.2
Spending	669.2	522.3	564.4	597.7	815.2	892.6	939.3
Use (%)	**86.7**	**72.0**	**80.9**	**84.8**	**77.7**	**69.4**	**68.4**

Source: Planning Department, GoU.

Note: The above correspond to most of the CSS, but may not cover all of the schemes (particularly those that are outside the state budget).

5.33 A substantial part of the central transfers consist of those under centrally sponsored schemes (CSS). These are conditional transfers, and under-utilization implies missing out on available resources. Table 5.7 provides some data on the use of transfers under CSS.

Table 5. 7: Utilization of Funds under NRHM (Rs. Lakh)

	2008-09	2009-10
Allocation	8,818.9	11,720.0
Budget Received (Including Opening Balance)	14,208.3	16,219.0
Spending	8,311.0	9,917.0
Spending/Allocation (%)	94.2	84.6
Spending/Budget Received (%)	58.5	61.1

Source: NRHM Directorate, GoU.

5.34 Clearly, utilization has suffered somewhat in the years after 2006-07, although in absolute terms expenditure has been rising. This has resulted from a visible scaling up of the CSS after 2006-07, to which the state is yet to adjust. Some of the scaling up was in response to the global recession,

[65] The Planning Commission earmarks 30 percent of total Central assistance for Special Category states, although their total population is less than 10 percent of the total for India. Moreover, such states receive the assistance as a combination of grants (90 percent) and loans, while the assistance received by other states has a smaller grant share (30 percent), and the loan share is generally raised from the financial markets by the states themselves. It is important to note, however, that state level budgetary data do not fully reflect the level of Central transfers, since several such transfers under the category of centrally sponsored schemes bypass the state budget and are given directly to parastatals or local bodies.

necessitating urgent expansion of activities at the state level. The necessary lead times to achieve this expansion, particularly when there are latent absorption capacity constraints, may explain the recent underuse of sanctioned outlays.

5.35 A related issue is the utilization and impact of CSS in key areas such as health and education, key components of achieving the objectives for inclusive growth identified in Chapters 2 and 3. To examine this, we consider information on two major schemes in these areas: National Rural Health Mission (NRHM) and the Sarva Shiksha Abhiyan (SSA).

5.36 It can be seen from the two years' data provided in Table 5.7 that the problems regarding utilization of funds are noticeable here too. The use of resources during 2008-09 was high, at least in terms of the approved allocation but, as soon as the allocation was raised substantially in 2009-10, the utilization rate dropped sharply. Discussions with concerned officials also confirmed that much greater flexibility is required to scale up spending.

5.37 Figures on the education front for the SSA program are shown in Table 5.8. In this case, the utilization of funds improved in last two years compared to the prior two years. A possible reason could be that this program has been in operation since 2001-02, and institutional and implementation adjustments are more easily made. This is not the case with NRHM, which started more recently. Although, the better spending ratio for SSA in 2008-09 could have resulted from the drop in available funds, the performance in 2009-10 is clearly better without qualification.

Table 5. 8: Financial Performance under SSA* (Rs. Crore)

	2005-06	2006-07	2007-08	2008-09	2009-10
Approved plan & budget	168.5	248.2	252.8	273.0	330.6
Balance of previous year	38.0	26.2	80.8	99.7	45.2
Released amounts					
Center	100.0	171.1	131.6	114.4	160.1
State	33.3	54.6	71.5	50.8	98.7
Total	133.4	225.7	203.1	165.2	258.7
Other receipts (interest)	1.4	19.2	1.9	1.9	1.6
Total available funds	172.8	271.1	285.8	266.9	305.5
Spending	146.7	190.3	186.1	221.7	271.9
Spending/Total available funds (%)	84.9	70.2	65.1	83.1	89.0
Spending/Approved plan & budget (%)	87.0	76.7	73.6	81.2	82.2

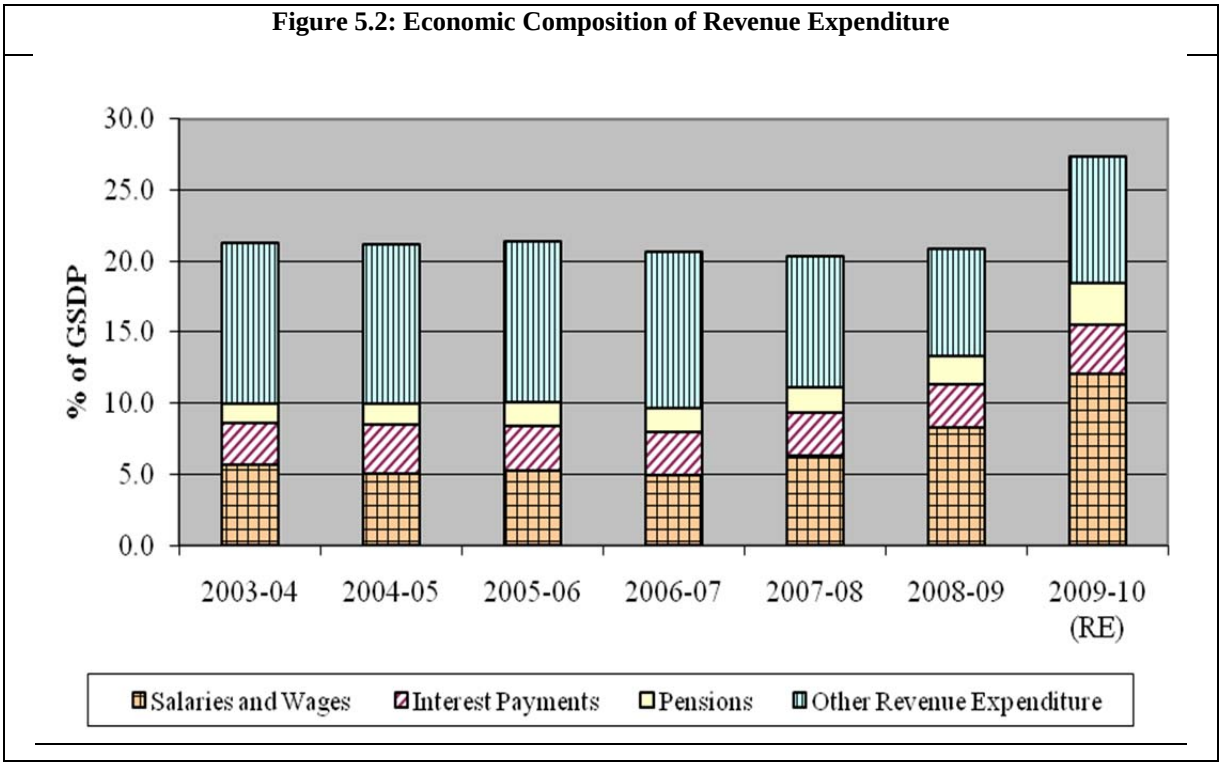
**Includes the allied programs of NPEGL and KGBV*
Source: SSA Directorate, Uttarakhand

Table 5. 9: Expenditure by Major Functional Categories (Revenue + Capital, Rs. crore)				
	2005-06	**2006-07**	**2007-08**	**2008-09**
General Education	1,231	1,432	1,603	1,826
Elementary Education	579	630	717	789
Medical and Public Health	329	387	435	448
Social Security and Welfare	124	193	243	256
Agriculture & Allied	585	649	723	836
Forestry and Wildlife	315	273	259	316
Rural Development	264	285	314	348
Irrigation and Flood Control	393	466	544	713
Roads and Bridges	533	687	914	897
Power	290	187	264	181

Public Spending: Major Components

5.38 Figure 5.2 shows the main public spending categories. The increase in wages, salaries and pensions in 2008-09, compared to 2007-08, was almost completely offset by compensatory reductions in other spending, which helped maintain total revenue expenditures almost at the same level as in 2007-08 (20.9 percent of GSDP as against 20.4).[66] However, there was a spurt in revenue expenditures in 2009-10, with all four major components registering significant increases, although the increase in salaries and wages (8.3 percent of GSDP to 12 percent) was the highest.

Figure 5.2: Economic Composition of Revenue Expenditure



[66] "Revenue expenditures" correspond closely to "current spending" in the international classification of budget categories).

5.39 A disaggregation by functional spending categories is provided in Table 5.10, lumping together revenue and capital spending. General education is the largest expenditure head, followed by roads and bridges and agriculture. Among the listed functional categories, the smallest expenditures are on power. In terms of revenue expenditures, as elsewhere among Indian states, the largest category is education, with revenue expenditures on the elementary education sub-component greater than that for any of the other functional categories. However, as expected, roads and bridges account for much higher capital spending than any other function, followed by irrigation and power. Compared to these three functional categories, capital expenditures are much smaller for all the other components of spending, with elementary education, social security and welfare, and rural development spending practically being miniscule on the capital account. It is surprising that the considerable improvement in fiscal balances from 2005-06 to 2006-07 and the deterioration thereafter are not reflected in the expenditures shown in the table. Clearly, the big-ticket expenditure items do not adjust to the overall fiscal position; rather, such adjustment is left to other spending.

5.40 As mentioned earlier, expenditures through the state budget may not provide a complete picture of true levels of public spending in Indian states. This is because some central transfers are received and accounted for in the budget and spent through budgetary allocations, while others (mainly relating to a few centrally sponsored schemes) bypass the state budget and are directly received by specialized state level parastatals or by local bodies. For example, most of the major rural development programs, such as NREGA are implemented by the Panchayati Raj institutions (PRI), with central funds bypassing the state budget. Such programs exist in other sectors, such as education and health too. As an illustration, the total expenditure on elementary education was Rs. 789 crore in 2008-09. Spending under the SSA and allied schemes was Rs. 222 crore. Of this amount, the state allocation included in the budget accounts was Rs. 51 crore. Thus, the total expenditure on elementary education after adjusted for double-counting works out to Rs. 960 crore (789 + 222 – 51), almost 22 percent higher than the budgetary figure. This is an important consideration when assessing the adequacy and sustainability of development financing by the public sector.

Public Enterprises[67]

5.41 Given the large amount of off-budget spending that may be occurring in the state, there is an evident need to assess the nature and impact on the fiscal position of the budgetary operations of specialized public enterprises and local bodies. However, such a study is beyond the scope of this report. In this section, we briefly examine the financial status of two major public enterprises: Uttarakhand Power Corporation (UPCL), mentioned earlier, and Uttarakhand Transport Corporation (UTC), the passenger transport undertaking.

5.42 Essentially, these key public enterprises have been making losses for a long time, and the accumulated losses have wiped out their asset values completely. For example, UTC's cumulative losses in 2007-08 were Rs. 230 crore, while its net fixed assets were valued at Rs. 53 crore, with current assets of another Rs. 68 crore. On average, it has been incurring a loss of around Rs. 10 crore every year since 2004-05. UPCL's losses for the years 2005-06 to 2008-09 amounted to Rs. 144 crore, Rs. 302 crore, Rs. 487 crore and Rs. 451 crore respectively. In both cases, there are inherent problems that do not admit of simple solutions, such as scale economies, and management. In the case of UPCL, the cost of purchasing power is greater than revenue from the sale of power. In the case of UTC, too, operating costs are higher than operating income. Clearly, the problems of these public enterprises need to be tackled urgently, or they will continue to bleed the finances of the state. Raising applicable tariffs could reduce their losses, but neither enterprise will find it easy to implement increases. UPCL is a price taker, with the Regulatory

[67] The figures in this section are unaudited and provisional.

Commission determining tariffs, while the applicable fares of UTC are a matter of great political sensitivity. Moreover, UTC has to compete with private operators in terms of quality of service and fares. Thus, in the short run at least, attempts to reduce losses will need to concentrate on the cost side

5.43 Other state owned public enterprises do not fare much better, although the scale of losses may not be as large. While it is not possible to suggest measures for improvement here, the need for an early resolution of this issue, with a serious examination of the appropriate course of action (closure, privatization or reform) for each of the public enterprises, is evident.

Fiscal Prospects

5.44 By using momentum indicators and informed guesses and discussion with the budget authorities about likely developments over the short term, it is possible to obtain a broad projection of key fiscal variables for the period to 2013-14. A more formal approach to assessing fiscal prospects is presented in Annex 5.1, which covers a longer time span. The key assumptions for the analysis of this section are:

5.45 Revenues: Sales taxes are assumed to grow at 20 percent during the entire period except 2011-12, when it is assumed to grow by 30 percent due to the switch to GST. The state excise tax is assumed to grow at 15 percent and motor vehicle tax by a lower at 10 percent in view of the relatively slow growth in commercial vehicles. Stamp duties are expected to grow at 15 percent in 2010-11 and then at 20 percent for the rest of the projection period. This is because (a) the normal rate of growth of stamp duty reflects booming real estate activities in the urban areas, and (b) growth could be slightly lower in 2010-11 because of the reduction in the rate from 6 percent to 5 percent. Non-tax revenues, tax devolution and grants are assumed to grow at uniform rates of 10 percent (relatively less buoyant), 15 percent and 15 percent respectively.

5.46 Revenue Expenditures: Salaries and wages are assumed to grow 10 percent every year, but the figures are modified by the addition of about 40 percent of the total salary arrears to be paid out for the year 2008-09. A similar procedure is adopted for projecting pensions. Interest payments are taken to be 9.5 percent of fiscal liabilities at the end of the previous year, relying on a base year approximation. Residual revenue expenditures are assumed to grow at 12 percent every year.

5.47 Capital Expenditure: This spending category is assumed to grow faster (15 percent) than revenue expenditures, mainly because of larger capital costs caused by hilly terrain combined with strong demand for capital projects. Finally, fiscal liabilities are taken to be the previous year's figure to which 90 percent of the fiscal deficit is added. The rationale for this assumption is that states can only finance fiscal deficits through additional liabilities, while the 90 percent rule-of-thumb assumes that a small part of the liquidation of liabilities is through means other than normal repayment (for example, by writing-off loans).

5.48 These assumptions are used to derive revenue, fiscal and primary deficits, and normalized by GSDP projections provided in the medium term fiscal plan of the state. Table 5.10 provides the outcome of this simple short term projection exercise.

Table 5. 10: Baseline Projections (Rs. Crore)					
	2009-10 (RE)	**2010-11**	**2011-12**	**2012-13**	**2013-14**
Revenue Receipts	**10,952**	**12,621**	**14,844**	**17,169**	**19,873**
Own Tax Revenue	3529	4155	5187	6150	7296
Sales Tax/VAT	*2221*	*2665*	*3465*	*4158*	*4989*
State Excise	*598*	*688*	*791*	*909*	*1046*
Stamp Duty, etc.	*423*	*486*	*584*	*700*	*841*
Motor Vehicle Tax	*193*	*212*	*234*	*257*	*283*
Other Taxes	*94*	*103*	*114*	*125*	*138*
Own Non-tax Revenue	1429	1572	1729	1902	2092
Tax Devolution	1546	1778	2045	2351	2704
Central Grants	4449	5116	5884	6766	7781
Revenue Expenditure	**12,066**	**13,116**	**12,896**	**14,262**	**15,727**
of which:					
Salaries and Wages	*5233*	*5634*	*4856*	*5341*	*5875*
Interest Payments	*1511*	*1580*	*1820*	*1977*	*2102*
Pensions	*1305*	*1403*	*1181*	*1299*	*1429*
Other	*4017*	*4499*	*5039*	*5644*	*6321*
Capital Expenditure	**2867**	**3297**	**3792**	**4360**	**5014**
Revenue Balance	**-1114**	**-495**	**1948**	**2908**	**4146**
% of GSDP	*-2.5*	*-1.0*	*3.4*	*4.4*	*5.6*
Fiscal Balance	**-3882**	**-2802**	**-1843**	**-1453**	**-868**
% of GSDP	*-8.6*	*-5.5*	*-3.2*	*-2.2*	*-1.2*
Primary Balance	**-2371**	**-1222**	**-23**	**525**	**1234**
% of GSDP	*-5.2*	*-2.4*	*0*	*0.1*	*1.7*
Fiscal Liabilities	16,635	19,157	20,816	22,123	22,905
GSDP	45,380	51,279	57,946	65,479	73,991

5.49 The 13th FC prescribed a fiscal deficit to GSDP ratio starting with 3.5 percent in 2011-12, dropping to 3 percent in 2013-14 and remaining at that level. The projections above conform to these requirements without the need for major reforms. This chapter does not propose any major fiscal reforms either, although the administrative reforms that have been suggested should have far-reaching fiscal consequences. Broad estimates of their revenue implications are:

a) An ad valorem tax on foreign liquor should be able to increase excise collections by at least 10 percent.
b) Higher motor vehicle tax rates on contract carriages, together with the introduction of a hill road permit system for them should raise revenue from the concerned tax head by about 5 percent.
c) The reforms in property taxation that have been suggested should raise property tax revenue by at least 50 percent.

Annex 5.1, which uses conservative assumptions covering the period to 2019-20, reinforces the overall message of this assessment, but also attempts to simulate the effects of risks to the baseline scenario.

Annex 5.1: Debt Sustainability Analysis

Introduction

Debt sustainability analysis (DSA) explores the government's capacity to meet its future financial obligations given the current macro-fiscal framework in terms of revenues and expenditures and the main sources of financing. Because there is no threshold defined for sub-national government, this DSA defines an unsustainable fiscal policy and borrowing strategy as one that leads to an explosive accumulation of debt. A government facing a large or rapidly increasing debt would likely need to change its policies in the future in order to remain solvent and to maintain normal and expected expenditures.

This Annex presents a DSA for Uttarakhand under different scenarios. It shows that, under steady state conditions the baseline estimates suggest that the projected debt trajectory is sustainable. The baseline scenario is derived from the fiscal targets for the state as recommended by the 13th Finance Commission and the medium term fiscal framework prepared by the Government of Uttarakhand. The Annex also explores potential vulnerabilities to economic and fiscal shocks. Potential vulnerabilities include: (a) lower GDP growth (local and national); (b) interest rate increases; and (c) increases in capital expenditures (without correspondent sources of budget financing). The simulated time paths should be taken as indicative, rather than definite, and changes in the initial conditions, revisions and updates of the underlying data will change the final results. However, it is unlikely that they will deviate greatly from the general direction of the outcomes projected here.

Baseline Scenario and Macroeconomic and Fiscal Assumptions

The macro-framework draws on historical data since 2001-02, with initial conditions from 2009-10 and projection period of 2010-11 to 2019-20. As reported by the authorities, the initial debt stock as of 2009-10 is Rs 167.67 billion, around 37 percent of GSDP. The baseline scenario is derived from the Government's projections—the medium term fiscal framework of the state, the macroeconomic projections of the TFC covering 2010-11 to 2014-15, and the recent state budget for 2010-11. Annex 5.1 Table 1 reports the data underlying the baseline scenario.

Annex 5.1 Table 1: Macroeconomic Baseline 2009/10-2019/20
(in billion of Rupees unless otherwise indicated)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Nominal national GDP	5850.00	6581.25	7436.81	8440.78	9580.29	10873.63	12178.46	13639.88	15276.66	17109.86	19163.05
Nominal GSDP	453.80	512.79	579.46	654.79	739.91	836.10	944.79	1067.61	1206.40	1363.23	1540.45
Own tax revenue	35.591	40.396	45.445	51.126	57.517	64.994	73.443	82.991	93.780	105.971	119.748
Own non-tax revenue	6.319	6.824	7.370	7.960	8.596	9.284	10.027	10.829	11.695	12.631	13.641
Share of central tax	15.500	23.250	26.273	29.820	33.845	38.414	43.024	48.187	53.970	60.446	67.699
Grants from the center	37.452	41.946	45.512	49.380	53.578	58.132	63.073	68.434	74.251	80.563	87.410
Revenue	94.862	112.417	124.600	138.286	153.536	170.825	189.567	210.441	233.696	259.611	288.499
Non-plan primary revenue exp. (net of interest)	69.607	72.739	80.013	88.014	96.815	108.433	121.445	136.019	152.341	170.622	191.096
Plan revenue expenditure	23.589	25.476	28.023	30.825	33.908	37.299	41.029	45.132	49.645	54.609	60.070
Net capital expenditure	16.120	18.538	20.762	23.254	25.579	28.137	30.951	34.046	37.451	41.196	45.315
Primary expenditure	109.315	116.752	128.798	142.093	156.303	173.869	193.425	215.196	239.436	266.427	296.482
Interest expenditure	13.380	14.252	15.591	17.278	19.006	21.333	23.458	26.134	28.891	31.816	35.263
Primary balance	-14.453	-4.335	-4.198	-3.807	-2.766	-3.045	-3.857	-4.755	-5.740	-6.816	-7.983
Overall balance	-27.832	-18.587	-19.789	-21.086	-21.772	-24.378	-27.315	-30.889	-34.631	-38.632	-43.246
Debt	167.670	186.257	206.047	227.133	248.905	273.283	300.598	331.487	366.118	404.750	447.996

Source: Uttarakand authorities and World Bank staff estimates

Uttarakhand's own tax revenue is projected to grow at an annual rate of about 12.5 to 13 percent, driven mainly by GSDP growth, while own non-tax revenue—mainly revenues from forestry and hydro power generation—is expected to grow at a nominal rate of 8 percent a year given the declining trend in non tax revenue receipts over last few years and the uncertain outlook for further public and private investment in the hydro power sector. The state's share of central taxes is expected to grow around 8.5 percent a year based on the 13th FC recommendations and growth assumptions. Annex 5.1 Table 2 presents the main assumptions used in the baseline scenario.

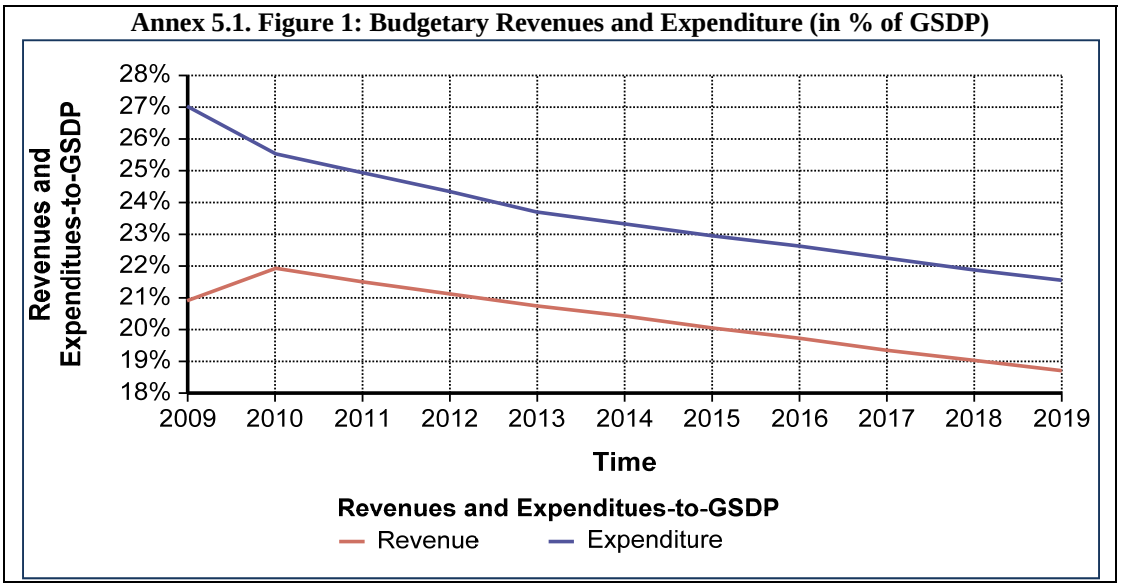
Annex 5.1 Table 2: Main Macroeconomic Assumptions 2009/10-2019/20 (in percentage change, unles otherwise indicated)

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Baseline nominal national GDP	11.26%	12.50%	13.00%	13.50%	13.50%	13.50%	12.00%	12.00%	12.00%	12.00%	12.00%
Baseline nominal GSDP	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
Own tax revenue	16.88%	13.50%	12.50%	12.50%	12.50%	13.00%	13.00%	13.00%	13.00%	13.00%	13.00%
Own non-tax revenue	-9.65%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%	8.00%
Share of central tax	2.89%	50.00%	13.00%	13.50%	13.50%	13.50%	12.00%	12.00%	12.00%	12.00%	12.00%
Grants from the center	10.67%	12.00%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%	8.50%
Plan revenue expenditure	8.48%	8.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Non-plan primary revenue exp. (net of interest)	38.29%	4.50%	10.00%	10.00%	10.00%	12.00%	12.00%	12.00%	12.00%	12.00%	12.00%
Net capital expenditure	-22.67%	15.00%	12.00%	12.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Elasticity Own tax revenue-GSDP (pure number)	1.299	1.038	0.962	0.962	0.962	1.000	1.000	1.000	1.000	1.000	1.000
Elasticity Tranfer central tax-GDP (pure number)	0.256	4.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Elasticity Grants-GDP (pure number)	0.948	0.960	0.654	0.630	0.630	0.630	0.708	0.708	0.708	0.708	0.708

Source: Uttarakand authorities and World Bank staff estimates

In the baseline scenario, Uttarakhand's total revenue increases to 22 percent of GSDP in 2010-11 from 21 percent in 2009-10, and then declines to less than 19 percent in 2019-20, while total spending falls from 27 percent of GSDP in 2009-10 to 22 percent in 2019-20 (Annex 5.1 Figure 1). These baseline projections are consistent with the fiscal balance targets set by the 13th FC.[68] Therefore, given the projected revenue, total expenditure (especially capital expenditure) is adjusted so as to attain the fiscal balance targets defined by the TFC.

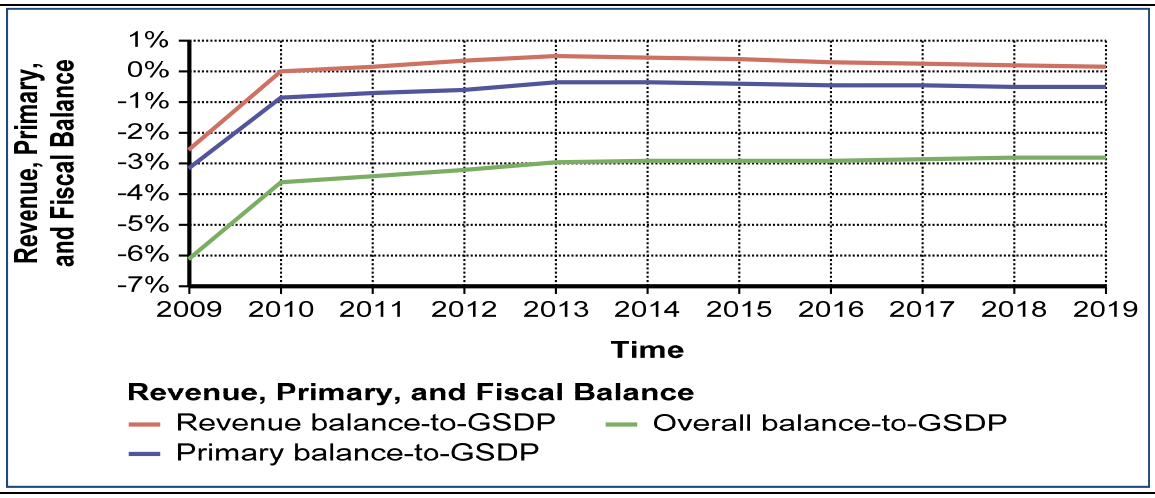
Annex 5.1. Figure 1: Budgetary Revenues and Expenditure (in % of GSDP)



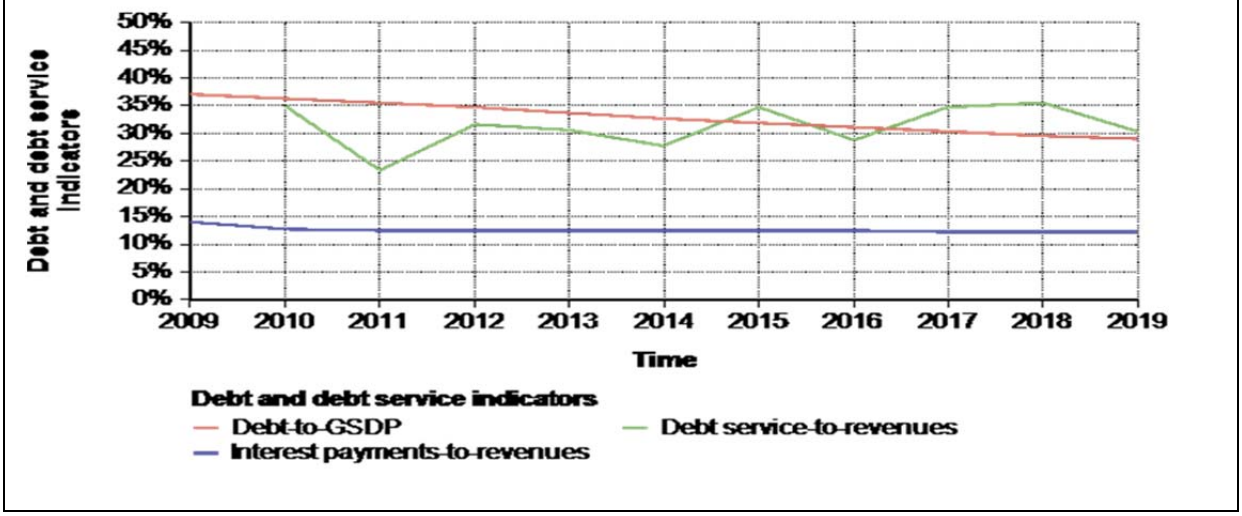
[68] The fiscal balances for 2010-11 to 2014-15 are 3.6, 3.4, 3.2, 2.9, and 2.9 percent of GSDP, respectively, according to the TFC projections.

The projected revenue and expenditure under the baseline scenario generate a steady improvement in the main fiscal indicators (Annex 5.1 Figure 2). During the DSA period, the revenue, primary and fiscal balances improve by about three percentage points.[69] This result is primarily driven by a higher devolution of taxes and grants to the state from 2010/11 onwards and the necessary downward adjustments in expenditure by the State Government to comply with the 13th FC fiscal targets. In the baseline scenario, an important indicator of debt sustainability, the debt-to-GSDP ratio, improves steadily. It falls to 30 percent in 2019/20 from 37 percent in 2009/10 (Annex 5.1 Figure 3).

Annex 5.1. Figure 2: Revenue, Primary, and Fiscal Balances (in percent of GSDP)



Annex 5.1. Figure 3: Debt and Debt Service Indicators (in percent of GSDP or Revenue)



Interest payments-to-revenue ratio has been regarded as a critical indicator of debt distress in India. The 12th FC, which covered the period of 2005-2010, adopted the criterion of classifying a state as debt

[69] Fiscal balance (or overall balance) is defined as total revenue minus total expenditure. Revenue balance is defined as revenue receipts minus revenue expenditure. Primary balance is defined as the fiscal balance net of interest payments.

distressed if its interest–to-revenue ratio exceeded 20 percent in 2005/06. Annex 5.1 Table 3 shows the interest-to-revenue ratio indicator for selected Indian states and the aggregate of all states. The data indicate that Uttarakhand was well positioned among several other states in 2008/09 with an interest-to-revenue indicator of 14.7 percent, in line with the national average for all states.

Annex 5.1 Table 3: Indian States: Interest Payment-Revenue Ratio (Selected States, %)

	2007/08	2008/09
I. Non-Special Category		
Andhra Pradesh	14.0	12.0
Gujarat	21.0	19.9
Kerala	20.5	19.2
Punjab	23.5	21.2
II. Special Category[1]		
Himachal Pradesh	18.6	18.7
Uttarakhand	**13.9**	**14.7**
All States	16.0	14.4

Source: Indian authorities and World Bank Staff estimates

[1] Special category states are those having strategic border locations, hilly terrain, inadequate infrastructure, large tribal population, and limited resource bases.

The baseline scenario projections show that the relative burden of interest payments on the revenue effort remains fairly stable around 13 percent during the DSA period of analysis. Annex Figure 3 also shows that the debt service-to-revenue ratio fluctuates in a range of 30-35 percent from 2012/13 onwards.

Clearly, fiscal sustainability is not a concern in the baseline scenario, especially when the debt-to-GDP and interest-to-revenue ratios are viewed as critical indicators. However, it should be known that this scenario constrains spending, especially capital expenditure, which is fundamental for the economic and social development of the State.

Sensitivity Analysis: Alternative Scenarios

Recognizing the uncertainty associated with the projected values of key variables, we supplement the analysis with sensitivity tests that examine the impact of adverse shocks (or different macroeconomic assumptions). This is helpful to understand potential vulnerabilities entailed by the State's debt dynamics.

A major contribution of the debt sustainability analysis is, therefore, to demonstrate the impact of alternative scenarios for the fiscal management of Uttarakhand. For example, the sensitivity analysis addresses questions such as: What would happen to the debt dynamics if:

- GDP growth is lower than expected?
- Capital spending is not reduced enough to achieve the targets for fiscal balance?
- Interest rates on (a part of) public debt are higher than projected?

This section focuses on three alternative scenarios to conduct the sensitivity analysis.

Alternative Growth Scenario

The objective is to assess the sensitivity of the debt-to-GDP ratio, given the main assumptions and the design of the projections model. A growth shock could occur at regional level from natural disasters,

civil disturbances, lack of investment, or inadequate economic policies. We apply two different shocks to the GDP growth:

- First, an idiosyncratic shock on the state economy in which the GSDP growth rate is 2 percentage points lower vis-à-vis the baseline in 2010/11 and 2011/12. Because own tax revenue depends on local GDP, this shock leads to a lower level of revenue.
- Second, a nation-wide shock to the Indian economy, which would reduce both GSDP and GDP growth rate by 2 percentage points vis-à-vis the baseline in 2010/11 and 2011/12. Because of the nation-wide impact of the growth shock, the national tax collection would decrease which will affect transfers to the states. This shock would, therefore, be more severe in terms of debt sustainability than the "regional" shock. Annex Figure 4 summarizes the main effects of slower growth.

Alternative Capital Spending Scenario

The baseline scenario assumes that capital expenditure (CAPEX) is adjusted in order to achieve the 13th FC targets for fiscal balance. Since connectivity has been identified as a key constraint to high and sustainable growth in Uttarakhand, can the State borrow more to invest in infrastructure without jeopardizing debt sustainability?

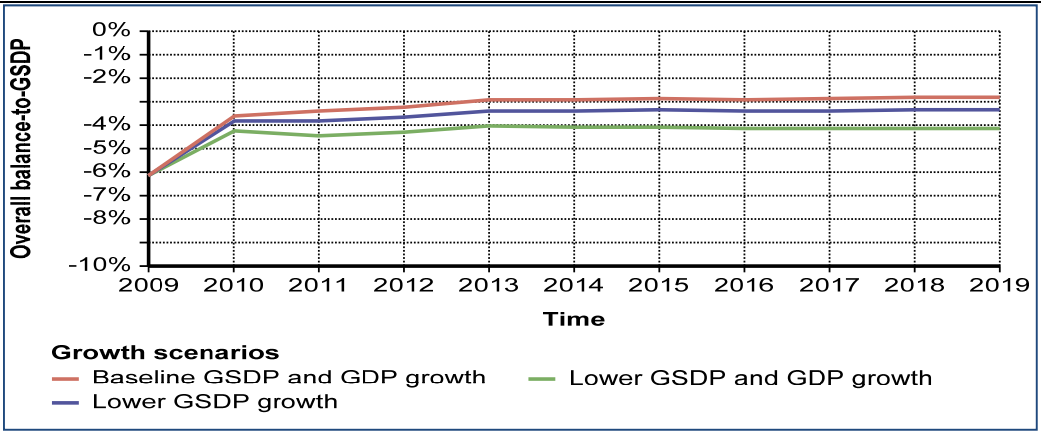
In the following scenario, the growth rate of CAPEX is higher than in the baseline from 2011/12 onwards. The new CAPEX path is calibrated so that the CAPEX-to-GDSP ratio reaches 5.6 percent by 2015/16. This "target" was chosen because it is the 5-year average attained during the period of 2005/06 to 2009/10. This is an interesting simulation because it is based on historical levels of expenditure and evaluates actual constraints to adjusting primary expenditure. We assume that the real economic growth and interest rates will remain as in the baseline, and there will be no effect on the state's revenue. This is a conservative assumption because higher capital expenditure may likely have a positive impact on economic growth and tax revenues. The analysis here does not distinguish among different types of capital spending and their differential impacts on efficiency. Annex Figure 5 shows the main effects of higher capital spending.

Alternative Interest Rate Scenario

The baseline scenario assumes that Debt Outstanding (DOD), Market Loans (ML), and National Small Savings Fund (NSSF) pay annual interest rates of 8.5, 7.5, and 10 percent, respectively. It is conceivable that interest rates could rise as the cyclical recovery of the Indian economy proceeds, thus affecting market-based financing instruments. What would happen if the interest rate on ML increases rapidly and reaches 10 percent by 2012/13 (which is in line with interest rates on NSSF)? The model allows us to measure the impact on debt sustainability. The alternative scenario assumes that DOD are mainly fixed-interest rate instruments and that the cost of financing from NSSF is relatively insensitive to changes in market interest rates. Annex 5.1 Figure 6 shows the impact of higher interest rates on ML on debt sustainability.

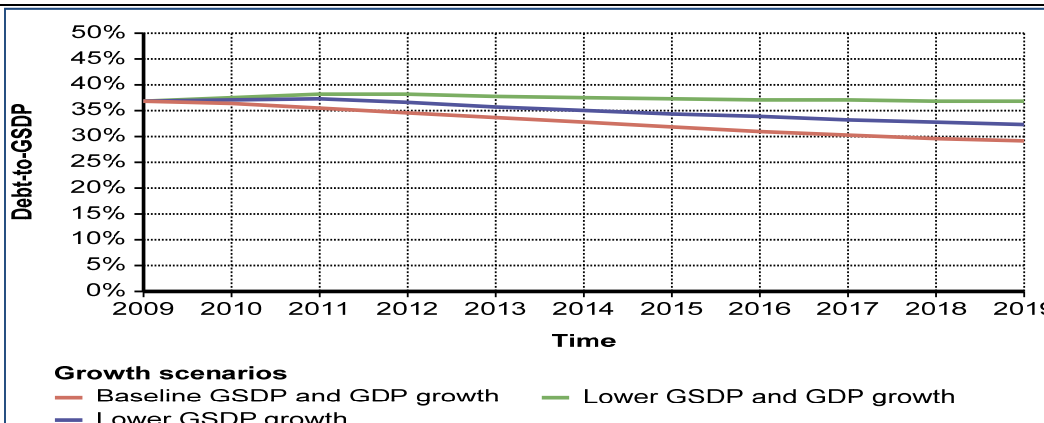
With lower GDP growth, the fiscal balance as percent of GDP deteriorates.……..

Annex 5.1. Figure 4: Impact of Lower GDP Growth



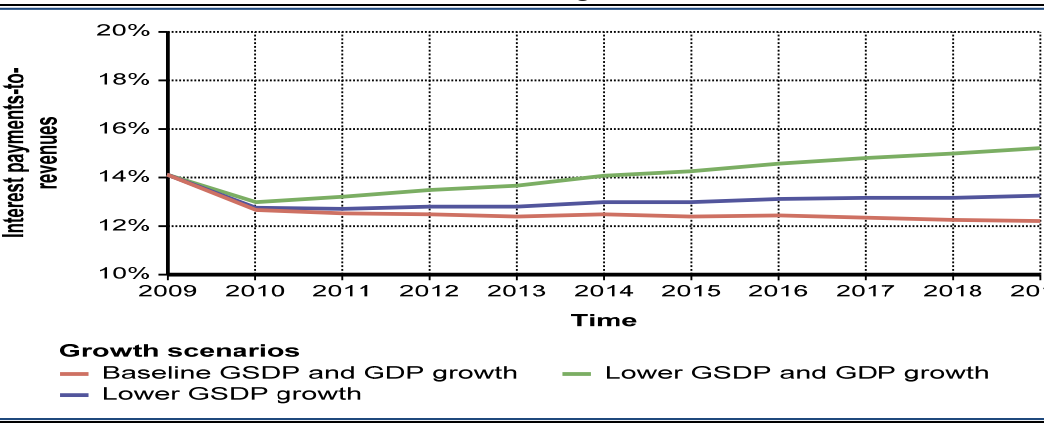
… and the debt-to-GDP ratio remains almost the same as in the initial period ……

Annex 5.1. Figure 5: Debt-to-GDSP



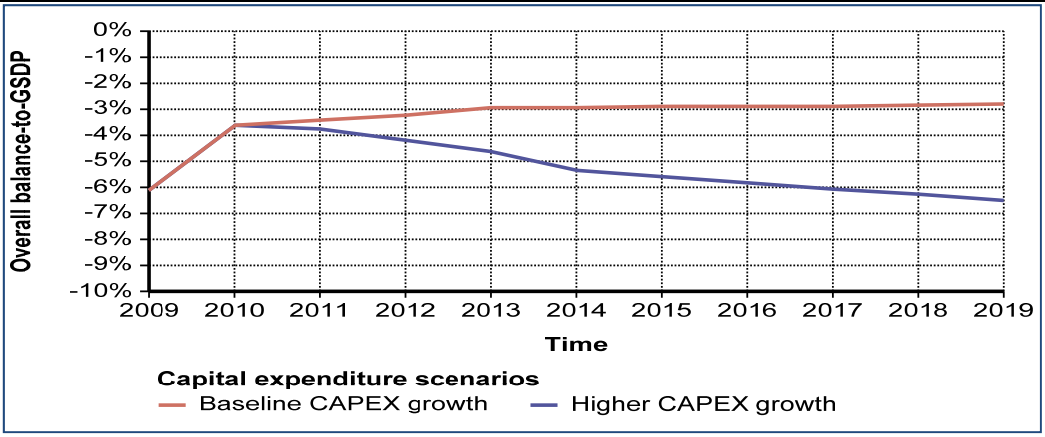
… while the interest payment-to-revenue ratio deteriorates substantially.

Annex 5.1. Figure 6



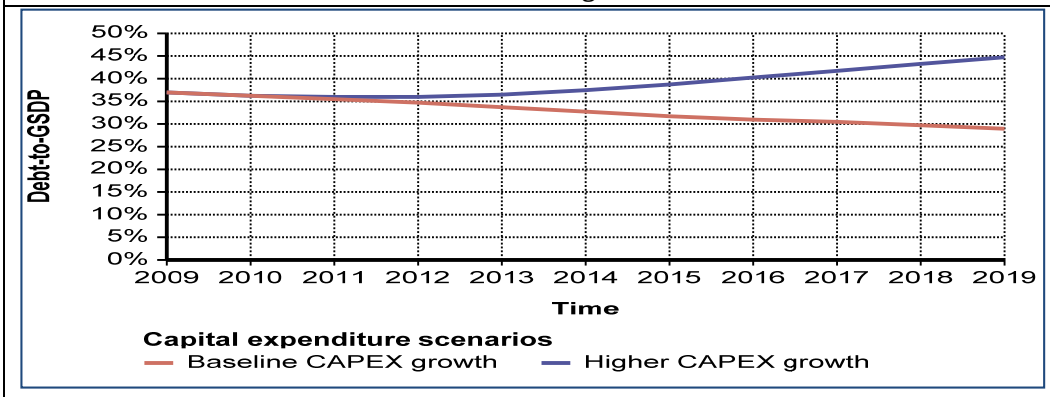
With higher capital spending the overall balance deteriorates substantially and, by the end of the projection period, the deficit is much higher than at the beginning ……

Annex 5.1. Figure 7: Impact of Higher Capital Spending



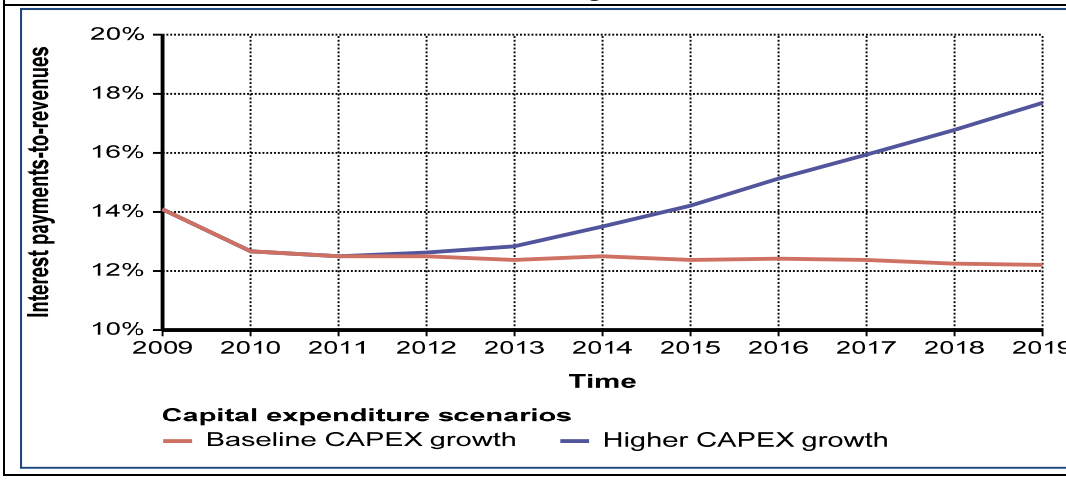
… and worsens the debt-to-GDP ratio by more than 10 percentage points ……..

Annex 5.1. Figure 8



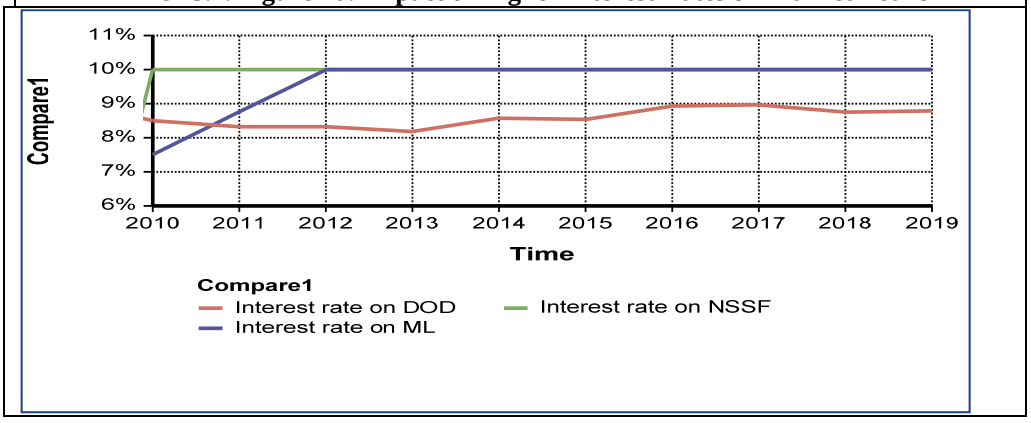
… with a strong deterioration in the interest payments-to-revenue ratio.

Annex 5.1. Figure 9



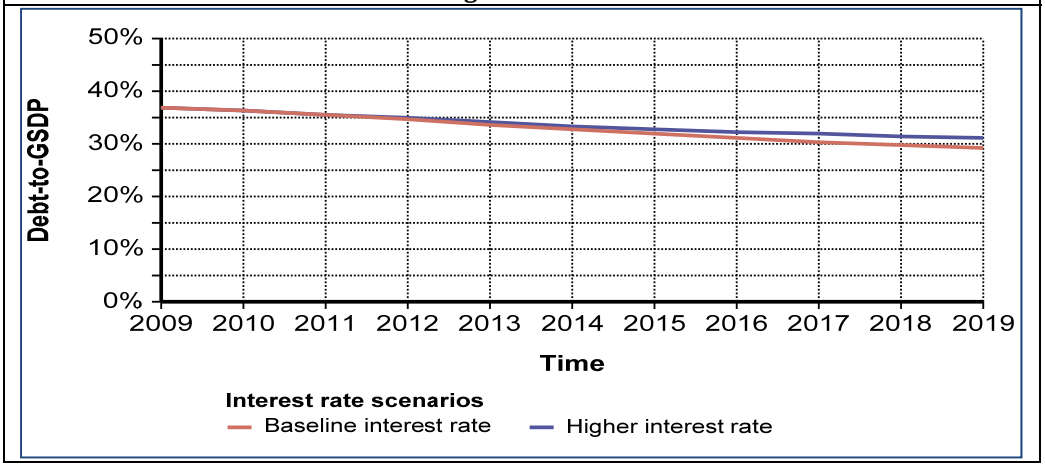
If the ML interest rate increases to 10 percent in 2012/13 ……

Annex 5.1. Figure 10: Impact of Higher Interest Rates on Market Loans



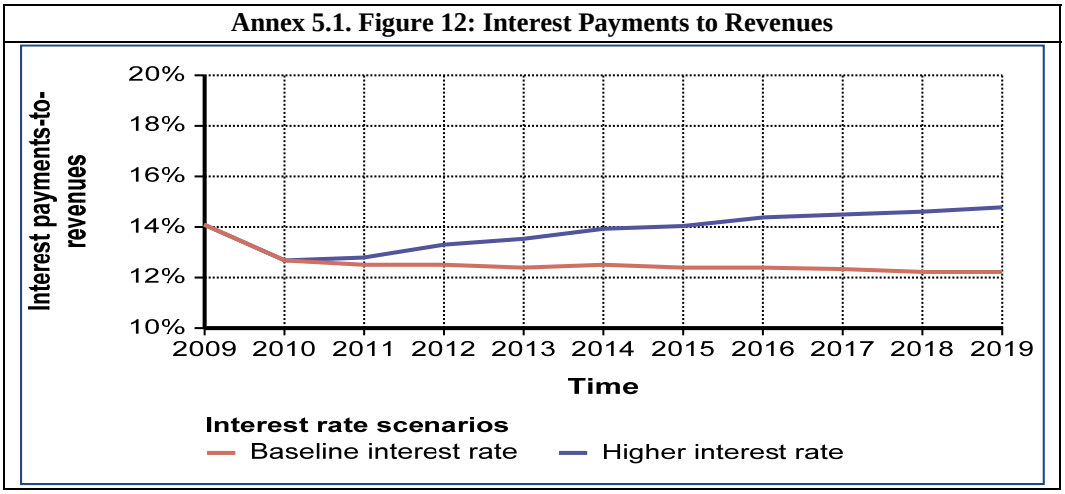
… there is a slight deterioration in the debt-to-GDP ratio ……

Annex 5.1. Figure 11: Debt-to-GSDP



… but the impact on the interest-to-revenue ratio is substantial.

Annex 5.1. Figure 12: Interest Payments to Revenues

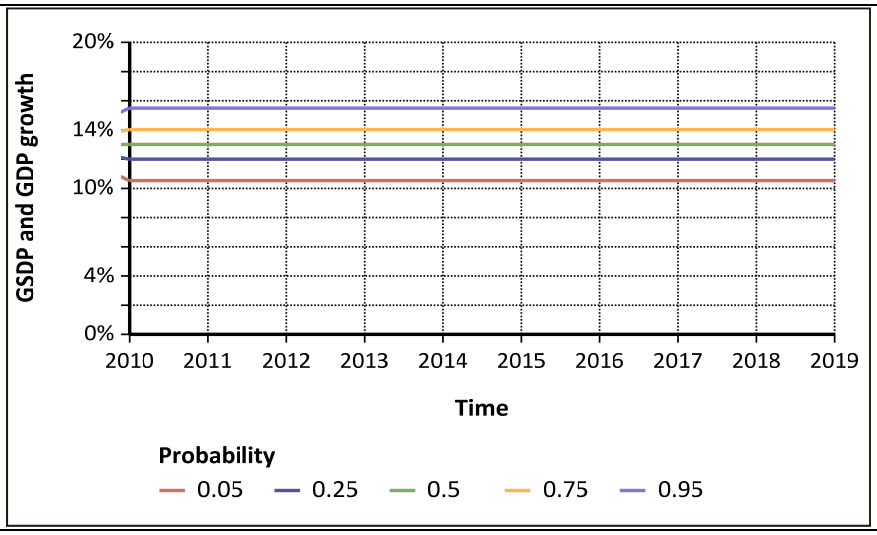


Stochastic Simulations

Stochastic simulations were run in order to assess the sensitivity of DSA results to shocks on GSDP growth rate and interest rate on ML under the baseline scenario.

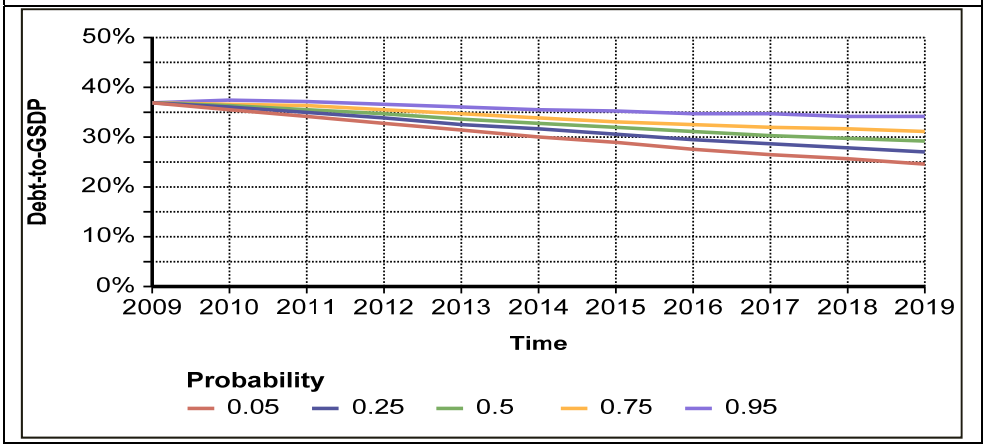
The shock to GSDP growth rate is assumed to be normally distributed, with mean 0% and standard deviation (s.d.) 1.5% (which is roughly one-half of the s.d. of growth rates during 2001-2009). Realizations of the shock are independent over time and we consider 1000 random draws for each year in 2010-2019. The corresponding percentiles of the GDP growth rate are shown in Annex 5.1 Figure 7, where the schedule P 0.5 represents the baseline case.

Annex 5.1. Figure 13: Growth Rate of GSDP (%)

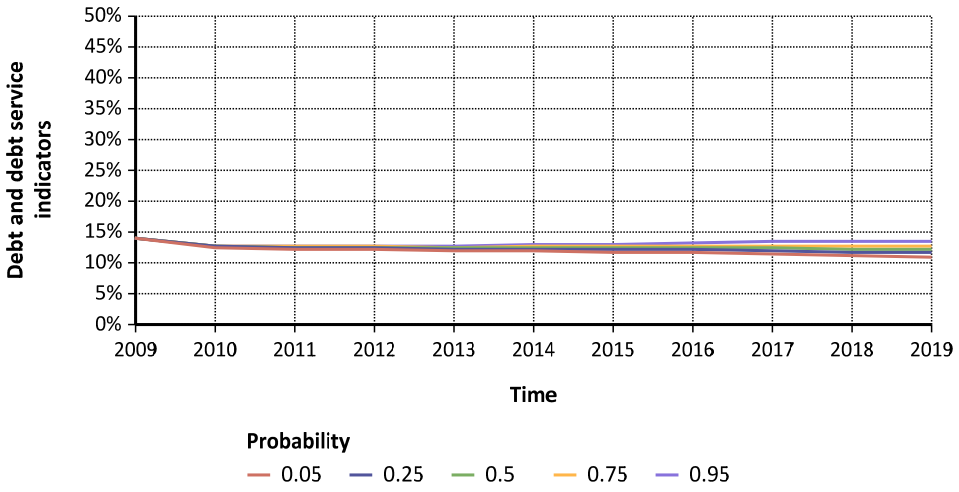


The debt-to-GSDP ratio is sensitive to shocks on GSDP growth, as indicated in Annex 5.1 Figure 8, but debt sustainability is maintained even under unfavorable GSDP growth paths. The stochastic simulation suggests with a 95% probability that the debt ratio is unlikely to exceed 35 percent in 2015, while the interest-to-revenue ratio is unlikely to exceed 13 percent (Annex 5.1 Figure 9).

Annex 5.1. Figure 14: Debt-to-GSDP (%)

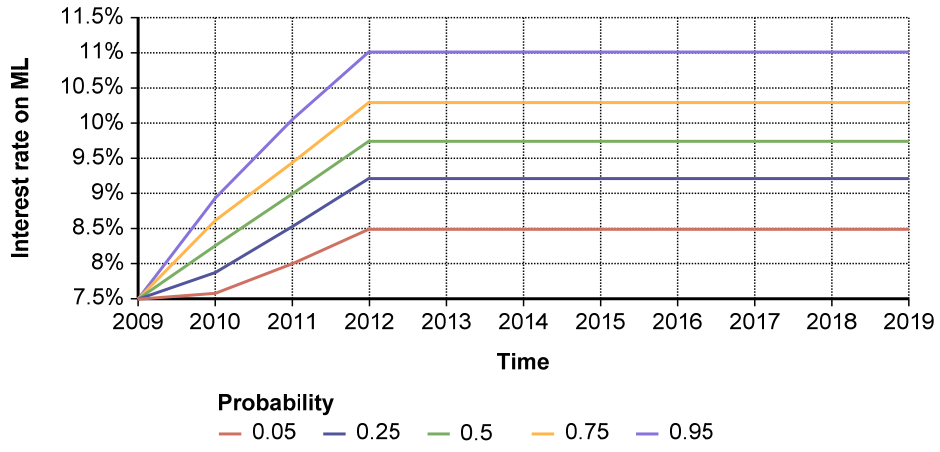


Annex 5.1. Figure 15: Interest-to-Revenue (%)



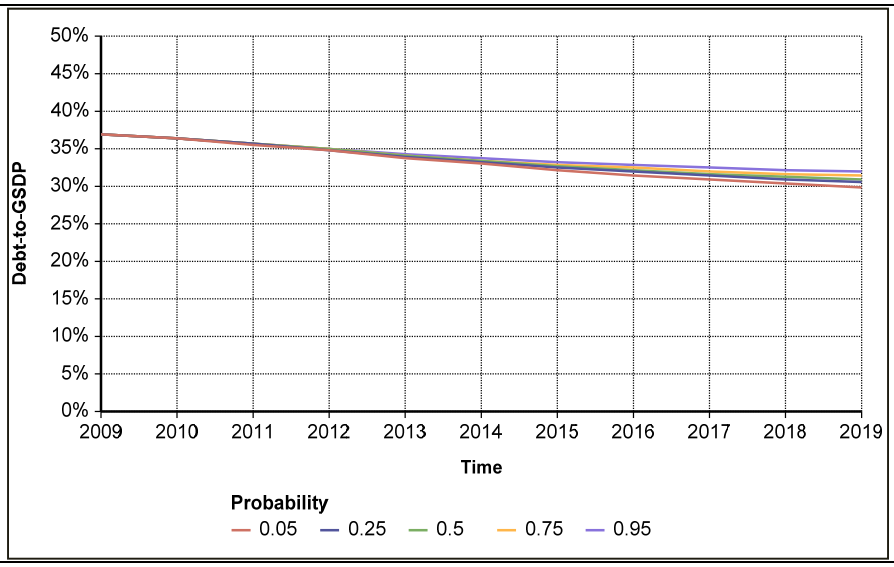
The shock to interest rates on ML is calibrated so that increases in interest rates are expected to take place over 2010-2012 (as current real interest rate levels are low, it is considered unlikely that they will go lower). From 2013 onwards, the interest rate on ML is assumed to remain constant at the level reached in 2012. Specifically, we model the annual increase in the interest rate on ML during 2010-2012 as a random variable that is uniformly distributed, with minimum 0 percent and maximum 1.5 percent (thus, on average an increase of 0.75 percentage points per year over 2010-2012). Realizations of the shock are independent over time and we consider 1000 random draws for each year in 2010-2012. The corresponding percentiles of the interest rate on ML are shown in Annex Figure 10, where the schedule P 0.5 represents the baseline case.

Annex 5.1. Figure 16: Interest Rate on ML (%)

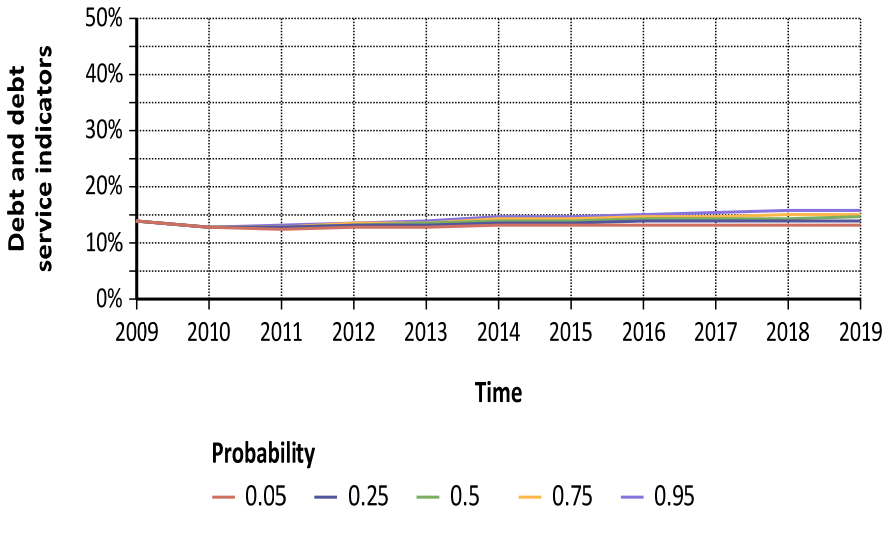


The debt-to-GSDP ratio is not sensitive to shocks from the interest rate on ML, as indicated in Annex Figure 11. The stochastic simulation suggests that, with a 95 percent probability, the debt ratio is unlikely to exceed 33 percent in 2015, while the interest-to-revenue ratio is unlikely to exceed 15 percent (Annex 5.1 Figure 12).

Annex 5.1. Figure 17: Debt-to-GSDP (%)



Annex 5.1. Figure 18: Interest-to-Revenue (%)



Conclusions

This DSA shows that the baseline scenario based on the steady state is not concern in Uttarakhand. The DSA also allows us to evaluate important risks to fiscal sustainability. Potential vulnerabilities include:

- Lower GDP growth (state and national);
- Permanent interest rate increases (on market loans, which represent around 30 percent of total) have limited effects but, as expected, they raise the interest-to-revenue ratio, which has been regarded as an important indicator in managing India's state-level public finances.
- The principal source of risk for Uttarakhand's fiscal sustainability stems from an increase in capital expenditures (without corresponding sources of additional budget financing). The analysis shows that increases in capital expenditures (or difficulties in adjusting primary expenditures) adversely affect the future debt level. This is relevant because the shock imposed is based on historical levels of capital expenditures; it is possible that these levels could be breached in the near future, following the recent slowdown and given the existence of a massive development backlog. This should alert the authorities to look for new sources of revenues to maintain primary spending.

CHAPTER 6: ADMINISTRATION

6.1. The discussion of Chapters 2 to 5 of this report identified some strategic challenges facing Uttarakhand in the areas of growth, poverty and inclusion, sustainability and public financing. The general picture that emerges is that a favorable location in the dynamic Northern India region gives the State a substantial advantage over its neighbors, once physical connectivity challenges are addressed. The existing "brand" is best served by continuing to promote agglomeration economies for production, improving the effectiveness of existing programs for inclusion, and defragmenting planning for sustainable development by improved coordination among the large number of existing agencies working in this area. The main focus of branding for the second and subsequent decades of Uttarakhand's existence should be to make it the preferred State in the region for investment in high value goods and in services, livability, greening and good government.

6.2. This Chapter discusses some critical elements that would assist in the establishment of good government in Uttarakhand. As a relatively new state, its inherited institutional structures are being restructured. In this respect, the State Government has shown initiative in addressing several administrative processes to simplify them and provide more citizen access than was available when it was a part of Uttar Pradesh. Yet, the State has also been plagued by problems of weak capacity, and the Government and several observers have spoken of the need to strengthen governance in Uttarakhand in all sectors, but especially the pivotal one of hydropower. While most of these problems do have remedies, the State is yet to demonstrate a strategic position to address them effectively.

6.3. The focus of this Chapter is on two core elements of the administrative challenge. The first building block is the need to modernize and improve the systems that determine public financial management and the procurement of goods and services. The second facet of good government is to address the management of Uttarakhand's most important strategic asset for economic development—hydropower. There are broader lessons for development management that emerge from a discussion of hydropower which could provide the basis for a basic re-examination of administration.

Public Financial Management

6.4. The Public Financial Management (PFM) framework can be examined at two broad levels—policy and implementation. PFM is guided by a set of rules and procedures borrowed largely from Uttar Pradesh, updated and supplemented through Uttarakhand Government Orders as required.[70] At the broadest level, the architecture is considered to be adequate by the Government. There is a well established process for budget approval by the state legislature, and recent budgets have been passed in a timely manner. Controls on expenditures are exercised at the transaction level. Most controls are documented in the various manuals and handbooks inherited from the systems of Uttar Pradesh, although they are mostly outdated and some have been revised by the Uttar Pradesh Government.[71] Several State Governments have updated their financial manuals and handbook over the past three years to reflect modern operating requirements.

6.5. Annual accounts are prepared on a regular and timely basis. However, as highlighted in audit reports, there are issues on the reconciliation of the expenditures. External audits are comprehensive and regular, and reports are made available on a timely basis. The audit report for FY2008-09 has already

[70] PFM is defined by the following key documents: (a) The Uttar Pradesh Budget Manual, 2000; (b) Financial Handbooks of the Government of Uttar Pradesh, incorporating Treasury Rules with corrections introduced up to 1999 and, in the case of Forest Account Rules, up to 1955; (c) Uttar Pradesh Civil Service Regulations corrected up to 1998; (d) Procurement Rules 2008 (framed by the Uttarakhand Government); and (e) Treasury Guidelines.

[71] The Budget Manual was revised in 2010. The financial handbook is in the process of revision.

been published and submitted to the legislature. Legislative oversight over matters reported in the audit is exercised by an examination of audit sections (paragraphs) by the Public Accounts Committee (PAC), and directions are issued for corrective action. The PAC is currently discussing the sections of FY2007-08. Some FY2008-09 sections are now being discussed by the PAC. While the PAC is very active, the follow up by the State Government needs strengthening.

6.6. There are general weaknesses in record keeping in programs, schemes, and in Panchayati Raj Institutions (PRI) that make it difficult to manage accountability.[72] The general perception is that, in the absence of proper record keeping (accounting information, beneficiary lists, asset registers) it is hard to get higher efficiency in public spending. The Thirteenth Finance Commission has now made it mandatory not only to present a supplement to the Budget indicating PRI Finances, but also to put in place accounting and auditing systems, failing which states stand to forfeit PRI performance grants from 2011-12. Uttarakhand now faces the challenge of introducing both a supplement to the Budget that documents plan and non-plan resource transfers, as well as funds transferred outside the Budget to PRI and their accounting in the Annual Finance Accounts. This will require the PRI to maintain their accounts using the Model Panchayat Accounting System introduced by the Comptroller and Auditor General and the Central Government's Ministry of Panchayati Raj. Compliance with these conditions, among eight areas, will determine access to the general performance grant that totals Rs.511 crore for the period 2010-11 to 2014-15.

Budgeting Framework

6.7. Focus: The Government's Budget focus revolves around centrally sponsored schemes such as the PMGSY, NRHM, IAY or the SSA. This is driven essentially by the fiscal resource position of the State, which has limited financial flexibility to support its own planned investments. The emphasis on capital expenditure is high, particularly on roads and drinking water supply. The budgetary objective is to come as close as possible to a realistic Budget and to keep supplementary budgets small. However, budgetary proposals do not seem to be linked to output in any meaningful way. As both Management Information Systems (MIS) and Monitoring and Evaluation (M&E) systems are weak, the perception is that budgetary performance is likely to be weak, resulting in the inefficient utilization of resources.

6.8. Budget Framework: The Budget Manual is modern and, together with the Budget instructions, provides detailed guidance on how the proposals of line departments should be prepared. The Budget Manual requires a fair amount of justification by estimating officers for the budgetary proposals that are made. However, the process prescribed for crafting departmental proposals is different for ongoing and new spending. For ongoing schemes, the procedure is convoluted and prevents the line department from taking a unified view of its entire budgetary proposal, even if a zero-based review is recommended for application. The procedure requires Heads of Department and other estimating officers in line departments to prepare the estimates for each head of account on the basis of the material obtained from subordinate officers, and to forward them to the Finance Department through the Accountant General. Simultaneously, the estimating officers are required to submit copies to the appropriate administrative departments. The administrative departments are expected to scrutinize these estimates and provide their comments to the Finance Department. The Accountant General furnishes the data on actual spending, offers comments and renders other assistance as requested by the Finance Department. In sum, the process puts the Finance Department in a position of having to resolve departmental budgeting issues when that should be the primary responsibility of the line department taking a zero based view. The dialogue between the Finance Department and line departments, therefore, gets handled at lower levels, and in the effort to ration resources the Government may lose sight of policy goals. This undermines the

[72] Consequently, the Third State Finance Commission undertook a study to determine the state of finances at Panchayati Raj Institutions.

role of the Budget in policymaking, making resource allocation quite uncertain and the link between development objectives and results quite tenuous.

6.9. Budget Preparation: The state budget preparation process begins in October with the expectation of compilation by middle of January. However, the process usually spills over into February. Bilateral meetings of the line departments with the Finance Department begin after the departmental proposals are submitted by November 30th. But the format of these discussions could be strengthened to include a discussion of the assumptions behind the numbers, the relation to past performance, and output commitments from the requested spending. The nature of the dialogue between the Finance Department and line departments at the time of crafting of the Budget is weak and is mainly driven by the need to cap budgetary demands within available resource ceilings.

6.10. After the consultation with line departments, the Finance Department prepares for the Council of Ministers a preliminary note based on the figures in the consolidated estimates and a schedule of new expenditures with explanatory notes. The Council considers policy questions arising from the budget proposal, such as new taxes and market borrowings and, with reference to the funding available, selects new items of spending for inclusion in the Budget. As evident, policy questions are considered towards the end of the budget process partly due to the spending momentum from existing commitments with poor linkages to effectiveness. A preferred budget formulation mechanism would modify the process and associated documentation to better link policy goals and resource allocations, and embed a medium-term perspective in budgeting. For example, drawing on effective practices from some other States, the process of annual budget preparation could follow the following stages:

a) Assessment of overall resource availability and adoption of aggregate spending and revenue targets;
b) Disaggregation of aggregate targets into departmental targets;
c) Preparation and distribution of budget guidelines, including departmental ceilings and their distribution to spending departments ('budget call circular');
d) Preparation of submissions by spending departments;
e) Review of submissions by the Finance Department;
f) Preparation of draft estimates;
g) Legislative approval of draft estimates

6.11. Budgeting in Uttarakhand, as in other Indian states, starts with the latter half of the process described above—beginning with the budget call circular and submissions by line departments. However, the determination of aggregate resource availability and departmental expenditure ceilings are crucial stages in a credible budget process. Aggregate targets must be agreed upon at the political level before budget elaboration can proceed. In practice, most budgets are incremental, taking last year's allocations as the base, adding a small percentage for inflation and some real growth. Incremental budgeting often reflects a mismatch between policies and resources and an excessive focus on funding at the expense of policy. The budget formulation process requires strengthening in a way that would enable the Council of Ministers to review and prioritize competing policy, program, and project proposals, and then make departmental resource allocations on the basis of resource availabilities. The key issues are: (i) sequencing the preparation of a medium-term fiscal program, which defines desired fiscal targets (the fiscal deficit, revenue deficit, debt) and establishes broad multi-year parameters for the budget; (ii) preparing estimates of expenditure to implement ongoing policy, program, and project commitments; (iii) deriving an estimate of the fiscal space available over the medium term to accommodate new commitments consistent with the fiscal plan parameters; (iv) ensuring that decisions on new policy proposals are considered within the constraints defined by resource availabilities, so they are integrated into the budget formulation process; and (v) preparing a full annual budget that is consistent with the

medium-term fiscal program. Transparency and accountability, and the associated information flows, are key to improving allocations decisions and resource use.

6.12. In developing budget proposals, each budget department would take the resource ceiling as given and allocate spending among its activities to achieve its objectives. At this stage, departments are expected to think strategically about their programs, evaluate their existing programs (effectiveness, usefulness) and determine the inputs or policy that will help in attain objectives by maximizing the effectiveness and efficiency of spending. These reviews and plans should be undertaken either as part of the annual budget cycle or prior to it, and then fed into the resource allocation decisions during the budget process. Once over-all funding decisions are known, it is possible to frame policy discussions, specify objectives, and design programs or means of delivery. An important issue here is for the line departments to develop strong MIS, a capacity for policy, and program evaluation skills to assess effectiveness and the cost of options. These skills require training. They could be started on a pilot basis with a few key departments.

6.13. Budgeting and Results: The case for resource allocation decisions based on policy goals and against clearly identified deliverables, which can be achieved by including the political executive in discussions at an early stage, is going to be even more important if Uttarakhand is to engage in a much larger volume of capital expenditure to address its physical connectivity constraint. To begin with, budgetary proposals from line departments should have greater content on overall policy goals, detailed comprehensive expenditure estimates, and concrete deliverables. A process is required that would enable active interaction between the Finance and line departments on the resource envelope, critiquing existing programs, and infusing a medium term perspective into the budgeting process, including the implications of Plan expenditures on non-Plan spending. This may help resolve, even if partially, the dichotomy in the budgeting exercise for Plan and non-Plan heads. The Budget call circular entrusts line department Secretaries with the responsibility for carrying out an appraisal of ongoing commitments to identify schemes that may have outlived their utility from the view point of the department's objectives. But there is no information available on the effectiveness of this instruction.

6.14. The Government has gained some experience with this approach in the health sector. Under the Government's REFORM project that was supported by USAID, a system for the appraisal of large capital projects was instituted that enabled the government to filter out 11 unviable projects from a total of 35 project proposals that were examined. The Government has also begun to experiment with performance based budgeting in the health sector; this is still being implemented. More recently, the Government has issued detailed instructions to begin the process of preparing a Performance Budget from 2010-11.[73] The guidance that has been circulated requires a description of objectives, outlays, quantifiable deliverables, process and timelines, and the evaluation of risk. A further step in this direction is to evaluate programs against the promised deliverables, and then to eliminate those that do not perform. A further productive step would be to begin with program budgeting exercises such as the Atal Adarsh Gram Yojana (or the Deendayal Upadhyay Grameen Yojana). This program is cross-cutting and has a tightly defined time line for deliverables of 2012. The outputs are clearly identified and inter-departmental coordination is critical to achieving the program's objectives, thus making a unified budgetary framework for implementation critical.

6.15. Budget Execution:[74] While expenditure releases are circumscribed by quarterly ceilings prescribed by departmental heads, the short working season for infrastructure projects in the Hill areas of

[73] The Programme Performance Budgeting system introduced by the Government of Karnataka offers a good model.
[74] The government can adapt the system of Monthly Programme Implementation Calendar (MPIC) **t**o address the problem that a major portion of spending is done in the last quarter of the year. The Karnataka Government has introduced MPIC in all its departments covering Plan and non-Plan schemes and setting out details at the beginning

the State and weak planning and procurement capacity creates a rush of end-of –the-year spending to exhaust available budgetary appropriation. This undermines spending efficiency. It would seem desirable to introduce experiments in project preparation and procurement planning and factoring in seasonality in expenditure requirements in departments such as Forests or Public Works. This would help ensure that budgetary resources are made available at the right time.[75]

6.16. More intensive and systematic M&E and the involvement of stakeholders to ensure that the right outcomes are being realized would also assist budget execution. For 2010-11, the Budget call circular instituted a change in procedure in so far as infrastructure works are concerned. Under the existing system, departments prepared detailed plans and estimates for approval by the Technical Audit Cells (TAC) after the legislature has passed the demand for grants. The new procedure requires the approval of the TAC by February 28, so that execution could begin in April. The Budget manual provides the Finance Department authorization to decline a budget provision for any project or works for which administrative approval has not been obtained. Budget execution at the program level is also affected by a host of factors. A sector assessment by the USAID pointed to several PFM weaknesses that affect execution (see Box 6.1).

Box 6. 1:Expenditures and Use of Funds in the Health Sector

According to most respondents, the biggest financial constraint in the state is the difficulty in accessing, disbursing, and expending already-sanctioned funds at different levels. District-level implementers cited the following reasons:

Limited banking facilities: Ensuring that funds reach the block level and end users is still a problem, as authorized banks are not available in remote and rural areas. Several Janani Suraksha Yojna beneficiaries also reported facing difficulty in opening bank accounts to avail the benefits.

Limited financial management capacity of the managers: Clinicians reported that they are medical service providers by training and lack the capacity for financial management, which is a barrier to expending funds.

Lack of clarity on the procurement procedures and inflexible procedures: For example, for a remote block primary health center, obtaining the required quotes for procurement is typically a challenge because there are few contractors working in the region, leading to delays in procurement. Another example is that, as per the guidelines, all payments to functionaries are to be made by check, yet this is a problem because, in remote areas, there are limited or non-existent banking facilities.

Budgetary restrictions within line items: To cite an example, the transport allowance for an MOIC to take a monitoring trip is fixed at an insufficient amount, and there is no provision to adjust this amount within the overall budget in case of higher expenses. Such restrictions discourage managers from monitoring service delivery in the field.

Lack of supervision and support to facilitate physical monitoring of financial expenditures is a major constraint.

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of the financial year of the steps to be taken at the State, District and *Taluk* levels for effective implementation. The MPIC is used for reviewing the progress of each plan and non-plan scheme in the Monthly Multilevel Review meetings at the state level.

[75] Poor expenditure forecasts, low absorption capacity, and constraints on the ability to spend result in a large volume of resources remaining unspent at the end of the year. The report of the Comptroller and Auditor General for 2008 points out that Rs.1,016 crore remained unspent under seven grants/appropriations that amounted to about 16% of voted expenditure. It also suggested that in 29 cases, expenditure fell short of total provisions by five percent or more every year during 2003-04 to 2007-08.

Lengthy procedures: Obtaining the required approvals can be an extensive exercise. Even "simple approvals" require signatures from five officials, which results in delays in work and expenditure. At the block level, in some cases, obtaining signatures from *Pradhans* takes a long time due to their unavailability.

There is a need to strengthening capacities for financial management at various levels if the quality, reliability, and timeliness of expenditures are to be improved. Although the State has invested in planning and mobilizing resources and has allocated funds to improve the quality of healthcare, the use of these funds is not optimum and needs to be streamlined and strengthened.

Source: The Health and Population Policy of Uttarakhand : A Review, August 2009.

6.17. From Input to Program Budgeting: The Finance Department's ability to draw up broad expenditure estimates based on current policy and examine their sensitivity to changes in economic estimates are useful in making the shift to program budgeting. The objective is to gauge affordability over several years, thereby providing early warning indicators if some programs are likely to grow beyond affordable limits, and to explore policy options. The initial estimates are a kind of baseline estimate assuming a continuation of current spending levels and/or assuming no changes in policy. In fact, two sets of estimates can be prepared. The first would assume existing spending levels for discretionary categories and existing policies for mandatory spending. The second would assume that existing norms and policies with implicit commitments are funded fully. This will help identify the policy gap or difference between current levels of public spending and requirements to fill policy commitments.

6.18. The revenue and expenditure estimates can form the basis for a fiscal policy paper for presentation to the Council of Ministers, and will serve to inform senior policy officials about the basic economic issues and linkages between government policies and outcomes. The medium-term fiscal program would have to be submitted for Council of Ministers discussion and approval by September or October in order to establish the broad parameters for revenues, deficits, and borrowing over the following three years. The budget formulation process would also need to enable the Council of Ministers to review and prioritize competing policy, program, and project proposals based on resource availability. Some sector allocations could be developed in the course of the fiscal policy discussions where key sector trends are identified as risks to policy or fiscal stability. The remainder of the funds needs to be allocated and the allocations would reflect general policy directions of the Government (for example, additional education or health spending). Once approved, these indicative ceilings for each sector/department are transmitted to departments usually as part of the annual budget call circular that initiates the budget process.

6.19. Countries have experimented with different degrees of freedom for line departments to allocate spending among alternatives. In Australia, New Zealand and Sweden, departments are assumed to allocate resources optimally among programs and are given great discretion in their choice. In these systems, the department must defend its choices and take responsibility for the consequences of the choices. In other systems (for example, Finland) the Ministry of Finance not only has indicative department or sector ceilings but also indicative spending targets for programs within the sector ceiling, as in India. Reallocation among programs is a time-consuming exercise.

6.20. A formal process to critically review ongoing programs as part of the budget process will also help improve the efficiency of ongoing policies and programs. Other State Governments in India have undertaken a one-time zero-based Budget to rationalize government programs. Establishing some form of an Expenditure Review Committee (as in Australia) to critique ongoing programs and rationalize such

expenditures would be a useful supplement to the existing annual budget process.[76] After receiving the requests, they must be reconciled with resource ceilings, competing demands and policies need to be evaluated, and final policy and funding decisions reached. The Finance Department's role is to provide critical analysis of the line agencies' requests and conduct fair hearings. Most important, dialogue with line departments is important and issues need to be raised regularly if they are not to go unaddressed or applied to just new programs and activities.

Modernizing the PFM Framework

6.21. Although key government officials felt that the PFM architecture was reasonably effective, there is a need for Uttarakhand to have its own updated compact set of rules and procedures by incorporating changes to the set inherited set from Uttar Pradesh. Many parts of the Financial Handbook need updating. Box 6.2 illustrates this point with a few examples.

Box 6. 2: The Need for Updating Rules

- The Forest Account Rules, 1955 has this for its schedule of new expenditures: *"The lump sum reserve of Rs.1,75,000 has been sanctioned for a period of 5 years commencing from 1931-32, after which it will again be examined in detail in order to see what changes, if any, are needed."*

- Many parts of the Financial Handbooks have been updated irregularly and do not represent a comprehensive revision. For example, the Uttar Pradesh Government's original Financial Handbook has been corrected up to 2000, whereas the Travelling Allowance Rules were updated in 1986. In general, the Uttar Pradesh Financial Handbook prescribes rules and regulation with reference to the government operations and banking facilities in the state of Uttar Pradesh.

- An extract from the Forest Account Rules has the following to say about persons responsible for bank cheques:

A peon or other official in permanent service of the Crown for amounts up to Rs.100
A peon or other official of over 20 years' service for amounts up to Rs.200
A peon or other official who has furnished security of not less than Rs.50, or two ordinary peons in permanent service of the Crown for amounts up to Rs.500
Two persons or other officials who have furnished security as in clause 3 above or an official in permanent service of the Crown of not less than two years' standing whose pay is Rs.25 per mensem or over for amounts up to Rs.2,000
An official in permanent service of the Crown whose pay is not less than Rs.50 per mensem and a peon, in all other cases.

6.22. The revisions to the Financial Handbooks can incorporate rules directing new ways for the functioning of Government, for example new methods of implementation of government programs through CSOs, procurement rules that include e-procurement and externally-aided projects, simplified forms that deal with a computerized treasury and other elements that have been introduced in the actual operations of the Government. They could also include the guidance and rules that are issued separately from time to time, with sufficient cross referencing. As an example, Box 6.3 identifies some priorities for procurement.

[76] In Australia the Expenditure Review Committee (ERC) established in the mid-1980's was central to improvements in budgetary outcomes. The Committee was responsible for determining the overall fiscal framework and for managing strategic policymaking, including policy changes necessary to reflect fiscal realities. It determined the resource envelope for each minister, leaving it to the sector minister to determine the best allocation of resources consistent with achieving overall government development policy.

Box 6. 3: Public Sector Procurement

Upon its emergence as a new State in 2001, Uttarakhand adopted the procurement code and instructions issued by Uttar Pradesh, its parent State. Since then, it has put in place Procurement Rules, 2008, which supplement basic procurement procedures in Procurement Handbook volumes 5 and 6 published by the Uttar Pradesh Government. However, in the absence of a legislative act governing public procurement, there is potential for inconsistency in guidelines, lack of coordination across agencies, and difficulties in enforcement.

Therefore, in terms of broad priorities, the State may benefit from enactment of a legal framework for public procurement, after reviewing existing rules to introduce best practices, resolving inconsistencies between procurement rules and Financial Handbook procedures for procurement, and experience in effectively implementing general procurement rules across the board in the public sector.

In terms of concrete institutional measures, there is need for a central regulatory authority that is independent from managing the procurement function. It would update all procurement policies and procedures, provide oversight of implementation, and address capacity building needs with the State Government in a comprehensive manner. It would also develop standard bidding documents and address issues that affect the participation and performance of the bidding community of contractors and suppliers.

The chief governance issues that need to be addressed as a priority relate to the integrity and transparency of procuring entities, and introduction of an effective mechanism for handling complaints and addressing fiduciary control issues (such as an anti-corruption law and enforcement machinery and a code of conduct for procurement staff).

6.23. An example of the revision of the Financial Rules that has been attempted in Bihar illustrates this point:

a) *retaining* existing rules that were still relevant;
b) *deleting* outdated and obsolete provisions;
c) *including* new rules (in respect of grants-in-aid, contract management, guarantees, externally aided projects) that were considered essential;
d) *rearranging* the chapters in a more logical manner;
e) *removing* topics that exist in other Codes, such as the Bihar Treasury Rules, PWD Code and PW Accounts Manual, Bihar Service Code, and others, while providing cross referencing wherever necessary;
f) *deleting* government decisions and notes given under a rule by incorporating summaries within the rule itself
g) *consolidating* topics that were scattered across chapters
h) *reviewing* and *deleting* redundant appendices and forms and *adding* new one[77]

6.24. This is not to suggest that Government of Uttarakhand has not attempted to modernize parts of its Public Financial Framework. There are good examples, such as the well functioning computerized treasury, the attempts to build a modern system of internal audit, the revised delegation of financial powers and the satisfaction of the Auditor General with accounts reconciliation and accountability institutions, most notably the Public Accounts Committee. The suggestions made above are intended to

[77] The release of grants-in-aid to autonomous bodies, voluntary organizations and NGO is an important subject which, however, does not find a place in the existing BFR. A major area of concern in government financial management has been the poor management of assets. This chapter has been revised and separate provisions have been incorporated for fixed assets and stores. Further, some new practices have been suggested, for example, the maintenance of service books in duplicate, with one copy to be retained by the relevant official.

take these reforms to the next stage, providing Uttarakhand with a world-class public financial management system.

Building a New Governance Regime

6.25. Uttarakhand is sometimes said to have had a governance deficit during its first decade of existence, which appears to be the product of several factors.[78] First, the State has had to ensure that interference in many aspects of governance, particularly procurement, transfers and postings, licensing of hydropower projects, and the management of natural resources is minimized. Dealing with this problem at all levels of administration reflects in part the ability of the new State to impose discipline on its citizenry.

6.26. Second, weaknesses in pre-2001 planning and implementation systems have been the main focus of administrative reform. Successive Governments have attempted to address the issues, for example by creating a policy planning group consisting of a mix of civil servants and outside experts to provide knowledge inputs into the process of policy-making. Recommendations of commissions set up by the State Government, particularly those of the Uttaranchal Administrative Reforms Commission, have yet to be taken up fully. The result is that government decision-making is sometimes *ad hoc* and a strategic vision that gives coherence and direction to its actions is yet to be developed. Given existing capacity limitations, this is expected to be a lengthy process, but one to which the State Government is committed.

6.27. Third, management of the civil service needs reform to meet the needs of Uttarakhand's second decade. The problem of frequent transfers affects not only the IAS but others as well, particularly doctors and teachers. Senior officers hold multiple responsibilities, making it difficult to focus on any particular department. Unfilled vacancies in health and education in the upper reaches of the state complicate the delivery of social services in these more remote areas. As a result, the Government faces serious limitations on its ability to plan, execute, and monitor across the board.

6.28. There are some positive factors at work as well, introduced progressively as state politicians and officials have gained from experience and see themselves competing with their neighbors on "good government". The State has several current and former high-level civil servants working to create space for reform. Accountability institutions, such as the offices of the Comptroller and Auditor General (CAG) and the Chief Information Commission (CIC), have been active in exercising their functions. The CIC, for example, has pushed departments to improve their record on proactive disclosure with mixed results. Although the Lok Ayukta has been relatively inactive with regard to the accountability of civil servants and politicians, the State Government has now passed a new empowered Lokayukta Bill. The Planning Department has initiated third party evaluation procedures to improve the effectiveness of the Public Service Delivery Act, Transfer Act, and even for maintaining the quality of development works.

6.29. **Governing Natural Resources in Uttarakhand: Hydropower**. Problems have been visible in the management of the State's natural resources, particularly in the area of hydropower. Uttarakhand has vast hydroelectric potential ranging from 20,000 to 25,000 megawatts, of which only about 3,124 MW have been exploited so far. At the time of its creation, the State was optimistic about the development of the sector. Ten years later, hydropower development has slowed under a combination of pressures from

[78] See, for example, B.K. Joshi, Governance and Development Deficit in Uttarakhand: Is Anyone Listening?, 2011 (unprocessed). The author discusses the latest results from Economic Freedom of States of India 2011 by Vivek Debroy, Laveesh Bhandari, and Swaminathan S. Anklesaria Aiyar (Published on behalf of the Cato Institute/Indicus Analytics/Friedrich Naumann Stiftung by Academic Foundation, New Delhi, 2011).

environmentalists, religious groups arguing that hydropower development despoils the Ganga and its tributaries, especially the Bhagirathi and Alaknanda, and greater scrutiny of the possible environmental impacts by the Central Government's Ministry of Environment and Forests (MoEF) as well as the Supreme Court. Local communities in several cases have demanded that hydropower development be allowed to proceed, as economic opportunities are typically limited in the remote areas where most hydropower projects are developed. However, the voices calling for a review of current practices have proven to be stronger.

6.30. The last couple of years have seen a heightened awareness in the national discourse of the need for a better understanding of the cumulative impacts of hydropower development. This is especially true in terms of maintaining adequate flows to sustain the aquatic health of the rivers and to address cultural needs associated with rivers. These concerns were at the bottom of several decisions that have affected the development of projects in the State. The Loharinag Pala run-of-the river project on the Bhagirathi, with a capacity of 600MW, was shelved during construction in 2010. Two other major hydroelectric projects downstream of it were also canceled for similar reasons.[79] A proposed cascade of three run-of-the-river projects around the confluence of the Bhagirathi and Alaknanda rivers was also halted when an Empowered Committee of the Supreme Court asked for an assessment of the cumulative impacts in the area. In July, 2010, the MoEF a moratorium on all pending clearances for proposed projects on the Bhagirathi and Alaknanda while it undertook a comprehensive assessment of the cumulative impacts of hydropower development on those rivers. Since the completion of the cumulative impact assessment in April 2011, MoEF has resumed the process of project review and has issued environmental and forest clearances to some relatively large projects. This could herald the resumption of the development of such projects.

6.31. Environmentalists, religious groups, and others object to hydropower projects on many grounds. One key claim is that these projects, particularly when designed as a cascade (several projects in a row, typically with only short distances between them), interfere with the regular flow of water turning rivers into a series of 'pipes and ponds'. This, it is claimed, disrupts the hydrological continuity of rivers, undermines the flow of silt to the alluvial plains downstream, interferes with the natural process of groundwater recharge, and destroys riverine life. Concerns that the process of tunneling and construction associated with project development can undermine geological stability, negatively affect catchment areas, produce greater water, air, and noise pollution, and create problems of muck disposal have also been expressed in this debate. Some technical studies have asserted that development of hydropower in an area that is highly seismic can result in dangerous consequences in the event of major earthquakes.[80] In response, advocates of hydropower have asserted the view that adequate measures, including for dam safety, are incorporated into project design and construction; this view has generally been upheld by expert committees formed by the Government of India. The need to focus on improving governance in the power sector by curbing theft and improving efficiency, also has been expressed repeatedly. The areas of theft and efficiency need to be addressed urgently, irrespective of decisions regarding the extent of new hydropower development. Another criticism is that development of the State's hydropower potential benefits faraway consumers in other Indian states, deepening the historical resentments felt by residents of Hill areas against the exploitation of people from the plains.[81]

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[79] Pala Maneri and Bhairon Ghati are projects that are controlled by the State Government through the Uttarakhand Jal Vidyut Nigam Limited (UJVNL); work had not started on the two projects when they were first put on hold thern canceled along with Loharinag Pala.

[80] On some of the impacts of hydroelectric projects, see Shekhar Singh and Pranab Banerji (eds), Large Dams in India: Environmental, Social, and Economic Impacts (New Delhi: Indian Institute of Public Administration, 2001)

[81] For an interesting discussion of these issues, see Bharat Jhunjhunwala, Economics of Hydropower (New Delhi: Kalpaz Publications, 2009)

6.32. Even as it was faced with the stalling of its program to develop large hydropower projects, the State's strategy for smaller hydropower projects ran into serious allegations of corruption in the licensing process. In response to a number of questions about the allotment process the State recently decided to cancel the award of some 56 licenses (amounting to close to 1,000 MW in capacity) pertaining to self-identified projects in the small and mini hydropower sectors. However, as the recent CAG report has highlighted, ambiguities about the roles of different agencies in the licensing process and weaknesses in the environmental regulatory and monitoring system for these smaller projects remain unresolved.[82] Even as its program of hydropower development—identified as a key driver of economic growth for the mountain state—has been slowed down, the Government has been unable to implement a coherent strategy to reassure opponents, local residents, MoEF, and other players that the State can exploit its enormous hydroelectric potential in a manner consistent with sound environmental management and for the overall welfare of its residents.

6.33. Why has the State not been able to convince key players of its ability to responsibly manage the hydropower sector? An effective hydropower regime involves transparent licensing processes, adequate monitoring, and proper use of revenues generated for developmental purposes combined with a coherent policy framework to govern the sector. These pre-requisites need to be developed in Uttarakhand through concerted actions in order to ensure that the hydropower sector develops soundly.

Licensing Processes for Hydro Projects

6.34. Small Hydropower Projects:[83] A report by the CAG pointed to numerous flaws in the licensing process for small and mini hydroelectric projects, including the involvement of companies with little prior experience in executing small run-of-the-river projects along the Bhagirathi and Alaknanda rivers and small tributaries.[84] This is of particular concern given the technical challenges involved in executing even small hydro projects in the geologically young Himalayas.[85] The CAG report also points out that some companies appear to have engaged in an arbitrage process whereby initial capacity estimates identified at the pre-feasibility stage, and used to figure the premiums to be paid during the bidding process, were revised upwards later, resulting in a significant financial loss to the exchequer. It is true that upward revisions of capacity estimates can occur between pre-feasibility reports (PFR) and detailed project reports because of the cursory nature of many PFR and resulting from business decisions that are the prerogative of the developer. However, upward revisions in some cases were large enough for the CAG to raise the matter in its report. The State Government subsequently canceled the licence.

[82] On the constitution of the empowered committee that made these decisions, see Government of Uttarakhand, Policy for Harnessing Renewable Energy Sources in Uttarakhand with Private Sector/Community Participation *op. cit*. It should be noted that UJVNL is supposed to only "scutinise" applications for projects with decisions being taken by the Empowered Committee on the recommendation of an Evaluation Committee. See Government of Uttarakhand, Procedure for Clearances/Approvals under the Policy for Harnessing Renewable Energy Projects notified vide G.O. No. 263/I(2)/2008-04 (8) – 96/2001 dated 20-1-2008, Office Memorandum No. 1877 dated 24th July, 2008 (Dehra Dun: Government of Uttarakhand). Another Office Memorandum, also dated 24th July 2008, however, designates UJNVL as the 'nodal agency' for implementing the policy for private sector participation in the hydropower sector, see Government of Uttarakhand, O.M. entitled Nodal Agency for Implementation of the Policy for Harnessing Renewable Energy Sources in Uttarakhand with Private Sector/Community Participation, op. cit. What the nodal agency is supposed to do is left unspecified.

[83] A Medium hydro project ranges from a capacity of 25 to 50 MW; a small hydro project is generally below 25 MW.

[84] Report of the Comptroller and Auditor General (for the year ended 31st March, 2009, Performance Audit of Hydropower Development through Private Sector Participation (Dehra Dun: Government of Uttarakhand, 2010).

[85] Ibid., p.12.

6.35. General Licensing Process: The licensing process has improved with the MoEF imposing a stricter regime for assessing environmental impacts of these projects as well as enforcing higher environmental flow obligations on them. Yet, the number of layers and steps involved in the entire process are so many that there remains considerable scope for rent-seeking as well as non-compliance with the many conditions attached to forest and environmental clearances (See Box 6.4).

Box 6. 4: Licensing Process in General

The process of licensing is highly complex and varies depending on the capacity of a project. First, the State invites bids for a pre-identified site from developers with a premium based on initial estimated capacity being paid as a license fee. Developers then receive permission to conduct a detailed project report (DPR) based on an intensive survey and investigation exercise. The DPR in turn constitutes the basis for the implementation agreement between the State Government and the user agency. DPR involving projects worth over 500 crores require techno-economic clearance from the Central Electricity Authority (CEA).

If the project involves the diversion of any forest land, the developer must initiate a proposal to acquire forest land with the district forest officer (DFO) who vets the proposal and sends it on to the nodal officer for forest land acquisition in the State. The nodal officer then seeks the approval of the forest minister after which the file is sent to the forest advisory committee for MoEF approval. Gram Pradhans need to issue a no-objection certificate based on a resolution of the Gram Sabha before any diversion of forest land can occur. Forest clearances are conditional in nature requiring user agencies not to use the land for a purpose other than for which it was acquired. User agencies are prohibited from selling acquired forest land and can only use the Uttarakhand Forest Corporation to fell trees.

Developers must also prepare an environmental impact assessment and management plan including a Catchment Area Treatment Plan for 10 MW and above along with the DPR. Projects 50 MW and above require environmental clearance from the MoEF, while projects between 25 and 50MW are cleared by a state-level environmental appraisal committee. Public hearings are required by the MoEF to validate the EIA and EMP, though these can often be manipulated by local officials. It is estimated that the process of licensing including the time taken to obtain necessary clearances can in the case of large hydro projects takes at least five years, followed by another five years to complete actual construction.

There are several ways to improve the transparency of the licensing process.

6.36. First, the Government should comply with Section 4 (i[c]) of the Right to Information Act that requires it to provide 'relevant facts' about any new project to those affected. This would involve ensuring that communities always learn about their being included in a new hydropower development project well before construction actually begins. The Government could start to make public its basin-level plans for hydropower development, possibly through an Energy Department website for basin plans, environmental impact assessments, and related documents for all projects.

6.37. Second, communities should be informed as soon as permission is granted to a developer to prepare a DPR. DPR must be made public so that people can assess its quality accurately including safety provisions, bringing in technical expertise as required; so far DPR are basically unavailable (although possible to demand through the RTI) and some project developers have been known to resist sharing their DPR when asked by community activists.

6.38. Third, as Environmental Impact Assessments and Management Plans are public documents, it is essential that their quality be improved. MoEF has placed several of these on its website, which could serve as models. Since individual environmental clearances are not required for small projects up to 25MW, it is necessary to develop separate mandatory social and environmental guidelines for them, including a requirement that environmental management plans be discussed with local communities or by the affected Panchayats or Van Panchayats. The State Government needs to work with developers to do more to ensure that EIAs and EMPs are made accessible to all affected communities in a timely manner.

6.39. Fourth, recent events suggest there is a need to strengthen the process of public hearings (required for projects above 25MW) conducted by the Uttarakhand Environmental Pollution Control Board (UEPPCB) before environmental clearance is accorded to any project. The responsibility for maintaining the integrity of this vital process rests with the UEPPCB and it needs to ensure that communities have enough prior knowledge about the project and its likely impacts so that these public hearings can be constructive and candid interactions between project developers and the affected communities. To enhance the communities' earnings and quality of life, social intervention studies and technical skill upgrading for local communities should be introduced.

6.40. Fifth, according to the law, an NOC needs to be based on a resolution of the Gram Sabha; often NOC are issued by Gram Pradhan. Obviously, Gram Pradhan need to be provided with complete information so that the community does not issue an NOC erroneously. For the credibility of the process, Government should insist that NOC be accompanied by a resolution of the village assembly. Forest or Van Panchayats should also be consulted when forest land falling under their jurisdiction is diverted for a project.

6.41. Sixth, the Government may want to commission studies that examine the feasibility of switching to a tariff-based or other bidding process in Uttarakhand, instead of charging a premium based on estimated capacity. Such a decision has been taken at the Central level, although alternative methods are also being considered This kind of bidding process automatically contains more information about estimated costs and profits than a premium system and is, therefore, inherently more transparent though more complex to implement.

6.42. Finally, the Government should implement more strictly its own requirement that unqualified companies are not eligible to bid for hydroelectric licenses by stipulating clearly that the executing company, irrespective of partnerships, must have a prior track record in the field. It is necessary to place strict limits on the sale of licenses to third parties.

6.43. Monitoring: A key feature of weak administrative capacity is the inability to monitor projects and governmental activities adequately. The Government's approach to the enforcement of environmental and forest clearances can be strengthened significantly, including more vigorous prosecutions of violators. Until recently, attempts to monitor environmental flows in the state's rivers or the implementation of catchment area treatment (CAT) plans have been non-existent to very weak. Likewise egregious practices by developers, including altering site and design specifications without permission, need to be countered actively.[86]

6.44. The task of monitoring is currently fragmented between four different players: the Energy Department and its Urja cell, the Uttarakhand Jal Vidyut Nigam (UJVNL), the Uttarakhand Environment Protection and Pollution Control Board (UEPPCB), the Forest Department, and district collectors. The discharge of responsibilities by the Energy Department, which is the prime agency for monitoring the progress of hydropower projects and minimum environmental water flows, needs to be strengthened.[87]

[86] For projects costing Rs. 500 crore and above, designs are approved by the Central Government, so the State has little control over them.

[87] In response to an RTI query filed by an activist, the head of the Energy Department's Urja cell stated that the department had no annual (let alone quarterly) progress reports on file related to hydro projects along the Bhagirathi and Alaknanda rivers. No show-cause notices were issued to any hydropower company for any violation for three straight years (2007/08, 08/09, and 09/10). No standard formats existed to monitor compliance with the Implementation Agreements overseen by the Energy Department. No reports addressing violations by power companies operating along the two rivers were ever submitted by officers of GoUK's Energy Department to the

6.45. From recent operations it is clear that the Urja cell lacks the needed capacity to monitor hydropower projects properly. UJVNL has also been tasked with some monitoring responsibility but it too lacks capacity being a relatively small organization with a history of having completed only one project left incomplete by the UP government. There is also a more fundamental problem with asking UJVNL to play a role in monitoring hydropower projects with which it may be directly in competition, whether CPSU or private ones.

6.46. The UEPPCB is responsible for monitoring air and water pollution levels. It issues state environmental clearances for hydropower projects between 25MW and 50MW after they have been approved by the state-level environmental appraisal committee. UEPPCB has a vital role in monitoring all hydropower projects (not only small ones) insofar as these projects generate dust that can contribute to air pollution, produce muck that can contaminate rivers, and interfere with aquatic life dependent on the flow of water year round. Unfortunately the UEPPCB lacks capacity—it has only two poorly equipped laboratories to test samples for pollution levels. The number of personnel is in short supply, thus making it difficult for UEPPCB to conduct regular site inspections to ensure that polluting industries comply with legal requirements.[88] Many UEPPCB staff also lack the necessary technical training to properly collect and preserve samples to verify suspected violations of environmental norms. There has, however, been some effort to upgrade the functioning of UEPPCB, especially the appointment of a CEO from the Indian Institute of Technology, Roorkee who has installed a new on-line monitoring system to track compliance of industries with established environmental standards. It is worth noting that UEPPCB does not view monitoring minimum environmental water flows as part of its mandate, which it says lies squarely with the Energy Department.

6.47. The Forest Department is supposed to play a key role in monitoring the implementation of catchment area treatment plans, but enforcement has been a highly contentious issue. Dissatisfied with the Forest Department's failure in many states to protect catchment areas, the Supreme Court on October 29, 2002 ordered that all funds collected from developers as compensation for diverting forest land be routed through a central Compensatory Afforestation Management and Planning Authority (CAMPA) to ensure effective developmental use of these revenues.[89] After several iterations regarding the mechanisms for achieving this objective, the MoEF decided to implement a process to constitute state CAMPA to receive funds that had accumulated in an interim *ad hoc* (Central) CAMPA. The MoEF framed guidelines for the operation of these State CAMPAS. After approving these guidelines, the Supreme Court ordered that the activation of the flow of funds from the central CAMPA to state CAMPAs on July 9, 2009.[90]

Secretary or other higher officials. The Department, in response to the same query, admitted that it had no details concerning inspections conducted by its officers between 2007 and 2010 and possessed no inspection reports in its files. It also stated that it had not laid down any norms for the frequency or timing of inspections. With regard to monitoring the implementation of the provisions of the National Rehabilitation and Resettlement Policy (NRRP), the Department stated that this was not its responsibility, but that of the "respective district authorities". (Response to Request for Information filed under the RTI Act with the Department of Energy, GoUK dated 7/11/2009).

[88] UEPPCB had only three Class One and eight class Two technical officers at the time of writing this report.

[89] In 2000, the Supreme Court found that 30% of all the funds received from user agencies as compensation for diversion of forestland were actually used by state governments to improve catchments, soils, and forests through compensatory afforestation and other means. See Interim order issued by the Supreme Court in T.N. Godavarman Thirumalpad *vs*. Union of India (Writ Petiton {c}, No. 202, 1995).

[90] For the guidelines themselves, see Government of India, Ministry of Environment and Forests, The Guidelines on State Compensatory Afforestation Fund Management and Planning Authority (state CAMPA), July 2, 2009 at http://moef.nic.in/modules/recent-initiatives/campa/.

6.48. The intervention of the Supreme Court over a long period of time, combined with a decision by MoEF to resolve the deadlock over the use of *ad hoc* CAMPA funds in favor of the position of the CEC, resulted in a major improvement in the monitoring framework for CAT plan activities. The state CAMPA functions as an autonomous society independent of the State Government.[91] MoEF officials have the right to stop transfers from the national CAMPA to the state CAMPA if they are unhappy with its functioning in a particular state. Currently ten percent of the total amount of the funds collected from user agencies in a state deposited with the central CAMPA will be released annually to fund the operational work of the state CAMPA. Releasing only a portion of a state's accumulated funds on an annual basis prevents forest departments from being overwhelmed and gives the central CAMPA leverage insofar as it can stop further releases if progress in implementing CAT plans is inadequate. The state CAMPA's administrative budget is funded entirely from the proceeds of interest on state CAMPA monies (excluding funds for regeneration of protected forest areas), thus making it financially independent of the State Government. The state CAMPA is subject to audit by the CAG; in addition MoEF can order a financial or physical audit of works sanctioned by the state CAMPA at will. The state CAMPA is also required to produce an annual report detailing the works undertaken under its aegis, the amounts spent on its activities, and the sources of its funding, whether from the central CAMPA, the state government, or external agencies.

6.49. The new guidelines require state CAMPAs to develop an independent framework for the task of monitoring the progress of CAT plan works. The Uttarakhand state CAMPA plans to turn to the State's Forest or Van Panchayats to take on this task. Van Panchayats under the law also have the legal powers of forest officers and can therefore execute many conservation activities themselves. Because capacity varies considerably across the State's 14,000 odd Van Panchayats, the Uttarakhand state CAMPA plans to work with the older and more established ones at first and later involve the rest. It also intends to turn to independent technical experts to verify the quality of works across the state. The total amount of the central CAMPA on January 31, 2010 stood at Rs.13,044 crores, of which Uttarakhand's share was approximately Rs.929 crores.[92]

6.50. It is also not clear how well compliance with the National Rehabilitation and Resettlement Policy, 2007 (NRRP2007) is being monitored by the Government of Uttarakhand.[93] Since the policy is not backed up by a national law, there are no penalties associated with non-compliance.[94] The policy is complex and requires a high degree of administrative capacity to ensure proper compliance on the ground. In Uttarakhand, district collectors are responsible for implementing NRRP 2007, therefore it is vital that they get more actively involved with rehabilitation issues. This would involve ensuring that developers

[91] It is expected to oversee activities relating to compensatory afforestation, the implementation CAT plans, regeneration of forests, wildlife and forest conservation, and the strengthening of the forest department. The state CAMPA has the right to contract employees (in addition to staff deputed to the organization by the state government) and two percent of its annual budget is earmarked for monitoring and evaluation. It receives funds from the national CAMPA on the basis of an Annual Plan of Operations (APO) approved by the steering committee of the state CAMPA. The steering committee includes the Chief Secretary, the Secretaries of the Forest, Finance, and Planning Departments, the Chief Conservators of Forest and Wildlife as well as a representative of MoEF and two members of the NGO community. The cross-cutting nature of the steering committee ensures that the APO will have broad support, while the presence of three non-state government members strengthens the committee's credibility.

[92] Government of India, Ministry of Environment and Forests (MoEF), Total Fund Available in Ad hoc Campa as on 31.01.10, available at http://moef.nic.in/downloads/public-information/CAMPA-annex-1.pdf accessed on December 1, 2010.

[93] See Government of India, Ministry of Rural Development, National Rehabilitation and Resettlement Policy, 2007 (New Delhi: Government of India, 2007.

[94] Ministry of Rural Development, Government of India is currently in the process of making changes to a draft bill on rehabilitation and resettlement already formulated.

provide true estimates of costs and benefits, there is adequate due diligence regarding the diversion of land and displacement of people, and effective consultation with affected communities on resettlement plans, compensation for acquired land, and sharing of benefits with the original owners when the land is transferred subsequently.

6.51. Monitoring the implementation of safeguards for hydropower projects in Uttarakhand will need to be stepped up in order to address the challenges of developing this vital economic resource. This is particularly true of the Energy Department, which needs to be strengthened in order to properly monitor the contracting and execution process for hydropower projects. The Energy Department has also been tasked to address critical issues such as maintaining a minimum standard for water flows in rivers affected by such projects and taking an integrated view of the development of hydropower projects based on its effects on the river basin as a whole, not just the area of the individual project. These are normally within the purview of an environment agency, and the Energy Department is not equipped to meet this challenge. Implementation of the National Rehabilitation and Resettlement Policy of 2007 by the State Government needs to be bolstered. Only in the area of catchment area treatment plans has an improvement occurred almost entirely because of the intervention of the Supreme Court and the central government through MoEF. The challenge of monitoring has been rendered more difficult by virtue of the number of players involved in the task, creating coordination dilemmas, as well as the lack of clarity about mandates and responsibilities. It is not clear, for example, which institution should take on the task of measuring minimum environmental water flows. Without proper monitoring, it will be impossible for Uttarakhand to manage its hydropower reserves in a responsible manner consistent with the demands of sustainable development.

There are several ways to improve monitoring that the State Government could consider.

6.52. First, the Government needs to improve the capacity of the Energy Department to discharge its responsibilities more effectively. The Urja cell needs to be refashioned into an autonomous body consisting of technical experts from the outside with a focus on ecology and environmental and social sciences in addition to hydro-engineering, and chaired by a person of eminence, with a revised mandate that gives it explicit oversight, coordination, and planning responsibilities, as well as approving projects, as discussed in the previous section.

6.53. Second, the Government should consider reinforcing the technical and financial strength of the UEPPCB; some progress has been made here already but more could be done.

6.54. Finally, the State Government should launch a campaign to publicize the provisions of NRRP 2007 and actively consider third party monitoring in this and related areas. This has been advocated in some projects, including those supported by the World Bank, and serve several of the capacity, governance and transparency issues that arise in the hydropower sector.

How Much Does Hydropower Help Uttarakhand?

6.55. The problem of accumulated cash liabilities to the State Government of a public sector undertaking is a widespread problem in the power sector in India. In Uttarakhand, it takes the form of unpaid royalties to the State Government, and leads to the larger issue of governance in the power sector (see Box 6.5). The point here is not just the fact that a better managed power sector would enable the UPCL to pay back the value of royalties received in the form of free power, but the wider problem of how to fix the workings of UPCL to improve power supply, curb UPCLs mounting losses (thereby improving the State's overall fiscal picture including its ability to invest in new capital expenditures), and reduce the State's need to expand its generation of hydropower by improving the efficiency of UPCL's use of its existing hydroelectric supply.

UPCL's losses have mounted over the years growing from a modest surplus of Rs. 29.4 crores in 2006/07 to a loss of Rs. 755.9 crores in 2009/10.[95] The financial troubles of UPCL reflect its inability to control commercial distribution losses, particularly theft by the State's industries and other high value consumers. Approximately 4,500 consumers account for 60 percent of all power consumption and more than 70 percent of UPCL's revenue in Uttarakhand.[96] Cracking down on evasion by these 4,500 high value consumers should thus be an easy task but this has not proven to be the case because this group is highly influential. In a review of these consumers, the SERC found that consumption patterns varied wildly from month to month; also that the actual load factor of a large number of high value consumers was less than 10 percent of the contracted load, indicating something seriously wrong.[97] Part of the problem seems to lie with inadequate meter reading: in two key divisions of Uttarakhand with a large number of high value consumers—Roorkee (rural) and Haridwar (rural)—billings made on the basis of actual meter readings stood at only 39.1 percent and 30.2 percent respectively, with the rest of billings occurring on a provisional basis because of a combination of defective meters and estimated readings. Several such consumers also appear to have colluded with officials of UPCL to avoid replacing less reliable electromechanical meters with electronic ones and put off repairing defective meters. Outsourcing the task of metering does not appear to have improved the situation. The UPCL has also proved highly remiss in collecting bills owed to it with arrears totaling Rs. 800 crores at the end of FY 2009.[98] It is believed that the proliferation of ghost consumers, along with fictitious meters to bill them, allows UPCL to understate the extent of power theft by booking a portion of its theft losses to such ghost consumers in the form of arrears to UPCL.[99] Finally, the poor financial health of the UPCL is partly the result of systematic failures on the part of government agencies to pay their dues to the ailing distribution company.

Box 6. 5: Rents from Hydropower

The state captures rents from hydropower primarily in the form of royalties consisting of 12 percent of the total power generated by a developer. These royalties add up to a substantial amount of revenue and could be used to benefit the state's inhabitants through better resettlement packages, as well as greater investments in human capital or physical infrastructure especially in project-affected areas. The 12 percent royalty is delivered to the Uttarakhand Power Corporation Limited (UPCL) in the form of free power supplied by generating units. Ideally, the UPCL should compensate the State Government for the value of the free power received through a cash transfer. Instead, the UPCL has been using the free power it receives as royalty to set off its own substantial losses; royalties are thus shown as an unpaid cash liability to the State Government in the books of UPCL. In the current and last two fiscal years alone, UPCL has accumulated Rs. 1,062 crores of unpaid royalties to the state government.

6.56. Energy sector experience around the world suggests that there is often a bias towards new generation capacity, which is sometimes easier than tackling the hard non-technical problems at the power distribution end. Uttarakhand aims to be a large exporter of electricity, for which new generation is a core need. However, there is an emerging power shortage in what was once a power surplus state, along with attempts to bypass this problem by turning to thermal energy and asking the Central Government to intervene to subsidize the purchase of power from other States in exchange for the State

[95] Data provided by UPCL.
[96] State Electricity Regulatory Commission (SERC), Tariff Order for 2009-10 for Uttarakhand Power Corporation Limited (Dehra Dun: SERC, October 2009), p. 100.
[97] Ibid, p. 101.
[98] Ibid, p. 123.
[99] It is not uncommon for States to try to hide the extent of losses stemming from power theft by booking a portion of them to unmetered (and thus unverifiable) agricultural consumers. However, Uttarakhand appears to be the only State that has gone so far as to create a significant base of ghost consumers (and fictitious meters) to achieve this objective. The SERC has uncovered the problem and asked UPCL to purge its rolls of such consumers, but so far little has happened on this score.

agreeing to forego the option of exploiting its vast hydropower reserves.[100] Clearly, as additional projects come on line, Uttarakhand will surmount the problem of the emerging shortage and become an exporter. Nevertheless, the lack of adequate governance in the power sector encourages the State Government to increase new generation capacity to circumvent the politically costly route of maximizing the use of the State's existing hydropower supply by cracking down on illegal power theft as a way of meeting the rising demand for energy. For the reasons discussed in Chapter 4 and in the preceding paragraphs, expanding hydropower generation is a very complex operation at the moment, especially as the Government is unable to muster the political support to manage its existing stock of hydropower more efficiently and putting UPCL's house in order.

6.57. In addition to paying royalties, projects are expected to earmark the equivalent of one percent of all power generated for a local area development fund, as per the national Hydropower Policy of 2008.[101] The same policy recommends that State Governments set aside one percent of their share of free power to supplement the contribution of projects to the fund. Little information is available in the public domain about how the local area development fund is going to work in Uttarakhand, once new projects are commissioned. It is assumed that projects will earmark the required one percent of all power generated annually for local area programs. However, it is not clear how the State Government will contribute its own supplemental share for local area development or whether an actual fund exists for this purpose. Nor does it appear that any committees have been created for the purpose of administering the local area development fund. On the whole, the functioning of the local area development fund in the way envisaged by the National Hydropower Policy will be an important ingredient in mobilizing support for hydropower development.

6.58. Hydropower developers, public and private, have to pay substantial levies for diverting forest land. The levies include the net present value of any forest land used for the project (a Central Government requirement) in addition to monies to fund catchment area treatment as well as compensatory afforestation for the loss of tree cover caused by the project.[102] Payments for compensatory afforestation and CAT plan treatment amount to approximately two percent of a project's total cost. As noted earlier, these funds were paid directly to state Forest Departments until the Supreme Court insisted in its order of October 29, 2002 that all monies raised from developers be paid into a central CAMPA fund including both NPV money as well as monies for all types of compensatory afforestation and CAT plan activities.[103] The unblocking of these funds by the Supreme Court in its order of July 9, 2009 means that these monies can now flow from the coffers of the central CAMPA to state CAMPA for spending. According to its Annual Plan of Operations posted on MoEF's website, Uttarakhand's state CAMPA expects to spend its accumulated share of central CAMPA funds (totaling almost Rs. 874 crores) over the next ten years across the following heads of activity:

Source: Annual Plan of Operations (APO) for Uttarakhand's State CAMPA at http://moef.nic.in/downloads/public-information/CAMPA_Dehradun.pdf.

[100] Some effort to develop thermal energy is needed to meet peak demand for electricity. Almost all of Uttarakhand's electricity comes from hydroelectric sources, making the supply of electricity highly dependent on seasonality, in the absence of adequate storage capacity.

[101] Government of India, Ministry of Power, Hydro Power Policy 2008 (New Delhi: Ministry of Power, see especially chapter 9, section (h), pp. 35-36.

[102] Catchment Area Treatment occurs in the watershed in which the project is located; compensatory afforestation can occur anywhere in the state, particularly wastelands.

[103] Developers pay NPV costs plus CAT plan and compensatory afforestation levies to the State Government, which in turn deposits these collections into an account controlled by the ad hoc CAMPA.

6.59. Given the tighter monitoring arrangements governing the functioning of state CAMPA put in place by MoEF and approved by the Supreme Court, there is a much greater possibility that these monies will be used to fund genuine activities to mitigate the negative impact of hydroelectric and other projects on Uttarakhand's soils, catchments, and forests (Table 6.1). The intervention of the Supreme Court—and a more supportive stance by the MoEF—have thus raised the chances that the substantial monies collected from developers on account of the diversion of forest land will flow back to Uttarakhand in a way that produces at least some real benefits for its inhabitants.

Table 6. 1: Ten Year State CAMPA Spending Plan (Rs.Crores)

Category of Spending	**Amount**
Net Present Value Monies:	177.0
Forest Protection, Infrastructure, and Human Resource Development.	
Strengthening Wildlife Protection	124.6
Soil and Water Conservation	94.8
Strengthening Van Panchayats	80.0
Allied Activities including Research	115.5
Compensatory Afforestation	49.4
Wildlife Management	13.8
Other Specified Activities	45.0
Catchment Area Treatment Plan Activities	173.5
Total	873.6

6.60. In order to better harness the revenues generated by hydropower projects, the state government could consider taking the following steps.

6.61. First, it could alter the system for paying royalties by making it mandatory for projects to make their payments in cash. In other words, all power generated would be chargeable to UPCL but the developer would pay the equivalent of 12 percent of the total power generated annually in cash directly to the State Government. The Government could in turn pledge to use these funds only for development purposes (for example, constructing and/or maintaining schools, hospitals, and roads), rather than to meet salary and/or interest costs, and ask local communities to monitor the spending of these royalties.[104]

6.62. Second, in addition measures to strengthen the enforcement of energy regulation in the State, the Government should take measures to improve the functioning of UPCL including reducing power theft, improving collections from high value consumers, and ensuring proper metering of all consumers. The State Government could consider the following actions to reduce power leakages including (i) the adoption of a strict anti-theft law for the power sector (on the lines of West Bengal), (ii) more rigorous energy audits across the distribution network, and (iii) close monitoring of the number of first information reports and criminal charges filed to tackle cases of power theft.

6.63. Third, the Government needs to create a system to fund local area development on the lines of the national Hydropower Policy of 2008. It needs to activate local area development committees, pay its share of free power towards local area development, and monitor more closely the contributions of projects to local area development. Provided local areas have the absorption capacity, funds channeled through the local development fund would be used exclusively to benefit project-affected families. On

[104] Formulas are available to assess the value of free power generated as royalty including averaging out the power purchase cost from all other sources of power. Alternatively, one could use the average sale price per unit of power across all or some categories to benchmark the value of free power.

the other hand, royalties paid in cash would be used for developmental purposes throughout Uttarakhand after proper consultation with local communities to determine their needs.

6.64. Finally, the system for disbursing and monitoring funds obtained from developers for CAT plan activities has improved as a result of the intervention of the Supreme Court, as well as MoEF. A key issue here will be the extent to which the state Forest Department and State Government cooperate with the state CAMPA to ensure that its monies are well spent.

Good Governance and the Hydropower Sector

6.65. Uttarakhand's broader governance situation affects the hydropower sector in several ways. The State (like many others in India) suffers from the problem of frequent transfers of civil servants. The Energy Department, for example, has had six power secretaries in the last four years, disrupting the continuity needed for administration. Weak administration in the hydropower sector across Indian States has translated into poor monitoring, except when the Supreme Court and MoEF chose to intervene, as evidenced by the example of CAMPA. The State's ability to make policy is also questionable: the Urja cell in the Energy Department has remained inactive and an inadequate attempt has been made to involve eminent experts in guiding the state's hydropower policy. State weakness has, in turn, created fertile conditions that make it easier for private developers to capture the working of the hydropower sector.

6.66. In many respects the State Government faces massive challenges in hydropower from external players, ranging from the MoEF to the Supreme Court to civil society groups, which is to be expected in a federal, democratic structure. The State Government can maintain the initiative by crafting a strategy that reassures all stakeholders that it is indeed capable of creating a hydropower regime that works. The pillars of such a new regime would include a transparent licensing regime, strong monitoring arrangements, and a genuine effort to harness resources gained from the exploitation of hydropower for the benefit of the State's inhabitants.

Statistical Annex: Uttarakhand-at-a-Glance

	Uttarakhand		India	
	2000	**2011**	**2000**	**2011**
Population (million)	8.5	10.1	1028.7	1210.2
GSDP (GDP) Rs billion at current prices, factor cost)	145	873.5	19250.2	82326.5
Sectoral composition of GSDP (%)				
Agriculture and allied	27.9	14.1	23.4	17.2
Industry	22.1	33.1	26.2	26.4
(of which manufacturing)	11.6	20.7	15.6	13.9
Services	49.9	52.8	50.5	56.4
GSDP growth rate (%)				
Nominal	14.9	15.7	10.5	15.0
Real	12	8.8	4.4	6.5
Per capita income (Nominal Rupees)	17209.9	87071.4	19230.9	68491.3
Fiscal (% of GSDP)				
Own revenues	2.6	7.3	9.2	6.6
Tax	2.2	5.4	6.5	6.6
Non-Tax	0.4	1.9	2.7	0.01
Central Government	3.8	9.4	4.3	5.8
Tax devolution	0.7	3.4	2.5	3.0
Central Grants	3.08	6.0	1.8	2.8
Revenue Balance	0.07	0.3	4.1	0.24
Fiscal Balance	0.9	-3.2	5.8	-2.40
Labor force (million)	3.134	--	406	698
Literacy rate	72.28	79.6	64.8	74.0
Male	84.01	88.3	75.26	82.1
Female	60.26	70.7	53.67	65.5
Sex ratio (per 1000 males)	964	963	933	940
Child sex ratio (0-6) per 1000 males	906	886	927	914

[1/] *2001 and 2011 census.*

Source: DES, Government of Uttarakhand, CSO.