Journal of Urban and Regional Studies on Contemporary India 1(1): 13–23 (2014)
Article

The Center for Contemporary India Studies, Hiroshima University
http://home.hiroshima-u.ac.jp/hindas/index.html

Transformation of India's Underdeveloped Regions during Economic Growth Period Focusing on Uttarakhand

OKAHASHI Hidenori

Department of Geography, Hiroshima University; 739–8522, Japan.
E-mail: okahasi@hiroshima-u.ac.jp

Abstract This article examines the nature of recent changes in India's underdeveloped regions, focusing on Uttarakhand State, which is a newly set up state separated from Uttar Pradesh and located in the Himalayan mountain range. Previous research has revealed the underdevelopment: lack of access, lack of jobs, workforce outflow, and lack of businesses or industries offering employment. Under economic liberalization, Uttarakhand has exhibited a conspicuous trend of economic growth. Large-scale industrialization has progressed since the 2000s, depending on new industrial policies to promote industry in the backward states, which were legislated by the government of India. Uttarakhand has captured a substantial amount of investment through this policy because of its good location on the periphery of the Punjab–Delhi Mega-Region. Other simultaneous initiatives to stimulate economic growth have also been implemented: development of the tourism industry, commercialization of farming, and urbanization. However, it is important to note that problems accompany the current economic growth. External capital from outside the state spearheads industrialization and tourism development, thus continuing the region's economic dependency. Industrialization has been heavily biased toward plain regions. Therefore, we should aim for endogenous and sustainable development, especially in the hill region.

Key words India, Uttarakhand, underdeveloped region, economic growth, industrial development, urbanization

Introduction

Since its economic liberalization in 1991, India has experienced rapid economic growth and received worldwide attention as an emerging economic power alongside China and Brazil. While many discussions have been conducted on the economic development of India as a whole, the increasing regional economic disparities from the state-wise analyses is particularly important. As is the case in China, excessive regional disparities due to economic development cause a range of social contradictions and may become political issues. For India, which has emphasized regional equilibrium since gaining independence in 1947, the issue of regional disparities threatens the existence of the nation. On the other hand, as evinced by the increased foreign direct investment in India, the globalization of its economy has strengthened direct ties between its domestic regions and foreign countries, thus raising the significance of individual regions to an unprecedented level. Therefore, re-evaluating India's economic development from the perspective of domestic regions is essential to understanding and remediating regional disparities. We must examine mechanisms of regional economic development, the development's inherent problems, and the problems' various impacts. In spite of this necessity, minimal research has studied economic development trends in individual Indian regions in relation to national economic development.[1] In particular, economic development in regions remaining underdeveloped—a situation related to regional disparities—requires urgent investigation.

Although "region" could refer to a range of spatial scales from the state to the village level, we focus on regional entities that possess a certain degree of autonomy but remain subject to national and global factors. When thus considered, Indian states as autonomic regional entities assume great significance. States under a federation banner often manifest regionalism because they maintain a degree of political autonomy and possess the sociocultural distinctiveness inherent to "linguistic states". Economically, they have served not only as the units of local government finance, but also as the units of local economy through public corporations during the period of socialist planned economy following independence. Furthermore, they possessed a range of governmental powers such as taxation and legislative regulations.

Considering the above-mentioned situation, this case study focuses on Uttarakhand, a state in the Himalayan region of northern India that remains underdeveloped. The region's economy has thus far been characterized by a lack of anything apart from small-scale, self-sufficient agriculture and reliance on remittances from workers outside the region. However, India's recent economic growth

has affected this underdeveloped region. Therefore, this study examines structural changes in underdeveloped regions such as Uttarakhand during the recent period of economic growth. It seeks to clarify the mechanisms of economic development and its inherent problems.

This paper is structured as follows: the second chapter provides an overview of Uttarakhand and the third chapter elucidates the problems surrounding its underdevelopment through prior research and statistical data. Because industrialization is often deemed the solution to Uttarakhand's underdevelopment, the fourth chapter examines its history and recent trends of industrialization. The fifth chapter presents the study's results.

Regional Overview of Uttarakhand

Uttarakhand is a partially mountainous state located in the central Himalayan region of northern India (Figure 1). Covering an area of 53,566 km^2, it is larger than Japan's Kyushu island (42,190 km^2). Uttarakhand is located on India's northern border: it is surrounded by China's Tibet Autonomous Region in the north, Nepal in the east, Himachal Pradesh, another mountainous state, in the west, and the state of Uttar Pradesh in the south. Until Uttarakhand became India's 27th state, it was a part of Uttar Pradesh. Uttarakhand was initially called Uttaranchal; however, in January 2007, it was renamed Uttarakhand. *Uttara* means "north" and *khand* means "country"; thus, *Uttarakhand* literally means "northern country." Located at the source of the Ganges River, Uttarakhand is also a prominent pilgrimage area. It contains many sacred Hindu sites and temples, including Haridwar, Rishikesh, and Gangotri in the Garhwal region.

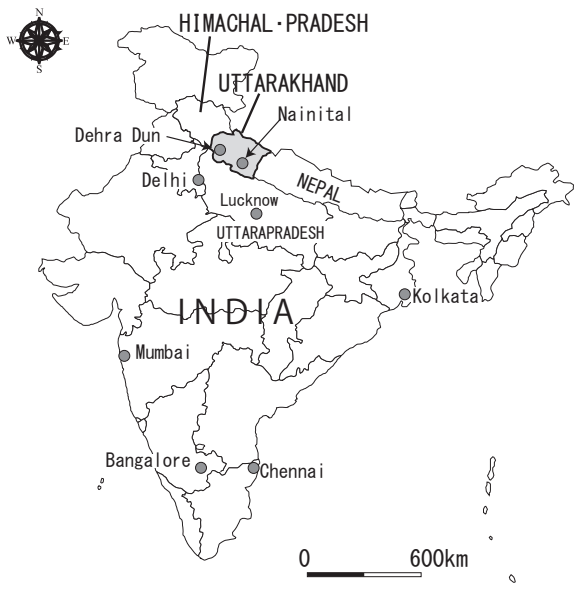

Figure 1. Location of Uttarakhand

Geographically, the state consists of two contrasting regions. Most of Uttarakhand lies in an extensive hill region, ranging from the Greater to the Lower Himalayas. But at the foot of the mountains, in the state's southern extremity, there is also a plain region. The hill region has accessibility problems because it lacks traffic infrastructure such as roads. Conversely, the plain region enjoys relatively good access. The distance from the national capital, Delhi, to the Uttarakhand state capital, Dehradun, is approximately 245 km; to Rudrapur, a new industrial development area, is approximately 235 km. Delhi and Rudrapur are linked by both road and rail.

Uttarakhand comprises two historically and culturally distinct regions: Kumaon in the east and Garhwal in the west. This distinction is also administratively important; although Uttarakhand's capital is Dehradun, located in the Garhwal region, the high court is in Nainital, in the Kumaon region. Uttarakhand has 13 districts; the Dehradun, Haridwar, and Udham Singh Nagar districts are located in the plain region at the foot of the mountains. These districts are significantly different in terms of geography from those in the hill region.

In 2001, the Uttarakhand population was 8,489,349. In the 2011 census, the population stood at 10,116,752, representing an increase of 19.17% within a decade. Although this growth rate is higher than the 17.64% for India as a whole during the same period, Uttarakhand's previous population growth rates per decade were as follows: 1961–71, 25.25%; 1971–81, 26.52%; 1981–91, 24.23%; and 1991–2001, 19.20%. These figures illustrate a declining growth rate since the 1990s. Uttarakhand's population growth by district (2001–11) reveals rates exceeding 30% for the plain region districts of Dehradun, Haridwar, and Udham Singh Nagar. In contrast, districts in the hill region have lower population growth than the overall Uttarakhand average of 19.17%; in particular, the hill region districts of Almora and Pauri Garhwal, located near the plain region, have experienced a net decrease.

Thus, Uttarakhand has marked regional differences in population dynamics. Between 2001 and 2011, its urban population grew by 38.97%, with particularly high growth in the cities of the three plain region districts. As a result, the urban population ratio in Dehradun reached 55.9%. In 2011, the state's gender ratio was 963 women per 1,000 men, not a significant change from the 2001 figure of 962. However, the gender ratio exhibits regional disparities: in the plain region districts, it about 900; in many hill region districts, it is more than 1,000, the highest being Almora, which stands at 1,142. This is likely because of

men from the hill region leaving their families behind and moving away to work. In 2011, the literacy rate was 79.63%, an improvement over 2001's 71.6% and exceeding the 2011 national rate of 74.04%. However, a significant disparity exists between the genders, with the rate at 88.33% for men and 70.7% for women. However, over the past decade, this disparity has decreased from 23.65% to 17.63%. The literacy rate does not significantly differ among the districts. The lowest is Udham Singh Nagar at 74.44% and the highest is Dehradun at 85.24%.

Since medieval times, Garhwal and Kumaon have followed different paths. By the 13th century, the Garhwal and Kumaon had established the Panwar and Chand Dynasties, respectively. Each continued until around 1800, when the Gurkhas from Nepal destroyed both dynasties. However, following the 1815 Anglo–Nepalese War, the English East India Company gained sovereignty over what is now Uttarakhand and direct control over Kumaon. The company returned Garhwal to its former rulers, established the Princely State of Tehri, and indirectly ruled it. Following Indian independence, the Uttarakhand region was incorporated into Uttar Pradesh, a large state centered on the plain region. The incorporation of states with different histories and geographical characteristics weakened the region's political autonomy. Political dependency, connected with economic underdevelopment, gradually created critical issues, and by the 1990s, separatist movements had intensified. In 2000, Uttarakhand separated from Uttar Pradesh and became Uttaranchal (renamed Uttarakhand in 2007), thus achieving greater political autonomy.

The Garhwal and Kumaon regions gaining independence as a single state, in spite of their different historical backgrounds, relates to their socio-cultural homogeneity. With regard to religion, Hindus represent the majority at 85%, followed by Muslims at 11.9%. Although people speak Garhwal and Kumaon dialects of their native language, Central Pahari, the dialects have significant commonalities, with more than 99% of the words being the same (Trivedi 1995). Moreover, over 80% of the population belongs to upper castes (Brahman and Kshatriya); the rest, less than 20%, belong to Scheduled Castes (SC). In the 1991 census, SC comprised 21.2%, Scheduled Tribes (ST) merely 0.2%, and Other Backward Class (OBC) less than 2% (Aggarwal & Agrawal 1995). No significant issues arose when a quota of 23% was assigned for SC/ST in Uttar Pradesh under the reservation system. However, when a quota of 27% was also implemented for the OBCs, residents in the hill region strenuously opposed the quota, declaring it unfair. This issue became tied to the state separatist movements (Trivedi 1995; Aggarwal & Agrawal 1995).

Uttarakhand has witnessed several social movements. In addition to recent state separatist movements, this includes the prominent civilian-led forest conservation movement termed Chipko (Guha 1989). Given these social movements in Uttarakhand, we must focus on its high level of autonomy and spontaneity.

Problem of Underdevelopment in Uttarakhand

Nature of underdevelopment in Uttarakhand

Most areas in Uttarakhand are hill regions. These areas are not suitable for agriculture and are predominated by a concentration of small-scale, self-sufficient agriculture. Because few opportunities exist for employment in other industries, the regional economy has been characterized by underdevelopment. Therefore, by the end of the 19th century, the region was experiencing an exodus of people seeking employment. Generally, a single household member, often the head of household, would leave home to seek work as a migrant laborer and send part of his income to his family as remittance. Such an economy is known as a "money order economy".

Many commentators have remarked on Uttarakhand's underdevelopment, and this section examines some indicators of this underdevelopment.

Table 1 compares Uttarakhand with Himachal Pradesh, a neighboring hill region with similar socio-cultural characteristics. Uttarakhand clearly trails in terms of literacy rate, electrified villages, road length per lakh population, and secondary and higher secondary schools per lakh population. In addition to these socioeconomic disparities, major differences exist in per capita central help and Vidhan Sabha Seats; this may support the state separatist movements strongly.

However, when compared with Uttar Pradesh, Uttarakhand's development does not significantly trail. For example, although in 2001, Uttar Pradesh had a literacy rate of 57.36%, Uttarakhand's was 72.28%. In Kumar (2000), a reason for the disparity is the lack of jobs in Uttarakhand; its people must rely on public sector work outside the state, requiring them be relatively well educated. However, the whether a lack of jobs alone caused the disparity requires further investigation.

Moreover, Uttarakhand's percentage (fiscal year 2004) of population living below the poverty line confirms its underdevelopment. For India as a whole, the percentage of those living in poverty was 27.5% (25.7% in urban areas; 28.3% in rural areas). In Uttarakhand, the percentage was

Table 1. Social and economic characteristics of Uttrakhand and Himachal Pradesh (around 1990)

	Uttarakhand	Himachal Pradesh	Year
Literacy Rate (%)	57.75	63.52	1991
Sex Ratio (number of females per 1000 males)	976	996	1991
Rate of Urban Population (%)	21.56	8.7	1991
Rate of SC · .ST Population (%)	19.73	29.22	1981
Electrified Villages (%)	77	100	1992–1993
Road Length per Lakh Population (Kms)	226	324	1989
Per Capita Central Help (7th Five Year Plan) (Rs.)	1406	1785	
Number of Vidhan Sabha Seats	19	68	
Number of Primary Schools per Lakh Population	145	145	1989–1990
Number of Secondary Schools per Lakh Population	29	39	1989–1990
Number of Higher Secondary Schools per Lakh Population	17	22	1989–1990
Total Government Expenditure (lakh Rs.)	22405	27511	1992–1993

Data: Kumar (2000), Census of India

39.6% (36.5% in urban areas; 40.8% in rural areas). Furthermore, in the neighboring state of Himachal Pradesh, the percentage drops to 10% (3.4% in urban areas; 10.7% in rural areas). These severe disparities between economic levels must be acknowledged.

From the population data, we can gather how underdeveloped Uttarakhand is. However, in comparison with Uttar Pradesh, a poor region that is part of the Hindi Belt, the differences are not significant. Thus, it is difficult to determine how Uttarakhand's underdevelopment is situated from a nationwide perspective; it has been well recognized as underdeveloped in comparison with Himachal Pradesh. In spite of also being a hill region, Himachal Pradesh became a state in 1971, an early stage in contemporary Indian history, and has achieved development. Thus, Uttarakhand's underdevelopment is strongly connected to political dependency, being characterized by narratives within the context of Internal Colonialism.

Structure of underdevelopment problems

Research on problems surrounding Uttarakhand's underdevelopment has yielded results. This section draws on several comprehensive studies to describe the structure of these problems.

In a study emphasizing spatial aspects, Dobhal (1986) applies theories of regional development solely to the Pauri Garhwal district. He examines aspects such as resource potential, spatial patterns of the economy, regional differences in development levels, and population movements and remittances. In particular, Dobhal's study provides valuable insights into remittances based on microregional analysis using post office data. Dobhal also emphasizes natural resources (such as forests) as a development strategy in Pauri Garhwar and suggests sustainable and comprehensive development.

Focusing on Kumaon, Khanka (1988) discusses the qualities of underdeveloped economies with respect to employment. Although Kumaon has a growing workforce accompanied by population growth, it has insufficient employment opportunities for its people. In spite of this situation, there is little overt unemployment, but considerable latent unemployment with few working hours. The low level of unemployment is due to a large-scale exodus of workers. A money order economy has developed as a result of workers, primarily men, seeking employment outside the area and sending remittances to their families. To solve future employment problems, Khanka suggests more work in the agricultural sector and a need to promote horticulture. He also notes the ineffectiveness of creating manufacturing jobs despite the increases in capital-intensive industries. He emphasizes the development of infrastructure and non-agriculture sectors to resolve problems of underdevelopment.

Mehta (1996) focuses on industry as a means of resolving underdevelopment in Uttarakhand—specifically, horticulture, manufacturing, and handicrafts. With respect to horticulture, he uses a comparison with Himachal Pradesh to emphasize the low productivity of apple cultivation and the issues with its marketing. For manufacturing, having recognized that established industries are few and underdeveloped, he asserts the significance of human resource development.

Bora (1996) conducts demonstrative research on Uttarakhand's population outflow characteristics. He studies samples in the Pithoragarh and Tehri Garhwal districts to identify the characteristics of persons leaving and the

factors responsible for their movement. Additionally, Bora highlights how migrants settle in cities where they can find employment. Furthermore, he suggests policies for overcoming underdevelopment, proposing a commercialized agriculture, employment outside the agricultural sector, industrial development, education regarding industrial technologies, and regional urbanization.

In spite of minor differences in perspectives and analytical content among researchers, problems surrounding underdevelopment in Uttarakhand have been challenged based on empirical researches. Significantly, all these studies evince a common awareness: although the majority of people work in agriculture, they are unable to move away from low productivity due to, for instance, small-scale agricultural land ownership, disadvantageous geographical conditions, and a lack of irrigation. Therefore, apart from agricultural jobs, there are hopes for employment through manufacturing in particular. Nevertheless, manufacturing development has been feeble, which contributes to the high rate of workers seeking to earn a living for themselves and their families outside the region. Furthermore, although remittances support household and local economies, the outflow of the active workforce negatively impacts industrial growth. Poor access caused by lack of road development, a typical characteristic of mountainous regions, also constrains the region's economic development. Because of these interrelated issues, investigators have speculated on a vicious cycle of underdevelopment in Uttarakhand.

Recent changes in the nature of underdevelopment

How valid are these studies' viewpoints on problems surrounding underdevelopment in present-day Uttarakhand ? Along with the progression of India's economic growth since the 1990s, development is perceived in underdeveloped regions. Uttarakhand has witnessed the progress of large-scale industrial development in its plain region. In addition, the tourist industry has emerged in the hill region in the form of resorts, although it is limited to certain areas. In their study on Uttarakhand, Ghosh et al. (2008) highlight increasing disparities between urban and rural areas, for example, in income and employment. Regardless, the current outlook suggests that recent economic growth has led to changes in

Table 2. Social and economic characteristics of Uttrakhand and Himachal Pradesh (2000s)

	Uttarakhand	Himachal Pradesh	India	Year
Population	8,479,562	6,077,248	1,027,015,247	2001
Literacy Rate (%)	71.6	76.5	64.8	2001
Sex Ratio (number of females per 1000 males)	962	968	933	2001
Percentage of urban population (%)	25.59	9.79	27.78	2001
Rate of SC · .ST Population (%)	20.9	28.7	24.4	2001
Number of cars per lakh population	465	801	675	2004
Number of two wheelers per lakh population	4,311	2,349	4,822	2004
Households with electricity (%)	67	98	64	2006
Number of post offices per lakh population	30	44	18	2005
Mobile phones per 100 people	6.8	30.0	21.6	2007
Work participation rate (male) (%)	45.3	56.3	51.6	2005
Work participation rate (female) (%)	26.2	47.8	27.3	2005
Birth rate per 1000	21	19	24	2006
Death rate per 1000	6.7	6.8	7.5	2006
Poverty head-count ratio	40.8	10.5	28.0	2004–2005
GSDP (Rs. lakh)	3,362,127	3,122,600	—	2007–2008
Per Capita Income (Rs)	30,767	39,849	33,299	2007–2008
Primary Sector in GSDP (%)	26.0	25.1	24.5	Average 2000–2005
Secondary Sector in GSDP (%)	24.2	36.6	23.5	Average 2000–2005
Service Sector in GSDP (%)	49.9	38.3	52.0	Average 2000–2005
Agricultural GSDP (Rs. Lakh)	542,479	532,832	—	2006–2007
Average annual growth rate in Agricultural GSDP	2.4	6.5	2.8	2000–2006
Manufacturing sector GSDP (Rs. Lakh)	381,495	321,316	—	2006–2007
Average annual growth rate in Manufacturing GSDP (%)	10.7	6.9	7.6	2000–2006

Data: India Stat, Census of India, Indian States at a glance

Uttarakhand.

This section provides an overview of certainties regarding present-day Uttarakhand through the data in Table 2, which compares its socioeconomic indices to Himachal Pradesh and India as a whole. The following indices are lower than those of Himachal Pradesh and India as a whole and distinctly indicate Uttarakhand's underdevelopment: income per person, rate of households in poverty, car and cellular phone ownership per capita, and work participation rate. The following indices are higher than those of India as a whole but lower than those of Himachal Pradesh: rate of households with electricity and number of post offices per capita. Thus, the indices relating to life in society are generally lower than those of Himachal Pradesh. However, the birth and death rates in Uttarakhand are lower than those of India as a whole and at approximately the same as those of Himachal Pradesh.

With regard to Uttarakhand's industrial structure, the ratio of primary industries in GSDP is not significantly different from that of India as a whole or Himachal Pradesh. However, the ratio of secondary industries is equal to that of India as a whole but lower than that of Himachal Pradesh. The service sector constitutes a high percentage of GSDP, which equals that of India as a whole. In recent years, manufacturing production has markedly grown and the overall production has greatly exceeded that of Himachal Pradesh. Uttarakhand's increase in income per person is second only to Haryana's, with the gap between Uttarakhand and Himachal Pradesh shrinking. These trends likely contribute to greater industrialization (Figure 2).

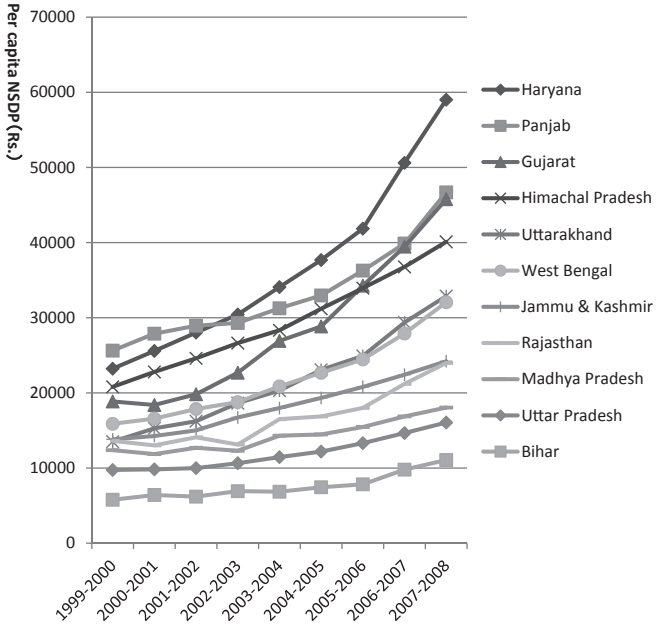

Figure 2. State-wise Per capita NSDP in northern states
Data: India Stat

Industrialization and Problems Surrounding Underdevelopment

Regional policies under planned economy

A turning point in India's economic development was the implementation of its Third Five Year Plan (1961–66), which enacted regional policies to rectify regional inequalities and resolve regional issues. The following section provides an overview of the progress of these policies.

During the Fourth Five Year Plan (1969–74), the central government specified certain districts as industrially underdeveloped, introduced investment incentives for companies located in these districts, and implemented policies to decentralize industry. During the Fifth Five Year Plan (1974–79), the government prohibited the establishment of new businesses and the expansion of existing operations in two types of locations: cities with populations over 500,000 and metropolitan areas with populations over one million. This further encouraged industrial decentralization. By the 1980s, the "non-industrial district" (districts with no large- or medium-sized manufacturing businesses) was introduced to the industrial licensing system, thus aggressively enticing industries to locate in the specified districts, some of which were underdeveloped.

India's regional policies during these planned economic periods were vigorously driven through the initiatives of both the central and state governments. In addition to the usual investment incentives, notable means of implementation included integrated development of industrial areas by states, incentives for businesses to locate in certain areas through the government's system of permits and licenses, and the use of public enterprises in development.

Industrial development in the hill region of Uttar Pradesh

In Uttar Pradesh (UP), the state from which Uttarakhand separated, the State Industrial Development Corporation (UPSIDC), a public enterprise, centrally promoted the development of industrial areas. Figure 3 shows the distribution of UPSIDC industrial areas in Uttarakhand until its separation from UP in 2000. It also reveals that industrial areas were developed not only in the plain region districts of Udham Singh Nagar, Dehradun, and Haridwar but also in the underdeveloped hill region. In contrast, the industrial areas developed by the State Industrial Development Corporation of Uttarakhand Limited (SIDCUL), in charge of industrial development since 2000, have been limited to the plain region, which enjoys favorable business conditions and have been developed on a large scale.

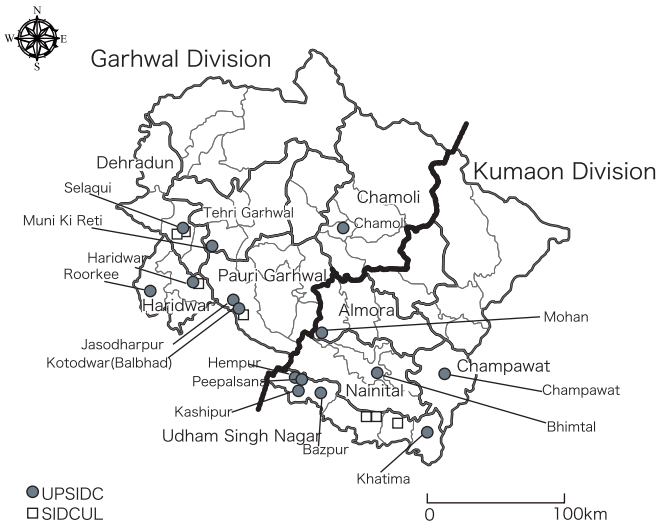

Figure 3. Location of Industrial Estates in Uttarakhand
Source: Okahashi et al. (2011b)
Data: Website of UPSIDC and SIDCUL

This section examines industrial conditions during the 1980s, when Uttarakhand was part of UP. Although limited to the Kumaon region, Figure 4 presents an accurate overview of conditions at the time. Much industry for the manufacture of agricultural products was situated in the southern plain region of the Udham Singh Nagar district due to it being an extremely productive agricultural region. Conversely, in the northern hill region, there was extensive production of hand woven wool items; in addition, there existed an industry that used mineral resources and an electronics industry. However, in Nainital, near the plain region, a more diverse range of industries was present. Of particular note is the new location of industries such as electronics and watch manufacturing.

Further examination of Figure 4 reveals that the electronics industry was located in the Kumaon region through decentralization initiatives. According to Vaid (1988), the electronics industry was a key in stimulating industrial development in UP's hill region. Compared to other areas, the mountainous environment provides advantages such as less dust and low temperatures, which reduce expenses for dust removal and air conditioning. Another advantage is affording employment to the highly educated population, previously forced into the economic exodus. Thus, businesses were enticed by permits and licenses, subsidies, and tax reductions and exemptions; furthermore, UP proactively attempted to lead the way in industrial development through the establishment of public enterprises. Central to this development was the UP Hill Electronics Corporation, which planned to establish offices in over twenty locations in Kumaon, with three offices in Bhimtal. Clearly, during the 1980s and before Uttarakhand's separation from UP, Bhimtal was considered a key location for the region's industrial development project.

Industrial development was thus hoped to resolve Uttarakhand's underdevelopment, and efforts were made to realize these hopes. The following section examines the

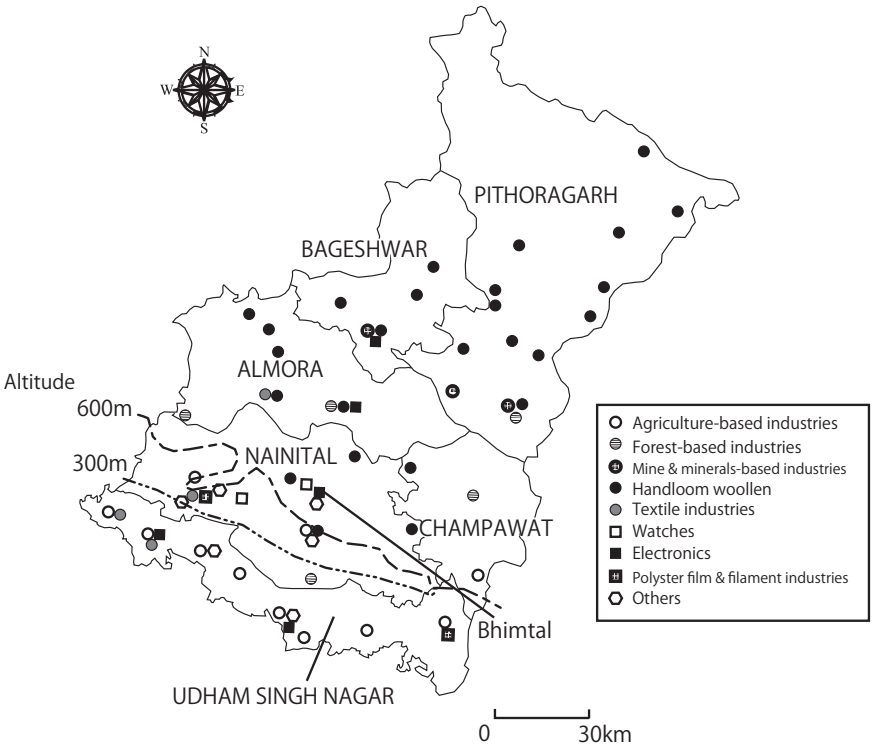

Figure 4. Industries in Kumaon Devision
Source: Okahashi et al. (2011b)
Data: Figure1 in Vaid (1988)

Bhimtal Industrial Area as a typical example.

Industrial development in Bhimtal industrial area: Success and failure

The Bhimtal Industrial Area typifies industrial development in a hill region. Bhimtal lies close to Nainital and possesses the most flat land in the city's Greater Nainital Development Authority (GNDA). In the 1980s, Bhimtal played a leading role in Uttarakhand's industrialization and became a role model for success. This section traces its achievements, heavily drawing on the work of Dar and Singh (1991).

The development of the Bhimtal Industrial Area originated in 1962; although the area of development at the time was only 3 ha, in 1983, 38 additional hectares were simultaneously developed. Central to this industrial development was the electronics industry. In 1976, state public enterprise Teletronics, which assembled televisions, was established in Bhimtal through collaboration among UP's regional development corporations and electronics businesses. Although it faced several issues such as plant management problems due to the unavailability of certain specialists, the firm overcame these, and in 1984, established its subsidiary, Kumaon Television (Kumtel). The companies collectively employed 309 people, 50 of them female, with a further 60 female workers secured through contract work. In addition, many other subcontractors that manufactured parts operated in the area. The successes of Teletronics and Kumtel demonstrated both Bhimtal's geographical suitability to industrial development and how hill regions might be developed.

However, Dar and Singh (1991) also highlight two strategic shortcomings of this industrial development. First is an over-reliance on governmental support. Under normal market conditions, such an enterprise would be unable to withstand competition and would probably disappear at an early stage. The second shortcoming is that although attempts were made to create new businesses through Industrial Training Institutes, the institutes did not provide business experience or teach the skills required to manage companies.

In 1985, Hiltron established for promoting development of the electronics industry in hill regions, endeavored to entice businesses to the area. It became an independent corporation as a public enterprise in 1989 under Hill Development Department, Gov. of UP. At the time, businesses located in the Bhimtal Industrial Area included Bhimtal Photo Films and Usha India (electronic components; established 1988, withdrew 2002). Furthermore, HMT Watch and U.P. Digitals, both watch manufacturers, had factories in areas of Bhimtal outside the industrial area. Through actively recruiting and locating businesses, Bhimtal became a successful example of industrial development in an underdeveloped region.

Moreover, research and educational institutes related to industry were established in the Bhimtal Industrial Area. Birla, a major Indian industrial conglomerate, supported the area's industrial development at an early stage. In 1969, Birla established a research center, which was followed by a training course in industrial technology. In 1989, the course developed into the Birla Institute of Applied Sciences, and the institute continues to provide undergraduate and postgraduate education on electronics and computers.

Failure of industrial development in Bhimtal and its causes

Khanka (1986, 1990) analyzes such rapid industrialization led by state governments. His data largely consists of worker surveys conducted at two factories in Bhimtal, including Teletronics in the Bhimtal Industrial Area. Khanka's analysis identifies two problems: workforce issues and negative impacts on ecosystems. Khanka reveals low ratios of local labor in employment, 30% in technical fields and 50% in non-technical fields. This mismatch arises from differences between the local residents' educational level and the educational requirements for workers. Therefore, Khanka believes that before enticing advanced industries, effective technological training and education should be established. The negative impacts on natural ecosystems result from, for instance, exploitation of local water resources for factory use and reorganization of agricultural land due to development of industrial sites.

Currently, during the industrialization of underdeveloped regions, such issues must be sufficiently considered. In this region, however, factories eventually experienced even greater issues unforeseen at the time—India's economic liberalization, rapid economic growth, and the intense competition caused by globalization.

Owing to these latter issues, the previous decade of industrialization in Bhimtal significantly regressed by the 1990s, with a series of factory closures and withdrawals. Currently, most factories operational during the 1980s no longer exist; only deserted buildings and dilapidated sites suggest Bhimtal's former prosperity. Government-led development and over-reliance on governmental support partially caused these failures. Other factors—intensified global competition as a result of India's economic liberalization from the 1990s onward—forced the closure of these small, uncompetitive companies.

Our survey in 2009 revealed that land use of Bhimtal

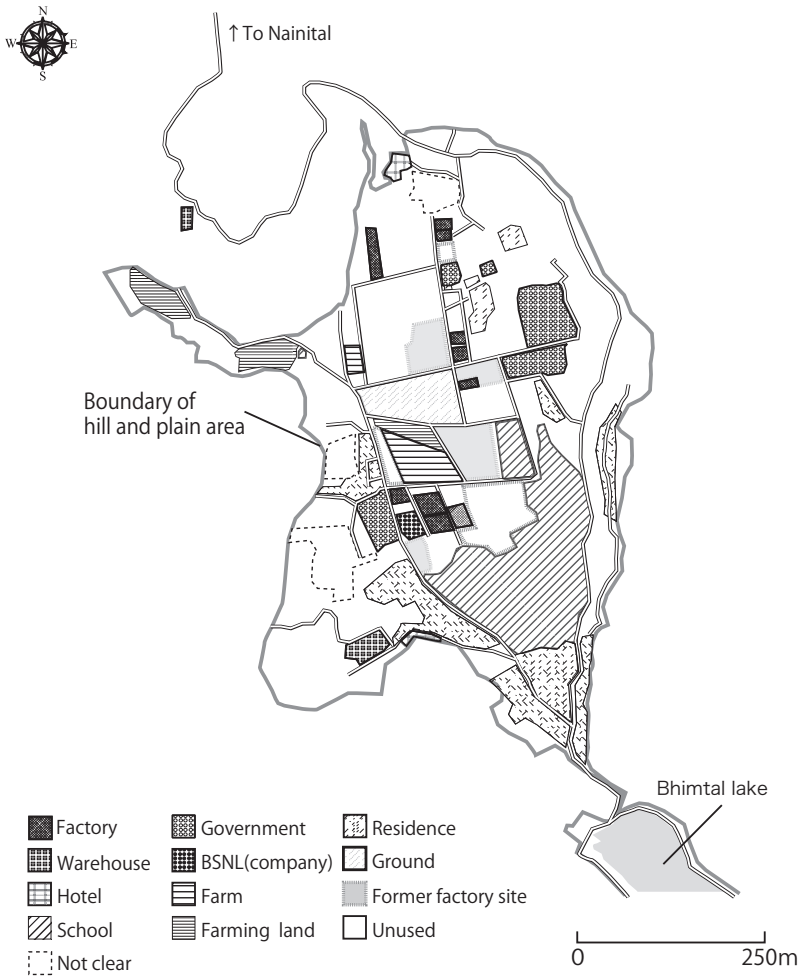

Figure 5. Landuse in Bhimtal Industrial Estate (2009)
Source: Okahashi et al. (2011b)
Data: based on Google Earth and field survey

industrial estate dramatically changed (Figure 5). Factories in operation consist of small scale businesses in a variety of industries. The industrial estate does not become successful especially in making a typical industrial cluster, though some factories and flower farms are prosperous, being based on natural environment and local resources in mountain region. Some administrative bodies shifted from Nainital and educational institutions established in Bhimtal. Therefore the estate in present is in the process of change from an industrial complex to an urban area, which functions as a satellite town of Greater Nainital.

Large-scale development at the foot of the mountains

Following the state's independence in 2000 and amidst globalization resulting from India's economic liberalization, Uttarakhand's industrialization underwent unprecedented changes. The central government accorded Uttarakhand preferential treatment as a special category state and implemented industrial policies aimed at the Himalayan region (Uttaranchal/Himachal Pradesh Industrial Policy, 2003); In addition, Uttarakhand's state government enthusiastically implemented industrial development policies. Therefore, large-scale development progressed on the flat land suitable for business locations.

For details of this development, we defer to Tomozawa (2008). With respect to Uttarakhand's overall production, between fiscal years 2000 and 2006, production amounts increased 1.6 times. Although share of primary industry decreased from 28.2% to 19.5%, secondary industry rose significantly, from 22.3% to 31.8%. Even though these figures confirm industrialization's positive influence, the only outstanding districts in numbers of factories and workers are Udham Singh Nagar, Dehradun, and Haridwar—all on the flat areas at the foot of the mountains. Between these areas and the districts in the hill region, wide gaps exist in production and industrialization.

Although this round of industrialization has enjoyed preferential government measures, private rather than public enterprises constituted the major portion of established companies. In contrast to the period of planned economy prior to economic liberalization in 1991, these

preferential government measures were not merely political means that disregarded market mechanisms. Rather, the region's reputation as a good business location increased during globalization: it was designated as an outer region of the rapidly developing Delhi metropolitan region. Thus, the plain region can expect greater long-term industrial sustainability than factories previously located in Uttarakhand's hill region.

Nevertheless, this latest industrial development favored flat regions at the foot of mountains and produced no noticeable results in the hill region. Industrial development characterized by pronounced regional inequality may widen disparities in Uttarakhand and further generate regional problems. Therefore, in April 2008, as a preventive measure, the state government implemented a hill industrial policy targeting only the hill region. The policy defined measures for preferential treatment, such as subsidies for transportation costs. This policy surpassed the central government's policies, mentioned above, for enticing industry. However, at the time of this study in April 2010, the policy had not yielded significant results. From the failures at Bhimtal, we can learn much about what prevents businesses from locating in the hill regions.

Conclusion

Economic growth in contemporary India has led to the rapid expansion and development of major cities. However, increasing regional disparities have emerged as a major problem. Therefore, elucidating the nature of changes in underdeveloped regions, as in this case study of Uttarakhand, is crucial to evaluate India's recent economic growth.

Uttarakhand, located in the Indian Himalayan region, has long been characterized by economic underdevelopment. Previous research has revealed the following about this region's underdevelopment: agriculture, which employs the overwhelming majority of the population, has been unable to increase productivity because of, for example, small-scale agricultural land ownership, disadvantageous geographical conditions, and an absence of irrigation. Although Uttarakhand has high hopes for employment opportunities in other sectors, the state's hopes have not yet materialized. This results in a continued exodus of workers seeking jobs outside the region. Even though remittances from these workers support household and local economies, the outflow of this active workforce negatively impacts industrial growth. In addition, poor access to mountainous regions exacerbates the problem. Lack of access, lack of jobs, workforce outflow, and lack of businesses or industries offering employment have thus collectively contributed to ongoing underdevelopment in Uttarakhand.

Despite these barriers, industrialization was considered hopeful for the development of Uttarakhand. In accordance with India's regional policies from its period of planned economy, establishing industrial areas was promoted in Uttar Pradesh through the Uttar Pradesh State Industrial Development Corporation. During that period, industrial areas were also developed in the underdeveloped hill region of UP. The case study of Bhimtal Industrial Area exemplifies this process; Bhimtal became a successful example of hill region development during the 1980s because of the UP state government's backing for, in this case, the electronics industry as the core of its industrial development. However, by the 1990s, a series of factories closed or withdrew from the area. The main causes of this failure were government-led development, over-reliance on governmental support, and intensified global competition combined with India's economic liberalization in the 1990s. Thus, Bhimtal served as a terminus for the development of underdeveloped regions during India's period of planned economy.

On the other hand, since economic liberalization, particularly from the 2000s onward, Uttarakhand has exhibited a conspicuous trend of economic growth. This is largely due to the rapid large-scale industrialization in the plain region, which relies on the central government's industrial policies. Although Uttarakhand's treatment by the central government as a special category state has greatly contributed to the growth trend, the state's separation from UP and its subsequent independence have also contributed. Notably, political autonomy and economic autonomy seem to have progressed simultaneously. Yet, there is a risk that regional disparities within Uttarakhand may rapidly increase. The state government has responded by implementing incentives for industry to locate in the hill region; unfortunately, there have been no significant results. India's overabundant workforce enables the comparatively easy procurement of labor in many regions, and there is little difference in wages between plain and hill regions. Thus, unlike the case of Japan in its post-war period of rapid economic growth, industries in India understandably resist advancing into hill regions, where transportation costs may increase. This case study highlights the difficulties of stimulating economic growth through industrialization in the hill regions of modern-day, globalizing India.

In addition to industrialization, other simultaneous initiatives to stimulate economic growth in Uttarakhand

have been implemented: development of the tourism industry in the hill region, commercialization of farming, urbanization, and improved employment opportunities in suburban villages (Okahashi et al. 2011a). These initiatives indicate that, in addition to industrialization, current economic development in the hill region requires a variety of perspectives including urban development, tourism development, and agricultural development as well an examination of sustainability with reference to environmental conservation.

However, problems other than environmental ones accompany Uttarakhand's current economic growth. In many cases, external capital from outside Uttarakhand spearheads industrialization and tourism development, thus continuing the region's economic dependency. Uttarakhand should probably follow Himachal Pradesh's example by strictly controlling land acquisition from outside the state. In addition, industrialization has been heavily biased toward certain areas in Uttarakhand, which risks increasing economic disparities between the hill and plain regions. If these trends continue, the hill region may experience decline akin to that experienced by similar regions in Japan.

Finally, we situate Uttarakhand's economic growth within the national context. The state has been experiencing large-scale industrialization since the 2000s because of its location on the periphery of the Punjab–Delhi Mega Region (Okahashi 2012). Since economic liberalization, the India's economic growth has been driven by this Mega Region, a wide-ranging economic sphere that transcends metropolitan areas. The Mega Region demonstrates that an economic spread effect occurs, even in underdeveloped regions, when conditions are suitable for businesses. In contrast, states along the underdeveloped Hindi Belt have not experienced pronounced development. Therefore separate measures should be implemented through regional policies to alleviate regional problems.

Acknowledgements

This study was partly supported by a Grants-in-Aid for Scientific Research (A) 2013 (Representative: Hidenori Okahashi, Proposal Number: 23251020).

Notes

1. We examined the progress of industrialization and the resulting regional changes, focusing on large industrial estates at Pithampur in MP State and at Noida in the Delhi National Capital Region. See Okahashi (2008) and Okahashi (2013)

References

Aggarwal, J.C. and Agrawal, S.P. 1995. *Uttarakhand: past, present and future*. New Delhi: Concept Publishing. (E)

Bora, R.S. 1996.: *Himalayan migration: A study of the hill region of Uttar Pradesh*. New Delhi: Sage Publications. (E)

Dar, R.K. and Singh, V.S. 1991. Industrial development in a hillside city of the Himalayas: A case study of Nainital, Uttar Pradesh India. In *Readings in Decentralized Planning Vol. II*. eds. B.N. Yugendhar and A. Muhekerjee, 159–174.

Dobhal, G.L. 1986. *Development of hill areas*. New Delhi: Concept Publishing Company. (E)

Ghosh, N., Kar, S. and Sharma, S. 2008. *Growing rural-urban disparity in Uttarakhand*. New Delhi: Serials Publications. (E)

Guha, R. 1989. *The Unquiet woods: Ecological change and peasant resistance in the Himalaya*. New Delhi: Oxford University Press. (E)

Khanka, S.S. 1986. New industrial technology and employment in the Kumaun Hills of Uttar Pradesh. *Manpower Journal* 22: 19–52. (E)

Khanka, S.S. 1988. *Labour force, employment and unemployment in a backward economy*. New Delhi: Himalaya Publishing House. (E)

Khanka, S.S. 1990. Socio-economic features of the Bhimtal Gadhera catchment, Kumaun Himalaya. *Journal of Social and Economic Studies* 2: 97–124. (E)

Kumar, P. 2000. *The Uttarakhand movement: Construction of a regional identity*. New Delhi: Kanishka Publishers, Distributors. (E)

Mehta, G.S. 1996. *Uttarakhand: Prospects of development*. New Delhi.: Indus Publishing Company. (E)

Okahashi, H. ed. 2008. *Emerging new industrial spaces and regional developments in India*. New Delhi: Manohar. (E)

Okahashi, H. 2012. Spatial structure and regional developments in contemporary India for advancing research on Mega-Region. *Journal of Contemporary India Studies: Space and Society, Hiroshima University* 2: 1–15. (JE)

Okahashi, H. 2013. Development of contemporary India area studies as part of geographical studies in Japan since the 1980s. *Geographical Review of Japan Series B* 86: 40–51. (E)

Okahashi, H., Banshoya, S., Tanaka, K. and Chand, R. 2011a. Transformation of Himalayan mountain village under India's rapid economic growth: Case study of Uttarakhand State. *Geographical Sciences* 66: 1–19. (JE)

Okahashi, H., Tanaka, K. and Tiwari, P.C. 2011b. Industrialization and underdevelopment problems in a backward mountain state of India: focusing on Uttarakhand state. *Journal of Contemporary India Studies: Space and Society, Hiroshima University* 1: 27–36. (JE)

Tomozawa, K. 2008. Strategy for developing industry and locating factories in an economically backward state of India: Focusing on an "industrial belt" in Uttarakhand. *Hiroshima University Studies, Graduate School of Letters* 68: 57–76. (JE)

Trivedi, U.R. 1995. *Autonomy of Uttarakhand*. New Delhi: Mohit Publications. (E)

Vaid, O.N. 1988. Industrialization of Kumaun in the context of regional development. In Kumaon*: Land and people,* ed. K.S. Valdiya, 295–308, Nainital: Gyanodaya Prakasha. (E)