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The Transformation of a Himalayan Mountain Village under the Rapid Economic Growth in India: A Case Study of the State of Uttarakhand

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Abstract This paper aims to examine the socio-economic changes in rural areas of the underdeveloped regions of India, focusing on Uttarakhand State. The state has been characterized by "Money Order Economy" depending on the money sent from migrant workers. However the state has shown a new development tendency such as industrialization and tourist development after the economic liberalization since 1991. We made an intensive household survey of a mountain village near Nainital that has grown rapidly as a hill resort. The results obtained are as follows. Various employment opportunities were provided in this village. This is due to the development of commercial agricultural production in the village and the availability of various off-farm employment chances offered in the labor market of Nainital. In terms of household economy, a number of households typically have an economic dependence on income from off-farm employment. On the other hand, there are an extremely high number of households engaged in agricultural work like growing vegetables. The expansion of employment opportunities and subsequent improvement of the household economy are mainly attributed to higher educational levels. This case highlights a notable example of a village in India's underdeveloped region that has grown out of a backward situation and has shown a development tendency.

Key words India, Uttarakhand, underdeveloped region, economic growth, Mountain village, empoyment opportunity, household economy

Introduction

Since the economic liberalization that commenced in 1991, India has undergone rapid growth as part of the globalization of its economy. For developing countries confronted with poverty, it is important to consider the effects that economic development on the national level has on public life and whether such changes can lead to the improvement. As a result, extensive macro-scale research has been conducted on modern India in relation to these issues. This national-level research has identified an increase in regional disparity in India brought on by recent economic growth that requires attention (Ahluwalia, 2000; Bhattacharya & Sakthivel, 2004). Therefore, when evaluating India's economic development, it is also essential to shed light on the vast extent of rural areas in the country.

This paper focused on underdeveloped, mountainous regions, specifically on Uttarakhand state located in the Himalayan Mountains of northern India. The economy of the villages in this region has been based on little more than small-scale subsistence farming, along with a high outflow of population seeking employment outside the region and a dependency on remittances. In a region with such external dependency, the socio-economic changes that could be accomplished amidst India's economic growth has been a critical issue.

Research on the local economy of Uttarakhand has produced fruitful results (Khanka, 1988; Mehta, 1996; Bora, 1996; Dobhal, 1986). Okahashi (2014) appointed the significant common findings of these studies in terms of the issues of underdevelopment. These studies highlight that although the number of agricultural population is overwhelmingly large, in subsistence farming it is difficult to overcome obstacles such as irrigation inadequacies and low productivity. Therefore, although it is necessary to increase employment opportunities in the industrial sector, the rate of expansion is low. Consequently, a high rate of population migration to other regions to seek employment has persisted. Remittances from migrant workers support households and local economies, but the outflow of the active workforce has a negative impact on industrial development. As roads in mountainous areas are underdeveloped, poor access was exacerbated. Thus, a vicious cycle of problems of underdevelopment in Uttarakhand was assumed to persist.

Yet, such observations dose not seem reasonable presently. In India, since the 1990s, along with economic growth, development has been witnessed in such underdeveloped regions as well. Large-scale industrialization was progressing, in the plains at the foothills of Uttarakhand, and the advancement of the tourism

industry, including resort facilities, could be seen in the inner mountainous areas of the region as well. Focusing on Uttarakhand, Ghosh et al. (2008) indicated that the progression of regional differentiation commenced with the increase in disparities between urban and rural areas, but in the same province, various changes under the influence of economic development were expected to have occurred. In particular, if rural villages exhibited signs of development, then this could contribute to future strategies for development; nevertheless, it is necessary to investigate the actual circumstances and mechanisms of these changes.

Considering these issues and focusing on Uttarakhand, this study examines villages in this underdeveloped region that exhibit development and attempts to elucidate from an employment standpoint the realities of changes resulting from economic growth.

To this end, we focused on one mountain village. The area we studied was K Village, located near the provincial city of Nainital that developed from the colonial period as a highland summer retreat (hill station). We chose this study area as we expected to find spread effects of the growth of this city. The survey was conducted in September 2007, and it covered all households (89 homes) in the central settlement (KT) of K Village. A detailed data analysis in this paper exclusively covers this KT settlement.

The State of Uttarakhand's Underdevelopment and Development Problems

Uttarakhand state is a mountainous province in northern India in the central part of the Himalayas (total population: 8,489,000 as of 2001; 53,000 km^2). The eastern half is called the Kumaon region, and the western half, the Garhwal region.

Because most of the region was characterized by the practice of subsistence agriculture and low economic development, historically, the region has witnessed a steady outflow of people seeking employment opportunities, especially householders and family members seeking migrant-specific employment outside the region. As a result, a type of economic dependency known as a "money order economy" (Khanka, 1988) was also a prominent aspect of the region's economy.

The underdevelopment of Uttarakhand is obvious if we look at the percentage of the population living below the poverty line in 2004. In the province, it was 39.6% (36.5% in urban areas and 40.8% in rural areas), whereas for India overall, the percentage was 27.5% (25.7% in urban areas and 28.3% in rural areas); moreover, in the neighboring mountain state, Himachal Pradesh, it stayed at 10% (3.4% in urban areas and 10.7% in rural areas). Such disparities in economic levels cannot be ignored.

On the other hand, political dependency has also been investigated. After India gained independence, this region became part of a large state mainly located on the plains, that is, Uttar Pradesh. The union of different states resulted in the Uttarakhand's weakened political autonomy and economic underdevelopment. Indeed, Himachal Pradesh became a Union Territory at the time of India's independence. Thereafter, as early as 1971, it proceeded with a progressive plan to promote economic development, and as seen in the poverty line and population ratio data, the plan yielded significant economic progress.

In 2000, Uttaranchal (renamed Uttarakhand in 2007) separated from Uttar Pradesh as a result of a violent separatist movement[1] and achieved political independence. Then, in order to overcome the low level of development, the state executed ambitious development policies. Advancements in large-scale industrial development were especially made in the foothills by relying on the central government's industrial development policy (Tomozawa, 2014).

While Uttarakhand had an economy characterized by underdevelopment and political dependency, the growth of the Indian economy since the 1990s has resulted in the progression of industrialization in the foothills and the plains, the expansion of the tourism industry in the mountainous regions, and the commoditization of agriculture, among other aspects of growth. Moreover, the independent state had begun to implement aggressive development policies. Bora (1996) raised the policy recommendations in order to overcome underdevelopment in agricultural commodities, non-agricultural employment, industrial development, industrial training, and regional urbanization, which were already beginning to materialize. Owing to such developments in Uttarakhand, not only urban areas but also rural areas were expected to experience an economic impact. Therefore, in the next section, we elucidate the actual conditions of the economy by focusing on a sample rural area.

Expanding Employment Opportunities: Progress in Agricultural Development & Non-Agricultural Employment

Overview of K Village and the KT Settlement

K Village is around 12 km by road from Nainital, which is about 30 minutes travel by car (Figure 1). Since access had been improved in recent years, it exhibited the char-

Picture 1. Overview of K Village
(Date: September 17, 2007)

acteristics of a suburban farm village. While Nainital had prospered as a highland resort since the colonial period, in recent years, the number of tourists has been rapidly increasing along with economic growth. In addition, the district's government office is located in this city, and the centrality of both government and educational institution is also high. Consequently, K Village is considered to be strongly affected by influences from Nainital.

K Village is a village located on a gently sloping hill with a central elevation of around 1,635 m. A small lake in the center of the village is a factor attracting tourists to this small village. While the village is a short distance from Nainital, Nainital is at an altitude of around 2,000

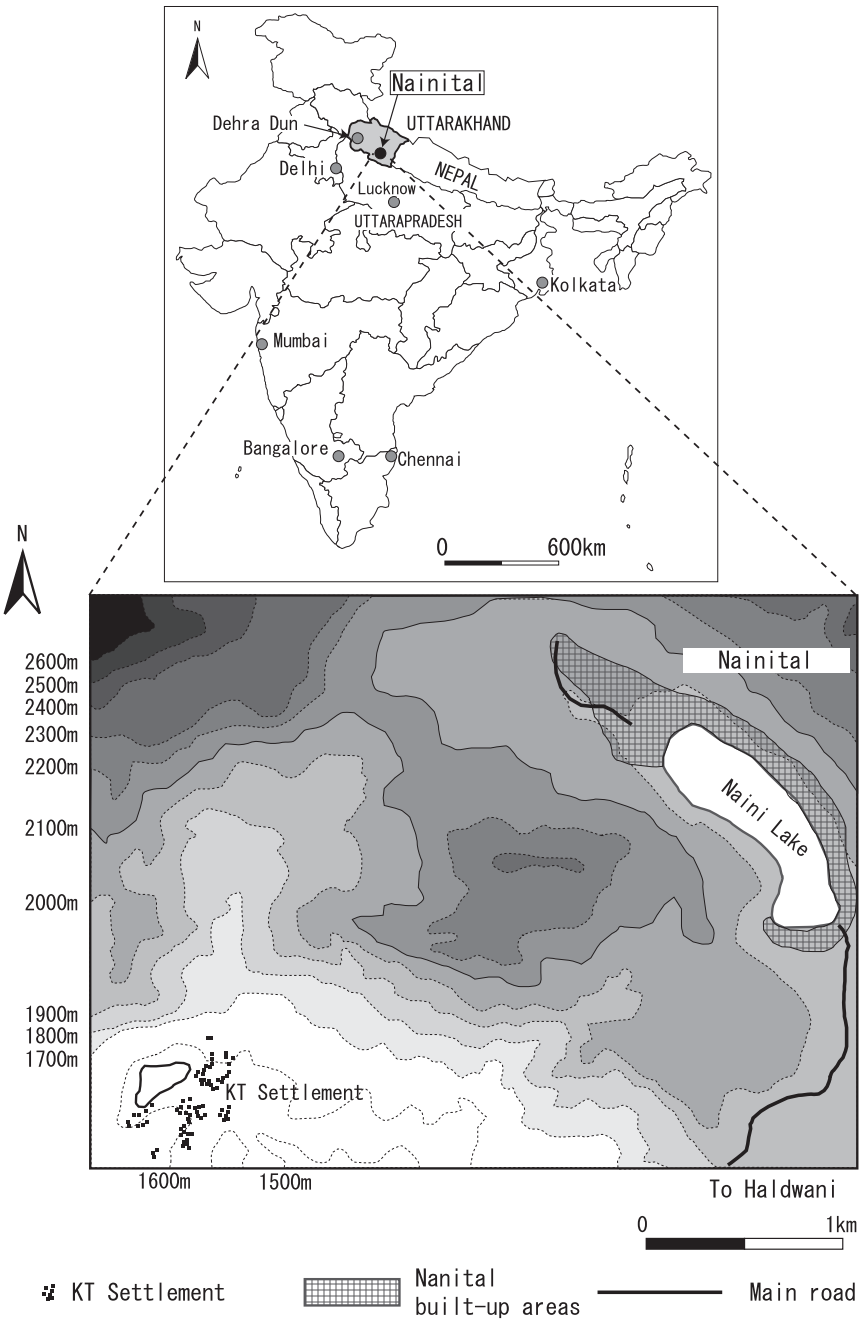

Figure 1. Study area

Table 1. Distribution of landholdings

No. of households

	0 nali	1~4	5~9	10~14	15~19	20~24	25~29	30~49	50~	計
Brahmin	3	6	4	3						16
Rajipt	7	8	8	13	2	7	1	10	4	60
Other Backward Classes (OBC)	1									1
Scheduled Caste (SC)	7	4	1							12
Total	18	18	13	16	2	7	1	10	4	89

Note: 1 nali=2a
Source: Field survey in KT settlement in Sept. 2007

m, so there is approximately 400 m difference in altitude between the two places. This presented a problem in access.

According to census 2001, the number of households in K Village was 271, and the number of inhabitants was 1,413. In census 1991, there were 239 households and 1,227 people, which means that both households and the population were increasing. Incidentally, the literacy rate in K Village (from census 2001) was 87% (93% for males, 81% for females), which is fairly high when compared to the 65% literacy rate for India as a whole and the 78% (86% for males and 59% for females) rate for Nainital district.

KT Settlement, which we conducted a survey, is one of the five small hamlets that constitute K Village. The number of households at the time of the survey was 89, which is a larger settlement and functionally had a central position within the village. As shown in Table 1, the caste structure included 16 households of the Brahmin caste and 60 households of the Rajput caste; the majority of households in the area was of the upper castes,[2] though 12 households were in scheduled castes. In terms of farmland ownership, the features of each caste could be clearly seen. The scheduled castes were characterized by a lack of farmland ownership whereas members of the Brahmin caste, although including a few who were not farmland owners, predominantly owned small-scale farming. Among Rajputs, who are considered to be the dominant castes, 90% of households owned farmland; furthermore, numerous large households in this village owned more than 30 nari (60 a, 6,000 m^2.)

Features of the employment structure

We will now consider place of work based on gender for KT Settlement (Table 2).

First, 61 out of a total of 153 men (40%) were employed in agriculture. In particular, among the Rajput caste that dominated farmland ownership, 53 out of 115 people (46%) were employed. In recent years, intensive, year-round, vegetable cultivation has become widespread among farmers, and milk production has also increased through the establishment of dairy cooperatives. The increase in revenues from these sources may have been the simple reason behind agricultural employment.

Picture 2. Vegetable cultivation
(Date: September 17, 2007)

Men who were not employed in the agricultural sector worked in a wide variety of other occupations. Most notable among these were civil service jobs, office work, and teaching, which were held by 41 people or 45% of non-agricultural workers. Of these people, 21 worked in Nainital, and the close proximity of Nainital's local labor market made this place an important source of employment.

In addition, 7 people worked as store managers and 10 as clerks. These positions were also related to Nainital's local labor market, but various other types of employment had increased as a result of the influence of tourism. In comparison, employment at tourism facilities within the village was notably limited. A resort facility[3] managed by external capital, and a Central Government Holiday Home were constructed, but the former employed only one person from within the settlement and, in the case of the latter, a contractor in the settlement hired only three people. In addition, there were only seven day laborers,

Table 2. Main occupation by sex and caste

No. of persons

	Male				Female			
	Brahmin	Rjiput	SC/OBC	Total	Brahmin	Rjiput	SC/OBC	Total
Agriculture (Cultivator)	6	53(1)	2	61(1)	7	27	1	35
Shop owner		7(3)		7(3)				
Buisiness	1			1				
Politician (Village headman, Menber of assembly)		1	1	2				
Transport buisiness		2	1	3				
Contractor	1	3		4				
Teacher		6(1)		6(1)	2(1)	10(1)	3	15(2)
Office worker (Technical)	1		1	2		1(1)		1(1)
Office worker (Clerical)		10(5)		10(5)				
Civil servant (Officer)	2(1)	12(5)	3	17(6)		2(1)		2(1)
Civil servant (Worker)	2	4		6	1(1)	2		3(1)
Army		5(5)		5(5)				
Hotel manager	1(1)			1(1)				
Accountant		4(3)		4(3)	1	1		2
Medical doctor			1	1				
Shopkeeper, servant, cook	1	5(1)	4	10(1)				
Day laborer (Construction)	2	2(1)	3	7(1)				
Taxi driver	1	1	1	3				
Electric constructor			2	2				
Day laborer (Agricultural)					1	1	1	3
Nurse						2(1)		2(1)
Peddler						1(1)		1(1)
Others			1	1		3		3
Total	18(2)	115(25)	20	153(27)	12(2)	50(5)	5	67(7)

Note: Number in parentheses shows residents living outside the village
Source: Field survey in KT settlement in Sept. 2007

Picture 3. The center of Nainital
(Date: September 18, 2009)

whose employment was even more unstable. These held construction jobs, and there were no agricultural workers.

28% of men who held non-agricultural jobs, that is, 26 people lived outside the village. Of these, 8 lived in Nainital, and 6 lived in Haldwani, a city in the foothills; the remaining 12 people were widely distributed both inside and outside the state. For the remaining, it is implied that money sent by a migrant who sought employment outside the region was their means of survival. Of those who found employment outside Uttarakhand, 5 were soldiers, 4 were office workers, and 1 was a civil servant; however, soldiering in particular was a conventional form of external employment pursued by people from Uttarakhand. Therefore, many men were pensioners. Of the 16 pensioners, 7 had been civil servants and 6 had been in military service. A fair number of migrants also had stable occupations.

In terms of caste divisions, a clear difference in the agricultural employment rate could be observed: the rate of employment of Rajput was the highest, followed by Brahmin, and that of scheduled castes was extremely low because only a few of them were employed. Furthermore, those of the Rajput caste also occupied many non-agricultural positions including the civil service, office work, teaching, and the army, whereas many of the lower, scheduled castes and other backward classes held various, less stable jobs, such as sales clerk and, day laborer. Differences in male employment based on caste can be clearly seen. Notably, one member of the scheduled caste was in the district government assembly, but this was a result of the quota system[4] of the reservation policy.

Next, let us look at female employment in KT

Table 3. Present adress of family members

		Male		Female		Total	
		No. of persons	%	No. of persons	%	No. of persons	%
Within Uttarakhand	K village including KT settlement	203	76.6	225	86.2	428	81.4
	Nainital city	25	9.4	10	3.8	35	6.7
	Nainital district	5	1.9	5	1.9	10	1.9
	Haldwani	10	3.8	9	3.4	19	3.6
	Other places in Uttarakhand	7	2.6	1	0.4	8	1.5
Out of Uttarakhand	Delhi	4	1.5	3	1.1	7	1.3
	Munbai	4	1.5	3	1.1	7	1.3
	Other places out of Uttarakhand	7	2.6	5	1.9	12	2.3
Total		265	100.0	261	100.0	526	100.0

Source: Field survey in KT settlement in Sept. 2007

Settlement (Table 2). Similar to men, many women were engaged in agricultural employment, with a proportion exceeding 50%. Of these, all were engaged in agricultural activities at home, and a mere three people were employed as agricultural laborers. Of particular interest among those employed in non-agricultural sectors are the 15 people working as teachers With 6 teachers being men, this number can be considered fairly large. The nine women teachers working in K Village have also been employed by secondary education institutions and private elementary schools. In addition, although the number is still small compared to that of men, it is worth noting that some of women had moved into civil service. Movement into these occupations as it relates to educational improvement will be described later. In contrast, employment related to tourism such as hotel positions, and clerks was not seen at all. This may be a result of the villagers' critical attitude toward local women working at resort facilities in the settlement. Interviews with the villagers revealed that they held negative perceptions about the resort facilities.

Table 3 shows an address wise breakdown of all household members in KT Settlement based on sex. Those residing outside K Village, for work or for study (nearly 20%) were nevertheless recognized as family members in the KT Settlement. It was noted that slightly more men than women had come to reside outside the village. However, outflow to remote locations outside of Uttarakhand remained relatively low, at approximately 6%. Of this amount, many were located in the nearest urban area, Nainital (35 people) or in the lowlands of the same district in Haldwani (19 people). This may be attributed to the expansion of the labor market within the state.

As we have described, this settlement featured relatively abundant and diverse employment opportunities because of the expansion of labor-intensive commercial agriculture in the village and the possibility of commuting to Nainital's labor market. However, within these types of non-agricultural work such as teaching, civil service, and tourism positions there was a large discrepancy in income and terms of employment. Under such working conditions, it is presumed that the traditional status of people becoming migrant workers and seeking employment outside the region has decreased relatively.

Expansion of vegetable cultivation and dairy farming

Currently, the village's agriculture focuses on intensive vegetable cultivation and the expansion of dairy farming, which have become an important source of cash income. Intensive vegetable farming began in the settlement nearly 20 years ago and was the predominant form of agriculture there. Presently, vegetables are cultivated year-round in three crops a year production cycles.

As shown in Table 1, although 80% of all households owned farmland, 95% of those were small-scale farmers with less than 50 nari (1 ha). Only 4 households owned more than 50 nari, with the largest scale farm being 200 nari (4 ha). However, many of these larger scale operations were the result of coownership between a large family and other households. Characteristic of this village are the subsistence farmers who made use of a small piece of earth and performed year-round, labor-intensive vegetable cultivation. These conditions were supported by the village's abundant water supply, which was provided by irrigation from rivers.

In terms of the main acreage under cultivation and the number of farmers, from February to April the largest crop was potatoes (11.2 ha/43% of total acreage, 57 houses), the second largest was carrots (15%, 21 houses), and the third largest was radishes (12%, 14 houses). From June to August, the largest crop was radishes (9.5 ha/44% of total acreage, 49 houses) and second was coriander

Table 4. Farm household rearing livestock

No. of households

	Cow				Buffalo				Goat			
	1~2	3~4	5~	Total	1~2	3~4	5~	Total	1~2	3~4	5~	Total
Bramin	5	3	0	8	3	1		4				0
Rajiput	21	10	6	37	11	2	2	15	1			1
SC	4	0	0	4	1	0		1		1	1	2
Total	30	13	6	49	15	3	2	20	1	1	1	3

Source: Field survey in KT settlement in Sept. 2007

(35%, 40 houses). From September to November, the main crop was peas (8.4 ha/63% of total acreage, 53 households) and second was cabbages (16%, 23 households). A portion of the crops introduced were from Japanese-made hybrid seed varieties entered in the recent past, which had resulted in an increase in harvest yield.

A small number of people shipped their crops cooperatively to neighboring markets, such as Nainital. However, the value was not high in these cases. In terms of shipment value, many shipments were sent to distant rather than nearby markets. Rather than shipping individually, many followed the practice of grouping together their goods for direct sale to traders who came to the fields from lowland towns to make purchases. Although the vegetable farms came together as a region, shipments were not collaborative throughout the settlement, and were left essentially to individual farmers.

Next, we consider livestock rearing. As shown in Table 4, 49 households, that is, more than half the households, kept heifers. In comparison, the number of households keeping buffalo was less than half of those with heifers. The number of households that kept goats was notably small, and it included predominantly those belonging to scheduled castes.

Both heifers and buffalo were kept for the purpose of milk production. The establishment of dairy cooperatives in this settlement brought rapid growth to dairy farming. In 2004, when the cooperatives were established, only 12 households were members. However, the 2007 survey indicated that this number had reached 60, which means that within that short period of time the cooperatives had grown fivefold. At the time of the survey (September 1 to September 21, 2007), the average daily sales volume, based on calculations from the union shipment ledger, was 132 liters, with a sales amount of approximately 1,827 rupees. Based on this information, the estimated shipment value for 1 month would be approximately 55,000 rupees.

The majority of cattle farms had a small-scale management, with one or two heads of cattle, but six households managed slightly larger scale farms of five or more heads,

Picture 4. Cowshed
(Date: September 20, 2007)

and for these farmers, income from dairy was considered to have improved the household economy. Milk was shipped jointly through the union, and because trucks came to the village to collect the milk and take it to the factory, the burden of shipping was relatively small for farmers. Prices compared to those in the period when farmers sold to merchants in Nainital had become stable. In addition, because of this joint shipment, strict quality checks came to be conducted on milk fat content and other factors at the time of shipment by union personnel., and different prices were established based on the quality of the product. Joint shipment to factories can be said to have improved quality management, compared to the traditional method of shipment. In recent years, more productive cattle breeds such as Jersey cattle and Holsteins have been introduced through funding, and the process was advanced through the state policy on dairy promotion. It should be noted that against the background of this rapid development of dairy farming in the settlement, the use of cow manure as an organic fertilizer for vegetable cultivation was another useful aspect of development.

Circumstances and Characteristics of Household Economies

Structure of earnings by household

Besides the rich number of job opportunities in the settlement and the variety of work that were described in the previous section, it is also important to examine the amount of income earned by each household as a result of employment, whether this income contributed to the household economy, and the economic gap between households. Here, the nation's income hierarchy are adopted to the classification criteria, which includes the following four categories, ranging from the highest to the lowest income: Middle Class I, Middle Class II, Deprived I, Deprived II[5] (Table 5). The distribution of the households according to this hierarchy is approximately 20–30% strong, and although this is not a large bias, it is noteworthy that the high-income Middle Class I category included a quarter of all households.

Looking at income class and income source (Table 6), we see that as a general trend, 64 households (or, over 70% of all households) placed non-agricultural employment as their primary source of income, which evidences the significance of the role that non-agricultural income played. Nevertheless, 12 households had agricultural employment as their largest income source, 8 households included

Table 5. Classification of households by income

Annual household income (Rs.)	Income class	No. of households	Share (%)
200,000~1,000,000	Middle Class I	23	26.1
90,000~200,000	Middle Class II	29	33.0
45,000~90,000	Deprived I	18	20.5
0~45,000	Deprived II	18	20.5

Note: 1 Rupee =2.85 Yen (Sept. 2007)
Source: Field survey in KT settlement in Sept. 2007

Table 6. Income source of housheols

No. of households

The highest source of income	Income combination	Middle Class I	Middle Class II	Deprived I	Deprived II	Total
Agriculture	Agriculture	1		1	7	9
	Agriculture+non agricultural employment			2	1	3
	Total	1		3	8	12
Non agricultural employment	Non agricultural employment+Agricutlture	6	9(1)	8	3	26(1)
	Non agricultural employment	5(2)	9(5)	4(3)	3(3)	21(13)
	Non agricultural employment+Pension+Agricutlture	2	3(1)	1		6(1)
	Non agricultural employment+Self employment	3(1)				3(1)
	Non agricultural employment+Pension	2(1)	1			3(1)
	Non agricultural employment+Pension+Self employment	3				3
	Non agricultural employment+Self employment+Agriculture		2			2
	Total	21	24	13	6	64
Pension	Pension+Agriculture		1	1	2	4
	Pension+Non agricultural employment+Agriculture		1	1		2
	Pension+Others	1			1	2
	Total	1	2	2	3	8
Self employment	Self employment+Agriculture		1		1	2
	Self employment+Others		2(1)			2(1)
Others		1	2		1	4
Total		23(4)	29(8)	18(3)	18(3)	88(18)

Note: Number in parentheses shows landless household
Source: Field survey in KT settlement in Sept. 2007

pensioners, and 4 households had members who were self-employed.

Accounting for nearly half of the lowest income bracket of Deprived II were households that relied predominantly on agricultural employment, indicating the significance of agricultural income. Although the households among the other strata of the income hierarchy relied mainly on non-agricultural employment, those that included members who engaged in some agricultural employmen were not few. A common characteristic of households in the highest income bracket of Middle Class I was the combination of other revenue sources such as agricultural employment, self-employment, and pensioners, in addition to non-agricultural employment.

Furthermore, among households whose income sources included pensions, eight households relied on pensions as their primary source of income, and nine included pensions as their secondary revenue source. Therefore, pensions constituted a source of income for a total of 17 households. This result is related to migration history of individuals beyond the village to seek other employment opportunities.

Certainly, there must be some kind of relationship between the circumstances of these household economies and the scale of farmland ownership. As shown in Table 7, a notably small number of households in the Deprived groups owned land that exceeded 20 nari (40 a), and most of them belonged to the stratum of subsistence farmers. Of these households, many in the Deprived II group were small-scale farmland owners who depended on agricultural work to make a living; on the other hand, many households in the slightly higher Deprived I group were dependent on non-agricultural employment for income. Throughout the hierarchy, the dominant farmland owners were those who belonged to the top level, Middle Class I category. In this category, while a stratum of small-scale farmland owners existed, another stratum that owned farms exceeding 20 nari had reached nearly 40%. The latter group of households had both large farmlands and stable non-agricultural employment, and this stratum can be considered to hold the greatest economic power in the settlement.

Table 7. Income class and agricultural landholdings

No. of households

	Middle Class I	Middle Class II	Deprived I	Deprived II	Total
0 nali	4	8	3	3	18
1~4	3	4	5	6	18
5~9	3	5	4	1	13
10~14	4	5	2	5	16
15~19		1			1
20~24	3	2	1	1	7
25~29	1				1
30~50	3	3	3	1	10
50~	2	1		1	4
Total	23	29	18	18	88

Note: 1 nali=2a
Source: Field survey in KT settlement in Sept. 2007

Of all the households, 18 (20.2%) owned no farmland, and all of these households, with the exception of one that relied primarily on self-employment for income, depended mainly on non-agricultural employment for household income. Furthermore, 13 households relied on revenue only from off-farm employment. Although the households were spread across the income hierarchy, eight households were in the in Middle Class I category. Thus, the scale of farmland owned is consistent with the income hierarchy; however, among the households without farmland, the income hierarchy was dispersed, and it can be said that the landholdings did not have a definitive meaning in terms of economic strength.

Therefore, let us consider the distribution of paid workers by household, in particular, those with high annual incomes of 120,000 rupees or more. Few households in the Deprived II category consisted of salary earners, and more than half of the households in this category had no salary income. On the other hand, most of the households in the Deprived I and above categories consisted of wage income earners. Furthermore, there was a trend wherein the higher the household's income bracket was, the more members there were that received an earned income. This clearly highlights the importance of earned income for household economies.

Thus, the large differences in the income hierarchy can be seen in terms of salaried individuals, but even in this case, the number of high-salary earners is significant. Those that earned high salaries were primarily teachers, civil servants, company employees (clerical workers), and so on, and the distribution of high-salary earners was limited to the top two income brackets in the hierarchy. Among these salary earners, a significantly high number were at the top-level Middle Class I category. This stratum included approximately 80% of the settlement's overall high-salary earners, and covered more than 70% of the households with high-salary earners. Among these, there were households that included two or three high salary earners as well. In contrast, there was only one household in the Deprived I and Deprived II categories together that included a high salary earner, which indicates a significant gap between these levels and the top two strata of the hierarchy. As a result of economic growth in recent years there have been remarkable increases in salaries for

Table 8. Income class and caste

No. of households

	Middle Class I	Middle Class II	Deprived I	Deprived II	Total
Bramin	1	4	7	4	16
Rajiput	18	21	9	11	59
SC and OBC	4	4	2	3	13
Total	23	29	18	18	88

Source: Field survey in KT settlement in Sept. 2007

workers in the organized sector, such as civil servants and office workers, but people who benefitted were perhaps those in the top two tiers of the hierarchy. On the other hand, because of the relatively slow rise in wages for unorganized sector jobs, households that depended on these wages can be said to have been economically weak, compared to those households with stable employment and that have experienced a rise in income.

Lastly, let us examine the relationship between income hierarchy and caste (Table 8). In terms of the composition ratio, 11 of the 16 households of the top Brahmin caste fell under the low-earning Deprived I and II categories, which is a rather disproportionate amount. Of the upper castes, Rajput dominated in size in this village, with 59 households. Of these, 21 were in the Middle Class II category and 18 were in Middle Class I, which accounts for the majority of the relatively high income households. Of the low castes, including scheduled castes and other backward classes, no skewedness towards a particular income bracket was observed. The distribution was almost the same as that of Rajput, and there was no clear disadvantage. In this settlement, although Rajputs held some economic advantage, Brahmins were somewhat disadvantaged, and among lower castes were households seen with relatively high earnings, so the relationship between caste and economic situation was somewhat ambiguous.

Ownership of consumer goods

Changes in public life and lifestyle become visible through consumer goods. An increase in ownership of durable consumer goods could be observed even among the newly emerging middle class. Therefore, we will also look at the characteristics of each stratum in the income hierarchy from the standpoint of the spread of consumer goods.

In recent years, the dissemination of consumer goods has been significant even in rural areas (Figure 2). The use of consumer goods in this settlement was fairly widespread, with 91% of the people owning TVs, 56% owning mobile phones, and 39% receiving newspapers. The notable spread of TVs indicates not only the fact that people now had the purchasing power to acquire equipment but also the spread of service systems such as satellite broadcasting and cable TV. With the spread of newspapers, daily deliveries began in 2004, with a monthly subscription fee of 110 rupees. The introduction and spread of these services to mountainous areas, which were usually fringe areas with poor TV reception and difficult to access, was also significant. In addition, although the penetration rate itself is low, 29% of the people have bikes and scooters and 21% also have digital cameras, proportions that cannot be considered low[6] for a rural area. Ownership of computers at 11% and cars at 8% are also low, but because these products are expensive, this approximately 10% proportion is noteworthy.

Let us look at the relationship between the ownership of consumer goods and the income hierarchy (Figure 2). First, television ownership was spread across all levels of the income hierarchy. The fact that penetration of TV ownership in the Deprived II level stayed at 70% deserves attention. A gap can be seen in mobile phone ownership when we compare the Middle Class I and II strata with the Deprived strata. There were clear differences between the two groups, with Middle Class I and II exceeding 70% ownership and Deprived I and II falling below 40%. This is likely related to differences in the forms of employment, such as non-agricultural or agricultural employment. A significant characteristic is the penetration rate of bike and scooter ownership, which was roughly proportional to the income hierarchy. Ownership in the Middle Class I category exceeded 50%, whereas ownership in the Deprived II category was less than 10%. There was a clear relationship between income level and high-priced commodities. Nevertheless, ownership of digital cameras and computers was significant only among those in the Middle Class I category, but penetration among the other levels of the hierarchy was not noticeably high. However, a high rate of automobile ownership in the Middle Class I category was also not observed, which may indicate the difficulty of purchasing automobiles given the existing income level of the settlement.

By considering the income hierarchy from the stand-

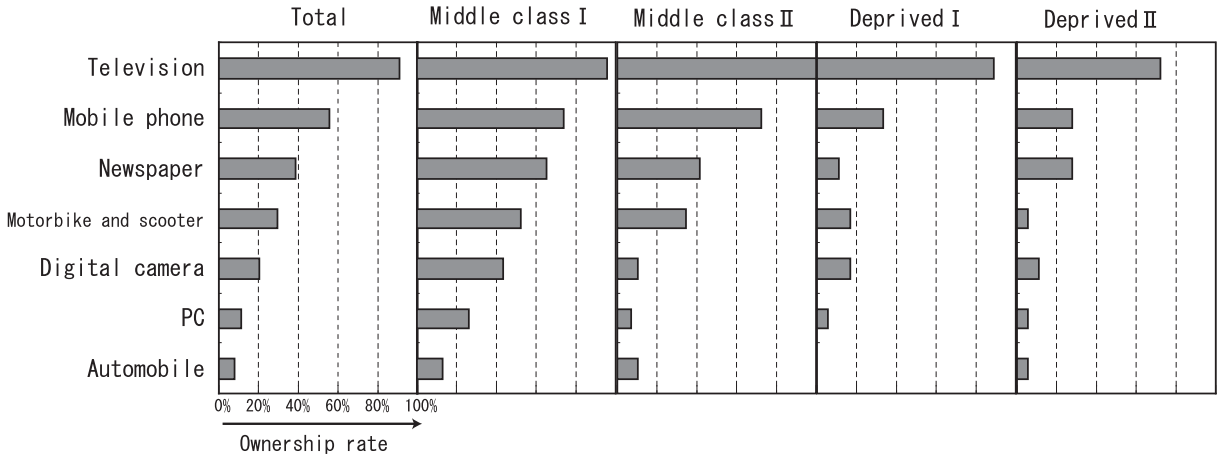

Figure 2. Ownership of durable goods
Source: Field survey in KT settlement in Sep 2007

point of the spread of consumer goods, we can better understand the differentiations in lifestyle within the hierarchy. In particular, from the spread of mobile phones, we can see the difference between those in the Middle Class and those in the Deprived categories, and from the spread of high-priced consumer goods, we can easily recognize the dominance of people in the Middle Class I category. Based only on forms of employment, that is, non-agricultural or agricultural, we can see the continuing spread of the gaps in living standards in the hierarchy.

Improvement of educational standards

In this settlement, those who were satisfied with their jobs were predominantly high-salaried employees such as teachers, civil servants, and office workers. Because of this, we can assume that educational standards held significance as a result of educational requirements for employment. Therefore, we examined the level of education of those among the resident population who were over 20 years of age.

First, if we look at the level of education among men based on age group (Figure 3), we see that although slightly more men over 50 years of age were illiterate, the level of education across the board was nevertheless considered high. Furthermore, although there were few university graduates among the older population at the time, when it came to the real numbers for those under 40 years of age, the percentage became uniformly larger in both. There were 15 people in their forties with a level of education equivalent to or higher than a Bachelor's Degree (including those currently enrolled), which is 36% of the age group, 19 people in their thirties, (40% of the age group), and 22 people in their twenties (55% of the age group). From these figures, we can see that there was already a considerable increase in university registration among men beginning in the 1980s.

Next, let us consider the level of education for women by age group (Figure 3). Many among the older population were illiterate, but a lower percentage of illiteracy was observed in the other age groups. Although the level of education is low compared to those of men, many females in their twenties were college graduates. Those with a level of education equivalent to or higher than a Bachelor's degree (including those currently enrolled) included 8 people in their forties (26% of the age group), 13 people in their thirties (27% of the age group), and 39 people in their twenties (64% of the age group). The percentages for women in their forties and thirties were lower than that of men, but the percentage for those in their twenties increased dramatically and was on track to surpass the percentage of males receiving higher education.

What were the factors that led to this rapid increase in level of education? First, a primary factor was the endowment of educational opportunities near the area. The enrollment opportunities in Nainital begin with Kumaon University and a number of prestigious private schools (and public schools). In addition, there was a women's secondary education institution (Govt. Girls' Inter-College) and a private elementary school (with lessons in English) in the village. Although these schools were located in a mountainous area, they offered very good educational environments. In fact, the significance of Kumaon University was exceptional, considering the fact that it was practically the only source for college enrollment. Second, long before migrants began leaving the village to seek employment, awareness that education was important to obtaining a stable occupation was already taking shape. Indeed, looking back to 1981, the literacy rate for men in the Kumaon region was 52.1%, even though the literacy rate for all of India at the time was 46.9%. Furthermore,

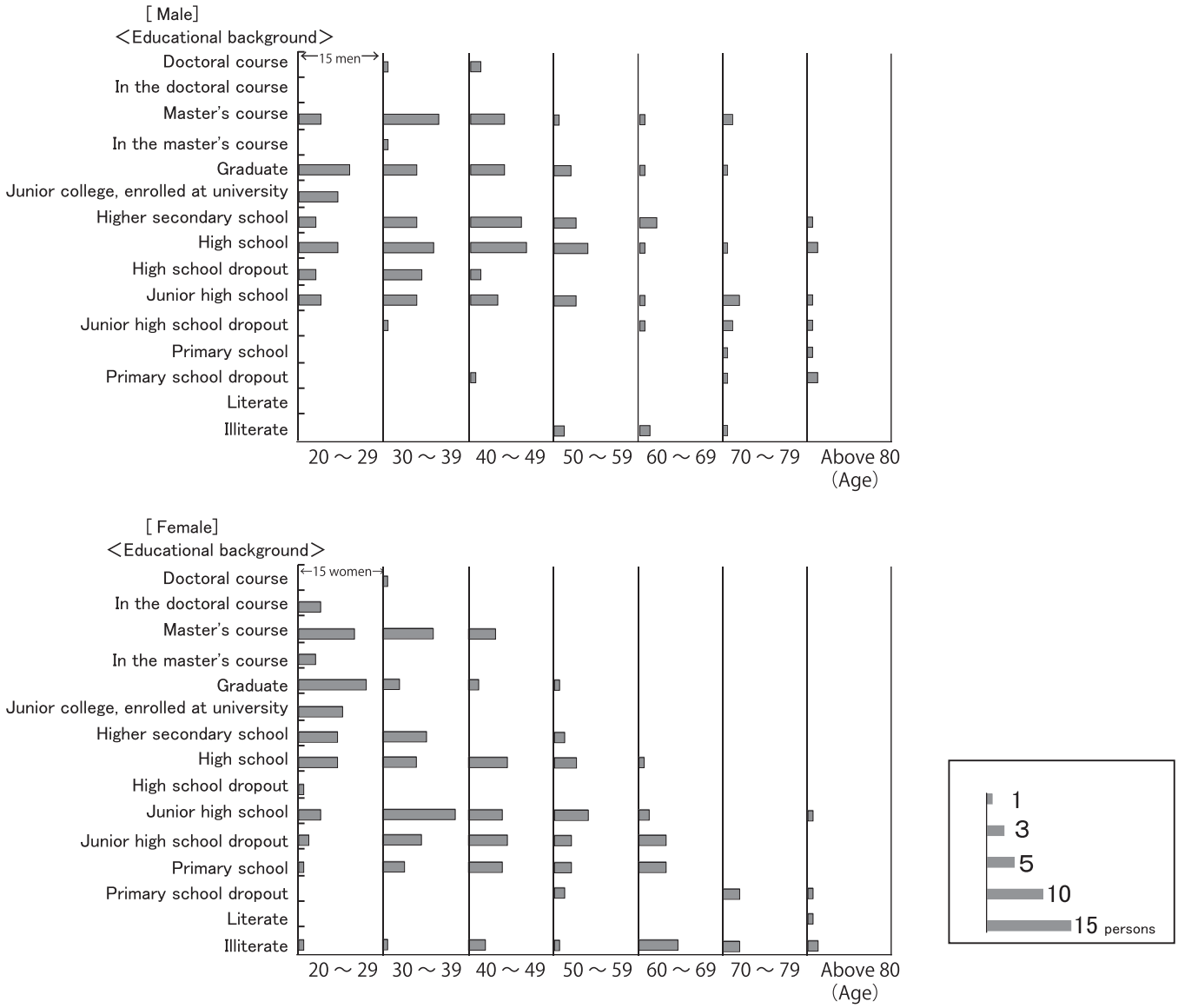

Figure 3. Educational background by sex and age group
Source: Field survey in KT settlement in Sept. 2007

the literacy rate for the region including Uttar Pradesh was only 38.8% at the time. Third, over these 20 years, non-agricultural employment, in addition to agricultural employment, had also expanded, and household incomes had increased. Undoubtedly, the improvement in income level had contributed to larger investments in human resources. Lastly, as bias towards the higher castes was a particular characteristic of this village, we may conclude that this bias was also connected to the degree of level of education.

Finally, although enrollment in higher education was increasing, a portion of graduates were either unemployed or working in the agricultural sector. Among university graduates under the age of 60, 29 were unemployed (7 men, 22 women) and 13 were engaged in agricultural work (10 men, 3 women). Given these numbers, the possibility of unemployment cannot be said to have disappeared.

Conclusion

In this paper, we examined the northern mountainous state of Uttarakhand as a case study for investigating the characteristics of rural transformation in India under the influence of economic growth. Specifically, by focusing on one rural farming village and considering aspects of its economy, we saw how elements of progress can be described. The village studied is of special interest because of its development in recent years as well as its notable position located in the suburb of Nainital.

First, from the perspective of employment, this study found that the village was endowed with a variety of

opportunities in spite of mountainous location. Many rural villages in Uttarakhand were not endowed with these employment opportunities, but this particular village was considered to belong to a remarkably good class. Irrigation and traffic conditions in this village were both conducive to agriculture, and labor-intensive commodity production focused on vegetable cultivation was being expanded. Because the commute to the local city of Nainital was short, the city's local labor market provided the village with a variety of non-agricultural job opportunities. However, although employment in Nainital included stable jobs such as teaching, civil service positions, and office work, as well as various other jobs related to tourism, including in hotel and stores, the large disparity between the two types of jobs, from an economic standpoint, should be noted.

When examining the economic situation of the household units from an income standpoint, we saw that many households relied on non-agricultural employment and that, in particular, those households with high income had a tendency to rely on large earned incomes. With the economic growth in the recent past, the number of salaried workers such as civil servants, teachers, company employees, and so on, had been steadily rising, and this had led to an increase in household incomes. Still, many households were engaged in agriculture, and although the revenue was not much, it helped compensate household economies. At the lowest income stratum, this agricultural income supported households' livelihoods. As mentioned above, the expansion of non-agricultural employment and the transition to the development of commercial agricultural production in this settlement can be said to have brought about improved economic conditions. However, it is apparent that the disparity in the hierarchy of household incomes were derived from the wage gaps in non-agricultural employment. It is necessary to focus on whether these disparities will show any changes in the future. From the spread of consumer goods, it is clear that there is a difference in lifestyle among the various strata of the income hierarchy, but even though dissemination was accompanied by a significant gap, the purchasing power of rural areas is expanding and improving.

Improvements in employment and household economies were achieved owing to a notably high level of education in the village. Because of the abundant educational opportunities in the area, education had rapidly become more oriented towards university-level education for both men and women. Although a portion of people that received higher education were found to be unemployed, as a whole, higher education can be said to have helped people achieve stable employment.

This case study intended to clarify the realities of development in rural, undeveloped regions of India, as well as the mechanisms behind it. The results of these observations suggest that for India's rural villages to develop under economic growth, expansion of non-agricultural employment, the development of commercial agriculture, and improvements in the level of education are key factors. However, the village's proximity to a provincial city is related to the high level of implementation. Since Nainital is situated nearby, its presence has worked advantageously for the village in all aspects, including the labor market, the agricultural market, and educational opportunities; this could also be viewed in terms of a spread effect, wherein growing power of cities overflow into the development of nearby rural areas.

Furthermore, areal differentiation in Uttarakhand is expected to progress more rapidly than ever before. Therefore, for cases like the one studied in this paper, it is necessary to investigate whether and how the spread will occur. Concerning Uttarakhand, along with conducting analysis through the use of statistical data of villages, it is necessary to continue to empirically pursue the fundamental issues related to the growth of regional cities, the expansion of the non-agricultural labor market, commercial agriculture, and the tourism industry, and their impact on the region. Simultaneously, the developmental problems of the neighboring mountainous region of Himachal Pradesh should be compared; the relationship with state policy measures is an issue that is worth considering.

Finally, it is necessary to examine the effects of development on cultural aspects in this village, which was not discussed in this paper. For instance, because of the development of tourism in the village, the local lake has lost its sacredness, problems exist in the buying and selling of land involved in development, and there is concern that the development of tourism will have adverse effects on the local youth. Therefore, local level, socio-cultural conflicts must be addressed. In considering the sustainable development of rural areas, let us seek to ask questions about these aspects as well in order to deepen future discussions.

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Notes

1. Shurmer-Smith (2002) found that in Uttarakhand, where the upper caste population was high, it was believed that if the reservation policy in Uttar Pradesh involved an increase in assignments to a strengthened lower caste, it was highly likely that people in Uttarakhand would suffer from a disadvantage; since 1994, this was seen to have led to an intensification of the separatist movement centered around the youth.
2. Of the 16 Brahmin households, 11 are Pandey. Rajput is divided into several sub-groups (Jāti). Most of them are Kanwal at 26 households; followed by Bisht at 14 households. Others include 4 Negi households, 4 Rathore households, 3 Rautela households, 2 Parihar households, and 2 Kani households. Thus, Kanwal is the dominant caste of the village at the Jāti level, and the Sarpanch was also a part of this group.
3. It was built by a company based in Delhi, and commenced operations around 2002. There are 56 rooms targeted towards families.
4. After India gained independence, reservation policy was created in order to empower lower castes such as scheduled castes and scheduled tribes, and it has a quota system divided among three areas: education, public employment, and number of parliamentary seats.
5. The criteria for segmenting income hierarchy are based on that of the National Council of Applied Economic Research (2005). There, the divisions are Deprived (annual income of less than 90,000 rupees), Aspires (90,000 to 200,000 rupees), Middle Class (from over 200,000 rupees to 1 million), and Rich (over 1 million rupees). In this paper, since many households fell into the Deprived range, an additional subdivision was made on the border of an annual income of 45,000 rupees.
6. Incidentally, according to the National Council of Applied Economic Research (2005), the ownership rate for all of India in 2005 (predicted value of number owned per 1000 households) is 213 households with color TVs, 148 households with motorcycles, and 50 households with cars.

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