Out-migration in Uttarakhand Himalaya: its types, reasons, and consequences

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Abstract

This study examines the types, reasons, and consequences of out-migration in the Uttarakhand Himalaya. Data were collected from secondary sources, mainly from an interim report on the status of migration in revenue villages of Uttarakhand, published by the 'Rural Development and Migration Commission, Pauri Garhwal, Uttarakhand' in 2018. The district-wise analysis was carried out on the types of migration, reasons for migration, age-wise migration, the destination of migrants, and migration's consequences in terms of depopulation in rural areas. Further, a case study of a village was carried out. The study reveals that in three districts – Pauri, Tehri, and Almora, more than 10% population out-migrated after 2011. Similarly, an exodus migration took place from more than 10% of villages of the same districts. This study further shows that migration is mainly internal – from the mountainous districts to urban centers, within the districts or within the state. About 734 villages are depopulated, and in 367 villages, the population has decreased by more than 50%. Unemployment is the major problem in rural areas as more than 50% of out-migration occurred for employment. The study suggests that employment opportunities can be enhanced through the establishment of institutions, development of infrastructural facilities, imparting higher education, and modern innovation in the agricultural fields, which will minimize out-migration from the rural areas.

Keywords: *Depopulation; destinations; out-migration; unemployment; Uttarakhand Himalaya*

Introduction

Migration can be defined as a type of spatial mobility from the place of residence to the place of destination, usually crossing the administrative boundary (Mc Leman, 2017). It can also be defined as the flow and counter-flow of people linked to a set of places. The reasons for migration are various; however, most of the migration is carried out for better livelihood and employment and performed by impoverished people (Bodvarsson & Berg, 2009; Usher, 2005; van Dalem et al., 2005; Zachariah & Rajan, 2004; GOI, 2008). Migration has led to enormous urbanization, mainly in developing countries (Remi and Adeyoke, 2011).

Neoclassical Economics Macro Theory, Neoclassical Economics Micro Theory, and the New Economics of Migration Theory are more or less dominant theories in this field. The first theory suggests that labour migration is a process of economic development (Lewis, 1954). The second theory corresponds to the macroeconomic model of individual choice. People migrate to places where they can be more productive (Todaro and Maruszko, 1987). The third theory is based on the collective decision of the family/household not only to maximize income but also to minimize risks (Taylor, 1986). The present study draws mainly on the

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second and third theories. In the Uttarakhand Himalaya, out-migration is a practice of both individuals and families and driven mainly by employment and enhancement of livelihood.

Migration in the Uttarakhand Himalaya is not a new phenomenon. It received tremendous in-migration during the 11th and 12th centuries (Atkinson, 1882; Walton, 1910). People migrated here from Rajasthan, Gujarat, and the Ganges valley (Sati, 2017). The pilgrims, who came to Uttarakhand for pilgrimage, settled here permanently. This continued till the advent of British rule in India. Out-migration began mainly during the British regime in India when the youth of the region recruited by the British Army. After independence, people started migrating to the plains regions of the country for employment and livelihood enhancement (Jain and Nagarwalla, 2003). However, migration got momentum after 1990 or more to say after 2000 when Uttarakhand got carved out of Uttar Pradesh as a state. An exodus number of people out migrated, mainly the educated youth, in search of jobs (Srivastava, 2011; NSDC, 2010). The male population mainly youth, have out-migrated and women and old men are practising farming in the villages (Mamgain, 2004; Census of India, 2011; Mamgain and Reddy, 2015 a). There are many drivers/push factors driving migration from Uttarakhand. Among them, mountain population, unemployment, the low output from agricultural fields, education, climate change, and harsh conditions in the rural areas are prominent. Traversing roads along the river valleys have led to an increase in infrastructural facilities, establishment of institutions, and mushrooming of service centres that have facilitated internal migration. A large number of migrants once migrated never came back to their respective villages. Therefore, the rural areas are facing depopulation, land abandonment, and food insecurity problems.

Both permanent and semi-permanent migration is seen in Uttarakhand (Jain, 2010). About 50% of migration was for employment reasons (Singh, 1998) although there were several other reasons such as education, health, the low output from the farmlands, and wildlife. Out-migration has led to depopulation and land abandonment. Further, the male population has out-migrated largely, which has led to a high sex ratio in rural areas i.e. 1037 women per thousand men. The growth in the agricultural sector in rural areas has slowed down and decreased its contribution to gross State Domestic Product (GSDP) (only 10.50%). Meanwhile, about 48.33% of the population are engaged in the agricultural sector. Pilgrimage tourism in Uttarakhand is also popular (Sati, 2019, 2018, 2015, 2013, 2004). Pilgrims/tourists visit the river valley and the highland pilgrimages during the six months of the summer season. To provide services to pilgrims/tourists, a large number of rural youth migrate to the service centres along the roads that lead to pilgrimages. This is the season of crop harvesting and sowing in rural areas. Because of the workforce deficit, the yield of crops remains low. Unlike the other parts of India, out-migration has adverse implications on the rural areas in Uttarakhand Himalaya. This study examines the major types of out-migration, the destination of migrants, reasons for migration, and depopulation in villages. The study suggests policy measures to strengthen rural livelihoods so that the out-migration can be minimized from the Uttarakhand Himalaya.

Migration is a global phenomenon and people will continue migrating because of financial crises, food insecurity, climate change, globalization, and escalating income disparities (Jain, 2010). In 2019, there were a total of 272 million international migrants globally, which was 3.5% of the world population (UN DESA, 2019). India had 17.5 million international migrants and it received 78.61 billion USD remittances in 2019 (WMR, 2020). UN-DESA

(2015) observed that about four million people migrate from low-income to high-income countries per year (UN-DESA, 2015).

In South Asia, about 38% of migration occurs within the region, and an additional 12% is directed to other developing countries (Hoermann and Kollmair, 2009). About 30 percent of India's population were internal migrants in 2001 (NSSO, 2010). The urban population in India was 17% in 1951, which doubled (30%) in 2011. It is projected that by 2025, the urban population in India would reach 42.5%. As a consequence, the rural population in India has declined from 82% to 69% (Razi, 2014). The trend of migration in India is mainly from rural to urban areas (Mitra and Murayama, 2008) and it varies between semi-permanent and permanent moves with certain spatial patterns (Mc Leman, 2017).

Several scholars opined that migration, mainly youth migration in the mountain region, is an adaptive measure to constraints of subsistence economy and changing environmental constraints (Leduc and Shrestha, 2008; UNEP, 2004; Sherpa, 2007). Labour migration improves economic conditions and ensures food security (Hoermann and Kollmair, 2007; Kollmair et al., 2006). In the meantime, it causes depopulation and agricultural land abandonment in rural mountain areas. Migration also correlates with poverty in mountain regions. A study carried out by Adams and Page (2005) observed that a 10% increase in per capita official international remittances leads to a 3.5% decline in poverty. In Nepal, due to remittances, poverty has declined about 20% since 1995 (Lokshin et al., 2007).

Earlier studies on causes of out-migration in the Uttarakhand Himalaya are rare. Maithani (1996) and ICIMOD (2010) described that an exodus number of male youth has out migrated for the search of jobs/livelihoods because of limited subsistence economy and low output from agricultural fields. Mamgain and Reddy (2015 b) studied the declining population of two districts of the mountainous mainland – Almora and Pauri of the Uttarakhand Himalaya and observed that it was due to out-migration. They further elaborated that the plain districts within the state have better facilities for industrial and educational development, which are the major pull factors. The geophysical constraints such as difficult terrain, harsh climate, and remoteness are generally the major push factors for out-migration in mountainous areas, particularly in the Uttarakhand Himalaya (Singh, 1990). Among the pull factors, improved communication, transport networks, new economic opportunities, and better education facilities in the receiving areas are prominent that have increased mobility (Deshingkar and Akter, 2009). Tiwari and Joshi (2015) observed about 686% of increases in male out-migration between 2001 and 2013 in a part of Uttarakhand, which shows constantly increasing trends. Due to out-migration, Tehri, Pauri, and Almora districts have been facing problems since 1970.

The review of the literature shows that only a few studies have been conducted on migration-related issues in the Uttarakhand Himalaya. Further, no systematic or concrete study has been done on the major causes and consequences of out-migration in the entire Uttarakhand Himalaya. The present study is unique because it is the first of its kind that is carried out on the latest data, i.e. of 2018. Further, it focuses on the main issues of migration, i.e. its reasons and consequences in a different way. The main objectives of the study are: (1) to examine the major types of migration – semi-permanent and permanent, age-wise migration, the destination of migrants, various reasons of migration and their consequences as increasing sex ratio and depopulation in rural areas after 2011, and (2) to suggest measures for strengthening rural livelihoods so that the out-migration can be minimized.

There are a total of nine states (Himachal Pradesh, Uttarakhand, Sikkim, Arunachal Pradesh, Nagaland, Manipur, Mizoram, Tripura, and Meghalaya) and two union territories (Jammu & Kashmir and Ladakh) in the Himalayan region. This study is limited up to the Uttarakhand Himalaya, which is centrally located and an important part of the Himalaya. It analyses the causes and consequences of out-migration in the sending areas only. Further, this study is carried out at the district level and is based on secondary data. Besides, a case study of a village was conducted.

Study area

The state of Uttarakhand comprises about 93% mountainous land and 7% plain areas with a total geographical area of 53,483 sq km. It has an international boundary with Tibet (China) in the north and Nepal in the east. Two Indian states – Uttar Pradesh in the south and Himachal Pradesh in the west delimit its national boundary (Figure 1).

Figure 1. Location Map
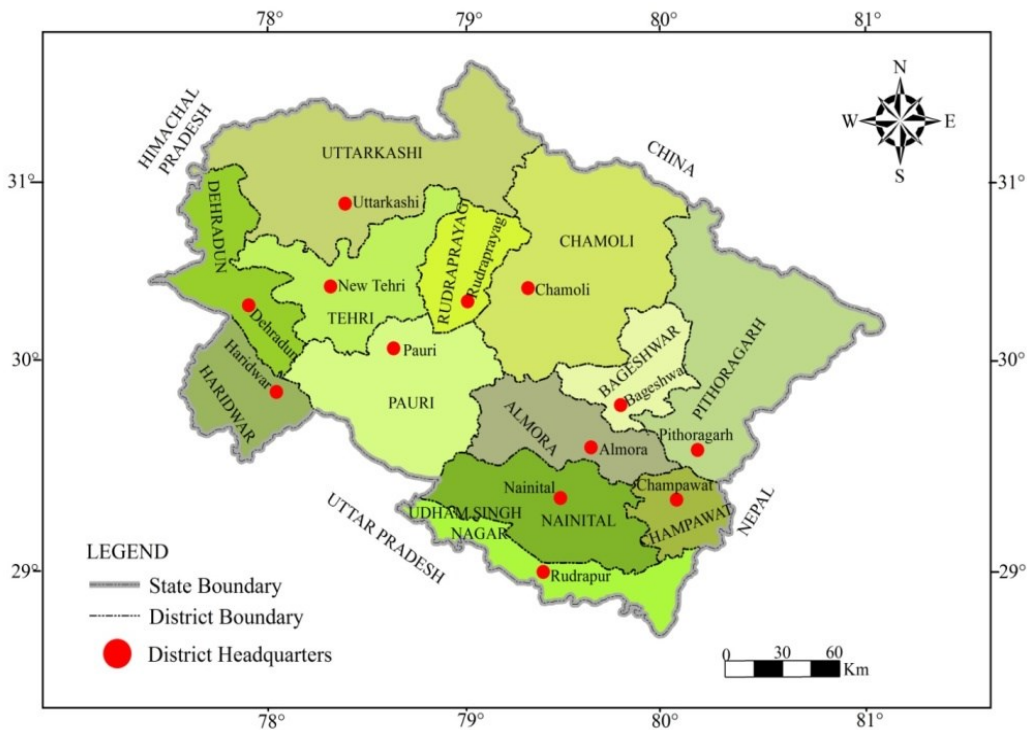
Its topography varies from the small portion of plains comprising *Tarai, Bhabhar,* and *Doon* to the river valleys, the mid-altitudes, the highlands, and the snow-clad mountain peaks. In most of the areas, the terrain is undulating and precipitous. Climate also varies according to these altitudinal gradients. The landscape is spectacular and it has rich bio-diversity. The Uttarakhand Himalaya has two distinct geographical and socio-cultural entities – the Garhwal Himalaya and the Kumaon Himalaya, with a total number of 13 districts – seven districts – Uttarkashi, Dehradun, Haridwar, Pauri, Chamoli, Rudraprayag, and Tehri in the Garhwal Himalaya and six districts – Udham Singh Nagar (USN), Nainital, Champawat, Pithoragarh, Bageshwar, and Almora in the Kumaon Himalaya. Two districts – Haridwar in Garhwal

region and USN in Kumaon region are plain, two other districts – Dehradun in Garhwal region and Nainital in Kumaon region are partially plain. Rests of the districts are mountainous. Population distribution is uneven as about 50% population of the state lives in the plain districts whereas the area of these districts is about 10%. Population density is 189 persons living per sq km. In the mountainous districts, the average population density is 49 whereas, in the plain districts, it is 817 persons living per sq km as per the Census of India 2011. Subsistence farming is the main occupation, however the arable land is limited and crop yields are not enough to feed the state's growing population. As a result of all the above reasons, huge populations have out-migrated to the urban areas in search of livelihoods.

Methodology

The study was conducted by gathering secondary data on migration. An interim report on the status of migration in revenue villages of Uttarakhand, published in 2018 by the 'Rural Development and Migration Commission, Pauri Garhwal, Uttarakhand' was the main source of the data. Migration data between 2011 and 2018 were analyzed using a percentile, indices, and levels, and through the graphic presentation. Types of migration - semi-permanent and permanent – were analyzed at district and state levels. Further, the major reasons for migration – employment, education, low yield of crops, fear from wildlife, and better infrastructure facilities – have been described. The destinations of migrants, which vary from within the district to district centres, within and outside of the state, and abroad have been illustrated. District and state-wise age of migrants has been elaborated. The state has also observed in-migration (reverse migration) between 2011 and 2018. The author has described it. A case study of a village was conducted in Jan 2020 and 45 households were surveyed using a purposive random sampling method. Data on gender, age, income, education, occupation, and migration were gathered. The nature of migration – permanent, semi-permanent, and seasonal and place of migration – within and outside the state was analyzed. A correlation between migration and other variables such as gender, age, income, education, and occupation was carried out. The observation method through rapid field visits of several areas in different districts was employed to verify the reliability of secondary sources data.

Two types of migrations: semi-permanent and permanent

At the district level, semi-permanent and permanent migration was analyzed. Semi-permanent migration includes monthly, seasonal, and annual migration. The migrants have their dwellings in the villages where their family members practice subsistence farming. The migrants send remittances, which enhance the income and livelihood of the families. In permanent migration, the migrants leave their villages and migrate permanently to other parts of the state or country. They leave their settlements and farmlands abandoned.

Table 1 shows semi-permanent and permanent migration. The total numbers of villages, where semi-permanent migration occurred after 2011, were 6,338 (40.25% of the total villages), of which the highest number of villages were from Pauri, Almora, and Tehri, which is more than 10%. Five districts – Pithoragarh, Chamoli, Rudraprayag, Nainital, and Champawat – have 5%-10% of villages where semi-permanent migration occurred. The districts where semi-permanent migration occurred in <5% of villages are Bageshwar, Haridwar, Uttarkashi, USN, and Dehradun. After 2011, about 383,726 migrants (3.8% of the total population) out-migrated semi-permanently. The highest number of semi-permanent migrants (>10%) were noticed from Pauri, Tehri, Almora, and Chamoli districts. Three

districts – Pithoragarh, Rudraprayag, and Champawat registered 5% -10% semi-permanent migrants. The low number of migrants (<5%) was noticed in the districts – Bageshwar, Nainital, Dehradun, Uttarkashi, Haridwar, and USN in descending order.

Permanent migration occurred mainly in the rural areas of Uttarakhand. The total numbers of villages, where permanent migration took place were 3,946 (25.1% of the total villages). Out of which, the highest number of villages, with more than 10% of people migrated, were noticed in Pauri, Almora, and Tehri districts. Pithoragarh, Chamoli, Rudraprayag, Nainital, and Champawat districts have a medium number of villages (5-10%) where rural-urban migration occurred. Other districts – Bageshwar, Haridwar, Uttarkashi, USN, and Dehradun have fewer villages (<5%) where permanent migration was observed. The number of permanent migrants after 2011 was 118,981 (1.18% of the total population). More than 10% permanent migration occurred in the villages of Pauri (21.5%), Tehri (15.82%), Almora (13.62%), and Chamoli (12%) districts. It was followed by Pithoragarh (8.3%), Rudraprayag (6.59%), and Champawat (6%) districts with a medium level of permanent migration (5-10%). The districts of Bageshwar, Nainital, Dehradun, Uttarkashi, Haridwar, and USN had low permanent migration with <5%.

Table 1. Semi-permanent and permanent migration after 2011

| Semi-permanent migration (number of villages in %) Total 6,338		
Indices (%)	Levels	Districts
>10	High	Pauri (20%), Almora (16.37%), and Tehri (14.82%)
5-10	Medium	Pithoragarh (9.73%), Chamoli (9.45%), Rudraprayag (5.83%), Nainital (5.4%), Champawat (5.27%)
<5	Low	Bageshwar (4.94%), Haridwar (1.85%), Uttarkashi (1.81%), USN (1.40%), and Dehradun (1.34%)
Semi-permanent migration (number of migrants in %) Total 383,726		
>10	High	Pauri (21.5%), Tehri (15.82%), Almora (13.62%), and Chamoli (12%)
5-10	Medium	Pithoragarh (8.3%), Rudraprayag (6.59%), and Champawat (6%)
<5	Low	Bageshwar (4.97%), Nainital (4.05%), Dehradun (2.35%), Uttarkashi (2.29%), Haridwar (1.05%), and USN (0.8%)
Permanent migration (number of villages in %) Total 3,946		
>10	High	Pauri (20.81%), Almora (16.37%), and Tehri (14.82%)
5-10	Medium	Pithoragarh (9.73%), Chamoli (9.45%), Rudraprayag (5.83%), Nainital (5.4%), and Champawat (5.27%)
<5	Low	Bageshwar (4.94%), Haridwar (1.85%), Uttarkashi (1.81%), USN (1.40%), and Dehradun (1.34%)
Permanent migration (number of migrants in %) Total 118,981		
>10	High	Pauri (21.5%), Tehri (15.82%), Almora (13.62%), and Chamoli (12%)
5-10	Medium	Pithoragarh (8.3%), Rudraprayag (6.59%), and Champawat (6%)
<5	Low	Bageshwar (4.97%), Nainital (4.05%), Dehradun (2.35%), Uttarkashi (2.29%), Haridwar (1.05), and USN (0.8%)

Source: Rural Development and Migration Commission, Uttarakhand, 2018; analyzed by the author

Figure 2 shows semi-permanent and permanent out-migration from the villages of Uttarakhand. The first three districts – Pauri, Almora, and Tehri have >1500 villages where

both semi-permanent and permanent out-migration occurred during the past. The two districts – Chamoli and Pithoragarh followed them with about 800 villages. Other districts have about 500 or fewer villages, where semi-permanent and permanent out-migration took place.

Figure 2. Number of villages practising semi-permanent and permanent migration by districts
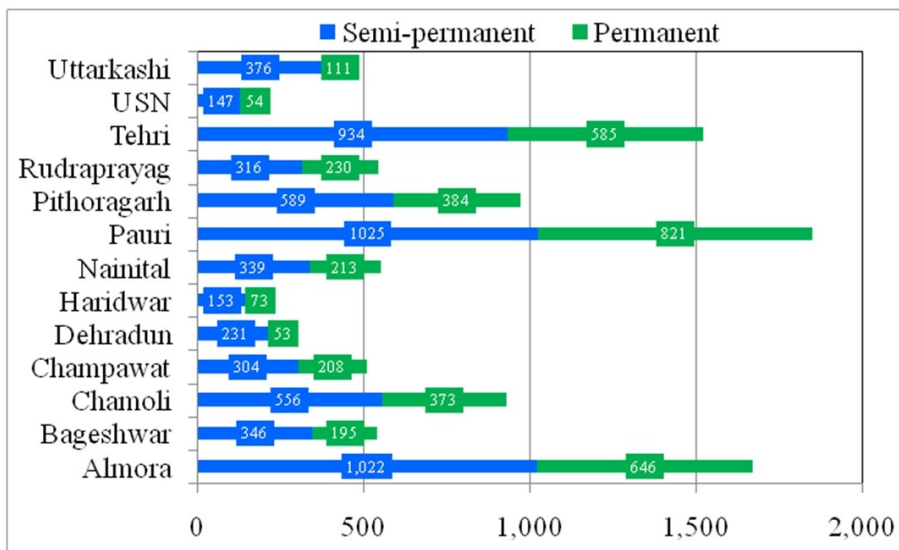
Age and migration

**Figure 3**. Migration from the district of Uttarakhand by age groups
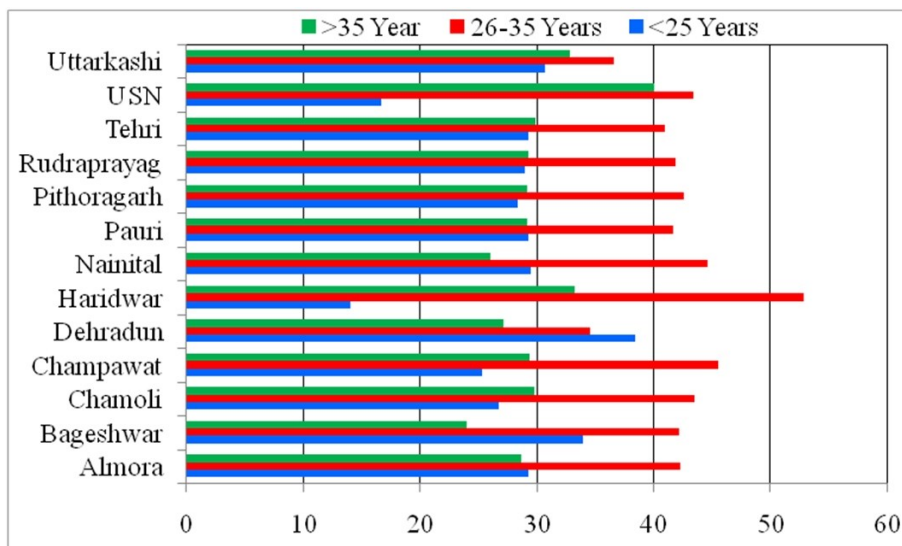
Although migration is very common in almost all age groups, at the state level, about 42.25% of those aged 26-35 years have out-migrated. It is followed almost equally by the age groups of >35 years (29.09%) and <25 years (28.66%). At district level, age distribution among

migrants followed a similar pattern with the state. Meanwhile, the two districts – Haridwar and USN have the lowest population out-migration in the <25 years age group, which is 13.99% and 16.66%, respectively. The Haridwar district has the highest population out-migrated in the age group between 26-35 years, which is 52.79%; however, about 40% of people out-migrated in the age group of >35 years in the USN district (Figure 3).

Destinations

I have analyzed the destinations of migrants both at state (Figure 4) and district levels. The destinations are nearby towns, district centres, other districts of the state, out of state, and out of the country. At the state level, the highest percentage of migration (35.69%) was from other districts within the state, followed by the number of migrants (28.72%) who migrated out of the state. The migration to nearby towns was 19.46%. About 15.18% of people have migrated to district centres. And finally, a small proportion of people (0.96%) have migrated abroad. At the district level, the highest migration to nearby towns was from the Dehradun district (57.12%), followed by Haridwar (44.27%), Uttarkashi (39.14%), and Nainital (35.49%). Migration to district centres was the highest from Pithoragarh (33.07%), followed by Dehradun (23.67%), Bageshwar (22%), and Uttarkashi (20.27%). Three districts – Chamoli (50.48%), Tehri (40.78%), and Rudraprayag (40.51%) have the highest population out-migrated to other districts within the state. Migration to out of the state was the highest from Almora (47.08%), followed by Pauri (34.15%) and Champawat (32.59%) districts. A small proportion of migrants have migrated out of the country mainly from three districts – USN (4.89%), Tehri (3.09%), and Rudraprayag (1.8%).

Figure 4. Destination of migrants, an average of the Uttarakhand Himalaya
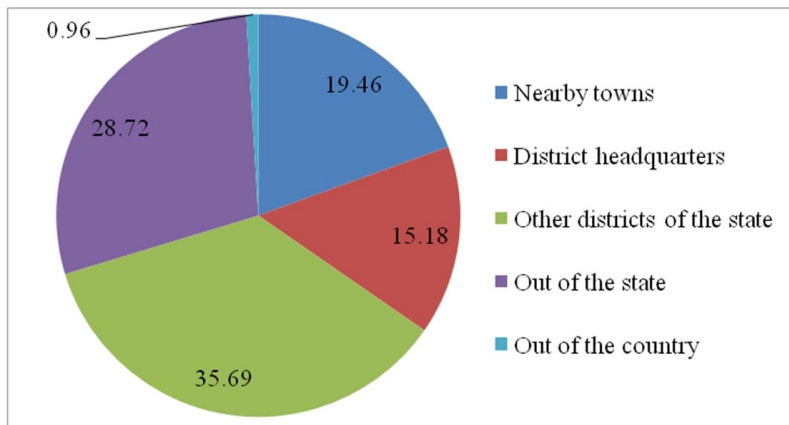

Depopulated villages after 2011

There are a total of 734 villages (4.7% of the total villages), which are fully depopulated since 2011 (Figure 5). Out of which, the highest number of depopulated villages are in Pauri district (186), followed by Bageshwar (77), Pithoragarh (75), and Uttarkashi (70) districts. Champawat, Tehri, and Almora districts have >50 villages depopulated. The lowest depopulated villages are in Dehradun (7), USN (19), Rudraprayag (20), and Nainital (22) districts. The total number of villages, where 50% of populations have out-migrated after 2011, is 565, of which, the highest numbers are in the Pauri district (122), followed by the Almora district (80), and the

Uttarkashi district (63). The other districts have less than 50 villages where 50% of the populations have out-migrated.

Several villages of the Uttarakhand Himalaya are depopulated due to a lack of basic infrastructural facilities. There are 482 villages depopulated because of lacking road connectivity. In 358 villages, electricity is not available, and 399 villages are lacking proper drinking water. Fourteen villages of three districts – Chamoli, Pithoragarh, and Champawat, closely bordered with Tibet and Nepal, are depopulated. Further, there are several villages where the population has reduced by 50% after 2011 due to a lack of basic amenities. About 367 villages observed 50% decreases in population because of inaccessibility (not connected by road), 119 villages do not have a reliable electricity supply, and 203 villages do not have a consistent drinking water supply. Six villages of Champawat and Pithoragarh districts, located within five kilometres from the international border, have experienced a 50% decrease in population.

Figure 5. Depopulated villages and villages with 50% decrease in population after 2011
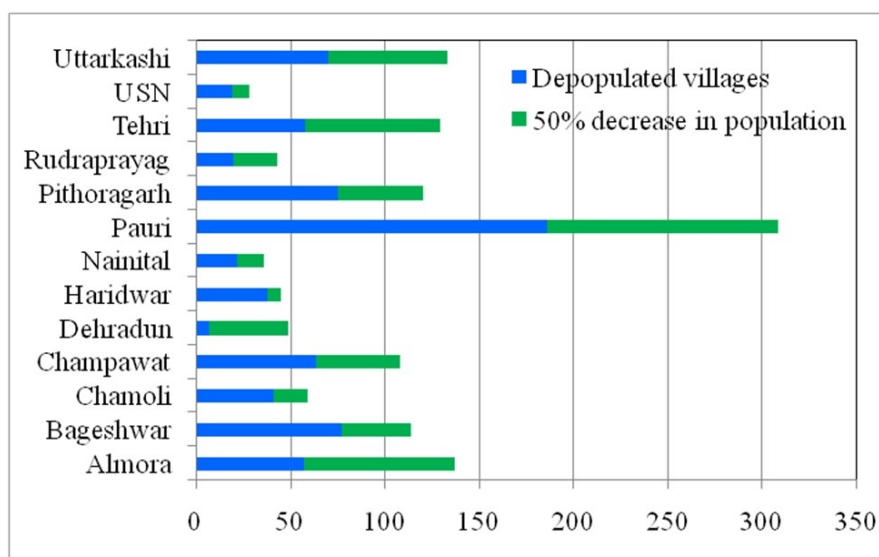

Reasons of out-migration

Out-migration has become a common phenomenon in Uttarakhand mainly after 2000 when it became a separate state by getting carved out of Uttar Pradesh. The author collected data on reasons for migration and analyzed them. At the state level, it was observed that about 50.16% of populations out-migrated for employment, followed by education (15.21%). Migration for health stood at 8.83%. There are many other factors such as better facilities (3.74%), the low yield from the traditional crops (5.44%), to follow others (2.52%), and problems from wildlife (5.61%), which have affected out-migration in the Uttarakhand Himalaya. Some other factors, which are not listed, represent 8.48%, which have also affected out-migration. At the district level, employment is the major factor of out-migration, which represents the highest proportion in the USN district (65.63%) and the lowest proportion in the Bageshwar district (41.39%). Education is the second major factor for out-migration at the district level, mainly in the Chamoli district (19.73%), Pithoragarh district (19.52%), Tehri

district (18.24%), Uttarkashi district (17.44%), Pauri district (15.78%), and Rudraprayag district (15.67%). Three districts have more than 10% population out-migrated for health improvement. Wildlife (>6%) has become a cause of out-migration mainly in Almora, Nainital, and Pauri districts. However, other districts are also affected by it. In the meantime, Haridwar, Dehradun, and USN districts have been less affected due to wildlife. Few people have out-migrated to follow their neighbours or relatives (Figure 6).

Figure 6. Reasons for migration (number in %) in Uttarakhand
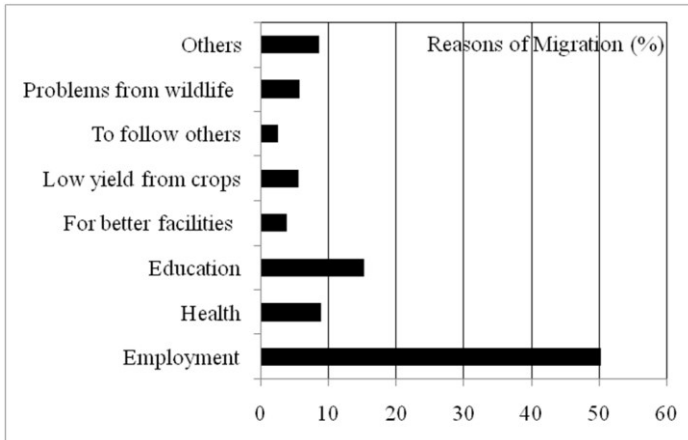

In-migration during the last 10 years

A small proportion of the population has in-migrated, reversed back to the villages (Figure 7). The highest in-migration occurred in 139 villages of Nainital district, followed by 121 villages of Haridwar, and 114 villages of Dehradun district. The lowest in-migration occurred in 16 villages of Uttarkashi district, followed by 24 villages of Bageshwar district, 26 villages of Chamoli district, and 28 villages of Rudraprayag district. The total number of villages where in-migration occurred is 850 (5.4% of the total villages).

Figure 7. District-wise in-migration after 2011
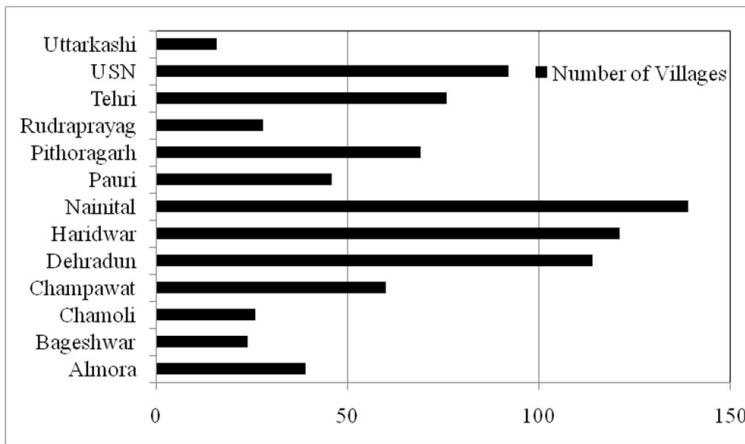
Case study: Parethi village

A case study of a village named Parethi was conducted on out-migration in January 2020. This village is located at 1800 m altitude, in the middle catchment of the Pindar River basin, Chamoli district, Uttarakhand. Climate is quite suitable during summers and during winter, snowfalls in the village. Agriculture is the main occupation of the people. Due to the mounting population, low output from agricultural fields, and high educational level, the educated youth of the village out-migrates in the search for jobs. A total of 45 households were surveyed (37.5% of the total households) using a purposive random sampling method. The average family size was 4.52 members/households. The mean value of the age of the heads of households was 52.43 years, and the mean value

of migration was 2.67 persons/households. All the heads of surveyed households are educated. About 16.7% of heads of the family are primarily educated, 50% are secondary educated, and 14% are graduates. Out of the total households surveyed, 44.4% of households have out migrated permanently, 33.3% semi-permanently, and 6.7% are seasonal migrants (Table 2). About 15.6% of surveyed households live in the village, practice subsistence agriculture. Out of the total migrants, a large number out migrated within the state (51.1%) in the service centres situated along the course of the major rivers. About 33.3% of people migrated outside of the state, in the metropolitan cities of the country.

Table 2. Nature and place of migration (n=45)

Nature of migration	Percent
Permanent	44.4
Semi-permanent	33.3
Seasonal migration	6.7
Not migrated	15.6
Place of out-migration	
Within state	51.1
Outside of the state	33.3
Not migrated	15.6

Source: By author

A correlation between migration and other variables such as gender, age, income, education, and occupation was carried out. It has been noticed that out-migration has a positive correlation with gender, age, income, and education. It means that the number of male population out-migrated is higher than the out-migrated female population, r value was noticed to be .068 and among them, mainly the youth of the region have out-migrated, r value is .028. Income has a positive impact on out-migration with r value of .017. It has been noticed that among the migrants, mainly educated youth have out-migrated (Table 3). A regression model was used to correlate migration and education and Coefficients[a] (.004) and ANOVA[a] (.251[b]) values were noticed, which shows that education has a positive impact on migration.

Table 3. Correlation of different variables with migration (n=45)

	Gender	**Age**	**Income**	**Education**	**Migration**
Gender		.009	.142	.009	.068
Age			.936	.142	.028
Income				.015	.017
Education					.000
Migration					

Correlation is significant at the 0.05 level (2-tailed).

Discussion

Migration has been a long-lasting debate in the Uttarakhand Himalaya for centuries. During the 16th century, when the Mughal invaded India, the people in-migrated to the hills of Uttarakhand to escape themselves from their cruelty. They settled along the rivers, mid-slopes, and the highlands. Atkinson (1882) and Walton (1910) have mentioned these facts in their writings. Meanwhile, out-migration started during the British reign in India. The British

opened avenues for the youth of the region to get recruitment in the Garhwal and Kumaon regiments. This led to sizeable youth out-migrating to serve these regiments. In the decades of the 1980s and 1990s, out-migration reached new heights when the youth started migrating in the service centres and the cities within and outside of the state. An exodus migration started in 2000 onwards when Uttarakhand got statehood and Dehradun became its interim capital. The Doon valley, which is about 75 km long (east-west) and about 25 km wide (north-south), is overcrowded now.

This study revealed that both semi-permanent and permanent migration occurred in each district of the Uttarakhand Himalaya. However, the proportion of the population out-migrated varies from one district to another. The study also noticed that the proportion is almost the same in terms of semi-permanent and permanent migration in all the districts. The three districts – Pauri, Almora, and Tehri have more than 50% migrants out of the total population out-migrated in Uttarakhand. The author noticed that education is one of the drivers of out-migration from the hill districts. Pauri and Almora districts are an example of it. The reason for high migration from Tehri district was the construction of Tehri High Dam where about 114 villages were fully or partially submerged and a large population got rehabilitation in the Doon valleys. In the meantime, out-migration from the districts, which lie in plain areas, is less. The reason is that the plain districts such as USN, Haridwar, and Dehradun have enormous fertile arable land for a sustainable livelihood. It was also noticed that from the remotely located districts such as Bageshwar and Uttarkashi, out-migration is less because they are practising suitable agriculture, and output from it is substantial in comparison to other mountainous districts. A large portion of migrants was noticed from the age group of 26-35 years. As already discussed, the youth of the region, which belongs to the age group of 26-35 years, have out-migrated in the search for jobs, although migration is substantial in all age groups.

The destination of migrants is generally internal. It includes migration to nearby towns, district centres, and other districts within the state, which represents about 70% of the total migration. The author observed that internal migration is mainly semi-permanent. The migrants work in educational institutions as teachers, some are drivers, and others are hotel staff. Few migrants are practising business, and few are labourers. Seasonal employment in the tourism industry is available mainly during the summers when an exodus number of tourists/pilgrims visit the highland natural locales and pilgrimages. They migrate on a daily, weekly, monthly, or biannual basis. Usually, one or two members of the family are migrants. Other family members practice agriculture and rear livestock. The migrants send remittances to run the livelihood of their families. Most of the permanent migrants have migrated out of the state. They migrated along with their family, leaving their settlements and farmlands abandoned. A few people also out-migrated abroad. Migration abroad is the highest, mainly from Tehri, Rudraprayag, and USN districts. A large number of youth are working in hotel industries abroad from these districts. The Sikh community of USN has migrated to European countries and American states for employment.

Out-migration has severe consequences in the sending areas, mainly due to permanent migration. Several villages are fully depopulated due to exodus out-migration. These villages are called the 'Ghost Villages'. Almost every district has some villages depopulated. It has been noticed that in the districts where out-migration is high, the number of depopulated villages is consequently high. Most of the depopulated villages are lacking in basic amenities

such as drinking water, electricity, and road connectivity. Besides, there are several villages where about 50% of the population has decreased after 2011.

Employment has become the major cause of out-migration from the hills of Uttarakhand because employment opportunities are lagging. Arable land is scarce, landholdings are small and fragmented. Due to fragile terrain, the scope of industrial development is minimal. As a result, educated and non-educated youth have out-migrated largely. Although the literacy rate of the state is high, yet higher educational institutions in the rural areas are lagging. The youth, after secondary education, out-migrate to cities and towns where higher education facilities are ample. Further, after getting higher education, they do not come back to the villages and settle in those cities and towns. Health facilities are minimal; therefore, people out-migrated for better health. The yield from the traditional cereals is very less although, a large number of people are dependent on cultivating traditional crops. Due to an increase in population, the output from the farmland is not sufficient and in the search for a better livelihood, people out-migrated. In the recent past, an increase in wildlife has created problems for marginal farmers. The wildlife enters into the croplands and destroys the existing crops. Wildlife problem is the highest in districts where out-migration is high such as Pauri, Tehri, and Almora. Because few marginal farmers are practising agriculture in these villages, the wildlife destroys crops without any hindrances. Few economically prosperous people migrate for better facilities in the urban areas. Similarly, few people out-migrated to follow their neighbours and relatives.

Results from a case study of the village show that about 84% of people have out-migrated, more than 50% of whom had permanently migrated. It has been noticed that education has a positive relationship with out-migration. It means that the educated youth migrates in their search for jobs. Migration is mainly internal, destined to the state's urban centres, and about 33% of people migrated to other states. The case study of a village is the best example of out-migration, which is closely related to the state's scenario.

Recently, reverse migration (in-migration) was also noticed in a few villages. Most of them are located in plains where infrastructural facilities are better. The author observed that the in-migrants are those who have retired from their jobs and have come back to their native places/villages. However, their number is very less.

Conclusion

Out-migration has become a common phenomenon in the Uttarakhand Himalaya. A large number of people, mainly youth, has out-migrated semi-permanently and permanently. In several areas, only the old-aged people and women were left living with minimum basic amenities. Migration has led to depopulation and land abandonment in rural areas, which has severe repercussions on the farming systems. The rate of out-migration has increased mainly after 2000 and has aggravated during recent times. Unemployment is one of the major impediments of out-migration. Since the rural areas are devoid of infrastructural and institutional facilities, augmentation of employment is not possible. Further, the output from traditionally practised subsistence cereal cultivation is not enough to carry livelihood sustainably. These factors have manifested a large out-migration of youth from the region, and if it continues, the out-migration will have severe adverse implications on the rural areas and their economy. Several steps should be raised to minimise out-migration and attract the migrants to come back to their respective villages. Institutions related to development should

be set up so that employment can be augmented and granted to the local people. The development of educational institutions may be a strong tool that can restrict the youth to out-migrate for education. Modern technological innovations related to agriculture can enhance the yield of crops and employment opportunities. Therefore, at the community level, the development of agriculture should be ensured. The government should come forward for the development of infrastructural facilities and through it, employment can be augmented.

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