



Geo-Environmental Impacts and Challenges Before and After COVID – 19: Uttarakhand A Case Study

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ABSTRACT

More than 10 million people are suffering and several lakh people die from this fetal corona virus disease in 2019-2020. World economy is almost ruined. Maximum productive units of the universe are shut down. A major proportion of the employed population has become unemployed. Temporary laborers are on the road and their families are facing a lot of problems. People who are facing this problem are the maximum rural migrants. The first Corona/ Covid-19 infected patient was found in Uttarakhand on 15th March 2020. While there has been a steady growth of patients in Uttarakhand, the number has increased significantly ever since the Uttarakhand Government allowed the entry of migrant Uttarakhand back in the original place in the state. Data is based on Health Bulletins released by Directorate of Medical Health & Family Welfare, Uttarakhand daily. As on 8 September 2020, Uttarakhand has over 25436 confirmed Corona Virus cases. Out of the total cases, 17046 patients have recovered and the number of currently active Corona Virus Covid-19 cases stand at 7965. Unfortunately, 348 persons were recorded as deceased. About 43803 persons were tested till 8 September 2020. The present study reveals that in March 2020, a total of 59360 persons are registered as migrants who came back in ten districts of Uttarakhand from different parts of the country. In April to June 2020 total 215875 migrants reached in their places of origin. Pauri (28%) and Almora (20.28%) districts are in first and second position while U. S. Nagar came in the third rank with 10.87% of the total migrants. The numbers of returning migrants at Block level ranges from minimum 30 in Kapkot Block of Bageshwar district to maximum 7759 in Beronkhal Block in Pauri district. There are 20% Blocks that recorded 30 to 500 returning migrants. About 29% Blocks are registered 500 to 1500 migrants. Ten (10.6%) Blocks are recorded 4500 to 5500 returning migrants. There are 3.2% Blocks that registered more than 4500 returning migrants are Beronkhal, Thalishain and Salt. About 25.2% (24) Blocks of the total 95 Blocks of the state where 1500 to 3500 migrants are returned to their native place. The migrants came from different region across the world. Out of the total migrants of the state, maximum 80.68% are returned from the other states (Inter-State) of the country while 18.11% are coming back from the other districts (Inter-District) of the state. Only 0.92 % of migrants are returned within the district. Six hundred sixteen (0.29%) migrants came from abroad.

Out of the total returning migrants maximum 58.17 % are registered as private servants and those people who are engaged in hospitality sectors. Of the total, 8.8% of students and 7.2% of housewives are registered as returning migrants. Only 3.1%, 1.5% and 1.5% are registered respectively as labourer, unemployed and self-employed returning migrants. There is a considerable proportion (17%) is registered as other category. Government servants (1.9%), Priests (0.2%) and technical experts (0.6%) are also included in the classification. Uttarakhand Government has launched the CM's self-employment scheme. The scheme is aimed at creating more self-employment opportunities for the youth and encouraging reverse migration.

Introduction

In present days complete human being is facing a problem of pandemic COVID 19 in across the world. About 10 million people are suffering and several thousand people die from this fatal corona virus disease. Our economy is almost ruined. Maximum productive units are shut down. A major proportion of the employed population has become unemployed. Temporary laborers are on the road and their families are facing a lot of problems. People who are facing this problem are the maximum rural migrants. According to NSSO 2010, about 30% of the total population was internal migrants. In 1951 the urban population was only 17 % and the remaining 83 % were rural. It is estimated that in 2025 the urban population will reach 42.5 %. Last fifty years rural population reduced from 83% to 68 %. Above statistics reflects that the people moved from rural to urban areas for searching the employment and better facilities. These people are registered as migrants. During the lockdown period, these migrants are facing in the worst condition of their life in all over India.

Objectives

The main objective of the present analysis is to explore the magnitude of migrants in Uttarakhand during lockdown i.e. March 2020 to June 2020. Another aim is to classify the migrants according to their working place from where they came back in their native place in Uttarakhand and as per their professions. It will also try to investigate the current and historical status on epidemics in Uttarakhand.

Data Source and Methodology

To achieve these objectives secondary data as published by the Census 2011 and the reports of the Rural Development and Migration Commission, Uttarakhand, Pauri is tabulated and analyzed. Historical information is collected from the gazetteers.

Geo-Environmental Set-up of the Study Area- Uttarakhand

Uttarakhand known as Devbhumi was settled by the migrants who came from the different parts of India since the early centuries. In the 19th-century, hill people came down in Bhabar and Tarai (plain) region as seasonal migrants. But later on, the region was settled by refugees of East and West Pakistan and freedom fighters of the country. It extends from the Tons-feeder of Yamuna River in the west to the Kali or Sharda in the east. Its northern boundary is demarcated by Indo-Tibet water parting ridge and southern boundary corresponds almost with the southern limit of Tarai belt separating it from Saharanpur, Bijnor, Muradabad, Rampur, Bareilly, and Pilibhit districts. Administratively, Uttarakhand is one of four new states created after the 1991 census. Historically, the region under the present study has been divided into two divisions - Garhwal (Kedarkhand) and Kumaun (Manaskhand) - presently Garhwal includes the districts of Hardwar, Dehradun, Uttarkashi, Tehri, Rudraprayag, Chamoli, and Pauri and Kumaun spreads over the districts of Almora, Bageshwar, Pithoragarh, Champawat, Nainital and U. S. Nagar. Lying between 28°44' and 31°25' north latitudes and 77°45' and 81°01' east longitudes, it encompasses an area of 53483 km² and supports 10086292 persons in 2011 (Fig.1).

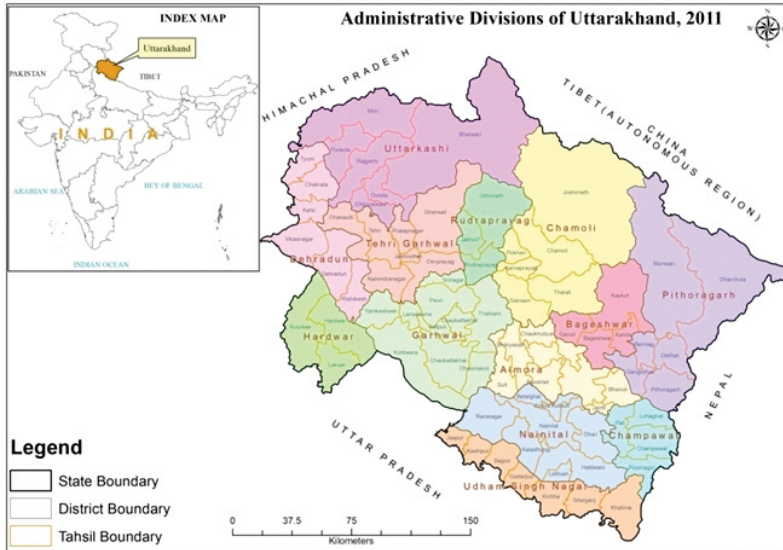


Figure:1 Location of Uttarakhand (Pant et al, 2020)

Uttarakhand comprises all the five latitudinal Physiographic and geological zones-the Tarai-Bhabar, the Siwalik with duns, the Lesser Himalaya, the Great Himalaya and the Trans Himalaya (Fig.2). These latitudinal divisions are separated from one another by thrusts/faults such as Himalayan Frontal Fault (HFF) exist between the Upper Siwalik and Bhabar, Main Boundary Thrust (MBT) lies between the Lesser Himalaya and Lower Siwalik, Main Central Thrust (MCT) separated the Lesser and the Great Himalaya and Trans Himadri Thrust (THT) lies between the Great and the Trans Himalaya (Pant, 1995 and 1998)

Diversified topography of the region has offered different climatic features. Rainfall and Temperature is an important factor which determines the cultivation and human activities. The altitudinal difference, slope aspect and forest cover of the area create complex climatic conditions that change frequently from location to location. The climate in the river valley is quite in contrast to the climate on the higher ridges. The Tarai-Bhabar and low-lying valleys below 800 m of elevation have hot and humid with a subtropical climate. Between 800-1200m elevation, it is warm-temperate, from 1200 to 2000m it is cold temperate, between 2400-3000m, elevation cold climate; 3000-4200m of elevation alpine climate; and above 4200m elevation glacial climate. Table 1 shows the impact of geo-environment on the distribution of population in the plains and hills of the state in 2011.

Table -1: Geo-Environmental Impact on Demographic Scenario in Uttarakhand

Particulars	Geographic Regions			
	Higher Himalaya	Middle Himalaya	Plains	Total
Total Households	184665	711738	1160572	2056975
% Total Households	8.98	34.60	56.42	100.00
Total Population	837042	3252636	5996614	10086292
% total population	8.30	32.25	59.45	100.00
Average Sex Ratio (F /1000 Males)	1031	1057	907	963
Child (0-06) Sex Ratio (F /1000 M)	903	897	885	890
Scheduled Tribe Population (%))	3.61	2.59	2.96	2.89

Source: Pant et.al. 2020.

Population Growth

A glance at retrospect (Table 3) reveals that Uttarakhand grew in the first decade of the twentieth century (1901-11) by 8.20 % which was higher than the national average of 5.75 %. The decadal population growth registered by the state before 1951 was less than 15 % with a negative growth of -1.23 % from 1911 to 1921. During these years from 1921 to 1951, the state was just behind the national growth rate. However, the growth was higher than 20 % in each decade in the post-independence period till 2001. The highest growth rate of the twentieth century was recorded in the decade 1971-1981 by 27.45 %. The post-independence period has also witnessed higher growth than the national average in Uttarakhand. The emphasis has been primarily laid here on the district level growth of the population from 1901 to 2011(Fig. 7). District wise population growth of Uttarakhand is shown in table 3. The overall pattern suggests that there is a gradual decrease in the growth rate in all districts in each decade from 1981 to 2011 barring few exceptions. District Nainital is a lone district which has registered a slight increase in 1991 to 2001 than the previous decade of 1981-1991. Similarly, Dehradun has also recorded more growth in the decade 2001-2011 than the previous decade and has touched the highest growth rate from 1981 to 1991. The maximum growth of the decade 1981-1991 which was also the highest in all decades attained by district Udham Singh Nagar being more than 40 %. The next highest in the later was district Dehradun and Champawat in the decade 1981-1991. During 1991-2001, Udham Singh Nagar is at the top closely followed by Nainital with more than 30 % of decadal growth. These are all located in plain parts of the state. During 2001-2011, Udham Singh Nagar (33.45%) is so closely followed by Dehradun (32.33%) and Hardwar (30.63%) districts. These situations are the results of a heavy concentration of population in the plain areas of the state. On the other hand, all the hilly districts are below 20 % in all decades except for Uttarkashi which has also remarkably fallen to 11.89 % growth in 2001-2011 and surprisingly that was the highest growth rate in 2001-2011.

Table 2. Decadal Growth/Change of Population in Uttarakhand and India since 1901 (in %)

District /Region	Census Year										
	1901-1911	1911-1921	1921-1931	1931-1941	1941-1951	1951-1961	1961-1971	1971-1981	1981-91	1991-2001	2001-2011
Uttarkashi	11.9	5.8	9.8	13.7	3.7	15.8	20.3	29.2	25.5	23.1	11.9
Chamoli	11.7	1.2	10.0	12.8	6.2	19.5	17.0	24.1	22.6	13.9	5.7
Rudraprayag	11.7	2.4	10.0	13.0	5.5	13.3	13.1	25.1	18.1	13.4	6.5
Tehri	11.9	5.8	9.8	13.7	3.7	13.0	14.3	24.7	16.5	16.2	2.3
Dehradun	15.3	3.6	8.5	15.6	36.1	18.6	34.6	31.9	34.7	25.0	32.3
Pauri	11.7	1.2	10.0	12.8	6.2	14.0	14.5	15.5	8.6	3.9	-1.4
Pithoragarh	15.9	0.9	10.0	17.8	12.5	19.1	14.4	16.4	14.1	11.0	4.6
Bageshwar	15.9	0.9	10.0	17.8	12.5	14.3	24.0	19.6	14.8	9.3	5.2
Almora	15.9	0.9	10.0	17.8	12.5	13.6	15.2	15.8	8.9	3.7	-1.6
Champawat	13.3	-1.3	8.8	16.4	12.7	30.5	45.1	25.3	26.4	17.6	15.6
Nainital	-0.1	-14.4	0.2	5.3	14.9	37.6	23.1	38.1	30.2	32.7	25.1
U.S. Nagar	-0.2	-14.4	0.2	5.3	14.9	121.1	49.7	48.1	38.3	33.6	33.45
Hardwar	-5.6	-4.9	11.4	13.1	14.6	18.0	32.9	32.7	26.3	28.7	30.6
Uttarakhand	8.2	-1.2	8.7	13.6	12.7	22.6	24.4	27.4	23.1	20.4	18.8
India	5.7	-0.3	11.0	14.2	13.3	21.5	24.8	24.7	23.9	21.5	17.7

Source: Census of India, 2011.

The current decade has finally displayed the negative growth for two hilly districts viz. Almora -1.64 and Pauri-1.41 % Based on the growth trend so far revealed by the hill districts, it is assumed that all hill districts would be on the negative growth rate in the following decade of 2011-2021. Rural areas of Uttarakhand are marked by the massive outflux of people and it is confirmed that rural migration has changed the political geography of the state. A few years back the number of MLAs (Member of Legislative Assembly) in the Legislative Assembly (Vidhan Sabha) was more than fifty per cent in the hills but after the reorganization of the constituencies based on population in 2011, the members of Legislative Assembly are drastically reduced i.e. power has captured by the MLAs of the plains. A comparison between the census data of 2001 and 2011 indicates a very slow decadal growth of population in most of the mountain districts of the state with Almora and Pauri Garhwal showing an absolute decline in the population. The pace of out-migration is such that many of the villages are left with a population in double digits. Data also points towards a high rate of decadal increase in population in districts like Dehradun, U. S. Nagar, Nainital and Haridwar while this is negative in Pauri and Almora districts and abnormally low decadal increase in Tehri, Bageshwar, Chamoli, Rudraprayag and Pithoragarh districts. The census figures as analyzed here signaling for a very high imbalance in the demographic behavior of the state.

Migration Pattern

The out-migration of the active workforce from the hilly district of Uttarakhand state is the biggest socio-economic problem these areas face today. Not only the out-migration is increasing year after year, but equally serious is the problem that the people who have once migrated are, most often reluctant to return to their origin; rather they become keen to stay and settle outside. The problem is not only an economic one; it imbibes sociological and psychological ingredients as well. In Uttarakhand, 44.20% of its total population is reported as a migrant in 2011 which is higher than the country average (37.47%). Out of the total (4457986) migrants 61.63 % rural and remaining 38.37% migrants are urban. About 30% of males are registered as migrants while out of the total female population 58.89% of females are considered migrants (Table 13). Females are more than males because during the marriage a woman moved from their paternal home to her husband's home is considered a factor for migration in the Census.

Out of the total rural population, 44.71 % of people are registered as migrants, among the total rural migrants 73.56 % are moved from rural to rural and only 26.44 % of people moved from urban/cities to rural areas/villages. It is very striking features that females are more than the males among the rural to rural migrants while more males than females are registered as urban to rural migrants. It is due to the male population left their counterpart in the villages / rural areas during his employment duration. After retirement from employment, they moved from urban to their native places or nearby cities. Out of the total urbanites, 32.67 % population is enumerated as urban migrants. Only 27.03 % population is moved from rural to urban while 72.97% of people have migrated from urban to urban during the 2011 census. The proportion of male and female migrants in rural to urban and urban to urban is equal. The movement of people with their families is responsible for this equal proportion (Table 3).

Table 3. Migration Pattern in Uttarakhand, 2011

Region	Total/ Rural/ Urban	Last residence Rural/Urban	Migrants					
			P	%	M	%	F	%
Uttarakhand	Total	Total	4,457,986	44.20*	1,543,627	30.04	2,914,359	58.89
	Rural	Total	2,747,243	61.63\$	732,742	47.47	2,014,501	69.12
	Urban	Total	1,710,743	38.37\$	810,885	52.53	899,858	30.88
	Total	Rural	3,146,237	44.71**	945,682	26.87	2,200,555	62.55
	Rural	Rural	2,314,424	73.56#	542,993	57.42	1,771,431	80.50
	Urban	Rural	831,813	26.44#	402,689	42.58	429,124	19.50
	Total	Urban	996,128	32.67***	453,833	28.04	542,295	37.91
	Rural	Urban	269,261	27.03##	120,916	26.64	148,345	27.36
	Urban	Urban	726,867	72.97##	332,917	73.36	393,950	72.64

Source: Census of India Provisional, D-5 Migrants by Place of Last Residence.

Note: * % of total population ** % of total rural population *** % of total urban population \$ % of total migrants # % of total rural migrants ## % of total urban migrants and %age for Male and Female has been calculated in similar method.

Census of India, 2011 has mentioned several reasons for migration, of which six are distinguished separately and remaining is included in other categories (Table 14). Maximum 42.64 % of total migrants are migrated due to the marriage reason. Of marriage reason, only 1.38 % are males and 64.49% females. It is a tradition in Uttarakhand where females have to move from parental home to husband's home after completion of the marriage ceremony. In our opinion marriage reason may not be considered because it is a social compulsion in which females are exchanged between the males of different villages or cities. Three, employment, business and education are the main factors for migration in Uttarakhand.

Out of the total migrants, 14.9 % population has moved for getting work or employment from their residence. Out of which 38.31% are males and only 2.49 % of females are included in this category. Less number of females is in this category because professional and technical literacy is fewer than males with not promoting females for employment by society. Only 10.87% of rural migrants are migrated for employment while 21.36% are urban who moved for getting work from their residence. The proportion of females is less than their counterparts. The study shows that rural to rural (10.35%) migrants are lower than urban to rural (26.14%) in search of employment. It is due to the rural areas have more possibilities for expansion of new establishments such as industries, institutions, developmental works, etc. As a result, more people moved from less spacious urban areas to more spacious rural areas.

Migration for business is not a more effective factor in Uttarakhand where the meagre proportion of migrants is moved from their original residence. Due to the absence of an industrial and viable agricultural environment in the Uttarakhand, education is the only medium to get employment in or outside the state. Unfavorable conditions for employment generation and favourable conditions for Europeans, they established more educational institutions for their children. As a result, Almora, Pauri, Pithoragarh, Mussorie and Dehradun were the hub of educational centres and well off children get a good education and in the present time, maximum village and cities have lower to higher educational institutions. Therefore there is no need to migrate for education in the present decade. Only 3.11% of people have migrated for education in 2011. Among them only 5.49% of males and 1.85 % are females. Urban migrants are more than rural migrants who moved for education. About 26.3 % of people are moved with households in the region. Out of the total rural and urban migrants, 20.41%

and 35.76 % migrants moved with household respectively. Approximately one-third of migrants are in urban to rural (38.93%), rural to urban (39.14%) and urban to urban (34.39%) moved from their earlier residence to new destinations with household.

Reverse Migration

Table 4 reveals that in March 2020, a total of 59360 persons are registered as migrants who came back in ten districts of Uttarakhand from different parts of the country. Three districts which are lying in the plain area have not registered a single migrant within March 2020. Out of total migrants in March 2020, maximum 20.28 % reached in the Pauri district and this sequence Almora stood in second with 15.67 % migrants. Tehri district has claimed 14.79 % migrants till March 2020. In April to June 2020 total 215875 migrants reached in all thirteen districts of Uttarakhand. Pauri (28%) and Almora (20.28%) districts remain in first and second position while U. S. Nagar now came in the third rank with 10.87% of the total migrants (Table 4).

Table 4: Reverse Migration- District wise Migrants till June,2020

District	March, 2020		June,2020		Total till June, 2020	
	No.	% of total	No.	% of total	No.	% of total
Almora	9303	15.67	43784	20.28	53087	19.29
Nainital	4771	8.04	9650	4.47	14421	5.24
Pithoragarh	5035	8.50	5451	2.53	10486	3.81
Champawat	5707	9.61	15097	6.99	20804	7.56
Bageshwar	1541	2.60	1925	0.89	3466	1.26
Pauri	12039	20.28	60440	28.00	72479	26.33
Chamoli	3214	5.41	5877	2.72	9091	3.30
Dehradun	0	0.00	2254	1.04	2254	0.82
Haridwar	0	0.00	3136	1.45	3136	1.14
Uttarkashi	4721	7.95	19405	8.99	24126	8.77
Tehri	8782	14.79	19242	8.91	28024	10.18
Rudraprayag	4247	7.15	7656	3.55	11903	4.32
U. S. Nagar	0	0.00	21958	10.17	21958	7.98
Total	59360	100.00	215875	100.00	275235	100.00

Source: Rural Development and Migration Commission, Uttarakhand, Pauri, July 2020
Computed by the author

Table 4 further reveals that till June 2020 total 27523 migrants reached Uttarakhand due to the lockdown. Out of total (275235) migrants varies minimum from 0.82 % in Dehradun to

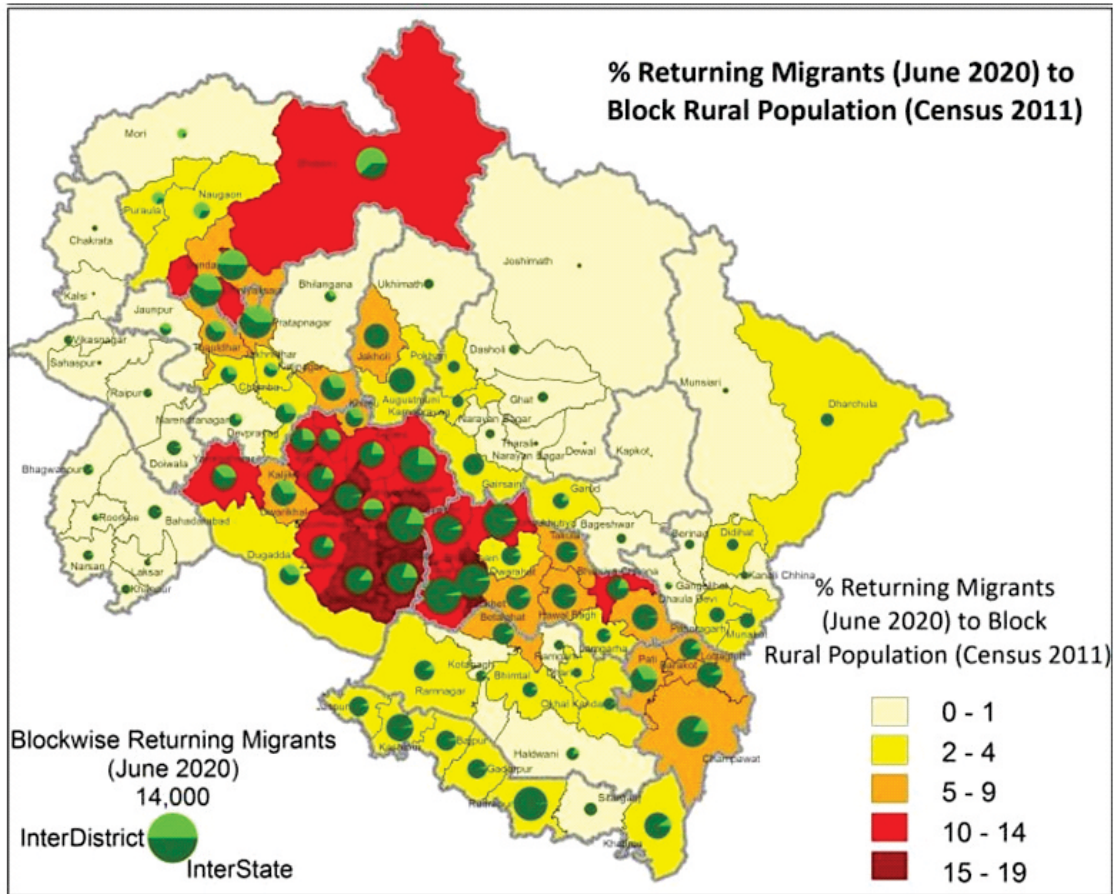


Figure 2: Returning Migrants in the Development Block, June 2020 (R. C. S. Taragi)

maximum of 26.33% in Pauri district. Almora district is in the second rank with 19.29% migrants. About ten per cent of migrants are registered in the Tehri district. Overall more than 55 % of the total migrants reached from different parts of the country even from abroad in only three districts – Pauri, Almora and Tehri of Uttarakhand. It is evident from table 2 in which Pauri and Almora districts have shown negative population growth. It is due to the rapid out-migration of the people from 2001 to 2011. Table 2 indicates a very slow decadal growth of population in most of the hilly districts like Tehri, Bageshwar, Chamoli, Rudraprayag and Pithoragarh in one hand and high rate of decadal growth in population in the districts lying in almost plain regions like Dehradun, U. S. Nagar, Nainital (partially plain) and Haridwar on the other. Towns of the plain districts of Uttarakhand are most liked places for habitation since the independence of India.

Table5: Block wise Concentration of Migrants from April to June 2020

Ranges	Number	%	Development Block
Below 500	19	20.0	Bageshwar, Berinag, Khanpur, Mori, Narayanbaggar, Raipur, Vikashnagar, Kanalichhina, Gangolihat, Roorkee, Laksar, Chakrata, Munsiyari, Joshimath, Tharali, Sahaspur, Deval, Kalsi and Kapkot.
500-1500	28	29.5	Bhimtal, Naugaon, Garud, Munakot, Bin, Doiwala, Lamgarha, Jakhnidhar, Bahadarabad, Dharchula, Sitarganj, Okhalkanda, Haldwani, Fakot, Pokhari, Purola, Jaunpur, Karnprayag, Didihat, Bhilangana, Kotabagh, Bhagwanpur, Narsan, Ghat, Dasoli, Ramgarh, Dhari and Ukhimath.
1500- 2500	12	12.6	Betalghat, Barakot, Ramnagar ,Thauldhar, Dugdda, Devprayag, Bazpur, Jaspur, Dwarahat, Gadarpur, Khirsu and Chamba.
2500-3500	12	12.6	Lohaghat, Jakholi, Hawalbagh, Kirtinagar, Kote, Jaiharikhal, Tarikhet, Pauri, Bhaisiyachana, Pokhara, Takula and Gairsain.
3500-4500	11	11.6	Rikhanikhal, Ekeshwar, Khatima, Kashpur, Pati, Pabo, Augastmuni, Dhauladevi, Dwarikhal, Yamkeshwar and Kaljikkhal.
4500-5500	3	3.2	Champawat, Dunda and Syalde.
5500-6500	7	7.4	Rudrapur, Bhikiyasain, Chaukhutia, Pratapnagar, Chinyalisaur, Bhatwari and Nainidanda.
Above 6500	3	3.2	Beronkhal, Thalissain and Salt.
Total	95	100.0	-----

Source: Rural Development and Migration Commission, Uttarakhand, Pauri, July 2020 and computed by the author

Table 5 is computed on the Block level data on COVID-19 returning migrants from April to June 2020, as published in the July 2020 report of Uttarakhand State Rural Development and Migration Commission, Pauri. The numbers of returning migrants at Block level ranges from minimum 30 in Kapkot Block of Bageshwar district to maximum 7759 in Beronkhal Block in Pauri district. There are 19 (20%) Blocks that recorded 30 to 500 returning migrants. These are Bageshwar, Berinag, Khanpur, Mori, Narayanbaggar, Raipur, Vikashnagar, Kanalichhina, Gangolihat, Roorkee, Laksar, Chakrata, Munsiyari, Joshimath, Tharali, Sahaspur, Deval, Kalsi and Kapkot. About 29% (28) Blocks are registered 500 to 1500 migrants. Ten (10.6%) Blocks that recorded 4500 to 5500 returning migrants are Champawat, Dunda, Syalde, Rudrapur, Bhikiyasain, Chaukhutia, Pratapnagar, Chinyalisaur, Bhatwari and Nainidanda. Among these, except Rudrapur Block, all others belong to Hill areas. There are 3 (3.2%) Blocks that registered more than 4500 returning migrants are Beronkhal, Thalissain and Salt. About 25.2% (24) Blocks of the total 95 Blocks of the state where 1500 to 3500 migrants are returned to their native place. The number of returning migrants in some of the Blocks is very less compared to the out-migrants reported in last ten years from these Blocks as per earlier published report of the State Rural Development and Migration Commission (April 2018), notable are the Blocks of Bageshwar and Uttarkashi districts.

Nearly 2.15 lakhs have been reported as returning migrants to the State during April-June 2020. Table 5 reveals that the migrants came from different region across the world. Out of the total

migrants of the state, maximum 80.68% are returned from the other states (Inter-State) of the country while 18.11% are coming back from the other districts (Inter-District) of the state. The inter-district reverse migration to hill districts is noted mostly from the large urban centres of Dehradun, Haridwar, Rudrapur, Khatima, Haldwani, Kashipur, Ramnagar, Kotdwar, Roorkee, Rishikesh, etc. lying in the plains region of the Uttarakhand. Only 0.92 % of migrants are returned within the district. Six hundred sixteen (0.29%) migrants came from abroad. All districts are shown the same pattern as the state average.

Table 6: Migrants Came from different Regions during April to June 2020

District	Within District	Other Districts of state	Other States	Foreign	Total Migrants
Almora	23	2478	41274	9	43784
Nainital	320	893	8430	7	9650
Pithoragarh	0	121	5330	0	5451
Champawat	45	2702	12328	22	15097
Bageshwar	0	230	1695	0	1925
Pauri	1271	14000	45073	86	60440
Chamoli	0	61	5812	4	5877
Dehradun	14	194	2045	1	2254
Haridwar	26	279	2753	78	3136
Uttarkashi	41	10370	8933	61	19405
Tehri	190	6757	12221	74	19242
Rudraprayag	0	1	7655	0	7656
U. S. Nagar	64	1000	20620	274	21958
Total	1994	39086	174169	616	215875
% of the State	0.92%	18.11%	80.68%	0.29%	100%

Source: Rural Development and Migration Commission, Uttarakhand, Pauri, July 2020. Computed by the author.

Table 7 depicts the professional Classification of Migrants, which reveals that all returning migrants are classified into ten categories. Out of the total returning migrants maximum 58.17 % are registered as private servants and those people who are engaged in hospitality sectors.

Table 7: Professional Classification of Migrants

	Govt. sector	Private servants and Hospitality	Priest	Technical	House wife	Students	Labour	Unemployed	Self employment	Others	Total
Almora	724	33002	2	47	2052	1920	176	26	278	5557	43784
Nainital	657	4102	15	106	925	945	720	104	144	1932	9650
Pithoragarh	85	2957	0	10	214	249	1464	3	55	414	5451
Champawat	203	8749	31	100	825	969	599	2286	654	681	15097
Bageshwar	68	953	0	81	215	230	8	1	361	8	1925
Pauri	983	27772	70	102	6822	7301	515	107	375	16393	60440
Chamoli	47	4077	1	84	310	352	48	0	53	905	5877
Dehradun	52	1258	14	10	186	219	209	0	87	219	2254
Haridwar	7	833	0	84	33	16	1767	78	103	215	3136
Uttarkashi	3	13866	2	242	0	1341	0	167	287	3497	19405
Tehri	694	10412	213	237	1738	2799	388	5	395	2361	19242
Rudraprayag	120	4813	0	0	707	665	71	143	52	1085	7656
U. S. Nagar	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21958
Total	3643	112794	348	1103	14027	17006	5965	2920	2844	33267	215875
% of the State	1.90 %	58.17 %	0.20 %	0.60 %	7.20 %	8.80 %	3.10 %	1.50 %	1.50 %	17.00 %	100 %

Source: Rural Development and Migration Commission, Uttarakhand, Pauri, July 2020 Computed by the author.

Of the total, 8.8% of students and 7.2% of housewives are registered as returning migrants. Only 3.1%, 1.5% and 1.5% are registered respectively as labourer, unemployed and self-employed returning migrants. There is a considerable proportion (17%) is registered as another category. Government servants (1.9%), Priests (0.2%) and technical experts (0.6%) are also included in the classification.

Status of COVID-19 in Uttarakhand

The first Corona/ Covid-19 infected patient was found in Uttarakhand on 15th March 2020. While there has been a steady growth of patients in Uttarakhand, the number has increased significantly ever since the Uttarakhand Government allowed the entry of migrant Uttarakhand back in the state. Data is based on Health Bulletins released by Directorate of Medical Health & Family Welfare, Uttarakhand daily. As on 8 September 2020, Uttarakhand has over 25436 confirmed Corona Virus cases. Out of the total cases, 17046 patients have recovered and the number of currently active Corona Virus Covid-19 cases stand at 7965. Unfortunately, 348 persons were recorded as deceased. About 43803 persons were tested till 8 September 2020.

The geographical spread of the corona virus outbreak in India has now extended to 35 states and Union Territories with Sikkim being the latest to report a Covid-19 case. The first Covid-19 case in India was reported on January 30 in Kerala's Thrissur district. The patient, a student studying in Wuhan, China (the epicenter of the novel corona virus pandemic), had returned home on account of the Lunar New Year festivities in China. The number of people who have tested positive for Covid-19 in India has crossed 4277548 and the country has the third-highest corona virus cases in the world, besides being the biggest epicenter of Covid-19 cases in Asia. During the first week of September, more than 60,900 cases have been reported in India every day. On September 3, India saw its highest single-day spike with 83,883 new cases being reported. Thirty-five of the country's 36 states and Union Territories have reported Covid-19 cases so far. Only Lakshadweep has not reported any case so far. However, despite all this, the central government continues to maintain that community transmission has yet not taken place in India

Historical Records on Epidemic

Remarks by E. T. Atkinson in the Himalayan Gazetteer

The earlier references of the epidemic in India reveal that in Uttarakhand region had been severely affected by deadly diseases in the past. Some of the common diseases noticed in the 19th century in Uttarakhand were Plague, Tuberculosis, Bowl Syndrome, Enteric Fever, etc. The colonial official records depict that due to climatic factors deadly diseases spread in Uttarakhand rapidly in the early decade of the 19th century. The plague caused the alarming situation in the region, heavy rainfall, high temperature and humidity added to the worsening situations. These outbreaks were either spontaneous or through the importation of virus carrier. These diseases were first reported in 1838, by Mr Godwin, the then commissioner of Kumaon who wrote in his report mentioned that first reference of disease in the region appeared in 1923 when the Rawal of Kedarnath temple got infected with this. Slowly the disease spread over to other parts of Garhwal Pargana. The historical records reveal that in 1834-35 once again the disease appeared in Nagpur and Badhan region of Garhwal and within two years in 1837-38 the virus spread alarmingly in many villages of Badhan and high reaches of Pindar valley. Till 1849 entire Ramganga valley came into its grip weeping away the whole population of Sarkot and the disease reached to the sources of the river Koshi in Bauraro Patti in the Kumaun. The heavy downpour played a catalytic role in spreading the disease. Strachey describes that in this year a large number of people died in village Marora and Dadhatoli in Chandpur Pargana of Garhwal. The spread of disease was not limited to hill tracts; it was prevailing in foothills too. In 1859 there were reports of Plague spreading in Kashipur and Chilkia. Table 3 gives an idea of deaths caused in Kumaun and Garhwal divisions in 1889 due to epidemic.

Table8: Deaths in Kumaun and Garhwal Divisions, 1889

District	Men	Women	Children	Total
Kumaun	105	69	64	238
Garhwal	199	73	25	297

The epidemic was not only affecting the health, but it was also having consequences on the economy of the region. The wool trade was badly affected when the government of India stopped the export of wool bales to England due to fear of Plague during the period.

The historical records also reveal that there has been an outbreak of Smallpox in Uttarakhand in the year 1874, due to this outbreak there are 16 people died in Kumaun and 31 people died in Garhwal region. The report of Superintendent General states that a large portion of the population was adversely affected due to epidemic. During this period out of 6346 villages in Kumaun region, 120 villages were affected by Cholera and more than 5 people lost their lives in 31 villages, while more than 10 people died in 10 villages and more than 20 people lost their lives in one village due to the

epidemic

Remarks by H. R. Nevill in the Nainital Gazetteer

Table 9 shows the chief causes of death, and from this it will appear that fever as usual heads the list, being responsible on an average for 73.18 per cent, of the total mortality. From the same table, it will be seen that 3.15 per cent of the average mortality, is caused by bowel complaints, which are almost invariably connected with malarial fever. The numbers are mentioned in the year 1891 are for old Tarai district only and during the year the number of deaths due to the bowel and malarial fever amounted to no less than 96 per cent of the recorded mortality, based on this data it appears that the hilly region of the state is comparatively providing the healthy environment. Similarly, in the foothill and Tarai region out of 594 odd villages 105 was under the grip of an epidemic, and more than 20 people lost their lives in 6 villages. Further in 1889 due to the outbreak of disease and unusual climatic conditions there had been a considerable impact on cultivation and harvesting. And it has been affected a population of 172000 in Garhwal region alone.

Table9: Death from Different Epidemic during 1891 to 1902

Year	Cholera		Small-pox		Fever		Bowel complaints		Others*		Total No.
	No.	%	No.	%	No.	%	No.	%	No.	%	
1891	155	1.8	35	0.4	8174	93.1	298	3.4	120	1.3	8782
1892	2563	13.5	74	0.4	14932	78.7	988	5.2	406	2.1	18963
1893	21	0.2	160	1.2	11718	88.8	884	6.7	416	3.2	13199
1894	91	0.5	93	0.5	16388	90.4	1034	5.7	526	2.9	18132
1895	-	0.0	28	0.2	14512	91.9	761	4.8	483	3.1	15784
1896	1485	7.8	15	0.1	16474	86.0	709	3.7	475	2.5	19158
1897	205	1.4	1058	7.4	12038	84.1	451	3.2	557	3.9	14309
1898	10	0.1	8	0.1	13985	94.2	419	2.8	420	2.8	14842
1899	30	0.2	2	0.0	13320	94.3	301	2.1	477	3.4	14130
1900	2	0.0	-	0.0	11277	94.6	299	2.5	343	2.9	11921
1901	70	0.6	2	0.0	10840	95.3	236	2.1	230	2.0	11378
1902	555	4.1	3	0.0	12420	91.2	267	2.0	380	2.8	13625
Total	5187	3.0	1478	0.8	156078	89.6	6647	3.8	4833	2.8	174223

Source: Nevill, 1904 Reprinted, 2016

From 1898 to 1903 the total mortality from this cause was only fifteen. In former days smallpox was a characteristic disease of the hills, but in 1854 vaccination was introduced in Kumaun region under the Government supervision and the results were very favourable; although far behind Garhwal and Almora were the best-protected districts in the United Provinces, Nainital holds a very satisfactory position in this respect. There are now sixteen vaccinators in the district under the control of an assistant superintendent of vaccination. It was estimated in 1902 that 24.37 per cent of the population was protected by vaccination. The plague has not yet appeared in the district, and the hill patties (sub-divisions) did not suffer from the endemic form of this disease, which constantly appeared in Almora and Garhwal.

Challenges

There are several challenges such as how to minimize the psychological depression of old persons, children, housewives, patients etc. It is also a challenge on how to compensate for the economic loss of the people as well as governments during the lockdown and how to restart the

industries and other professions without skilled labourer.

Steps Taken by the Uttarakhand Government for Unemployed and Migrants

In this pandemic situation of Coronavirus, many people have lost their jobs. Even many are suffering a lack of money. Especially, migrants have lost their jobs badly. The youths also don't get the employment opportunity even getting a good educational certificate. After looking at these problems the government of Uttarakhand has launched CM Self-Employment Scheme Uttarakhand for the migrants and youths of the state. In this article, we will share with you all the important information regarding this scheme such as benefits, objectives, eligibility criteria, documents required, application procedure etc.

Chief Minister of Self Employment Planning

Uttarakhand chief minister Trivendra Singh Rawat launched the CM's self-employment scheme. The scheme is aimed at creating more self-employment opportunities for the youth and encouraging reverse migration. The Uttarakhand government launched a website of the Mukhya Mantri Swarojgar Yojana to make it easier for enterprising youths and migrants returning to the state to apply online for the scheme.

Uttarakhand Loan Scheme for Jobless Youths and Migrants

Loans will be given to eligible applicants under the scheme for projects worth ₹ 25 lakh in the manufacturing sector and worth ₹ 10 lakh in the service sector. It will help in the state government's efforts towards reverse migration. The loans under the scheme will be provided by nationalized banks, scheduled commercial banks and co-operative banks, he said. The MSME department will offer the margin money as a grant under the scheme. According to the MSME policy, the upper limit for margin money in category A will be 25 per cent of the total cost of the project, 20 per cent in category B and 15 per cent in category C and D. Applicants should be at least 18 years of age.

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

There are various construction and repair works in the rural areas such as masonry works, water Conservation, wall construction, plantation, construction of road, footpath, water tanks, schools, community shelter, toilets etc.

Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (NRLM)

Aajeevika - National Rural Livelihoods Mission (NRLM) was launched by the Ministry of Rural Development (MoRD), Government of India in June 2011. In November 2015, the program was renamed Deendayal Antayodaya Yojana (DAY-NRLM)

Other Schemes

There are various schemes namely, Deen Dayal Upadhyay - Gramin Kausal Vikas Yojana, National Rural Urban Mission, Cooperatives, Livestock, Agriculture –State Millet Scheme and - Horticulture

Other Positive Impacts of Lockdown

There are several positive impacts are reported or experienced by the people and the various agencies. Water Pollution reduced. Water in Rivers is seen more cleanly in Yamuna in Delhi, Ganga in Kanpur, Allahabad, Patna etc. Air Pollution level Decreased- Himalayan Ranges were seen from Jalandhar and other towns situated in the Plains. Wild Animals were walking in the Highways. Death by accidents was Decrease. Emissions of dangerous gasses were reduced. Save fuels- Petrol, Diesel, and other natural gases. Deaths in Hospitals were reduced. Peoples were interested to settle themselves in their parental places (Rural areas). Governments, as well as People, were thinking to strengthen their local products (vocal for local). People came back to their native place (Reverse migration). Environmental degradation in rural areas will reduce because people will protect or care about their ancestral properties.

Conclusion

The study concluded that the significant numbers of returning migrants are seen in the hilly districts in general and Pauri and Almora districts in particular. Population growth in these districts was seen negative from 2001 to 2011. The main reason for negative or slow growth in the hill districts is the rapid out-migration of the people in search of the employment and better institutional and infrastructural facilities. To check the out-migration income-generating schemes should be launched and plan must be involved at grass root level people as well as available resources. It will be important to note that what proportion of these returning migrants will retain and not interested to move out as there is talk of various government programs and measure to provide employment opportunities etc. to these migrants within the State. The pattern revealed through the study and a comparison of facts revealed further opens up the need for researching the migration issues before any policy measures and their proper and effective implementation in the State. Some positive impacts are also seen during lockdown such as reducing the level of air and water pollution. Keeping in mind this pollution free situation few days lockdown in every year must be started in the whole world.

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