

# Socio-economic Study of Out Migration in Hills of Uttarakhand

Vaishnav, P.<sup>1</sup>, Tripathi, A.K.<sup>1\*</sup>, Chaudhary, S.<sup>1</sup> and Shukla, A.N.<sup>2</sup>

G.B.P.U.A.&T., Pantnagar, Uttarakhand, India

B.N.P.G. College, Rath, Hamirpur, Uttar Pradesh, India

\*Corresponding author: [ajaytripathi.gbpuat@gmail.com](mailto:ajaytripathi.gbpuat@gmail.com)

Received: 19-08-2023

Revised: 19-11-2023

Accepted: 07-12-2023

## ABSTRACT

The study has conducted in Uttarakhand to examine the status of the determinants driving the existing process of migration and to determine the effect of the determinants in the labour out migration. The human movement either individual or in group from one place to another across an international border or within a state is termed as migration. There are 13 district in Uttarakhand and divided in hills and plains. Secondary data were collected from the various government published and unpublished record Labour force participation rate was higher in hill district while unemployment rate was comparatively higher in plain district. Unemployment rate, functional facilities per 100 km sq., domestic composite index of socio-economic infrastructure development and category of district (dummy variable) are found significant while. Hill districts have higher adult literacy rate than plains. Higher facilities in per unit area, infrastructure and district domestic product are more than the plain districts.

**Keywords:** Migration, unemployment, infrastructure, socio-economic

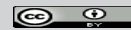
The process of migration is an inevitable phenomenon existing since the beginning of mankind. The human movement either individual or in group from one place to another across an international border or within a state is termed as migration; the pattern of these human movements whatever its composition, length of stay and causes; reflects the cultural landscapes of both the places people leave and places they settle. Migration is a barometer to decipher the magnitude of transformation in the political, economic, social and cultural realm at the state as well as at the national stage (Sethi, 2019). It includes movement of refugees, displaced people, family reunifications, movement of economic migrants and movement for other miscellaneous purposes.

As per WMR 2020, 3.5% of world population i.e. 272 million people were international migrants in 2019 with a composition of 52% of males and 48% of

females among which 74% of migrants belonged to working age group (20-64 years). As per Census 2011, 43.36 crore (37%) of countries population is migrant. Hills of Uttarakhand has experienced drastic decline in the human capital over last few decades in search of employment opportunities and basic amenities of life which has led to negligence and underutilization of other resources and opportunities present in hills; and has created an imbalance in population structure of hills as well as plains. Mountains include some of the most fragile ecosystems which also add to the phenomenon of migration. Uttarakhand lies in the foothills of Himalayas and has mainly hilly

**How to cite this article:** Vaishnav, P., Tripathi, A.K., Chaudhary, S. and Shukla, A.N. (2023). Socio-economic Study of Out Migration in Hills of Uttarakhand. *Agro Economist - An International Journal*, 10(04): 307-312.

**Source of Support:** None; **Conflict of Interest:** None



terrain which includes 10 out of 13 districts. The majority of the rural population in the hills either survives on subsistence agriculture or migrates to other parts of the state or country in search of employment. The backward economies having peculiar specificities of any region have shown intense patterns of migration to lowland or flatland areas. The lopsided development has been occurring in Uttarakhand due to variable growth in different sectors and other factors such as topography, climate change, poor structure of population, etc. For a fact the economic growth of the state has been mostly dependent and focused in the three plain districts while leaving the rest 10 hill districts lagging in their contribution. The two hilly districts, namely Almora and Pauri Garhwal, recorded an absolute decline in population in 2011 over 2001 (registering a negative compound annual growth of -0.13 and -0.14 respectively) (NIRD&PR, 2015). As per census 2011 of Uttarakhand, among 16,793 villages, 1,053 have no inhabitants and another 405 villages have a population of less than 10. The number of such ghost villages has reportedly risen particularly after the earthquake and flash floods of 2013. Overall growth rate of 1.7% was observed in state of Uttarakhand with a large margin in hilly and plain districts. The growth rate witnessed by hilly districts was 0.7% in comparison to plain districts with 2.8% growth rate.. Main concerns of the hilly regions are lack of infrastructural facilities, employment opportunities, unfavourable living conditions, etc. The reasons of out migration are employment, medical facilities, education, infrastructure, poor agricultural produce and others according to report of Rural Development and Migration Commission, 2019. The objectives of the study were to examine the status of the determinants driving the existing process of migration in the state and to determine the effect of the determinants in the labour out migration.

## METHODOLOGY

The study has been conducted considering all 13 districts of the Uttarakhand. Uttarakhand has been selected purposively as study area considering the higher migration rates and imbalances in hill and plain districts of the state. The study conducted was based on secondary data sources which is collected from different sources like reports by Rural development and migration commission, Human

development report of Uttarakhand, Uttarakhand at a glance publication by Directorate of Economics and statistics, reports by Ministry of Health and Family Welfare Statistics, Economic Survey and other research works conducted.

## Analytical Framework

### Examination of status of the determinants driving the existing process of migration

The comparison of hill and plain districts collectively over the given criterion was done using calculation of geometric mean and was graphically presented using bar graphs.

The parameters to be used for particular determinant are as follows:

Sl. No.	Determinant	Parameters
1	Employment*	a. Labour force participation rate b. Unemployment Rate
2	Education*	Percentage of 15+ years old with secondary education and above
3	Medical Facilities**	Functional facilities per 100 km sq.
4	Agricultural productivity***	DDP of primary sector
5	Infrastructure****	Composite index of socioeconomic infrastructure development

**Sources of data** \* HDR 2019 (Government of Uttarakhand, Directorate of Economics and Statistics, Department of planning); \*\* Rural health statistics 2018-19 (GOI, Ministry of health and family welfare); \*\*\* Estimates of district domestic product of Uttarakhand, 2019 (Government of Uttarakhand, Directorate of Economics and Statistics, Department of planning); \*\*\*\* IOSR journal of Economics and Finance (Jul-Aug, 2020)

### Determination of the effect of the determinants in the labour out migration

To achieve the determine the effect of determinants in the process of out migration from hills multiple regression model using relative values has been used. Multicollinearity of the explanatory variables was observed by constructing zero order correlation

matrix. Ordinary least square model which is commonly known as linear regression was used in the study.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 Z_i + \mu$$

Where;

$Y$  = number of migrants per 100 km sq.;  $X_1$  = Labor force participation rate;  $X_2$  = Unemployment rate;  $X_3$  = Functional medical facilities per 100 km sq.;  $X_4$  = Percentage of 15+ years old with secondary education;  $X_5$  = Composite index of socioeconomic infrastructure development;  $X_6$  = DDP of primary sector;  $Z_i = 1$ , in case of hill district; 0, in case of plain district;  $\beta_0$  = intercept;  $\beta_i$  = regression coefficient;  $\mu$  = error term

## RESULTS AND DISCUSSION

### (A) Status of parameters

#### Labour force participation rate and unemployment rate

The highest value of labour force participation rate (LFPR) was of Uttarkashi i.e. 67.3% and lowest value was of Almora i.e. 43.2%. The highest unemployment rate (UR) was of Dehradun i.e. 5.9% and lowest was of Uttarkashi i.e. 1%.

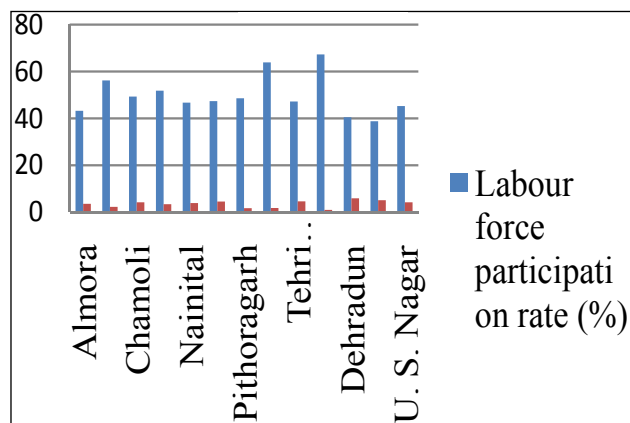


Fig. 1: District wise status of employment

The hill districts show a range from 43.2 to 67.3% in labour force participation rate and a range from 1.0 to 4.6% in unemployment rate. On the other hand the plain districts show a range from 38.8 to 45.3%

in labour force participation rate and a range from 4.2 to 5.9% in unemployment rate.

Sl. No.	Particulars	Geometric mean
(a)	Labour force participation rate	46.27
1	Hill districts	51.66
2	Plain districts	41.44
(b)	Unemployment rate	3.74
1	Hill districts	2.79
2	Plain districts	5.01

#### Percentage of 15+ years old with secondary education and above

The highest adult literacy rate was of Bageshwar i.e. 65.6% and lowest was of Haridwar i.e. 47.1%. The range of hill districts was from 49.5 to 65.6% while the range of plain districts was 47.1 to 60.9%.

Sl. No.	Particulars	Geometric mean
1	Hill districts	60.05
2	Plain districts	52.69

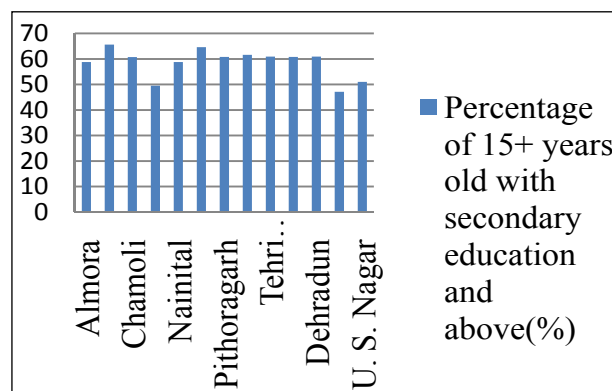


Fig. 2: District wise status of adult literacy

#### Functional medical facilities

The highest numbers of functional facilities were in Pauri Garhwal i.e. 277 and lowest numbers of functional facilities were in Champawat i.e. 79. Evaluation on basis of numbers can be misleading as the area of districts varies and accessibility to nearby facility vary accordingly. Therefore, the functional medical facilities per 100 km sq. values are also highlighted and it can be observed that Rudraprayag had highest value i.e. 11.23 and Uttarkashi had lowest value i.e. 1.22.

Sl. No.	Particulars	Geometric mean	
		Total facilities (number)	Facilities per 100 km sq.
1	Hill districts	147.95	3.75
2	Plain districts	198.81	7.51
		158.39	4.40

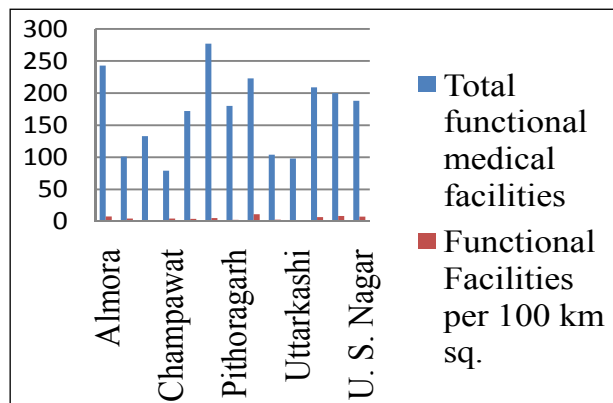


Fig. 3: District wise status of functional medical facilities

### Domestic product of primary sector

The highest DDP of primary sector at current prices was of Dehradun i.e. ₹ 3691.27 crore and lowest was of Rudraprayag i.e. ₹ 381.89 crore. The base year for DDP in constant prices was 2011-12. The highest DDP of primary sector at constant prices was of Dehradun i.e. ₹ 3987.23 crore and lowest was of Rudraprayag i.e. ₹ 288.03 crore. Nainital has highest DDP in hill districts.

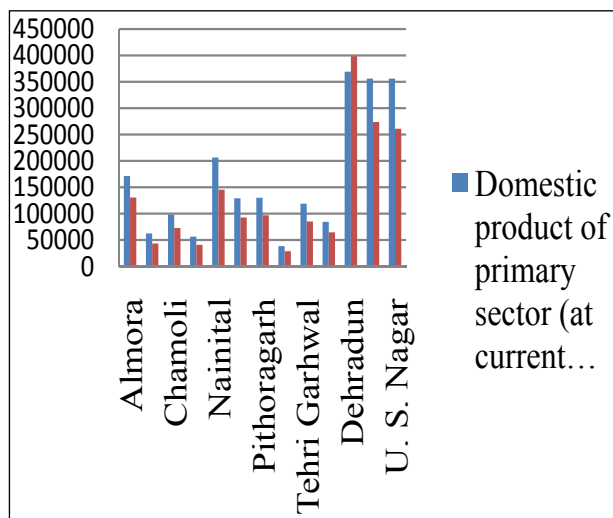


Fig. 4: District domestic Products

Sl. No.	Particulars	Geometric mean	
		Domestic product of primary sector (at current prices) in lakh ₹	Domestic product of primary sector (at constant prices) in lakh ₹
1	Hill districts	97601.15	71447.65
2	Plain districts	360295.00	305397.40
	Overall mean	131931.40	99902.20

### Composite index of socio economic infrastructure development

Haridwar had highest value in the index i.e. 24.18 and Pithoragarh had lowest value in the index i.e. 0. Therefore, Haridwar ranks 1 and Pithoragarh ranks 13 in the index. The value of index in hill districts ranges from 0 to 15.46 while the value of index in plain district ranges from 22.59 to 24.18. The plain districts exhibit all top 3 ranks therefore it can be concluded that plain districts have better infrastructure development than hill districts.

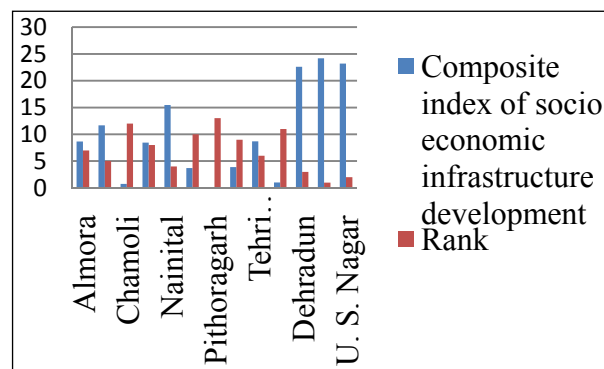


Fig. 5: Composite index of socio economic infrastructure development

### (B) Effect of determinants in labour out migration

In order to avoid the problem of multicollinearity correlation matrix was created and VIF values were worked out. None explanatory variable were found to be highly correlated (i.e.  $r > 0.8$ ) with each other. The VIF values were found to be less than 10, therefore no multicollinearity was detected in the used model and incorporated variables. It can be observed that the model is overall significant at 5% level of significance with f-value 0.035.  $R^2$

(coefficient of multiple determination) was 0.855, which explained that all the independent variables had 85.5 percent total influence on number of out migrants per unit area.

R	R <sup>2</sup>	Adjusted R <sup>2</sup>	SE of regression	F- value
0.824	0.855	0.653	2.551	0.035**

\*\*= significant at 5% level of significance.

The analysis points out that out of 7 independent variables only 4 variables were found significant viz. unemployment rate, functional facilities per 100 km sq., domestic composite index of socio economic infrastructure development and category of district (dummy variable). Labour force participation rate is an important factor for out migration. The coefficient of labour force participation rate was (-)0.095 which was statistically significant. This may be due to increase in number of working class, with increase in working class decline in the quantity of out migrants will occur. Functional medical facilities are important parameter for population seeking necessary healthcare. The coefficient of functional medical facilities was 0.471 which is statistically significant. The coefficient shows positive relationship between functional medical facilities and number of migrants which is paradoxical in nature. This contradiction in the result may be due to extremely high value of Rudraprayag district in analysis. Composite index of socio economic infrastructure development gives overall view of facilities available in the region. The coefficient of Composite index of socio economic infrastructure development was (-) 0.177 which is statistically significant. The coefficient shows negative relationship between the composite index and number of migrants per unit area. The cause of this negative relationship may be the pull paradigm exerted by available infrastructural facilities like roads, schools and other basic amenities. Decrease in out migration will occur due to availability of facilities in their place of origin. Category of district i.e. hill or plain was the dummy variable used in analysis (1= hill district, 0= plain district). The coefficient of dummy variable was 5.066 which was statistically significant. The positive relationship points out that by keeping other factors as constant if observation lies under hilly category of districts there will be increase of 5.066 percent in number of out-migrants on an average. The reason for so may be

difficult topographical and climatic conditions which leads to accessibility issues for other basic amenities.

## CONCLUSION

The study shows the lopsided development of the factors in hills and plains in Uttarakhand. The hill districts have comparatively higher labour force participation rate while plain districts have comparatively higher unemployment rate. Hills have higher adult literacy rate than plains shows that level of education of the hills is more. Plain districts have higher number of facilities in general as well as in per unit area. The district domestic product values of the hill districts and plain districts show huge disparity. District Domestic Product of plains is certainly higher than hills. The infrastructure in hills also lack from the plain districts as all top ranks are occupied by plain districts in index.

## ACKNOWLEDGEMENTS

This study is a part of M.Sc. thesis submitted in the discipline of Agricultural Economics at G.B.P.U.A.&T., Pantnagar during the academic year 2021-22.

## REFERENCES

- Baliyan, K. and Mehta, G.S. 2019. Impact of Out Migration from Uttarakhand: Insights from the field. *Madhya Pradesh J. Soc. Sci.*, **24**(2): 45-66.
- Chandra, B. 2016. Problem of Migration from Hills to Plains in Uttarakhand. *J. Glob. Values* **7**: 14-17.
- Dutt, S., Singh, S. and Paul, D. 2020. Infrastructure and Economic Development in Uttarakhand: An Inter District Study. *IOSR J. Econ. Finance*, **11**(4): 76-80.
- Garg, A. and Agarwal, P. 2021. Analysis of Rural-Urban Migration in India and Impact of COVID-19. *Int. J. Policy Sci. Law*, **1**(4): 2468-2493.
- Goswami, B.G. 2019. A study of out migration and its impact on farm household's economy in Almora district of Uttarakhand. Thesis, M.Sc.(Ag.). G.B. Pant University of Agriculture & Technology, Pantnagar, Uttarakhand, India, pp. 55.
- Hassan, T. and Khan, J.H. 2012. Determinants of Rural out migration in India. *Int. J. Adv. Res. Manag. Soc. Sci.*, **1**(6): 61-80.
- ILO. Geneva, Switzerland. 2018. India Labour Migration Update. Published by ILO, Geneva, Switzerland. 5p. [http://www.ilo.org/publications/wcms\\_631532](http://www.ilo.org/publications/wcms_631532).
- India. Ministry of Health and Family Welfare, Statistics Division. 2019. Rural Health Statistics 2018-19.

Published by Ministry of Health and Family Welfare,  
New Delhi, pp. 129-132.

IOM, Geneva, Switzerland. 2011. Glossary on migration.  
Published by IOM, Geneva, Switzerland, pp. 61.  
[https://publications.iom.int/system/files/pdf/iml\\_34\\_glossary](https://publications.iom.int/system/files/pdf/iml_34_glossary)

NIRD&PR. Rajendranagar, Hyderabad, India. 2015.  
Outmigration from Hill Region of Uttarakhand:  
Magnitude, Challenges and Policy options. Published  
by NIRD&PR. Rajendranagar, Hyderabad, pp. 7.  
[http://www.nird.org.in/SR\\_Sanskaran\\_Chair/LEICERUC17](http://www.nird.org.in/SR_Sanskaran_Chair/LEICERUC17).

Sethi, A. 2019. Out of Mind, Out of Sight: A Critical Appraisal  
of Social Initiatives to Curb Migration in Uttarakhand.  
*Int. J. Manag. Technol. Soc. Sci.*, 4(2): 59-68.

$X_i$	Variable	Unstandardized coefficients		t- value	p- value
		B	SE		
	Constant	15.116	14.756	1.024	0.352
$X_1$	Labour force participation rate	-0.095	0.049	-1.938	0.064*
$X_2$	Unemployment rate	-0.276	1.020	-0.271	0.189
$X_3$	Percentage of 15+ years old with secondary education	-0.078	0.196	-0.399	0.270
$X_4$	Functional Facilities per 100 km sq.	0.471	0.294	1.601	0.017**
$X_5$	Domestic product of primary sector (at constant prices)	-0.00001	0.00002	-0.490	0.164
$X_6$	Composite index of socio economic infrastructure development	-0.177	0.136	-0.949	0.038**
$X_7$	Category of district (dummy)	5.066	6.150	0.823	0.074*