Magnitude and Pattern of Reverse Migration and Their Socio-economic Implications in Uttarakhand

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Abstract

The state of Uttarakhand has experienced significant flows of reverse migration in recent years, as people who had previously migrated to other parts of India are returning to their home state. This paper examines the socio-economic implications of this trend using data from the 2011 census. The analysis shows that reverse migration has led to an increase in the working-age population in Uttarakhand, which could have positive effects on the state's economy. However, it also highlights the challenges faced by returning migrants in terms of finding employment and accessing social welfare schemes. The paper concludes that policies aimed at supporting returning migrants are needed to ensure that the benefits of reverse migration are maximized while minimizing any negative impacts.

Keyword: Reverse Migration, Migration, Migrants, Education, Employment, Urban, Rural

Introduction

During the last couple of decades, the population of the Uttarakhand has grown at the lowest rate, especially in hilly regions (Census of India 2011), A decline in the working population is caused by out-migration, which adversely affects the economy and the social ecosystem (Gov.UK. Report on outmigration from hill region of Uttarakhand, 2018). When we analyze the state's productivity from an economic perspective, we can observe that the state is more focused on the front end of both the micro- and macro-economic structures. Individual

livelihoods and daily requirements are manifested in the microeconomic aspects of the state's economy. A macroeconomic picture of the state's economy, on the other hand, illustrates the economic development of the state as a whole (Remi and Adeyoke, 2011).As seen by a comparison of the 2001 and 2011 census statistics of Uttarakhand, this is a major decline, particularly among the working-age population, topographical classification of the state, most of the mountain districts have experienced modest, decadal population growth. Almora and Pauri Garhwal experienced a population decrease of 17868 individuals in absolute terms between 2001 and 2011 (Gov.UK. Report on outmigration from hill region of Uttarakhand, 2018).

In terms of generating significant economic growth, Uttarakhand's development record over the past 15 years has been fairly positive, state's GSDP is expected to reach 2.76 trillion rupees (US$ 33.61 billion) in FY23 (MOSPI report 2022-23).However, this economic flare is limited to only three districts which are considered plain regions, whereas ten districts have hill regions that are perhaps economically isolated.(Uttarakhand Government reported 2012,2014).

The majority of the state's economic possibilities landed in its plain regions, which resulted in significant income disparities between its plain and hilly regions (DOES, Uttarakhand, report on per capita income,2008-9) The magnitude of out-migration is so extreme that villages have been stripped of a human population, and people have left out their villages which is an alarming situation for the state's rural economy In short, the benefits of growth did not reach these areas at the intended rate, which may have reduced out-migration by increasing prospects for socio-economic flare. This is a sensitive issue since the population is declining in the bordering districts, raising concerns about the safety of the nation.

In order to improve awareness about the policy and its implementation, we need to recognize that the manifestation of the issue can be caused by multiple factors (Bodvarsson and Berg, 2009). People who consider out-migration an economic opportunity have a reasonable explanation for why they did so; they left their villages to pursue better opportunities. However, real questions need to be asked, such as whether migration may be caused by the depletion of resources necessary for survival. This is because people are moving for reasons like better opportunities elsewhere or because they have the skills and ability to do so.

This research is trying to explode the socio-economic ground for reverse and outline the serious concerns directly associated with the de-population of the region. There are two tentative ways to resolve these issues, one is to convince the people not to move out from their village or region, they have to carry out their social and commercial activities at their place, these could be a permanent solution to out-migration for that the government has to provide basic infrastructure to the people before the government has to bring them back through providing a healthy socio-economic ecosystem, which can be created through various government schemes and employment opportunities.

The United Nations (1998) in their International Migrant Reports defining a damn long migrant as a person who moves to a country other than his or her residence for a minimum period a year and shortterm migrants as an individual who migrates for at minimum three months but less than a year. In the developed country reverse migration for the rural area is more prominent where people have a excellent infrastructure and healthy eco-system, developing country on the other hand where people do not get workable eco-system as a result move out for seeking better life quality (Ernest George Ravenstein,1889). The topic of reverse migration has been extensively explored in some important studies like Rawat, N. (2021), Singh, S. (2020), Pandey, N. (2019), Kumar, A. (2021), Singh, R.(2018), Yadav, A. (2020) etc.

Bahuguna's (2018) research titled "Reverse Migration and the Quest for Livelihood: A Study of Rural Uttarakhand" focuses on the phenomenon of reverse migration in the state of Uttarakhand, India. The study explores the reasons why people who had migrated to urban areas in search of employment opportunities are returning to their rural hometowns.

The research is based on extensive fieldwork conducted in four villages in the state of Uttarakhand, using a mixed-methods approach including surveys, interviews, and participant observation. The study found that the reasons for reverse migration are multifaceted and include dissatisfaction with urban living conditions, inability to find stable employment, and a desire to reconnect with family and community. In addition he sheds light on the challenges faced by rural communities in the context of globalization and urbanization, and the importance of livelihood strategies for sustaining rural life. The study also highlights the need for policy interventions to support rural development and provide viable economic opportunities for rural communities. Mishra's (2018) has explores the phenomenon of reverse migration in the Uttarakhand region with the research title "Rural Migration and Development: A Study of Reverse Migration in Uttarakhand" . The study examines the reasons why individuals who had previously migrated to urban areas are returning to rural areas, and how this affects the development of the region. Mishra conducted interviews with 100 households in five villages in Uttarakhand to gather data on the reasons for reverse migration, the economic and social impacts of migration, and the challenges faced by returning migrants. The study found that many individuals returned to their villages due to factors such as better opportunities for employment, a desire to be closer to family and community, and a sense of attachment to their hometowns.

The study also found that reverse migration has had positive effects on the region's development, including increased investment in agriculture and local businesses, improved infrastructure, and a stronger sense of community. However, there are also challenges that must be addressed, such as the need for better healthcare and education facilities and the potential for conflicts between returning migrants and those who never left. Apart from this research provides insights into the intricate interplay between migration and development in rural regions and underscores the significance of comprehending the driving forces behind migration trends to design effective policies and programs. In a similar vein, Singh's (2019) dissertation titled "An Empirical Analysis of Reverse Migration in Rural Uttarakhand" delves into the phenomenon of people moving from urban areas to rural areas. The study examines the factors contributing to this trend in Uttarakhand, India, using a mixed-methods approach, including surveys and interviews with both migrants and non-migrants, to gather both quantitative and qualitative data. The findings of the study suggest that factors such as lack of job opportunities, high cost of living, and environmental degradation in urban areas are the primary drivers of reverse migration.

Singh's research provides insights into the complex process of reverse migration and its impact on rural development in Uttarakhand. The study has important implications for policymakers and planners who seek to address the challenges of urbanization and rural development.

Chamoli's (2020) Examines the factors that motivate reverse migration of young people from urban areas to rural areas in Uttarakhand, India. The study uses a mixed-methods approach, including a survey of 210 respondents and 16 in-depth interviews, to explore the economic, social, and cultural factors that influence reverse migration. The findings suggest that factors such as unemployment, high cost of living, lack of social support, and a desire to reconnect with one's cultural roots are significant drivers of reverse migration. The study also highlights the challenges and opportunities associated with reverse migration for both the individuals and the communities. The study concludes with policy recommendations to support

and facilitate the reverse migration process in the rural areas of Uttarakhand. Rawat's (2021) investigates the phenomenon of reverse migration, which refers to the return of people from urban areas to their rural places of origin. Using qualitative methods such as interviews and observations, Rawat explores the motivations, experiences, and challenges of reverse migrants in the state of Uttarakhand in India. The study finds that while economic factors such as job loss and income instability were important drivers of reverse migration, social and cultural factors such as a desire for a better quality of life and a sense of belonging to one's home community also played a significant role. The study also highlights the importance of community support and government policies in facilitating successful reverse migration.

Area of the study

The research was conducted in Uttarakhand, India's most northern state. 94% of the state's total area is hilly, and it is completely salted along the lap of the Himalayas. The state of Uttarakhand has approximately 16,500 villages, of which 734 are completely abandoned, thus termed ghost villages and 1,048 are uninhabited villages (Rural denelopment migration commission,Uttarakhand). Uttarakhand has over 11.09 million people, with a growth rate of 9.67 percent (Rural development and migration commission 2018 report). The state has an international border with Nepal, making it strategically imperative. Aside from its geopolitical significance, it is the source of India's second-largest river system (Ganga), which not only sustains millions of people but also provides food for wildlife. Among India's holiest pilgrimage sites, the Char Dham (Kedarnath, Badrinath, Yamunotri, Gangotri) has been relocated to Uttarakhand. Approximately 82.97 percent of the state's population is Hindu, 13.95 percent is Muslim, 2.34 percent is Sikh, and 0.37 percent is Christian. Based on the Uttarakhand Economic and Statistics Directorate's report for 2021-22, there is a significant economic disparity based on gender. Males occupy almost 92 percent of the formal sector, whereas females constitute only 8 percent, creating a significant difference in economic participation between men and women.

Uttrakhand has always been prone to outmigration but this research is trying to analyze the picture of reverse migration.
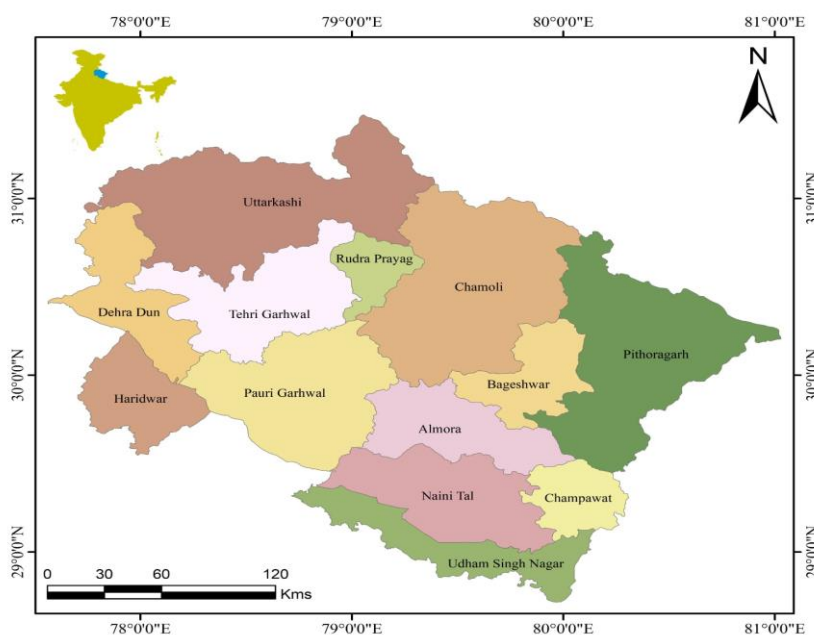
Source: *Primary source*

Administratively the state has been segregated into two Mandals: Garhwal Mandal and Kumaun Mandal. Uttarakhand consists of a high range of mountains and the Gangetic plains. In addition, Uttarakhand has 13 districts, 102 Tehsils, 95 development blocks, 670 panchayats, and gram panchayats in the state (Census of India, 2011, UK.Gov)

Theoretical linkage

In Uttarakhand, numerous studies have been conducted to address the issue of out-migration, but there is always a countercurrent of migration that compensates for the backlog of human resources (Revistain, 1966). The fluctuation of migration in-out flows has been associated with a wide range of factors, some of them relating to the place of origin, while others have been based on the place of destination. This phenomenon is usually referred to as the phenomenon of push-pull factors of migration (The Laws of Migration, Ernest George Ravenstein, 1889). Recent reports and studies have revealed that reverse migration in rural Uttarakhand is a decent flow, with 38.31 percent of the flow occurring between rural and urban areas, and 12.60 percent occurring between urban and rural areas (census of India 2011).

Research objective and methods

Objective of the research is "To examine and analyze the patterns and magnitude of reverse migration in the state of Uttarakhand, with. Reverse migration refers to the movement of individuals or families from urban areas back to their rural or semi-urban areas.

To achieve this objective, the researcher has used the census 2011 data, which provides detailed information on the socio-economic characteristics of the population in Uttarakhand. The researcher can analyze the data to identify the demographic and economic characteristics of the individuals who are involved in reverse migration.

The methods that have been used for this research have include both quantitative and qualitative approaches. The researcher can use statistical analysis techniques such as regression analysis, factor analysis, and cluster analysis to identify the factors that influence the patterns of reverse migration in Uttarakhand. Overall, a combination of quantitative and qualitative research methods can help the researcher to achieve a comprehensive understanding of the flows of reverse migration and their socio-economic implications in Uttarakhand.

Streams of migration

The data provided represents the flow of migration in different streams in Uttarakhand in 2011. The data is presented in the form of percentages. The four migration streams are rural to rural, rural to urban, urban to rural, and urban to urban.

The highest percentage of migration is seen in the rural to rural stream, which accounts for 36.31% of all migration in Uttarakhand. This indicates that a significant number of people are moving within rural areas of Uttarakhand for various reasons, such as seeking better economic opportunities or social reasons.

Table: 1: *Indian census 2011*

Flow of migration in different streams, percentage,Uttarakhand,2011	
Rural to Rural	36.31
Rural to Urban	24.47
Urban to Rural	12.6
Urban to Urban	26.62

Mishra's research provides insights into the intricate interplay between migration and development in rural regions and underscores the significance of comprehending the driving forces behind migration trends to design effective policies and programs. In a similar vein, Singh's (2019) dissertation titled "An Empirical Analysis of Reverse Migration in Rural Uttarakhand" delves into the phenomenon of people moving from urban areas to rural areas. The study examines the factors contributing to this trend in Uttarakhand, India, using a mixed-methods approach, including surveys and interviews with both migrants and non-migrants, to gather both quantitative and qualitative data. Finally, the urban to urban migration stream accounts for 26.62% of all migration, indicating that a significant number of people are moving within urban areas of Uttarakhand, which could be for various reasons, such as job opportunities or better living conditions. In conclusion, the data on the flow of migration in Uttarakhand in 2011 indicates that rural to rural migration is the most common type of migration, followed by rural to urban migration, while urban to rural and urban to urban migrations account for relatively smaller percentages.

There could have multiple streams of migration but main streams of migaion is considierd only four which is rural to rural ,rural to urban ,urban to urban, and urban to rural. As per the data of census 2011 Uttarakhand rural to rural migration is the highest percentage which is 36.31 percent whereas urban to rural is the lowest share with 12.6 percent, almost the similar picture has displayed at the pan-India level rural to rural migration is the highest percentage with 54.8 % which occupy almost half of the share of total migration, urban to rural on the other hand have the lowest share (8.5%)it shows that movement of people is more in the rural to rural migration stream. Now question has to be rised why rural stream of people's is dominating the simple reply for this argument is that because rural India contribute of almost 70% of India's total population that is why people's movement has occurred more in the rural area.

Table: 2 *Indian census, 2011, Uttarakhand, D-series.*

Total nunber of migrants, district wise literate, ilietrate ,Uttarakhand,2011
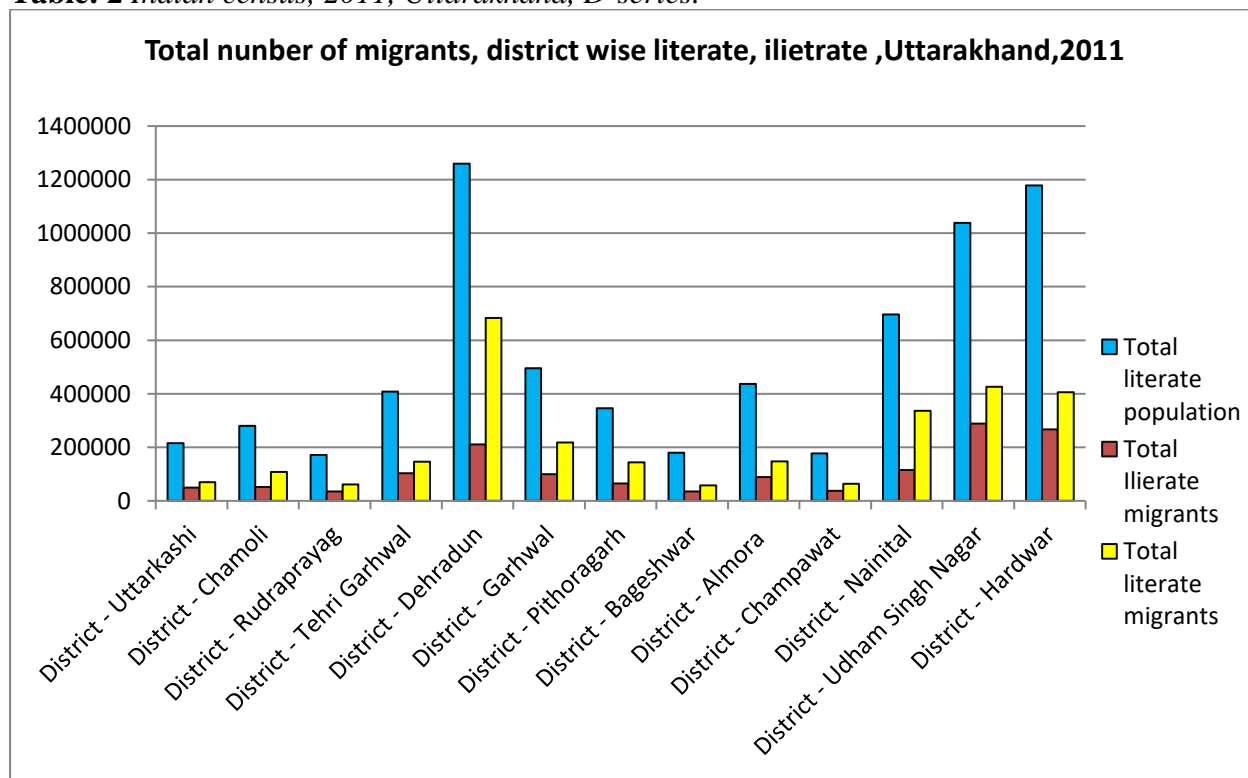
Although migration has a long history, identifying a specific reason for migration is not a strong argument. However, there will always be prominent variables that influence the nature of migration. In the past when we used to settle in a monadic society physical and life security was the dominating cause of migration, this lingered for a long period.

But in the current socio-economic civilized setup people have different reasons for migration like to educate in mordan ways , to access more economic opportunity and better life chance. Gérard Chaliand posits that terrorism can be traced back to nomad-warrior cultures, drawing from Machiavelli's differentiation of conflict into two forms that he believes distinguishes warfare in sedentary & nomadic societies.(Chaliand ,2007, University of California Press. pp. 85–86)

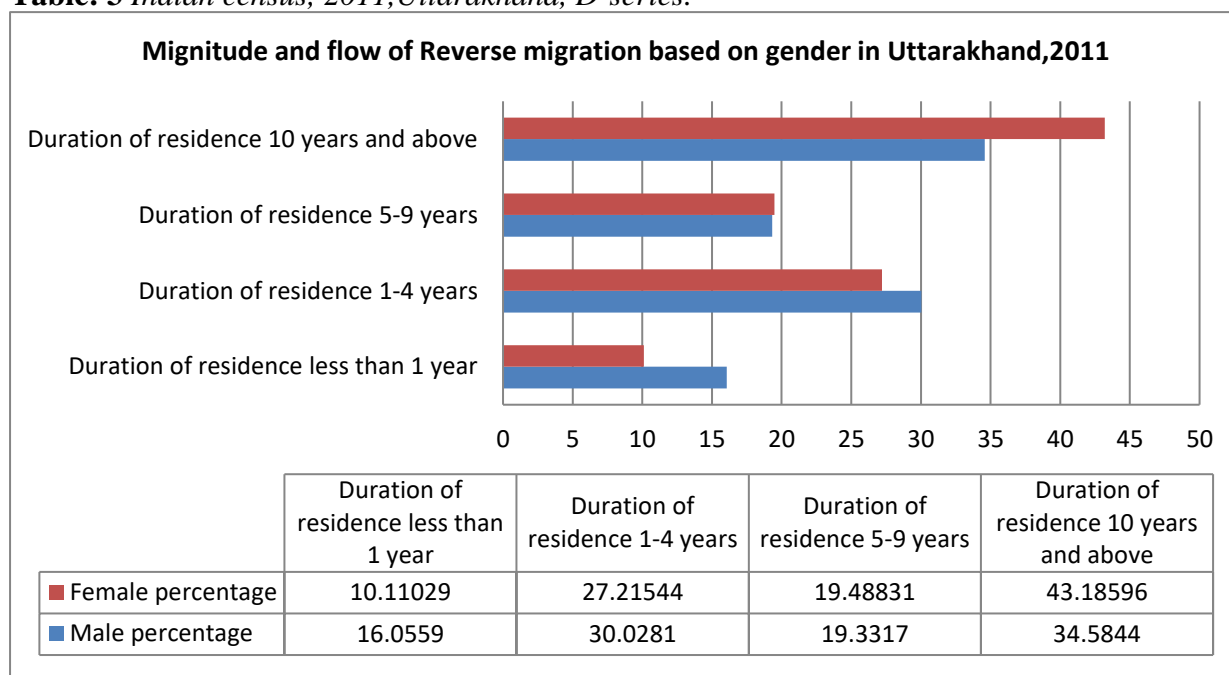## Reverse migration, impact and magnitude

The table represents the magnitude and flow of reverse migration based on gender in Uttarakhand in 2011, categorizing the percentage of male and female migrants according to their duration of residence. The data reveals that male migrants dominate the long-term duration of residence, whereas female migrants are more prevalent in the short-term duration of residence.

The data shows that the percentage of male migrants with a duration of residence of 10 years and above is 34.58%, which is higher than that of female migrants at 43.19%. This suggests that male migrants are more likely to stay in Uttarakhand for a longer duration than female migrants. On the other hand, female migrants are more prevalent in the short-term duration of residence categories. For instance, 10.11% of female migrants have a duration of residence less than 1 year, while only 16.06% of male migrants belong to this category.

Furthermore, the data reveals that the percentage of male migrants with a duration of residence between 1-4 years is 30.03%, which is higher than the percentage of female migrants at 27.22%. This suggests that male migrants are more likely to stay in Uttarakhand for a medium-term duration of residence than female migrants.

It is important to note that the data provided only represents reverse migration in Uttarakhand in 2011 and may not be representative of migration patterns in other regions or in subsequent years. Additionally, the data does not provide insights into the reasons behind migration, which could vary based on gender, age, education level, and other factors. Nonetheless, the data provides valuable insights into the gender-specific migration patterns and durations of residence in Uttarakhand in 2011. The adoption of migration as a means of subsistence was heavily influenced by initial contact with the external world. Hill districts have experienced a widespread decrease in population over the past few decades, with some districts like Almora and Pauri Garhwal experiencing absolute declines and other hilly districts experiencing sluggish growth.

Table: 3 *Indian census, 2011,Uttarakhand, D-series.*

Mignitude and flow of Reverse migration based on gender in Uttarakhand,2011

	Duration of residence less than 1 year	Duration of residence 1-4 years	Duration of residence 5-9 years	Duration of residence 10 years and above
Female percentage	10.11029	27.21544	19.48831	43.18596
Male percentage	16.0559	30.0281	19.3317	34.5844

Displayed the picture of magnitude and flow of reverse migration based on gender for different time period have a magnificent outlook , there is no huge difference all the duration of migration infact in the longer run female migration is much larger (Male-34.59%, Female – 43.19) than male. This data set is for the duration of residence 10 years and above, marriage is the prominent cause for such difference.

Table: 4 *Indian census, 2011, Uttarakhand, D-series.*

	Reason of Migration				
	Work/Employment	**Business**	**Education**	**Mariage**	**Move with household**
Males	40,266	1,294	5,477	927	45,997
Females	6,274	363	4,236	65,246	59,810

The given data has presents in the table no 4 and 5 where the number of people who migrated for different reasons based on their gender. People migrate for various reasons such as employment opportunities, entrepreneurship, pursuing education, marriage, or relocating with their families.

Looking at the data, we can see that the majority of males migrated for work/employment, with 40,266 individuals accounting for the largest proportion. This suggests that job opportunities and economic factors were significant drivers for male migration. Business was the second most common reason, with 1,294 individuals migrating for this purpose. Education was also a notable reason for male migration, with 5,477 individuals moving to pursue their studies.

For females, marriage was the most common reason for migration, with a staggering 65,246 individuals moving for this purpose. This highlights the traditional societal expectation for women to relocate after marriage, potentially to live with their spouse or in-laws. Education was also a significant reason for female migration, with 4,236 individuals moving to pursue their studies. It's also interesting to note that a significant number of both males and females

moved with their households, with 45,997 and 59,810 individuals respectively. This could indicate a desire for a change in location or better living conditions for families.

In conclusion, the data shows that there are different reasons why people migrate, and these reasons differ based on gender. Work/employment and business were the primary reasons for male migration, while marriage and education were the main drivers for female migration. Additionally, moving with households was a significant reason for both genders

Magnitude and flows of Reverse migration based on gender in Rural Uttarakhand, 2011

Table:5 *Indian census, 2011,Uttarakhand, D-series.*
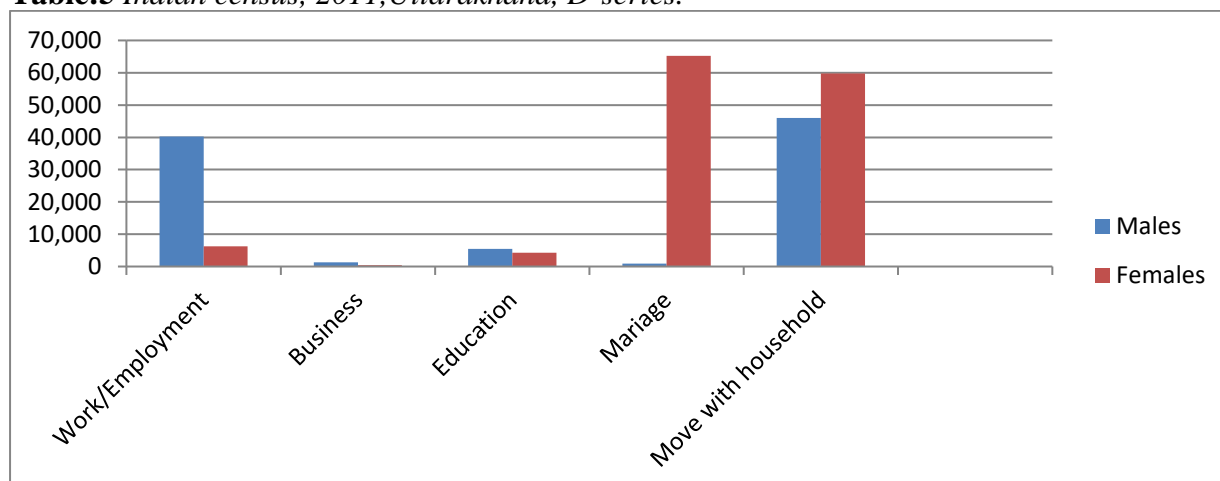
The data provided represents the correlation between the magnitude and flows of reverse migration based on education in Rural Uttarakhand in 2011. The correlation specifically focuses on two attributes: "Total Migrants" and "Educated Migrants." The correlation coefficients are presented in the table below:

Co-relation of magnitude and flows for migration based on education in Rural Uttarakhand, 2011

Table: 6 *Indian census, 2011,Uttarakhand, D-series.*

	Total Migrants	**Educated Migrants**
Total Migrants	1	0.94
Educated Migrants	0.94	1

The correlation coefficient measures the strength and direction of the relationship between two variables. It ranges from -1 to +1, with values closer to +1 indicating a strong positive correlation and values closer to -1 indicating a strong negative correlation. A value of 0 represents no correlation.

In this case, the correlation coefficient between "Total Migrants" and "Educated Migrants" is 0.94. This value suggests a strong positive correlation between these two variables. It indicates that there is a significant relationship between the total number of migrants and the number of educated migrants in Rural Uttarakhand in 2011. As the number of total migrants increases, there is a high likelihood that the number of educated migrants also increases.

It's important to note that this analysis is based on the data from the Indian census conducted in 2011, specifically focusing on Uttarakhand's rural areas.

The strong positive correlation observed between the magnitude and flows of reverse migration based on education in Rural Uttarakhand in 2011 could be attributed to several scientific factors. Firstly, it is plausible that individuals with higher levels of education possess greater mobility and adaptability skills, enabling them to pursue employment opportunities in different regions. As a result, areas with higher levels of total migration are likely to attract a higher proportion of educated individuals seeking better job prospects and economic stability. Moreover, education often equips individuals with specialized knowledge and skills that are in demand in urban or economically developed areas, making them more likely to migrate. Additionally, factors such as the availability of educational institutions, socioeconomic disparities, and the pull of urban centers could contribute to the correlation, as educated individuals may be motivated to migrate for further educational or career advancement opportunities. Overall, the positive correlation indicates that education plays a significant role in shaping migration patterns, with higher education levels being associated with increased reverse migration in Rural Uttarakhand in 2011.

Table: 7 *Indian census, 2011,Uttarakhand, D-series.*

t-Test: Paired Two Sample for Means		
	Total literate population	**Total literate migrants**
Mean	529304.0769	220685.3846
Variance	1.52858E+11	36095114955
Observations	13	13
Pearson Correlation	0.961406107	
Hypothesized Mean Difference	0	
df	12	
t Stat	5.180983616	
P(T<=t) one-tail	0.011	
t Critical one-tail	1.782287548	
P(T<=t) two-tail	0.023	
t Critical two-tail	2.178812827	

For the paired sample t-test, the alpha value or significance value is 0.011 for the P (T*=t) one-tail test and 0.023 for the P(T*=t) two-tail test, which clearly shows that the p-value is less than 0.05, and therefore that the result is significant. In order to determine whether education is positively related to migration rates, a test was conducted.The formula for the t-test is as follows.

$$t = \frac{\bar{x} - \mu}{\frac{s}{\sqrt{n}}}$$

The significance of the results of a hypothesis test can be determined using the P-value, a statistical measure. In this scenario, we're conducting a t-Test: Paired Two Sample for Means to compare the mean of the total literate population with the mean of the total literate migrants. For a two-tailed test, the P-value is 0.023. This value indicates that if the null hypothesis is accurate, meaning there's no significant difference between the two means, there's a 2.3% possibility of observing a t-statistic as extreme as the one obtained or more extreme.

We can reject the null hypothesis and conclude that there's a significant difference between the two means since the P-value is less than the significance level of 0.05. Additionally, the t-statistic of 5.18 is greater than the critical t-value of 2.18 for the two-tailed test with 12 degrees of freedom, allowing us to reject the null hypothesis based on the t-statistic and conclude that there is a significant difference between the two means. To sum up, the P-value measures the likelihood of observing a test statistic as extreme as the one obtained if the null hypothesis is correct, and a P-value of 0.023 suggests that the observed difference between the two means is statistically significant.

Conclusion

This paper aims to explore the socio-economic implications of the flows of reverse migration in Uttarakhand, a state in northern India, using secondary data from the Indian Census of 2011. Reverse migration refers to the movement of individuals, families, or households from urban to rural areas or from developed to less developed regions. In recent years, Uttarakhand has witnessed significant flows of reverse migration due to various reasons, including lack of employment opportunities, high living costs in urban areas, and a desire to return to one's place of origin. However, the socio-economic implications of this phenomenon are not well understood.

To address this research gap, this study analyzes the data from the Indian Census of 2011 to examine the patterns and determinants of reverse migration in Uttarakhand. The study also assesses the socio-economic implications of reverse migration, including its impact on employment, income, education, and health outcomes. The study focuses on analyzing various demographic features of migrants, including their age, gender, and marital status. Additionally, it also delves into their educational qualifications, employment, and income levels. The study also compares the socio-economic indicators of migrants with those of non-migrants to assess the impact of migration on these outcomes.

The findings of this study reveal that reverse migration is a significant phenomenon in Uttarakhand, with a substantial proportion of individuals returning to their rural areas of origin. The study also finds that reverse migration is associated with better socio-economic outcomes, including higher levels of education, employment, and income. The study further shows that reverse migration is not driven by demographic factors alone but is also influenced by economic and social factors, such as employment opportunities, living costs, and social networks.

The study concludes that reverse migration has significant socio-economic implications for Uttarakhand, and policymakers need to pay attention to this phenomenon to ensure that the benefits of migration are maximized and its negative consequences are minimized. The study also highlights the importance of using census data to analyze migration patterns and their implications for development policies. Overall, this study contributes to the understanding of the complex dynamics of migration in India and provides insights into the socio-economic implications of reverse migration in Uttarakhand

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