

Regional Pattern of In-migration in Uttar Pradesh: A Comparative Analysis

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Abstract

A plethora of literature exists on different aspects of migration, such as patterns, trends, causes and consequences at various geographical scales. In Uttar Pradesh, research studies on migration are conducted at both the state and district levels. However, the state varies in terms of physical and human characteristics, which makes the phenomenon of migration strongly influenced by the specificity of regions, including their economic performances. Given this, the present paper deals with the region-wise migration within the state. This paper uses a specific methodology to explore the linkage between regional male migration patterns and regional Gross District Domestic Product (GDDP). It also compares different regions of the state based on male and female migration. The paper indicates a fairly strong correlation between male migration and GDDP. However, no such correlation can be seen in the case of females. The study also shows a higher proportion of male migration in the western region of the state and female migration in the Eastern region.

Keywords: in-migration, out-migration, regional, male migration, female migration, gross district domestic product

Introduction

Numerous studies have been conducted on migration and the patterns within India using the decennial population census data (Lusome, 2006; Bhagat, 2008; Viswanathan, 2015; Bhagat, 2020;

Singh, 2022; Tripathy, 2022). There has been some state-specific research as well, focusing on Uttar Pradesh. The study of migration in Uttar Pradesh is focused more on out-migration (Ahmad, 2014; Narayan, 2016; Sarkar, 2020), and a few have delved into the dynamics of inter-

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district movement within the state (Singh, 2021). Singh (2021) believes that the state's in-migrating districts were relatively more economically developed than those experiencing out-migration. Furthermore, economic development has been fairly rapid lately within the in-migrating districts.

With a population of 199 million citizens, as recorded in the 2011 census, Uttar Pradesh is the most populous state in India. The state makes up roughly one-sixth of the country's total population. Moreover, with 828 people per square kilometre, it is amongst the most densely populated states in the country. The state has a long history of out-migration of people in search of employment opportunities, educational pursuits, and marriage (Singh et al., 2021, p.121).

Within India's migration literature, migration from Uttar Pradesh is a widely recognised and well-documented phenomenon (Ahmad, 2014; Narayan, 2016; Sarkar, 2020; Singh, 2021). Like migration patterns observed in other states of India, inter-district migration, primarily for marriage purposes and in response to the inter-district variations in economic opportunities in Uttar Pradesh, is well understood. Migration for marriage purposes is dominated by short-distance movement (i.e., among the nearest-neighbouring districts). On the other hand, people move from rural to urban areas and from underdeveloped to developed districts within the state, driven by economic motives.

In this paper, an attempt has been made to analyse the pattern of in-migration and out-migration to/from Uttar Pradesh. The analysis is based on district-level data but has been done at the regional level. Based on the state's heterogeneity in physical, socio-economic and infrastructural resources, Uttar Pradesh is divided into four distinct regions: Bundelkhand region, Eastern region, Western region and Central region. The paper analyses the pattern and trends of intra-state migration into these regions, using the census data of both 2001 and 2011.

Data and Methodology

This study is wholly based on secondary data. The census data from two decades, i.e., 2001 and 2011 and district-wise Gross District Domestic Product (GDDP) data of Uttar Pradesh of 2010-11, have been used to investigate if there exists any relationship between GDDP and male in-migration to the district. The rationale for considering male in-migration is that it is mostly driven by economic reasons (i.e., work migration). Though a correlation analysis was run on the female in-migration, no specific discernible trend emerged from this analysis. On the other hand, the total in-migration, when correlated with the Gross District Domestic Product (GDDP), exhibits a cyclic pattern. This paper has also attempted to map regional differences in inward migration by the males and females using census data, as this could give a better insight into the migration

trends. SPSS and EXCEL were used to analyse the data.

Uttar Pradesh to/from Major Destinations

Uttar Pradesh is the most populous state in India, located in the north-central part of the country. Geographically, the state is bounded by nine states, namely: Rajasthan to the west, Bihar to the east, Madhya Pradesh to the south, Uttarakhand to the north, Haryana, Himachal Pradesh, Delhi to the northwest, Jharkhand and Chhattisgarh in the southeast and also shares an international border with Nepal in the north. However, the in-migration data to the state of Uttar Pradesh indicates that the highest levels of migration come from Bihar, Madhya Pradesh, the National Capital Territory (NCT) of Delhi and Uttarakhand. The major in-migrants from Bihar and Madhya Pradesh are females, and the primary reason for this migration is marriage. On the other hand, male migration from these states is predominantly driven by employment opportunities. In the case of in-migration from the National Capital Territory (NCT) of Delhi and Uttarakhand to Uttar Pradesh, male migration is often associated with household movements, possibly related to family reasons or changes in residence.

On the other hand, females migrating from these regions to Uttar Pradesh typically do so for marriage purposes. These observations highlight the gender-specific and

purpose-driven nature of migration within these regions. The migration data from the Census 2001 and 2011, as given in Table 1, indicates that the major states where people migrated to Uttar Pradesh remained the same in both census years. However, there has been an increase in the number of migrants from these states over the decade. Furthermore, in 2011, West Bengal replaced Haryana in terms of its position among the major source states for migration to Uttar Pradesh.

The major out-migration destinations from Uttar Pradesh are the National Capital Territory (NCT) of Delhi, Maharashtra, Haryana, Madhya Pradesh, Gujarat and Uttarakhand. The purpose of migration to the NCT of Delhi for females is movement with household, while males migrate for work. However, there is also a significant number of females migrating for work. Maharashtra receives a substantial influx of migrants from Uttar Pradesh, with Haryana and Gujarat also attracting a noteworthy number of people. In the case of long-distance out-migration, males usually out-migrate for work, while females tend to migrate with their households. Madhya Pradesh also turned out to be one of the desirable destinations for migration, with males migrating for work and females for marriage.

As per Table 2, the major migration destinations remain the same in both census years, though there are few changes in their relative positions. The ranking of Haryana

and Gujarat has improved over the decade, whereas Madhya Pradesh, Uttarakhand, and Punjab have experienced a significant decline in their ranking.

Table 1

Major States from where People Migrated to Uttar Pradesh as per Census 2001 and 2011

2001				2011			
Place of last residence	Total Migrants	Male Migrants	Female Migrants	Place of last residence	Total Migrants	Male Migrants	Female Migrants
Bihar	621010	197410	423600	Bihar	1072739	293268	779471
Madhya Pradesh	463175	61100	402075	Madhya Pradesh	668537	81678	586859
Delhi	301690	110188	191502	NCT of Delhi	566210	228629	337581
Uttaranchal ¹	271989	80252	191737	Uttarakhand	393540	97329	296211
Rajasthan	192369	33406	158963	Rajasthan	284056	50896	233160
Haryana	165918	32748	133170	West Bengal	234042	55777	178265
West Bengal	144411	42312	102099	Haryana	230740	46188	184552

Source: Census 2001 and 2011

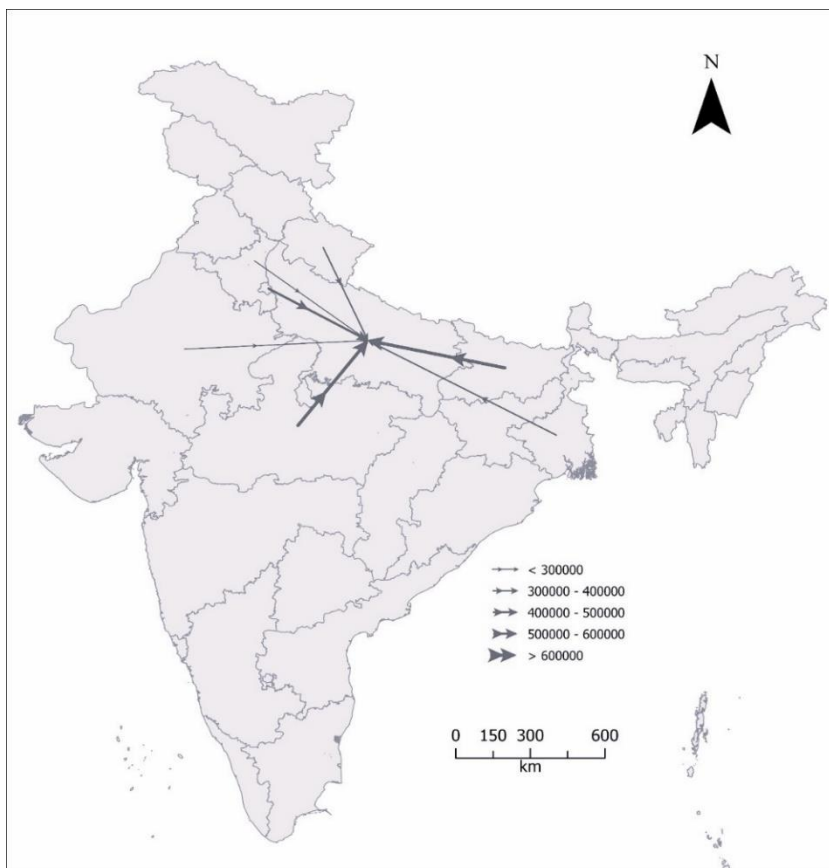
Table 2

Major States Where People From Uttar Pradesh Migrated to as per Census 2001 and 2011

2011				2001			
Places Migrated to	Total Migrants	Male Migrants	Female Migrants	Places migrated to	Total Migrants	Male Migrants	Female Migrants
NCT Delhi	2854297	1516023	1338274	NCT Delhi	2296367	1298961	997406
Maharashtra	2754706	1759250	995456	Maharashtra	2072193	1425826	646367
Haryana	1113535	486470	627065	Madhya Pradesh	849232	260376	588856
Madhya Pradesh	1090881	314143	776738	Haryana	811374	379450	431924
Gujarat	929411	600482	328929	Uttarakhand	582405	251112	331293
Uttarakhand	890663	369386	521277	Punjab	460858	283548	177310
Punjab	649557	357976	291581	Gujarat	447325	300499	146826

Source: Census 2001 and 2011

¹ Uttarakhand and Uttaranchal are the names of the same state. From January 2007, Uttaranchal was referred to as Uttarakhand.

Figure 1*Major Source States of In-Migration to Uttar Pradesh*

Source: Compiled by Author

Gross District Domestic Product and Migration

The Gross district domestic product (GDDP) data of Uttar Pradesh (2011-12) and census migration data of 2011 were used to calculate the correlation between GDDP and the migration volume in the state.

The data shows that the western region of Uttar Pradesh has a larger share of the Gross District Domestic Product (GDP). This region is home to major industrial cities, including Noida, Ghaziabad, Aligarh, and Agra, which have played pivotal roles in

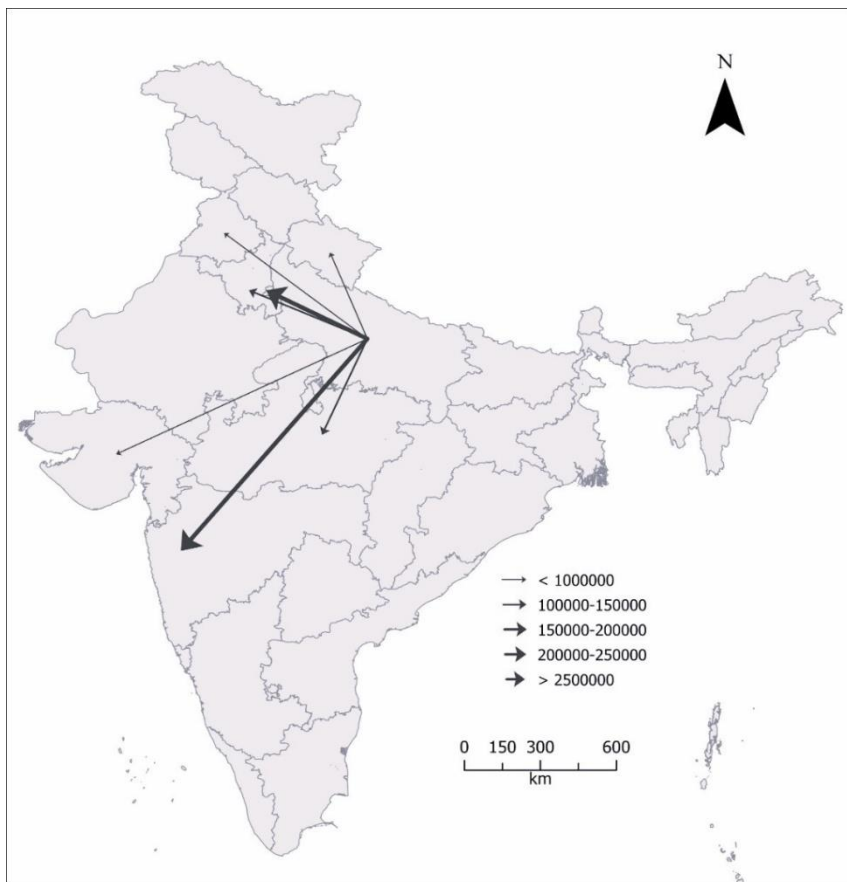
driving the state's economic activity and industrial growth. Furthermore, this economic dynamism has attracted labour migration to the western region, particularly Ghaziabad and Gautam Buddha Nagar, which have accommodated the highest number of in-migrants in Western Uttar Pradesh. This migration has contributed to the higher GDDP and overall development of the western part of Uttar Pradesh. One key factor behind this migration is the proximity of these districts to Delhi, which offers

employment opportunities and access to the national capital's amenities despite the relatively lower living costs in these Uttar Pradesh districts. This unique combination allows

migrants to maintain a connection to Delhi while enjoying a more affordable standard of living in Ghaziabad and Gautam Buddha Nagar.

Figure 2

Major Destination for Out-Migration from Uttar Pradesh



Source: Compiled by Author

Gross District Domestic Product VS Total Male Migration

A correlation test was done to determine if there exists any relationship between in-migration and Gross District Domestic Product (GDDP). The initial test,

encompassing total in-migration, yielded insignificant results. However, when the test was specifically applied to male in-migration data and GDDP data, the following outcomes were observed:

Table 3

Correlation between GDDP and Male In-Migration Data of Bundelkhand, Eastern, Western and Central Regions of Uttar Pradesh

Correlations			
		Bundelkhand U.P. Male Migration	Bundelkhand U.P. Gross District Domestic Product
Bundelkhand U.P. Male Migration	Pearson Correlation	1	.973**
	Sig. (2-tailed)		0
	N	7	7
Bundelkhand U.P. Gross District Domestic Product	Pearson Correlation	.973**	1
	Sig. (2-tailed)	0	
	N	7	7
		Eastern U.P. Male Migration	Eastern U.P. Gross District Domestic Product
Eastern U.P. Male Migration	Pearson Correlation	1	.922**
	Sig. (2-tailed)		0
	N	28	28
Eastern U.P. Gross District Domestic Product	Pearson Correlation	.922**	1
	Sig. (2-tailed)	0	
		Western U.P. Male Migration	Western U.P. Gross District Domestic Product
Western U.P. Male Migration	Pearson Correlation	1	.521*
	Sig. (2-tailed)		0.011
	N	23	23
Western U.P. Gross District Domestic Product	Pearson Correlation	.521*	1
	Sig. (2-tailed)	0.011	
	N	23	23
		Central U.P. Male Migration	Central U.P. Gross District Domestic Product
Central U.P. Male Migration	Pearson Correlation	1	.965**
	Sig. (2-tailed)		0
	N	13	13
Central U.P. Gross District Domestic Product	Pearson Correlation	.965**	1
	Sig. (2-tailed)	0	
	N	13	13

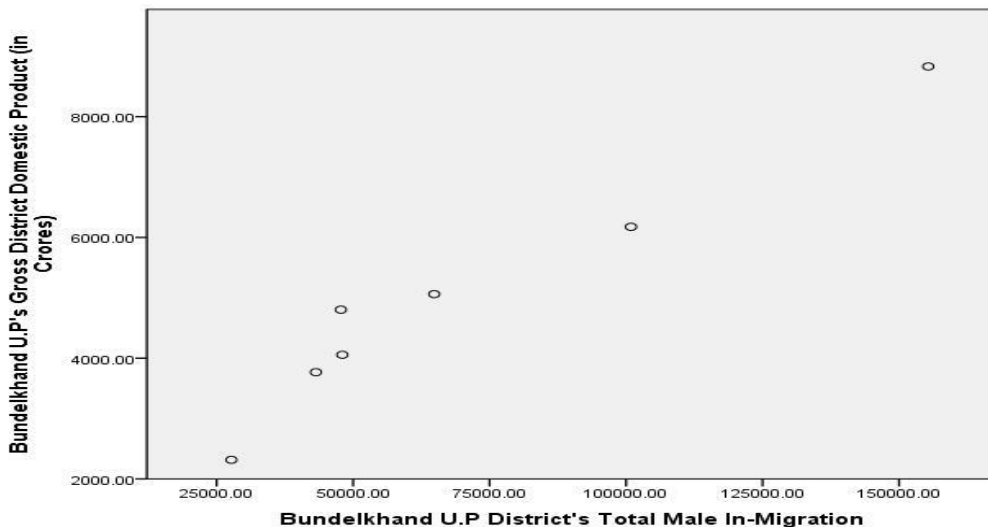
** . Correlation is significant at the 0.01 level (2-tailed).

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

Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

Figure 3

Scatter Plot of Total Male Migration vs GDDP (in crores) of the Bundelkhand region of U.P.



Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

As per Table-3 and Figure-3, it is visible that the correlation between GDDP and total male migration is 0.973, which is positive and close to 1. This signifies a strong positive relationship between the two variables, implying that they move in the same direction. In other words, when male migration increases, there is a corresponding increase in GDDP, or vice-versa, highlighting a significant connection between these two factors. Table 3 and Figure 4 show a relationship between the variables, which is fairly strong and positive.

With the increase in the value of one variable, there is also an increase in the value of another variable. This means a relationship exists between the GDDP of the eastern region and the total male migration to the eastern region, though it cannot be

predicted what causes what. However, the eastern region shows a positive correlation between the variables. However, the value of the correlation coefficient is lower than the Bundelkhand region of U.P, which means there is a lesser change in one variable due to a change in another variable in the eastern region than that of the Bundelkhand region.

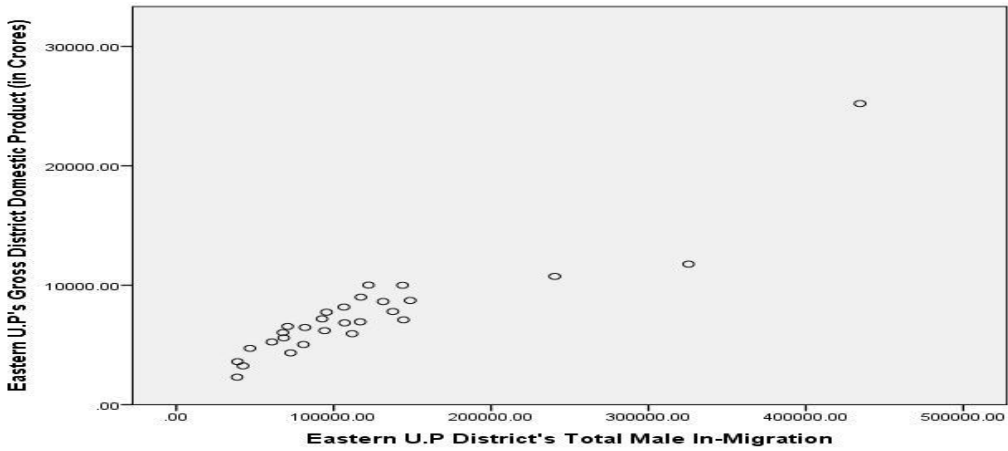
Though the gross district domestic product is high in the western region of Uttar Pradesh, male in-migration is also highest due to more industrialised cities here. However, the correlation between the total male in-migration and GDDP is lowest (i.e., 0.521) as per Table 3 and Figure 5. This means that the two variables are moderately correlated. An increase or decrease in variables will not lead to a very high increase or decrease in another variable. Thus, in

the western region, it is not certain that an increase or decrease in total male migration will lead to an equal

increase or decrease in gross district domestic product and vice-versa.

Figure 4

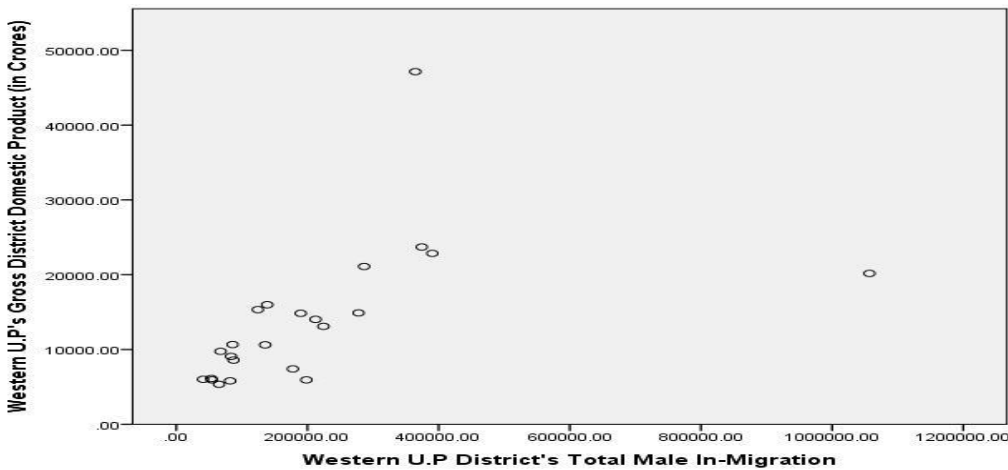
Scatter Plot of Total Male Migration vs GDDP (in crores) of the Eastern Region of U.P.



Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh.

Figure 5

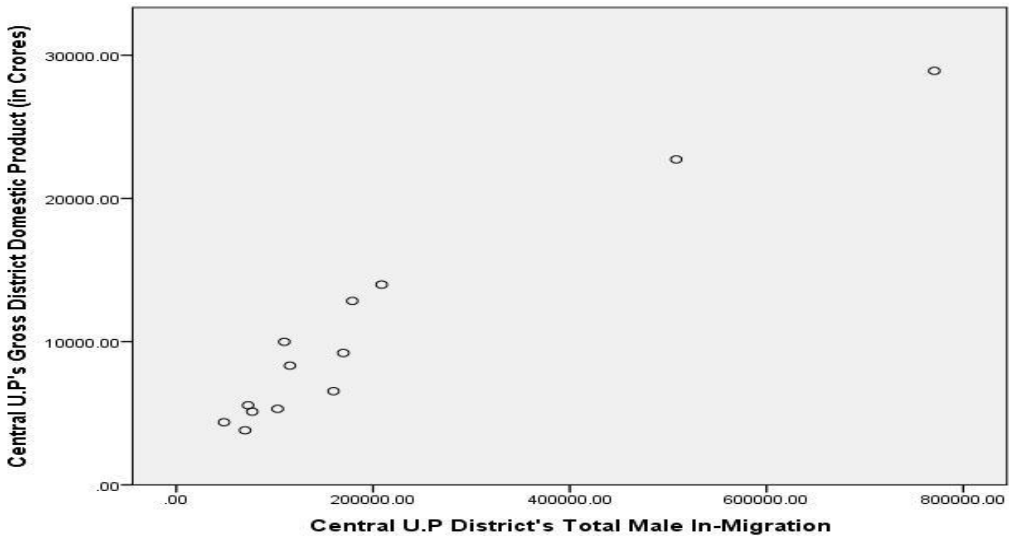
Scatter Plot of Total Male Migration vs GDDP (in crores) of the Western Region of U.P.



Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

Figure 6

Scatter Plot of Total Male Migration vs GDDP (in crores) of the Central Region of U.P.



Source: Census 2011 and Directorate of Economics & Statistics: Government of Uttar Pradesh

Table 3 and Figure 6 show a high and positive correlation between the two variables, i.e., the gross district domestic product and total male migration. This means the two variables have a strong association and are linearly related. The central region of Uttar Pradesh has a high correlation between total male migration and GDDP.

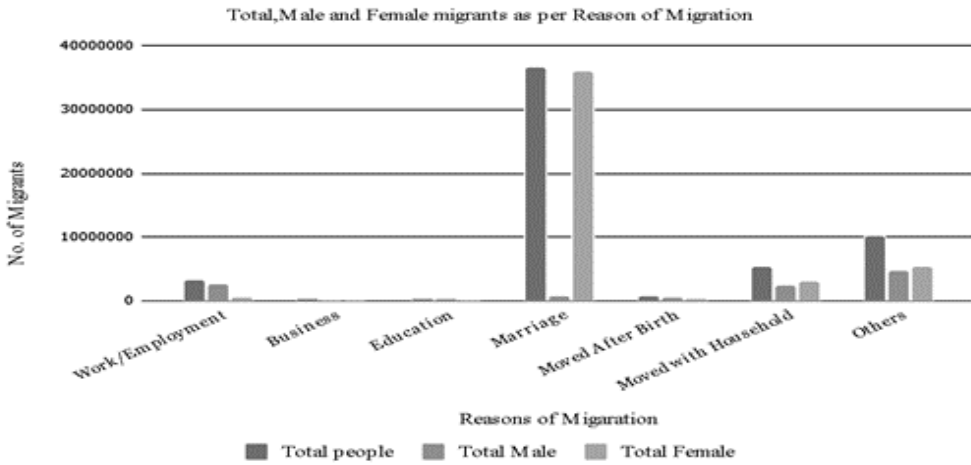
Male, Female and Total Migration

In Figure 7, based on the Census data 2011, we can see that the maximum migration occurs due to marriage, followed by other reasons—moving within households and searching for

employment. For other reasons, male migration to Uttar Pradesh permanently shifts with households and employment. On the other hand, female migration is largely for marriage purposes.

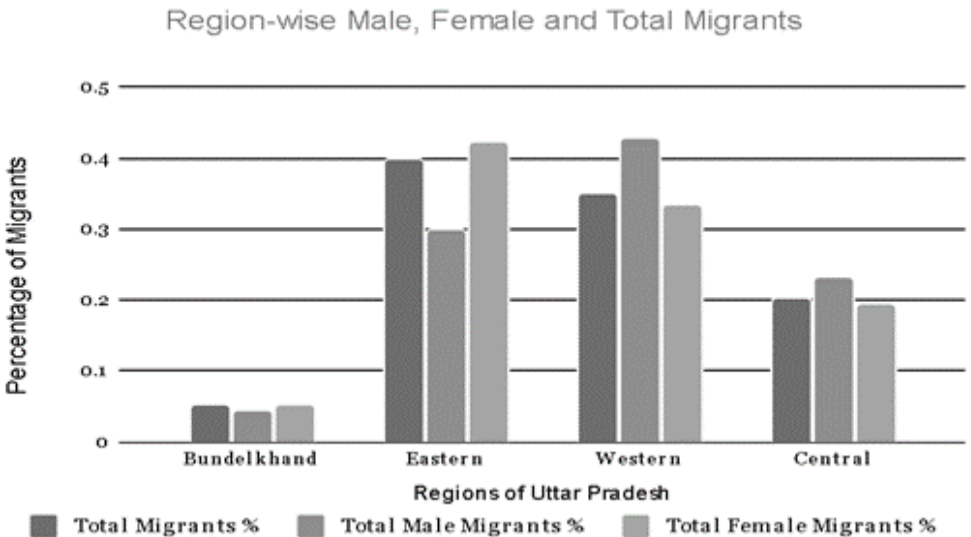
The region-wise data of male and female migration, presented in Figure 8, reveals an interesting pattern. In the western U.P., there are more male migrants, while in the eastern U.P., female migration is dominant. Bundelkhand is the least attractive region for male and female migrants due to its economic backwardness. The central region of the state is moderately attractive.

Figure 7
Frequency of Total Male and Female Migrants Based on Reasons for Migration



Source: Compiled by Author

Figure 8
Region-Wise Comparative Data of the Total Person, Male and Female Migrants



Source: Compiled by Author

Comparison of District/Zone-Wise Migration Data based on Census Data 2001 and 2011

The overall percentage of in-migration to Bundelkhand was 5.40% in 2001 and decreased to 5.05% in 2011. During both censuses, Jhansi received the most migrants among all the districts of the Bundelkhand region, while Mahoba received the fewest.

Eastern Uttar Pradesh region has gained the most migrants, though the percentage has decreased from 41.45% of the total migrants in 2001 to 39.77% in 2011. Allahabad (Prayagraj) received the most migrants of all the districts in both the male and female categories. However, Kaushambi and Shrawasti are the least migrant-receiving districts.

The Western region of Uttar Pradesh, considered the most developed part of the state, attracted 32.66% of total migrants in 2001, rising to 35.54% in 2011. However, in contrast to the eastern U.P., the proportion of male migrants is higher. In 2011, the percentage of male migrants drawn to the western region was larger than any other region. Throughout both decades,

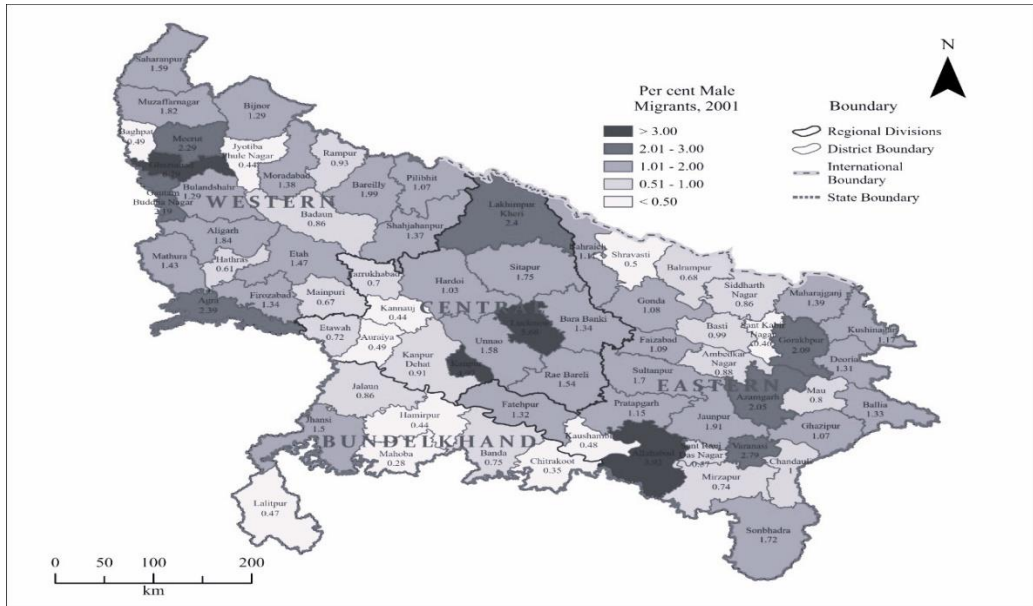
Ghaziabad district remained the most appealing destination for migrants. Afterwards, Baghpat and Kanshiram Nagar remained the Western region's least migrant-attracting districts.

During both census years, Central Uttar Pradesh had around 20% of the total migrants. Lucknow emerged as the most migrant-friendly district among the central districts, with the largest number of male migrants overall. Kanpur Nagar also attracted a higher proportion of male migrants. Sitapur, on the other hand, had the highest number of female recipients. Auraiya and Kannauj were the least migrant-receiving districts in Central Uttar Pradesh.

According to Figures 9 (a), 9 (b), 10 (a), and 10 (b) in 2011, the overall number of in-migrants to Bundelkhand, Eastern and Central Uttar Pradesh was lower than in 2001. During the same period, in-migration to Uttar Pradesh's western region grew. Looking at the gender-based pattern of in-migration, we can find that 42.63% of males opted to travel to the state's western area. Conversely, females travelled to the state's eastern area at a rate of 42.18%.

Figure 9(a)

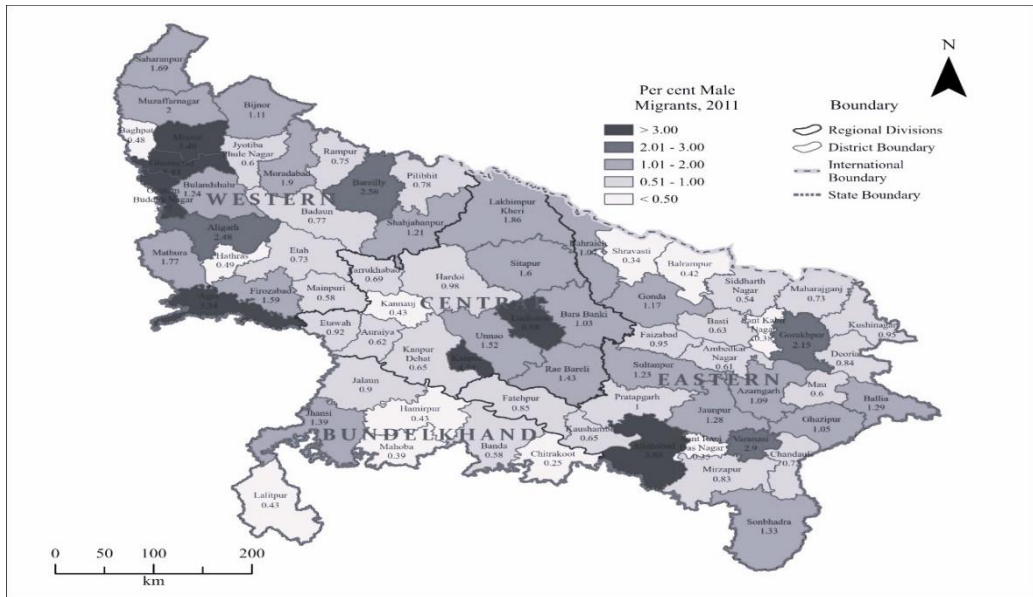
Uttar Pradesh: Male In-Migration (%), as per Census 2001



Source: Compiled by Author

Figure 9(b)

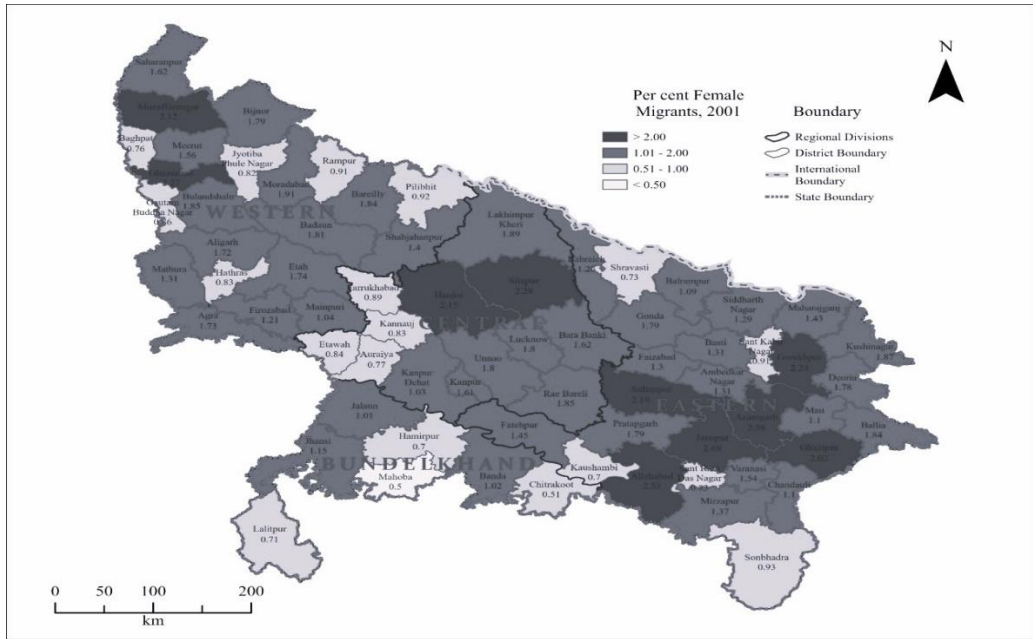
Uttar Pradesh: Male In-Migration (%), as per Census 2011



Source: Compiled by Author

Figure 10(a)

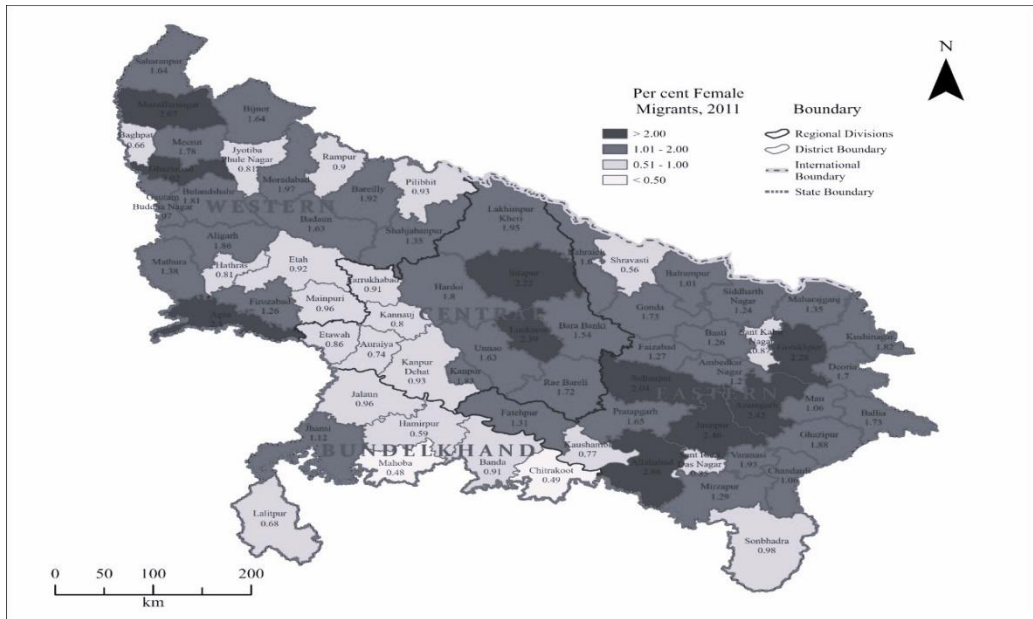
Uttar Pradesh: Female In-Migration (%), as per Census 2001



Source: Compiled by Author

Figure 10(b)

Uttar Pradesh: Female In-Migration (%), as per Census 2011



Source: Compiled by Author

Conclusion

The current article is based on 2001 and 2011 Census data. The study focused on the in-migration trend in four regions of the state: Bundelkhand, eastern, western, and Central Uttar Pradesh. Out-migration has historically been a feature of the state. However, in-migration to the state is also significant. Considering the regional inward migration, male in-migration was greatest in the western region. This might be due to two factors. Firstly, the western area is more industrialised and agriculturally prosperous. According to the Agricultural Mechanisation Guide for Uttar Pradesh, about seventy per cent of the cultivable land in this region is under cultivation, greater than any other part of the state. Secondly, Ghaziabad and Gautam Buddha Nagar/Noida in Western Uttar Pradesh are geographically adjacent to Delhi. They are also parts of the (National Capital Region) NCR, which provides easy connectivity to Delhi for work and affordable living to the migrants.

On the other hand, female in-migration is higher in the eastern area due to its proximity to Bihar, where females relocate to the state after marriage. There is the highest rate of migration owing to marriage, whether in-migration or out-migration. Furthermore, the relationship between male migration and GDDP is high in all the regions. Let us relate this phenomenon with urbanisation and industrialisation. In that case, it reveals that GDP, Per Capita Income (PCI) and migration

are the by-products and causes of urbanisation and industrialisation.

In addition, the study discovers disparities in economic development throughout the districts and regions of the state, which is reflected in district-level in-migration. Comparatively, the districts and regions receiving the highest in-migration are more developed than those with the lowest in-migration, and the rate of economic growth in those developed districts has been particularly rapid in recent years (Tanwar et al., 2016; Kumar et al., 2018; Ahmed, & Rahaman, 2022). For example, Gautam Buddha Nagar (Noida) and Ghaziabad are the two most developed districts in Uttar Pradesh, both of which are located in the state's Western Region (Ahmed & Rahaman, 2022), and Ghaziabad is also the state's most migrant-receiving district. This suggests that differences in social and economic growth across districts and regions within the state may be a cause of concern, as development attracts migrants, and an increase in such types of migration can cause demographic imbalances, as well as problems such as congestion, pollution, and scarcity of resources, within the state's developed districts.

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