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Research Article

Migration Trends and Demographic Transformations in the Indo-Bangladesh Border Districts of West Bengal: A Spatio-Temporal Perspective

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ABSTRACT

Cross-border migration is a critical demographic phenomenon with profound socioeconomic and geopolitical implications, particularly in regions with porous borders and historical migration corridors. The Indo-Bangladesh border exemplifies such dynamics, where migration patterns have significantly shaped population structures over the past few decades. This study employs a quantitative approach to examine the trends and demographic impacts of cross-border migration from Bangladesh to the border districts of West Bengal over a six-decade period (1951–2011). Utilising a mixed-methods data framework, the research integrates primary data from a structured household survey of 428 respondents across selected districts with secondary data from the Census of India reports. Key analytical dimensions include the volume and growth rate of Bangladeshi migrants, overall population dynamics, and the relationship between migration trends and population growth. Methodologically, the study applies percentage analysis, annual growth rate, and Pearson's correlation coefficient to assess temporal variations and associations. The findings indicate a significant surge in migration between 1951 and 1981, followed by a pronounced decline in subsequent decades. Furthermore, the proportion of immigrants relative to the total population has exhibited a substantial reduction since 1991. Correlation analysis reveals a statistically significant positive association between migration and population growth during 1951–1981, transitioning to a negative correlation in the 1991–2011 period. These results highlight the evolving nature of cross-border migration and its critical demographic implications for the Indo-Bangladesh border region, offering insights for policy and future research on migration-driven population dynamics.

Keywords: International Migration, Population Growth, Indo-Bangladesh Border, Pearson's Correlation, Demographic Change.

1. Introduction

Migration has emerged as one of the most significant demographic phenomena of the late 20th and early 21st centuries, profoundly transforming socioeconomic landscapes in both origin and destination regions. This complex process is driven by a confluence of factors, including economic disparities, political instability, sociocultural networks, and environmental pressures (Chakraborty, 2023). The prevailing pattern of movement from less developed to more developed regions reflects migrants' pursuit of improved living standards and economic opportunities (Sarkar, 2017; Datta et al., 2014), with migration decisions being influenced by employment prospects, educational access, family reunification, and in some cases, ethnic or political persecution. The case of Bangladesh presents a particularly compelling example, where migration patterns demonstrate distinct geographical preferences characterised by short-distance movements to culturally familiar neighbouring regions rather than distant locations.

As one of the world's most densely populated nations, Bangladesh exhibits substantial international migration flows through both formal and informal channels, with destinations extending across Asia, the Middle East,

and Europe. However, India remains the primary destination for Bangladeshi migrants, particularly through irregular channels, owing to its geographical proximity, economic scale, and shared cultural and linguistic affinities with bordering states like West Bengal and Assam. This migration pattern has significant demographic and political implications, as large-scale irregular migration can disrupt population balances and exacerbate socio-political tensions in receiving areas. The persistent inflow of undocumented migrants from Bangladesh has become a contentious issue in India, raising concerns about regional security, intercommunal relations, and economic pressures in border regions. These tensions are particularly evident in states like Assam, where migration-related issues have fuelled political and communal conflicts, and along the Indo-Bangladesh border region more broadly.

The socioeconomic impacts of this migration are multifaceted, affecting labour markets, public services, and community dynamics in both sending and receiving areas. While migration can contribute to economic growth through labour supply and remittance flows, unregulated movements may strain local resources and infrastructure in destination regions. The complex interplay of push-pull factors, historical ties, and contemporary economic realities makes the Bangladesh-India migration corridor a critical case study for understanding South Asian migration dynamics and their broader implications for regional development and stability.

India has witnessed significant migration inflows throughout its modern history, with distinct waves shaped by geopolitical events and socioeconomic factors. The partition of British India in 1947 precipitated one of the largest population displacements in human history, with approximately 15 million refugees crossing between India and Pakistan, including about 7 million Muslims moving to Pakistan and a similar number of Hindus and Sikhs migrated to India (Samaddar, 1999; Bhagat & Keshri, 2020). This massive population exchange established enduring migration patterns that continued in subsequent decades. The 1971 Bangladesh Liberation War triggered another major movement, with nearly 10 million refugees entering India (Sarkar, 2010), many of whom remained permanently. Census data reveal the lasting demographic impact of these migrations, with the 2001 Census recording over 3 million residents of West Bengal who were born in Bangladesh (Census of India, 2001).

Migration patterns within West Bengal exhibit distinct spatial variations influenced by multiple factors. District-level analysis shows that migration flows are strongly correlated with physiographic characteristics, socioeconomic development levels, and existing kinship networks (Hazarika, 2000; Trask, 2022). Migrants demonstrate a clear preference for more developed regions offering better employment opportunities and living standards, while economically backwards areas receive comparatively fewer settlers. The border's permeability and established migration corridors further channel population movements toward specific destinations. Historical examination reveals changing demographic compositions among migrants - early post-partition waves were predominantly composed of Hindus fleeing religious persecution and political instability (Das, 2008; Pramanik, 2006), while later migrations incorporated more diverse socioeconomic groups. These patterns underscore the complex interplay between historical events, economic disparities, and social networks in shaping regional migration dynamics, with significant implications for population distribution and demographic change in West Bengal. The concentration of migrants in certain districts continues to influence the state's social fabric and economic development, creating distinct demographic landscapes that reflect decades of cross-border movement.

While numerous studies have examined migration and population dynamics along the Indo-Bangladesh border region, a significant research gap persists in understanding the spatio-temporal patterns of migration and population growth between 1951 and 2011. Notably absent from the literature is a comprehensive analysis of the correlation between migration flows and population growth rates across different historical periods. Recent studies have increasingly focused on Bangladeshi migration to India, establishing this as an important area of investigation within social science research (Samaddar, 1999; Van Schendel, 2005). However, existing studies have predominantly examined either chronological population changes or sector-specific impacts on land resources, labour markets, and healthcare systems (Bose & Roy, 2019; Skeldon, 2012), while neglecting systematic analysis of long-term migration trends and their demographic consequences.

This study addresses these research gaps through a rigorous examination of migration patterns in West Bengal's border districts over six decades (1951-2011), employing both spatial and temporal analytical frameworks. Utilising census data and advanced statistical methods, this study investigates the dynamic relationship between migration flows and population growth rates across distinct historical periods. The research contributes to migration studies in significant ways, such as by establishing empirical evidence of long-term migration trends; by quantifying the correlation between migration and demographic change; and by analysing the socio-economic implications for both migrant and host communities. These findings have important policy relevance for border management and regional development planning, while also advancing theoretical understanding of cross-border migration dynamics in post-colonial contexts (Bakewell, 2010; Zolberg, 1989). By integrating demographic analysis with migration studies, this research provides a more

nuanced understanding of how population movements have shaped the social and economic landscape of the Indo-Bangladesh border region over time.

2. Study area

West Bengal, located in eastern India between 21°20'43"N to 27°32'62"N latitude and 85°50'42"E to 89°52'55"E longitude, encompasses a total area of 88,752 square kilometres, representing approximately 2.7% of India's territorial expanse. The state exhibits diverse physiographic characteristics, extending from the Himalayan foothills in the Darjeeling district in the north to the Bay of Bengal in the south, and from the Chhotanagpur plateau in the west to the international border with Bangladesh in the east. This study focuses on ten border districts adjacent to Bangladesh, where the terrain predominantly consists of alluvial plains, except for the hilly regions of Darjeeling and Jalpaiguri districts. The southern portion of the study area incorporates parts of the deltaic Sundarbans region, a unique ecological zone characterised by its mangrove forests and intricate riverine system.

Demographically, West Bengal presents a complex profile marked by high population density and uneven urbanisation patterns. According to the 2011 Census of India, the state's population density reaches 1,028 persons per square kilometre, ranking it as the second most densely populated state in the country. Approximately 30% of the population resides in urban areas, though this proportion varies significantly across districts, reflecting regional disparities in economic development and infrastructure. The border districts selected for this research exhibit particular demographic characteristics shaped by their proximity to Bangladesh, including distinct migration patterns and population dynamics that differ from non-border regions of the state. This geographic and demographic context provides the foundation for understanding the spatial and temporal patterns of cross-border migration that form the focus of this study. The region's physical geography, combined with its socioeconomic characteristics and border location, creates a unique laboratory for examining the complex interplay between migration flows and population change over time.

3. Database and methodology

The methodology provides a thorough discussion of factors influencing migration patterns and population dynamics. The study adopts an inductive research approach, formulating generalisations based on data collected through a review of relevant literature, field observations, and interviews with participants from the border districts. Secondary data sources include the Census Report, District Statistical Handbooks of the ten border districts, and various governmental reports. The census data from 1951 to 2011 was analysed using a simple statistical method, including percentage and growth rate calculations, to examine the spatio-temporal migration pattern and population growth rate. The primary data was collected from the Indo-Bangladesh border districts of West Bengal. Two blocks from each district were selected for the field survey. A stratified random sampling method was used to collect the information. Descriptive statistics were used to analyse the primary data.

Additionally, Pearson's correlation coefficient method was employed to analyse the relationship between migration and population growth. Pearson's correlation coefficient was calculated with the help of the following equation:

$$r = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \Sigma(y_i - \bar{y})^2}}$$

Where x_i and y_i denote the individual variables. $\bar{x}$ and $\bar{y}$ denote the means of the two variables. The coefficient r ranges from -1 to 1, and it remains unchanged under linear transformations of either variable. Pearson's Correlation Coefficient indicates the strength of the linear relationship between the two random variables x and y. The sign of the correlation coefficient is positive if the variables are directly related and negative if they are inversely related. If r = 0, then x and y are said to be uncorrelated.
Moreover, to examine the temporal growth of Migration and the normal population growth rate, the following equation has been adopted:

$$Population\ growth\ rate\ (\%) = \frac{Final\ population\ -\ Initial\ population}{Initial\ population} \times 100$$

4. Results and analysis

4.1 Spatial pattern of migration from Bangladesh to West Bengal

Following India's independence in 1947, the partition of the subcontinent along religious lines led to the division of Bengal into two distinct entities: the western portion became the Indian state of West Bengal, while the eastern region joined Pakistan as East Pakistan (later gaining independence as Bangladesh in 1971). This territorial demarcation, known as the Radcliffe Line after the chairman of the Boundary Commission, Sir Cyril Radcliffe, precipitated one of the largest human migrations in modern history. The initial wave of displacement occurred in the wake of the 1946 Noakhali and Tippera riots in East Pakistan, which targeted Hindu communities and forced their large-scale exodus into West Bengal. The Indian government established relief camps and rehabilitation colonies, primarily in the southern districts of West Bengal, to accommodate these refugees. Migration intensified following further communal violence in 1950, particularly against the Namasudra community in Khulna, Faridpur, Dhaka, and Rajshahi districts, which drove additional Hindu populations across the border.

The 1971 Bangladesh Liberation War marked another critical juncture in regional migration patterns, after which West Bengal experienced sustained unauthorised cross-border movement that significantly altered the demographic landscape of its border districts (Debnath & Ray, 2017). Scholarly research has documented the multifaceted impacts of this prolonged migration, including profound sociocultural transformations, labour market distortions, and shifts in political dynamics (Bove & Elia, 2017). The influx has been linked to changes in electoral constituencies, linguistic patterns, and religious demographics in border regions. Furthermore, studies suggest that varying degrees of political accommodation and administrative responses to migration have influenced its continuation and integration challenges (Thapliyal, 2000). The complex interplay of push factors (including economic disparities, environmental pressures, and political instability in Bangladesh) and pull factors (such as kinship networks and employment opportunities in India) has sustained migration flows despite increasing border security measures (Datta, 2004). This ongoing phenomenon continues to shape regional geopolitics, inter-community relations, and policy debates concerning citizenship and resource allocation in West Bengal, while also reflecting broader global discussions about border management and forced displacement in post-colonial contexts.

Table 1: District-wise growth of migrants from Bangladesh to West Bengal (1951-2011)

Number and percentage of Bangladeshi migrants								Temporal growth rate of migrants (%)					
District/ percentage	1951	1961	1971	1981	1991	2001	2011	1951-61	1961-71	1971-81	1981-91	1991-2001	2001-11
Darjeeling	15534	38162	43831	52414	55263	58103	58054	145.67	14.86	19.58	5.44	5.14	-0.08
Percentage	3.49	6.11	5.61	5.12	4.25	3.61	3.14						
Jalpaiguri	97111	218341	237989	279186	249424	230574	178905	124.84	9.00	17.31	-10.66	-7.56	-22.41
Percentage	10.59	16.06	13.60	12.61	8.91	6.78	4.62						
Koch Bihar	97736	252753	285299	296680	227515	196321	123967	158.61	12.88	3.99	-23.31	-13.71	-36.85
Percentage	14.56	24.78	20.17	16.75	10.48	7.92	4.40						
Uttar Dinajpur						112627	87488						-22.32
Percentage	112906	172237	197266	256019	246477	4.61	2.91	52.55	14.53	29.78	-3.73	9.62	
Dakshin Dinajpur						157572	103071						-34.59
Percentage	15.67	13.01	10.61	10.65	7.88	10.48	6.15						
Malda	60026	64474	69202	103481	102198	93278	60178	7.41	7.33	49.53	-1.24	-8.73	-35.49
Percentage	6.40	5.28	4.29	5.09	3.88	2.83	1.51						
Murshidabad	58256	64862	75308	76679	67079	50814	35243	11.34	16.10	1.82	-12.52	-24.25	-30.64
Percentage	3.40	2.83	2.56	2.10	1.42	0.87	0.50						
Nadia	424656	502645	534816	522014	566352	576474	400032	18.37	6.40	-2.39	8.49	1.79	-30.61
Percentage	37.09	29.34	23.98	17.61	14.70	12.52	7.74						
North Twenty-Four Parganas					898786	906986	704573					0.91	-22.32
Percentage	521213	786661	910223	1073735	12.34	10.15	7.04	50.93	15.71	17.96	-6.65		
South Twenty-Four Parganas					103566	100453	82890					-3.01	-17.48
Percentage	11.31	12.52	10.77	10	1.81	1.45	1.02						

Source: Census of India

The demographic impact of cross-border migration from Bangladesh to West Bengal between 1951 and 2011 reveals significant patterns of population redistribution across border districts. According to census data from 1951, the selected border districts of West Bengal had a total population of approximately 11 million, of which about 1.4 million (12.43%) were migrants from East Pakistan (present-day Bangladesh). The district of Nadia received the highest proportion of migrants (37.09%), followed by West Dinajpur (15.67%), Koch Bihar (14.56%), and Twenty-Four Parganas (11.31%). In contrast, districts such as Darjeeling (3.49%), Malda (6.40%), and Murshidabad (3.4%) received relatively fewer displaced persons, who were officially recognized as such by the Government of West Bengal under its rehabilitation policies (Department of Relief and Rehabilitation, Govt. of West Bengal, 1998). By 1961, the total population in these border districts had increased to around 16 million, with migrants from Bangladesh constituting 2.1 million (13.26%) of the population. The post-partition period witnessed sustained migration flows, with the southern districts of West Bengal emerging as primary destinations. Nadia (29.34%), Koch Bihar (24.78%), Jalpaiguri (16.06%), West

Dinajpur (13.01%), and Twenty-Four Parganas (12.52%) recorded the highest concentrations of migrants during this decade (Table 1).

The period of 1951–1961 saw particularly high growth rates of migrant populations in several districts, with Koch Bihar (158.61%), Darjeeling (145.67%), Jalpaiguri (124.84%), West Dinajpur (52.55%), and Twenty-Four Parganas (50.93%) experiencing the most pronounced increases (Table 1). The availability of fertile agricultural land in districts such as Nadia, Koch Bihar, and West Dinajpur served as a major pull factor for settlement, while the proximity to urban centres and employment opportunities in Twenty-Four Parganas attracted migrants seeking better living standards (Bhagat, 2004; Majumder, 2021).

The 1971 Indo-Pakistan War marked a pivotal moment in South Asian history, resulting in the liberation of East Pakistan and the creation of Bangladesh. This geopolitical transformation triggered another significant wave of migration from Bangladesh to West Bengal (Wirsing et al., 2016). Census data from 1971 indicates that migrants from Bangladesh constituted 11.19% of the total population in West Bengal's border districts, with Nadia (23.98%), Koch Bihar (20.17%), Jalpaiguri (13.60%), and Twenty-Four Parganas (10.77%) emerging as primary destinations. While this period represented the last major phase of large-scale immigration into these districts, the migration flow that began in 1947 continued, albeit at a diminished growth rate compared to previous decades. The migration dynamics during this period were shaped by a combination of push factors in Bangladesh and pull factors in West Bengal (Nanda, 2005), reflecting complex socioeconomic and political drivers.

A noticeable decline in migration flows became evident in subsequent decades, particularly after the 1991 census. Several factors contributed to this trend, including enhanced border security measures such as fencing, increased deployment of Border Security Forces, and more effective government policies aimed at curbing unauthorised migration. By 1991, migrants from Bangladesh accounted for 7.48% of the population in these border districts, with Nadia (14.70%), North Twenty-Four Parganas (12.34%), and Koch Bihar (10.48%) remaining key reception areas. In contrast, districts such as Malda (3.87%), Murshidabad (1.42%), and South Twenty-Four Parganas (1.81%) received comparatively fewer migrants, with Murshidabad's flood-prone geography and frequent riverbank erosion rendering it a less attractive destination (Mollah, 2013). The shifting patterns of migration became more pronounced in the 2001 and 2011 censuses, with Dakshin Dinajpur, Nadia, and North Twenty-Four Parganas emerging as prominent destinations. These trends underscore the enduring influence of economic opportunities, particularly in fertile agricultural zones and urban centres, as well as the role of cultural and environmental affinities in shaping migrant settlement patterns. The gradual decline in migration rates over time reflects not only stricter border controls but also evolving socioeconomic conditions in both Bangladesh and West Bengal, which have collectively influenced the trajectory of cross-border population movements.

This spatial distribution of migrants reflects not only the immediate consequences of partition-induced displacement but also the longer-term socioeconomic dynamics that influenced migration patterns in the region. The continuous influx of migrants over these decades underscores the complex interplay of historical, economic, and geographic factors that shaped demographic changes in West Bengal's border districts, with implications for regional development, resource allocation, and sociocultural integration.

4.2 Temporal variation of population growth due to migration

The population growth rates in the border districts of West Bengal, as obtained from the Census of India, have consistently remained higher than the national average since India's independence. This trend has persisted over subsequent decades, largely due to migration flows from Bangladesh, which have directly contributed to the excessive growth rates in these areas (Taralekar et al., 2012). However, in recent decades, the migration rate has declined as a result of fencing along the Indo-Bangladesh border (Datta, 2018). Additionally, efforts to control birth rates and improve healthcare facilities have further contributed to slowing population growth in the region.

According to census data, the border districts of West Bengal have historically exhibited population growth rates exceeding the national average, particularly from 1951 to 1991, a trend strongly influenced by migration from Bangladesh (Ghosh, 2014). The continuous inflow of migrants into these districts over the years has led to a concerning demographic situation. While recent census reports indicate a gradual decline in West Bengal's overall population growth rate, the border districts continue to exhibit higher growth rates, as observed from 1951 to 2011 (Table 2). Notably, the Sample Registration System (SRS) report highlights that West Bengal now has the lowest fertility rate (1.6) among Indian states, with a total fertility rate of 1.8 children per woman. This decline in fertility is attributed to improvements in literacy rates, particularly women's education. These findings demonstrate that large-scale migration over different periods has been a key factor in shaping the population dynamics of West Bengal's border districts.

Table 2: Population growth rate of border districts of West Bengal (1951-2011)

District/ Year	1951 (%)	1961 (%)	1971 (%)	1981 (%)	1991 (%)	2001 (%)	2011 (%)
Darjeeling	17.58	35.9	25.2	31	26.9	23.8	14.8
Jalpaiguri	8.18	48.3	28.8	26.6	26.4	21.4	13.9
Koch Bihar	4.74	52.4	38.7	25.3	22.5	14.2	13.7
Uttar Dinajpur	17.03	35.51	40.5	29.31	30.05	28.7	23.2
Dakshin Dinajpur						22.2	11.5
Malda	11.05	30.3	32	26	29.8	24.8	21.2
Murshidabad	4.59	33.5	28.6	25.5	28.2	23.8	21.1
Nadia	36.25	49.8	29.9	33.3	30	19.5	12.2
North Twenty-Four Parganas	23.5	40.84	34.53	27.1	31.7	22.7	12
South Twenty-Four Parganas					30.2	20.9	18.2

Source: Census of India

The 1961 Census recorded exceptionally high population growth rates in several border districts of West Bengal, including Jalpaiguri (48.3 per cent), Koch Bihar (52.4 per cent), Nadia (49.8 per cent), and Twenty-Four Parganas (40.84 per cent) (Table 2). This trend can be traced back to migration flows that began after India's independence in 1947, significantly influencing demographic patterns in these regions (Elahi & Sultana, 1985). The partition of India in 1947 introduced a strong communal dimension to migration, compelling Hindu communities to relocate to India, which led to a sudden surge in Hindu migrants in West Bengal's border areas (Ghosh, 2014; Kamal, 2009). Meanwhile, districts such as Murshidabad, Jalpaiguri, and Nadia saw notable increases in their Muslim populations (Census of India, 1961).

The Liberation War of Bangladesh in 1971 further contributed to population growth in border districts, as reflected in the 1981 Census. Many who entered India during this period without proper documentation were classified as "illegal migrants," altering the demographic composition of the region (Samaddar, 1999). However, since the 2001 and 2011 Census years, population growth rates have shown a declining trend (Wirsing et al., 2016), with a reduction in migration from Bangladesh observed since 1991 (Sarkar, 2010). Despite this, districts such as Uttar Dinajpur, Malda, and Murshidabad have continued to experience higher population growth over the past three decades.

Nadia district has historically been a major destination for migrants, even during the colonial period. Areas like Krishnanagar and Nawadwip received significant numbers of migrants from other parts of West Bengal and Bangladesh, contributing to the district's sustained high growth rate (Banerjee, 2012). Population dynamics vary across different regions within the border districts. For instance, in North Twenty-Four Parganas, the northwestern portion, located along the Ganga River, is highly urbanised and developed, resulting in elevated population density and growth rates (Bhagat, 2017; Bagchi & Chatterjee, 2015). In contrast, the Bongaon and Basirhat subdivisions, which fall within the Sundarbans Biosphere Reserve, remain less developed with lower population density. Similarly, South Twenty-Four Parganas, situated in the Ganga delta, has large areas covered by mangrove forests, making living conditions unfavourable and leading to sparse population distribution. Meanwhile, the areas surrounding Kolkata continue to expand rapidly, contributing to high population growth in those zones (Purkait & Halder, 2017).

4.3 Causes and consequences of migration in the border districts of West Bengal

The findings presented in Table 3 reveal that 90.65% of respondents attribute the presence of immigrants in West Bengal's border districts to migration from Bangladesh. Among these respondents, 41.82% identified the post-1947 period following India's independence as a major phase of migration, while a larger proportion (46.26%) pointed to the aftermath of Bangladesh's Liberation War in 1971 as the most significant wave of migration. A smaller segment (11.92%) acknowledged continued migration in recent years.

Table 3: Causes and duration of the migration from Bangladesh to the border districts of West Bengal.

Indicators	Number	Percentage
Duration of migration		
After 1947	179	41.82
After 1971	198	46.26
Very recently (After 1991)	51	11.92
Total	**428**	**100**
Source country of migration		
Bangladesh	388	90.65
Other countries of Asia	8	1.86
Middle East countries	0	0

Western countries	0	0
Others	32	7.49
Total	**428**	**100**
Reason for leaving the previous place		
Partition of India	167	39.01
Political instability	63	14.72
Religious cause	21	4.91
Unemployment	168	39.25
Others	9	2.10
Total	**428**	**100**

Source: Field survey

The study further examined the push factors driving migration from Bangladesh. According to the respondents, 39.01% attributed migration primarily to the displacement caused by the Partition of India in 1947, which forced many to seek safety in West Bengal. Economic factors also played a substantial role, with 39.25% citing a lack of employment opportunities in Bangladesh as a key driver. Political instability was identified by 14.72% of respondents as another contributing factor, while a smaller but notable proportion (4.91%) highlighted religious persecution as a reason for cross-border migration between India and Bangladesh. These responses collectively underscore the complex interplay of historical, economic, and socio-political factors that have shaped migration patterns in the region.

Table 4: Drivers and the effect of migration on demographic and social characteristics

Indicators	Number	Percentage
A major factor in population growth		
Migration from Bangladesh	218	50.93
Migration from other districts	23	5.37
Migration from another state	35	8.18
High birth rate	152	35.51
Total	**428**	**100**
Factors that attracted migrants towards a new destination		
Better job opportunity	159	37.14
Better standard of living	203	47.42
Marriage	1	0.23
Better availability of urban amenities	35	8.17
Others	30	7
Total	**428**	**100**
Nature of the problem created by immigration		
Increasing pressure on existing infrastructure	66	15.42
Worsening employment opportunities	324	75.70
Creating social disorder	38	8.88
Total	**428**	**100**

Source: Field survey

The findings presented in Table 4 highlight the socio-economic impacts of migration in West Bengal's border districts. According to the survey responses, 50.93% of participants attributed the increased population growth rate in these areas to migration from Bangladesh, while 35.51% identified high birth rates as the primary contributing factor. Only 13.55% of respondents believed that internal migration played a significant role in population growth.

The study also examined the pull factors motivating migrants to settle in West Bengal. Among respondents, 47.42% stated that migrants were primarily drawn by the prospect of a better standard of living, while 37.14% cited improved employment opportunities as the main attraction. A smaller proportion (8.17%) indicated that access to urban amenities influenced migration patterns toward cities.

However, the continuous influx of migrants has created several socio-economic challenges. A substantial majority (75.70%) of respondents observed that migrants predominantly work in the informal sector, which they perceived as negatively affecting employment opportunities for residents. Additionally, 15.42% reported that large-scale migration has placed increased pressure on local infrastructure. The health sector appears particularly affected by migration, according to survey responses. Furthermore, a notable minority (8.88%) expressed concerns that migration has contributed to social tensions between newcomers and long-term

residents in these border districts. These findings collectively demonstrate the multifaceted consequences of migration on the region's demographic and socio-economic landscape.

4.4 Relationship between migration and population growth

Migration represents a significant factor influencing the demographic characteristics of any region. In the context of West Bengal's border districts, the migration flow from Bangladesh has directly impacted population growth rates in these areas. As illustrated in Figure 1, a clear positive correlation between migration and population growth was observed from 1951 to 1981. This trend emerged following the partition of India in 1947, which initiated continuous migration flows that intensified during Bangladesh's Liberation War in 1971 (Karmakar, 2018). The sustained migration during this period contributed substantially to elevated population growth rates in the border districts.

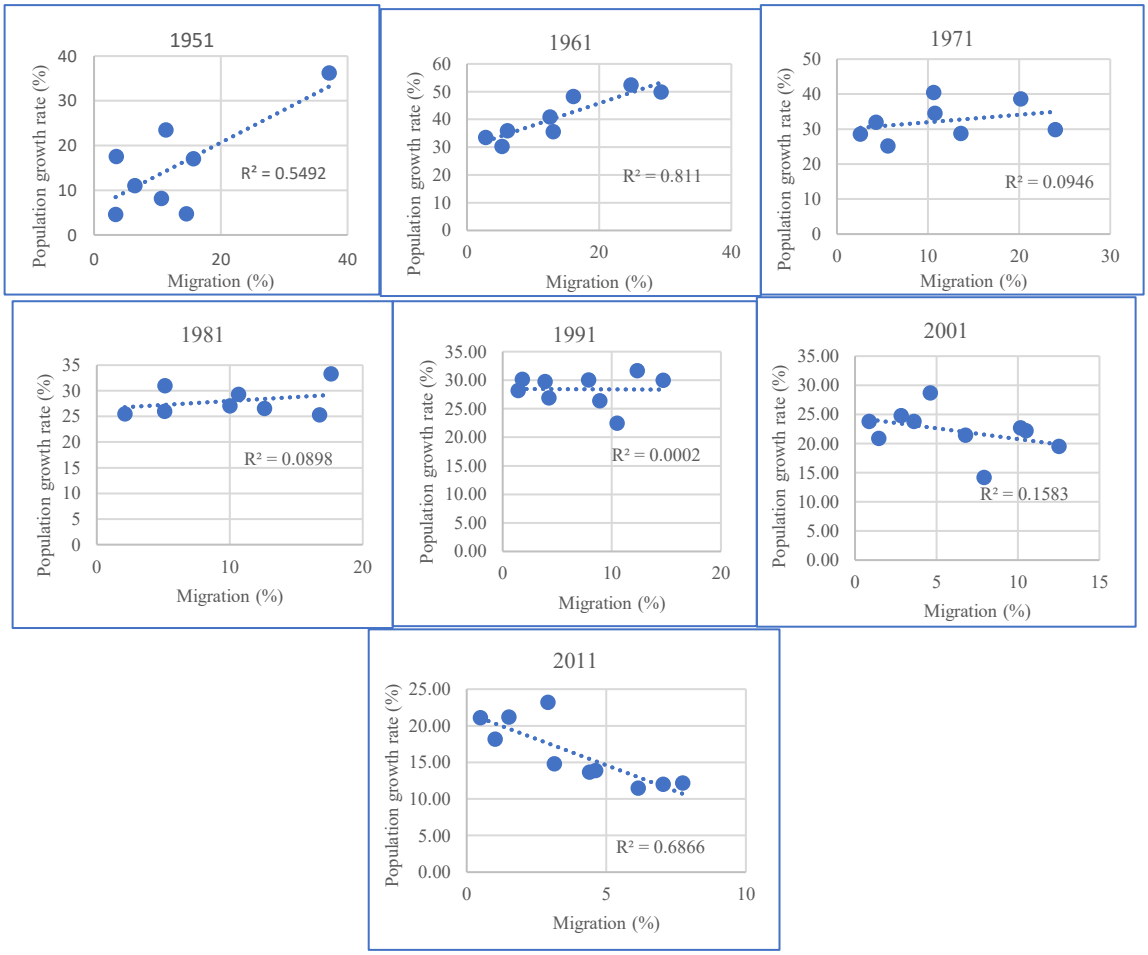

Figure 1: Relationship between migration and population growth through Pearson's correlation coefficient

However, post-1991 census data reveal a shift to a negative correlation between migration and growth rates. This reversal can be attributed to several policy measures implemented by the Indian government, including the construction of border fencing, enhanced deployment of Border Security Force personnel, and stricter regulations against illegal migration (Datta, 2018). These interventions effectively reduced migration flows, leading to a noticeable decline in migration percentages after the 1991 census, with further reductions recorded in the 2001 and 2011 census data. The demographic transition observed in these border districts thus reflects the dynamic interplay between migration patterns and governmental policy interventions over time.

5. Discussion

This study examines the spatio-temporal patterns of migration and demographic changes in the Indo-Bangladesh border districts of West Bengal, a region that has experienced significant demographic transformations since the 1947 Partition of India (Nanda, 2005). Functioning as crucial corridors for cross-border movement, these districts have been profoundly shaped by migration flows from Bangladesh, which have altered not only population size but also the ethnic, religious, and occupational composition of the region. These migration patterns stem from a complex interplay of economic, social, political, and environmental

factors. One of the most notable demographic consequences has been the consistently higher population growth rates in border districts compared to national averages across multiple decades. Major historical events – particularly the 1947 Partition and the 1971 Bangladesh Liberation War, along with periodic communal and political unrest - triggered substantial population movements that have left lasting demographic imprints (Debnath & Ray, 2017).

The continuous influx of migrants has contributed to urban expansion in towns like Bangaon, Basirhat, and Krishnanagar while simultaneously creating pressure on rural land resources, public infrastructure, and basic services (Kamal, 2009). Although the proportion of migrants in total district populations has shown a modest decline to 11.19% from 1961 levels, the demographic impact remains substantial as the population base has widened significantly. The peak migration period between 1947 and 1971 fundamentally transformed the ethnic-religious composition and spatial distribution of populations in key border districts, including Nadia, Koch Bihar, and North Twenty-Four Parganas. While census data from 1981 onward indicates a stabilisation of growth rates, the enduring demographic consequences of earlier migration waves continue to shape regional characteristics (Bove & Elia, 2017). These transformations underscore the profound and lasting influence of cross-border migration on the demographic landscape of West Bengal's border regions.

The study reveals significant transformations in the religious and linguistic demographics of border districts, with Murshidabad and Malda districts demonstrating a consistent increase in their Bengali-speaking Muslim populations. However, migration patterns exhibit considerable spatial variation across districts due to differences in geographical conditions, socio-economic factors, and administrative frameworks. The presence of cross-border familial networks and undocumented migration has created complex challenges regarding identity verification, citizenship rights, and equitable resource allocation (Pramanik, 2006). Spatial analysis indicates that migrant settlements are predominantly concentrated in ecologically vulnerable zones, including riverine islands, forest peripheries, and border-adjacent wetlands, which offer strategic entry points and livelihood opportunities for incoming populations. These areas have witnessed the proliferation of informal housing structures, agricultural encroachments, and forest land occupations, resulting in environmental degradation and complications for regional development planning.

Migrant populations have become deeply embedded in West Bengal's informal economy, primarily engaging in agricultural labour, domestic work, petty trade, rickshaw pulling, and cross-border smuggling activities. The nature of migration has evolved significantly over time, transitioning from large-scale displacements driven by religious and political factors during partition periods to contemporary patterns dominated by economic motivations, environmental pressures, and family reunification. Emerging migration routes through various border segments, coupled with the prevalence of fraudulent documentation practices, have presented substantial challenges to India's border security apparatus. However, post-2001 data indicate a notable decline in absolute migration numbers, attributable to enhanced border surveillance measures and stricter enforcement protocols (Datta, 2018). These findings collectively demonstrate the dynamic interplay between migration flows, socio-economic transformations, and security considerations in West Bengal's border regions. The study reveals that a substantial proportion of Bangladeshi migrants to India originate from economically disadvantaged backgrounds, characterised by low educational attainment and marginalised social status. Existing scholarship corroborates these findings, demonstrating that migration decisions are frequently motivated by familial poverty, social marginalisation, and aspirations for improved socioeconomic conditions that might facilitate upward mobility. Primary push factors driving migration from Bangladesh include pervasive poverty, limited industrial development, agricultural land scarcity, and political instability. Previous research aligns with these observations, identifying rural poverty in Bangladesh as fundamentally linked to agricultural land shortages that reduce work opportunities for rural populations, compounded by inadequate industrial development that fails to generate sufficient employment alternatives (Banerjee, 2012). Chronic landlessness and economic deprivation continue to function as persistent drivers compelling individuals to seek livelihood opportunities beyond national borders.

Conversely, West Bengal's appeal as a migration destination stems from several pull factors, including employment prospects, cultural and ethnic affinities, and comparatively higher living standards. Respondents identified a complex interplay of historical, economic, demographic, social (encompassing health, education, and familial networks), and environmental factors that collectively inform migration decisions (Datta, 2004). This multidimensional framework not only determines the propensity to migrate but also influences destination selection, timing, and the intended duration (temporary or permanent) of migration. The research further establishes that environmental catastrophes and extreme weather events, as evidenced by patterns observed in both Bangladesh and India, constitute significant additional drivers of population displacement. These findings collectively underscore the multifaceted nature of migration determinants operating within the Bangladesh-West Bengal migration corridor.

6. Conclusion

Cross-border migration represents an enduring demographic phenomenon in India, with significant population movements occurring across virtually all of its international borders. Among neighbouring countries, Bangladesh has contributed disproportionately to migration flows, particularly into West Bengal and the northeastern Border States. The border districts of West Bengal have witnessed substantial migration since India's independence, resulting in profound demographic and socio-economic transformations. The sustained influx of Bangladeshi migrants has exerted considerable pressure on population density while simultaneously altering the region's economic structure and social dynamics. In several instances, these demographic shifts have generated tensions between migrant populations and residents. Perhaps the most visible demographic consequence has been the persistently elevated population growth rates observed in West Bengal's border districts, a trend sustained through complex interplays of kinship networks, religious-cultural affinities, and perceived political accommodation by state authorities.

In response to these migration patterns, successive Indian governments have implemented progressively stringent border control measures. The construction of physical barriers and enhanced surveillance mechanisms has collectively contributed to measurable reductions in unauthorised border crossings and informal cross-border trade in recent decades. Concurrently, the occupational characteristics of migrant populations have undergone significant evolution. Whereas early migration waves were dominated by agricultural workers, contemporary trends reflect the increasing urbanisation of migrant labour forces, mirroring broader patterns of urban expansion and economic diversification across the region. This occupational transition underscores the dynamic relationship between migration patterns and regional development trajectories, particularly as reflected in urban labour market transformations. The changing nature of cross-border migration thus simultaneously reflects and influences the economic and spatial restructuring of West Bengal's border regions, demonstrating the complex interdependence between migration flows and regional development processes.

7. References

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