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RESEARCH ARTICLE

SOCIO-ECONOMIC AND DEMOGRAPHIC CONSEQUENCES OF MIGRATION: A CASE STUDY ON JALAN COMPLEX INDUSTRIAL AREA, HOWRAH

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ABSTRACT

Migration has long been an integral part of human history, playing a crucial role in shaping economies, societies, and landscapes. In India, internal migration – particularly rural to urban movement has increased over the past few decades due to disparities in employment opportunities, industrialization, and infrastructural development. This phenomenon can be observed in the Jalan Industrial Complex in Howrah, West Bengal where the influx of migrant workers has significantly influenced the local economy and social structure. The Jalan Complex is a major industrial belt in eastern India, attracts a large number of labor migrants from states like Bihar, Jharkhand, Uttar Pradesh and Orissa. In this study the impact of immigrants on the economy of this area, how the population structure is changed and how society has been changed over time because of the immigrants has been explored.

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INTRODUCTION

Migration has long been an integral part of human history, playing a crucial role in shaping economies, societies, and landscapes. In India, internal migration – particularly rural to urban movement has increased over the past few decades due to disparities in employment opportunities, industrialization, and infrastructural development. Immigration is a defining feature of modern unban development, influencing the economic, demographic and social dynamics of cities. Urban and peri urban industrial areas have emerged as significant destination for migrants labor, often leading to huge changes in local economic structures, demographic composition, and social dynamics. This phenomenon can be observed in the Jalan Industrial Complex in Howrah, West Bengal where the influx of migrant workers has significantly influenced the local economy and social structure. Jalan Complex is a prominent industrial estate located in Jangalpur, in the Howrah district, West Bengal. Developed primarily as a private industrial zone, it has grown into a major hub for small-scale and medium-scale industries, especially in sectors such as engineering, manufacturing, plastics, packaging, warehousing, and logistics. Spread across a vast area with multiple buildings and plots, Jalan Complex offers infrastructural facilities like well-connected roads, electricity, water supply, and security services, attracting many industrial units and godowns. Its strategic location near Kolkata, and close proximity to roads like NH-6, Howrah-Amta Road, and the Kona Expressway, gives it strong logistical advantages. The Jalan Complex is a major industrial belt in eastern India, attracts a large number of labor migrants from states like Bihar, Jharkhand, Uttar Pradesh and Orissa. These migrant workers play a pivotal role in sustaining the industrial economy, and their presence also raises important questions about housing, public services, cultural integration, and labor rights. In this study the impact of immigrants on the economy of this area, how the population structure is changed and how society has been changed over time because of the immigrants has been explored. Not only outer states people are attracted for the low skilled job opportunities but also internal migration also occur. Many people are migrated from other district to Howrah for better quality of life and better wages like Sundarban, Purulia, bankura, Maldah, Bardhaman, Birbhum. Rural area to urban migration also seen in this area. Migration has took place in this area due to the less job opportunities in the migrants native area. Their primary economic activity is agriculture and we all know that agriculture is highly depend on rainfall and other climatic conditions. In the recent time climate is changing so irregular rainfall pattern is harmed the agricultural pattern. So, the income of the people is in doubt. So, people migrated from that place to this area for wage

security. This complex is located near NH-6 and near Hooghly River. Due to its strategic location near the port national highway and railway, the Jalan Complex played a key role in supplying goods across eastern India.

Over the years, Jalan Complex has played a significant role in contributing to the industrial growth and employment in the Howrah region, making it one of the key industrial estates in eastern India.

OBJECTIVES

Immigration is a major emerging scenario in our society in recent time. People migrated from one place to another place for better employment opportunities, better life etc. I consider Jalan Industrial Complex in Howrah, West Bengal for my work. The primary aim of this study is to examine the impact of immigration on its surrounding area.

The main objectives of this study are

- To identify land use land cover changes of the area from 2010 to 2025.
- To examine population growth and understanding the changes in population size due to immigration.
- To explore the social integration and economic impact of migrant population with the local inhabitants.

HISTORY

The 'Jalan Complex', named after the Jalan family, was established in the late 1980s as one of the first private developed industrial hubs in West Bengal. Now almost 500 factories are spread over near about 5 square kilometer area. Jalan complex was developed as part of private industrial infrastructure to promote small, medium, and large enterprise.

The land originally belonged to old jute mill, were repurposed for modern use. Jalan Complex has become one of the largest private industrial estates in eastern India. It hosts warehouses, manufacturing units, textile factories, plastics, metal works, automobile parts, and logistics companies. Major e-commerce and logistics companies such as Amazon, Flipkart, Blue Dart and FedEx have warehousing hubs here. Proximity to Kolkata, port facilities and national highways, the complex become a preferred location for logistics and export import businesses. It has also contributed to employment generation and migration driven population growth in the area, particularly from rural West Bengal and nearby states like Bihar and Jharkhand.

The aim was to create a space for manufacturing units and warehouses and logistics. As this industry is located in NH-6, it gets full advantage of transportation network throughout West Bengal. The complex is initially characterized by a lack of greenery, describe as a "barren stretch of concrete". But a greening initiative was launched to convert the area into a environment friendly space over the past few decades. More than 10000 trees planted in 2008-2009 in this area and creating a more sustainable environment.

In present day the Jalan Complex continued to be active, though some units are transitioned to warehouses and logistics. Jalan Complex is now a well secured gated industrial township with modern infrastructure facilities such as wide roads, 24 hours security, 24 hours power backup and transport connectivity. It also plays a key role in Howrah's industrial revival, especially after the decline of old jute mills and heavy engineering units in the region.

METHODOLOGY

SATELITE DATA: The work has been done based by secondary data. A supervised image classification is done with maximum likelihood algorithm. Three Landsat satellite images of 2010, 2015 and 2025 have been used to understand land use and land cover changes. These satellite images are downloaded from USGS website.

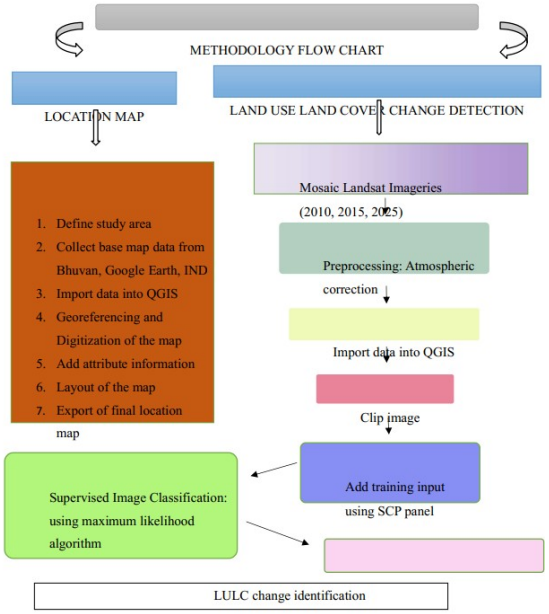
Table 1. Dataset of Satellite Images

Date of data acquisition	Sensor	Data type	Path	Row	Projection	Datum	UTM Zone	Spatial resolution
23/12/2010	Landsat 5	TM	138	044	UTM	WGS84	45N	30m
21/12/2015	Landsat 8	OLI/TIRS	138	044	UTM	WGS84	45N	30m
27/03/2025	Landsat 8	OLI/TIRS	138	044	UTM	WGS84	45N	30m

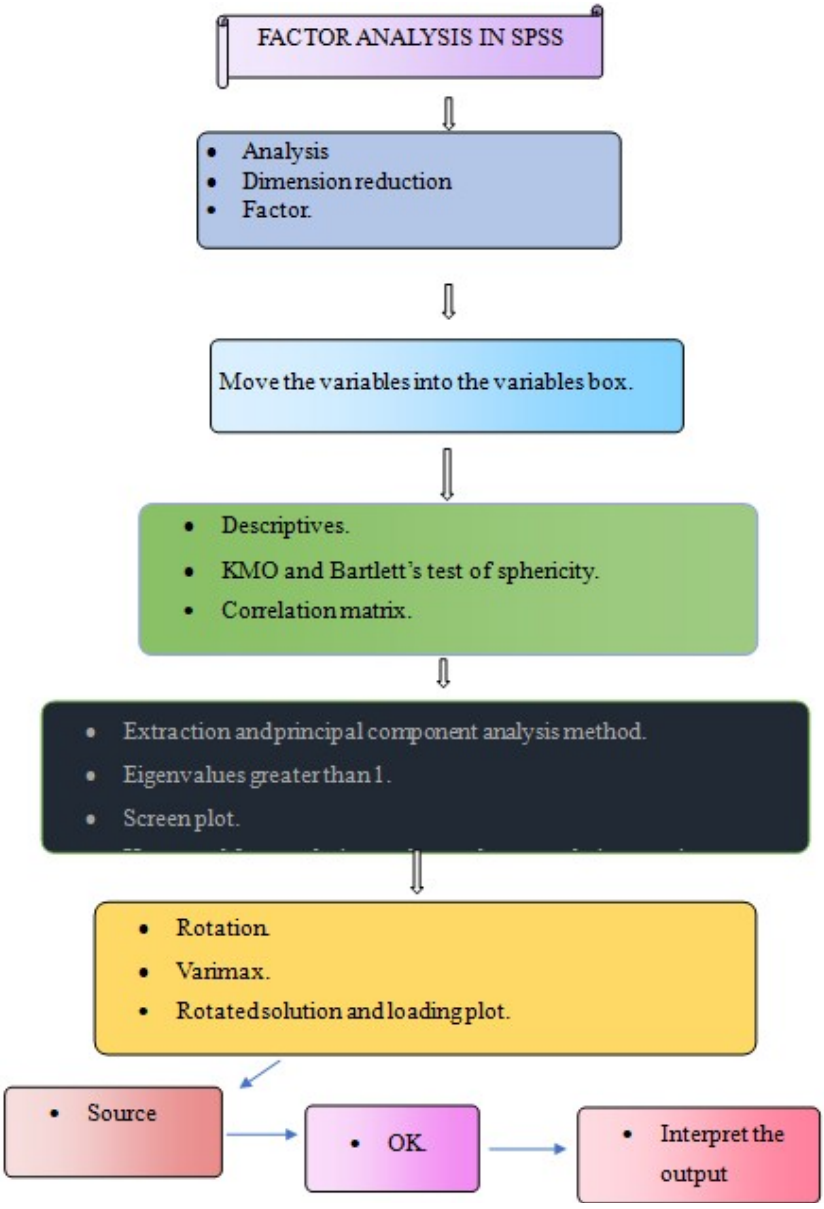
Source: USGS, Computed by the researcher.

FACTOR ANALYSIS: Factor analysis is a statistical method. It used to identify underlaying relationships between variables. In SPSS software factor analysis have been done to ensure that the data have enough variables and the sample size is very important for correct result.

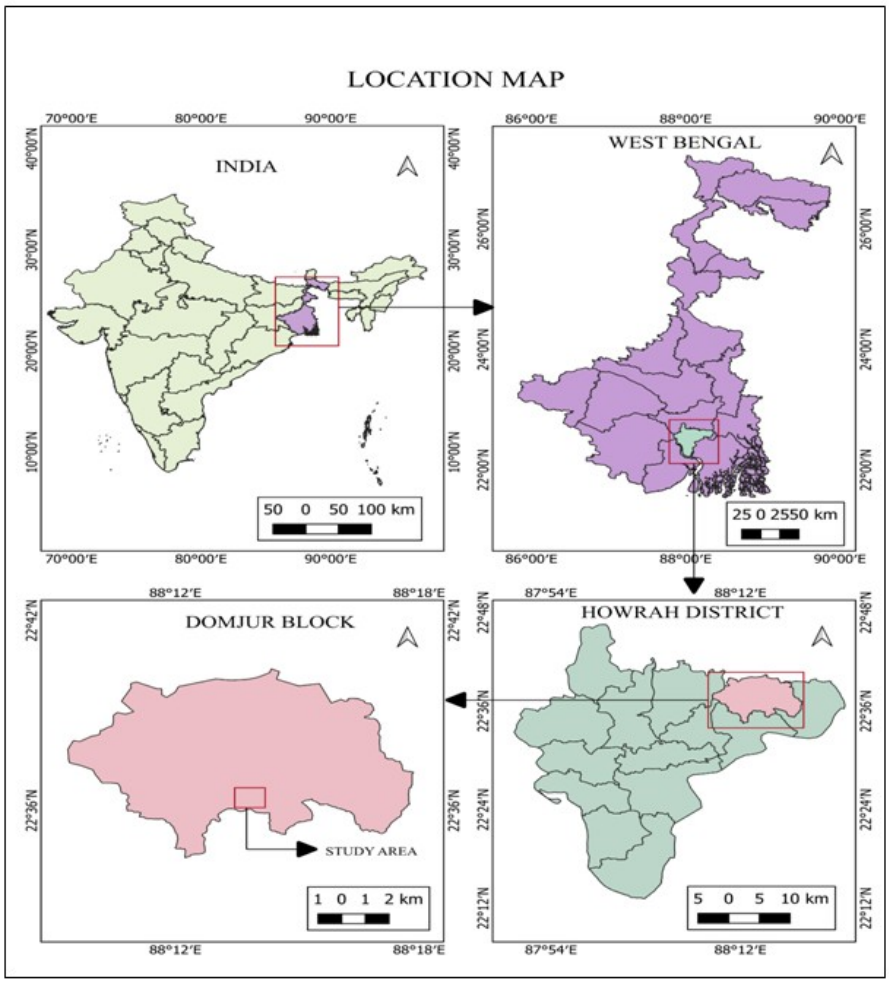
SELECTION OF THE STUDY AREA: Jalan Complex s one of the oldest and largest privately developed industrial zone in Domjur block in Howrah, West Bengal, Howrah, with over more than 500 industries. It plays an important role in the manufacturing and logistics of the Howrah-Kolkata region. This is the oldest industrial belt in Howrah.



Flow chart showing the methodology for preparation of location map and LULC maps



Flow chart showing the methodology for preparation of factor analysis



Objective:1 To identify land use land cover changes of the area from 2010 to 2025.

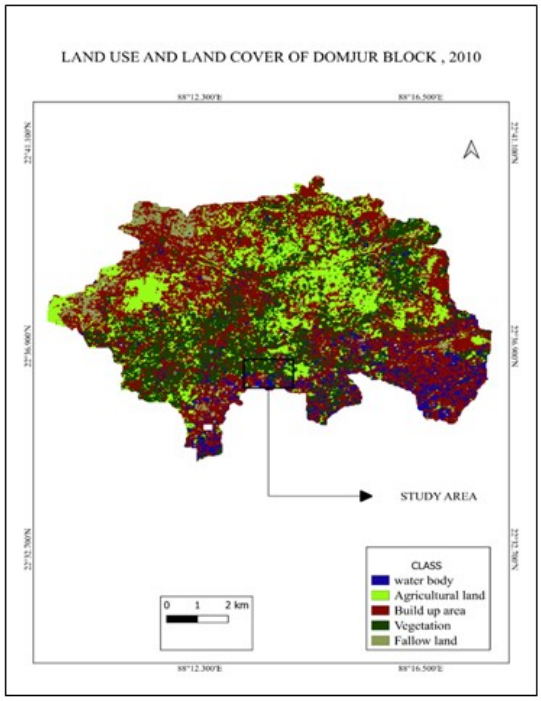


Fig :2 Source: USGS, QGIS – 3.28.3, 3.14.0

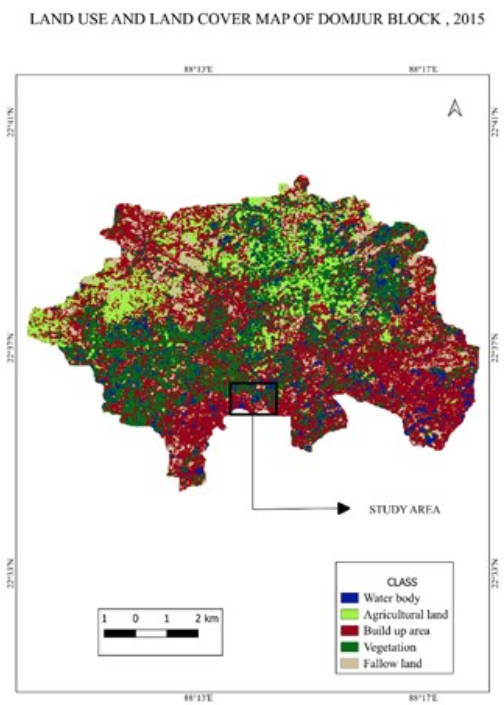


Fig :3, Source: USGS, QGIS – 3.28.3 ,3.14.0

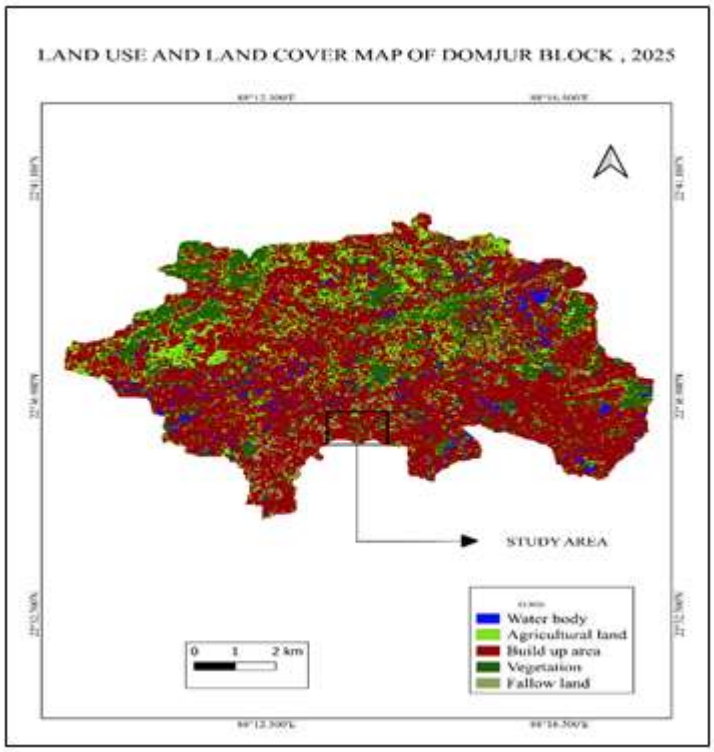


Fig 4. Source: USGS, 3.28.3, 3.14.0

In this study, the land use and land cover changes from 2010 to 2025 denotes the rapid growth of the industrial belt in the region over time. Three LULC maps have been prepared for the years 2010, 2015, and 2025. Here we can see the supervised image classification map of Domjur block of 2010. The total area of this block is 97.3 sq.km, where 6.85% area was covered with water body, 20.6% area was covered by agricultural land, 41.93% area was covered by buildup area, 25.64% area was covered by vegetation and 4.98% area was fallow land. Compare to the land use and land cover map of 2010, land use land cover map of 2015 has a small change over build up area, vegetation etc. where, 7.24% of area was cover with water body, 13.29% of land cover with agricultural land, 44.57% of area is cover with buildup area, 26.61% of area was cover with vegetation and 8.3% of land was fallow land. There was no huge change between 2010 and 2015. This is the supervised image classification of Domjur block of 2025. If we compare this image with the map of 2010 and 2015, then we can see drastic changes in vegetation cover and build up area etc. In 2025 the 3.86% of land covered by water body, area covered with agricultural land is 13.84%, area covered by buildup area is 63.61%, area covered by vegetation is 16.1% and area covered by fallow land is 2.59%. there is a huge change in buildup area, in 2015, percentage of buildup area was 44.57 but in 2025, the area covered with buildup area is 63.61%.

Table 2. Land use Land cover change (2010-2015)

LULC classes	2010		2015		2025	
	Area in sq.km	Area in %	Area in sq.km	Area in %	Area in sq.km	Area in %
Water body	6.201	6.85	6.560	7.24	3.497	3.86
Agricultural land	18.646	20.6	12.036	13.29	12.535	13.84
Build up area	37.95	41.93	40.368	44.57	57.617	63.61
Vegetation	23.21	25.64	24.101	26.61	14.587	16.1
Fallow land	4.51	4.98	7.517	8.3	2.345	2.59
Total	90.517	100	90.582	100	90.581	100

CHANGING PERCENTAGE OF LANDUSE AND LANDCOVER IN DOMJUR BETWEEN 2010 AND 2025

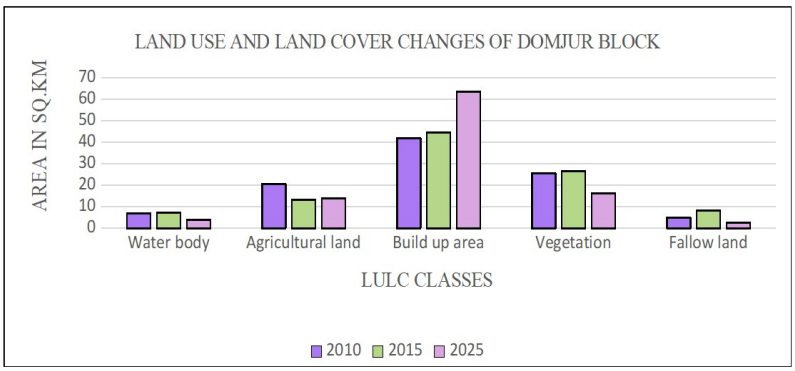


Fig 5. Source: USGS, 3.28.3, 3.14.0

Table 3. Change detection (2010-2025)

LULC class	2010		2025		LULC change (2010-2025)	
	Area in sq.km	Area in %	Area in sq.km	Area in %	Area in sq.km	Area in %
Water body	6.201	6.85	3.497	3.86	-2.704	-2.99
Agricultural land	18.646	20.6	12.535	13.84	-6.111	-6.76
Build up area	37.95	41.93	57.617	63.61	19.667	21.68
Vegetation	23.21	25.64	14.587	16.1	-8.623	-9.54
Fallow land	4.51	4.98	2.345	2.59	-2.165	-2.39

From the change detection analysis between 2010 and 2025 we can see a significant changes in land use pattern. From the table we can see that percentage of water body, agricultural land, vegetation, and fallow land in 2010 in Domjur block were decrease in 2025. The water body is decrease -2.704 sq.km by 2025, agricultural land decreased -6.111sq.km by 2025, vegetation decreased -8.623 sq.km by 2025, and fallow land decreased -.239 sq.km by 2025. On the other side build up area is increased about 19.667 sq.km by 2025. From this we can understood that industries are increased and due to increased migration demand for housing increased as a result build up area increased. For the immigration and industrialization environmental loss, environmental degradation, agricultural land loss, loss of water body has been also seen and pollution has been increased in this region.

Objective-2: To examine population growth and understanding the changes in population size due to immigration

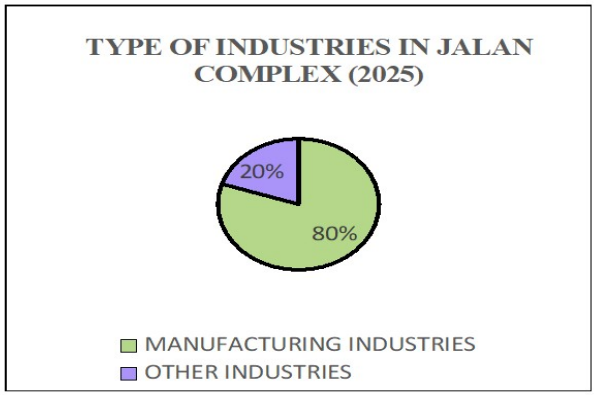


Fig.6. Source: Primary survey

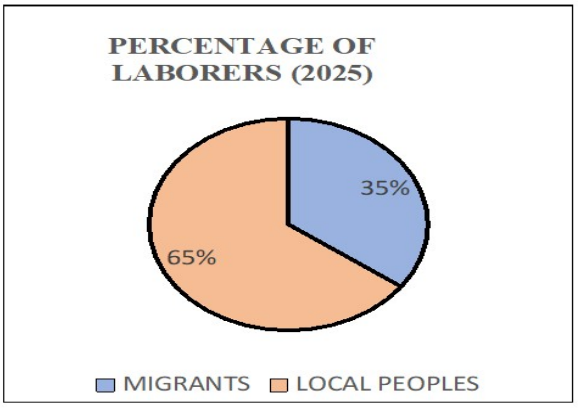


Fig. 7. Source: Primary survey

The Jalan Complex has witnessed significant population growth over the past few decades because of the industrial expansion and economic opportunities. As a major industrial hub this area has attracted a large number of migrants form other district and neighboring states of West Bengal such as Jharkhand, Orissa, Bihar etc. This led to rapid increase of population growth and rearrangement in the demographic composition of this region. This growth is heavily influenced by immigration as people moved for better opportunity mainly for economic stability. The population in and around the Jalan complex in Domjur raised over few decades. This growth is primarily as a result of industrialization, as the Jalan Complex emerged as a industrial zone. The complex hosts over 500 industries, reflecting a highly diversified industrial base. Of these approximately 80% is manufacturing industries. The manufacturing unit includes industries like engineering, chemicals, plastics, electrical equipment. The remaining 20% of the industries include trading, food processing, garments, logistics, jute, alcohol production and fragrance manufacturing. This mix of industries contributed to the dynamic economic structure of this area and also supports large workforce both skilled and unskilled laborers. This influence on land use pattern and demographic structure. This rapid industrialization of Jalan Complex has created a high demand for labor. With over 500 operational units-of which nearly 80% are manufacturing based, so the complex depends on large and continuous supply of workforce to its production. This labor requirements are met through a combination of local and migrant workers. Based on the field observations and surveys, it is estimated that approximately 30% of total labor force employed in Jalan Complex consist of migrant laborers. They are typically engaged in semi-skilled and unskilled jobs such as machine operator, packaging, transportation, loading-unloading and maintenance. Many of these migrant workers brings their families to settled in the surrounding areas. This triggered a significant rise in the residential population around the industrial region. As a result, the region has seen rapid population growth, and development of informal settlements, rental housing, and local markets.

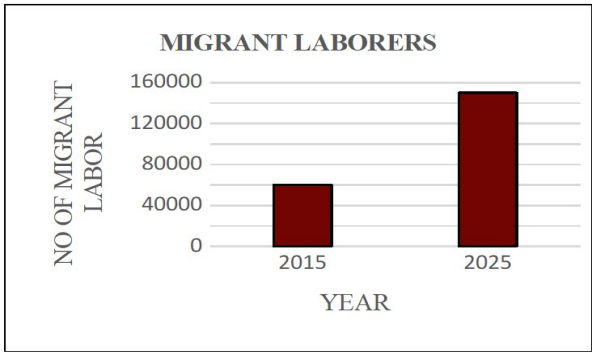


Fig. 8. Source: Primary survey

If we compare the population growth with census data, we can see a huge difference. According to 2001 census, the population of Domjur block was 288619. And according to 2011 census, the population of Domjur block was 380118. We can see that 91499 people increase over a decade. It represents a growth rate of around 31.7%. Due to the delayed 2011 census, a significant data gap exists. In the absence of 2021 census data, population projection is required to estimate demographic changes. To address this gap and to understand the impact of industrialization and immigration on population growth in this region, this study incorporates projected population figures for the years 2025 and 2035.

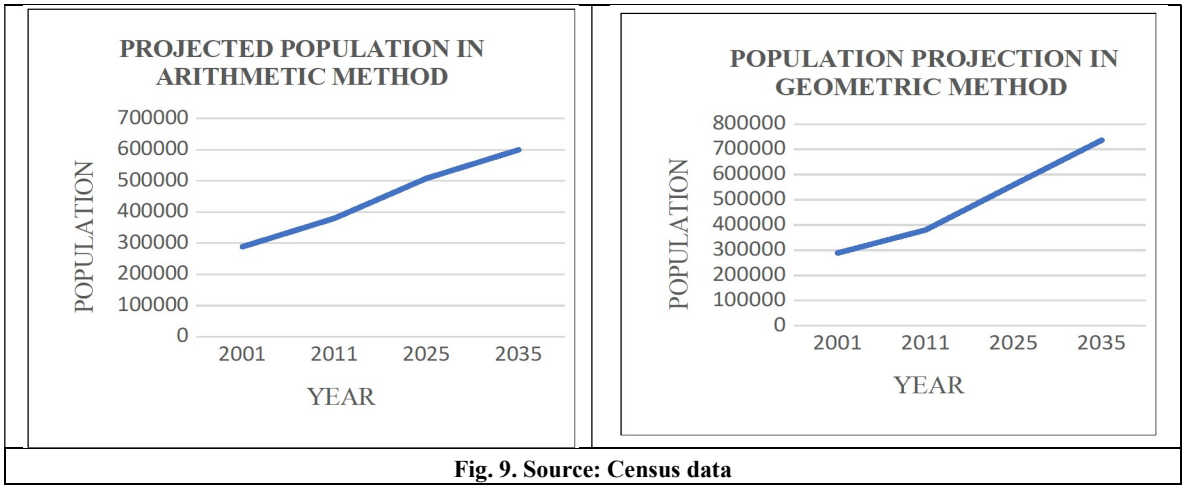


Fig. 9. Source: Census data

The population projection of Domjur block shows a steady upward trend in demographic growth. From this we can see that, in arithmetic method population is projected to rise from 380118 in 2011 to approximately 508216 by 2025 and 599715 by 2035. In geometric method population projection is rise from 380118 in 2011 to approximately 558905 by 2025 and 736078 by 2035. The rapid population growth in Domjur Block, especially around Jalan Complex, has been influenced by immigration. To understand the actual reasons behind migration, a factor analysis was conducted to identify the main factor of migration.

Table 7. KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.816
Bartlett's Test of Sphericity	Approx. Chi-Square	1079.278
	df	45
	Sig.	<.001

INTERPRETATION - The Kaiser Meyer Olkin or KMO is 0.816, which is consider as meritorious according to Kaiser's scale. This indicate that, the data is highly suitable for factor analysis. The Bartlett's Test of Sphericity shows a Chi-Square value of 1079.278 with 45 degrees of freedom and a significance level (Sig.) less than 0.001. This result is statistically significant; the variables are significantly correlated with each other.

Table 8. Measures of Sampling Adequacy (MSA)

Variable name	MSA value
Rural to urban previous migration	0.677
Less job opportunities in rural area	0.845
Higher wages in urban area	0.835
Crop failure	0.786
Better life expectation	0.821
Stability in salary	0.871
Job security in industry	0.823
Accessible road in cities	0.691
Better Education in cities	0.836
Health benefit in cities	0.839

If the Measure of Sampling Adequacy result is greater than 0.5, it considered as a good variable and if the result is less than 0.5, it considered as a weak variable. Most of the variables show high MSA values, particularly "Less job opportunities in rural area" (0.845), "Higher wages in urban area" (0.835), "Better life expectation" (0.821), "Stability in salary" (0.871), "Job security in industry of city" (0.823), "Better education in cities" (0.836), and "Health benefit in cities" (0.839). These values fall within the "meritorious" range (0.80–0.89), suggesting that these variables have a strong potential to contribute meaningfully to the underlying factor structure.

Table 9. Communalities

	Initial	Extraction
Rural to urban previous migration	1.000	.735
Less job opportunity in rural area	1.000	.699
Higher wages than rural area	1.000	.679
Agriculture failure	1.000	.835
Better life expectation	1.000	.842
Stability in salary	1.000	.932
Job security in industry	1.000	.680
Accessible road in city	1.000	.803
Education is good in urban area	1.000	.839
Health benefit in urban area	1.000	.822

INTERPRETATION

Initial is always 1.00, means 100%. Extraction shows us how much variance is retained by the factor. If the extraction value is greater than 0.5, the value is acceptable and it the value is less than 0.5, the value is weak. In the data all variables have good extraction value.

Table 10. Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.987	39.875	39.875	3.987	39.875	39.875	2.658	26.583	26.583
2	1.305	13.047	52.921	1.305	13.047	52.921	1.414	14.140	40.723
3	.942	9.419	62.341	.942	9.419	62.341	1.408	14.082	54.805
4	.836	8.359	70.700	.836	8.359	70.700	1.313	13.125	67.930
5	.794	7.941	78.641	.794	7.941	78.641	1.071	10.711	78.641
6	.728	7.278	85.919						
7	.568	5.675	91.595						
8	.404	4.037	95.632						
9	.236	2.357	97.988						
10	.201	2.012	100.000						

INTERPRETATION

In the initial eigen values, all variables are there. In the second column after extraction there have two most strong variables. In the third column leading to final rotated result. In the rotation, five components explain 78.641% of total variance which is acceptable.

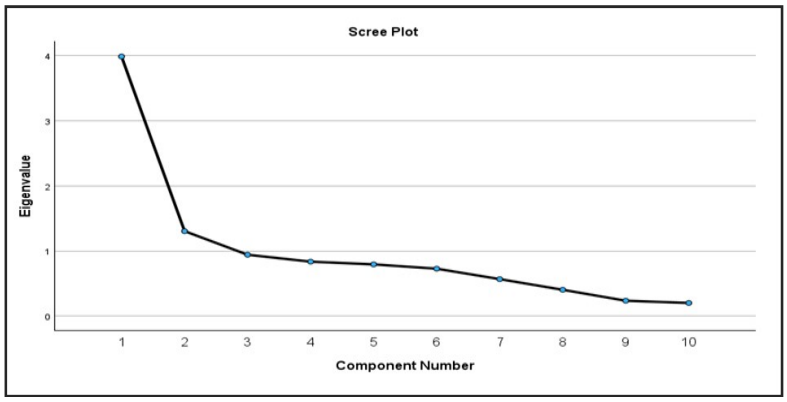


Table 11. Component Matrix[a]

	Component				
	1	2	3	4	5
Rural to urban previous migration	.397	.751	-.099	.027	.062
Less job opportunity in rural area	.799	.151	-.164	.089	-.055
Higher wages than rural area	-.697	-.134	-.301	.265	-.107
Agriculture failure	.442	-.412	.490	-.305	.371
Better life expectation	-.856	-.077	.233	-.016	-.223
Stability in salary	.448	.015	.516	.682	-.003
Job security in industry	-.496	.445	.073	-.230	.421
Accessible road in city	.433	-.554	-.471	.104	.276
Education is good in urban area	.594	-.078	.106	-.367	-.578
Health benefit in urban area	.889	.118	-.125	-.026	.028

Extraction Method: Principal Component Analysis.
a. 5 components extracted.

INTERPRETATION

The factor analysis extracted five distinct components, each representing a cluster of related migration drivers. In summary, the five-component structure illustrates the complex and multidimensional nature of rural-to-urban migration, shaped by a combination of pull factors (urban benefits), push factors (rural disadvantages), prior migration trends, infrastructure issues, and varying individual perceptions.

INTERPRETATION

The rotated component matrix presents the factor loadings after applying Varimax rotation, helping to identify clear groupings of related variables that explain rural-to-urban migration. A total of five components were extracted, each representing a distinct thematic cluster.

Table 12. Rotated Component Matrix

	Component				
	1	2	3	4	5
Rural to urban previous migration	.792	-.283	-.092	-.137	.033
Less job opportunity in rural area	.698	.264	.317	.074	.191
Higher wages than rural area	-.538	.061	-.248	-.559	-.100
Agriculture failure	.009	.171	.081	.887	.111
Better life expectation	-.756	-.431	-.142	-.233	-.101
Stability in salary	.187	-.006	.059	.143	.934
Job security in industry	-.020	-.433	-.622	.023	-.323
Accessible road in city	.118	.878	.052	.120	-.026
Education is good in urban area	.270	-.057	.845	.214	-.064
Health benefit in urban area	.749	.289	.324	.230	.137

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.
a. Rotation converged in 6 iterations.

Component 1 is strongly defined by high loadings on rural to urban previous migration (0.792), less job opportunity in rural area (0.698), and health benefit in urban area (0.749).

Component 2 is most associated with accessible road in city (0.878), reflecting the role of infrastructure accessibility as a key factor.

Component 3 includes strong loadings from education is good in urban area (0.845), pointing to urban educational benefits as an important motivation for migration.

Component 4 shows a very high loading on agriculture failure (0.887), indicating a clear push factor from rural areas. **Component 5** is highly defined by stability in salary (0.934), marking a distinct focus on financial and income security. Some variables show moderate cross-loadings on multiple components, such as job security in industry and better life expectation, suggesting these elements are influenced by multiple forces (e.g., economic, infrastructural, or social factors).

Table 13. Component Transformation Matrix

Component	1	2	3	4	5
1	.719	.330	.425	.357	.257
2	.630	-.658	-.263	-.313	-.050
3	-.242	-.574	.050	.598	.502
4	-.029	.224	-.229	-.468	.823
5	.161	.279	-.834	.445	-.050

Extraction Method: Principal Component Analysis; Rotation Method:Varimax with Kaiser Normalization

INTERPRETATION

The component transformation matrix shows the mathematical relationship between the initial unrotated factors and the rotated factors. In this matrix, the values along the diagonal indicate that the rotated components are still highly aligned with the original components. The off-diagonal values show the extent of correlation or overlap between the original and rotated components. This transformation matrix essentially reorients the axes of the original factor solution to produce a rotated solution that is easier to interpret, while preserving the total variance explained. It does not affect the underlying data, but rather enhances the clarity of the component structure by redistributing the loadings across the two factors. In this case, the strong diagonal values (close to 1) suggest that the rotated solution closely corresponds to the original one, validating the clarity and strength of the extracted factors.

Objective 3 : The social integration of migrant population with the local inhabitants and its Impact on society: Social integration is a very important asset of human life. This is the process by which an individual interacts with their surroundings. Social integration can be positive or negative. When two or more culturally different people interact with each other, cultural assimilation take place. It is a basic concept of society. Migrants people coming from different places, with their own language, culture, rituals, norms, life style interact with the local people whose working pattern, life style, culture, language everything is different from the migrants. When they both are working together, cultural assimilation arises. This sometimes cause positive or negative impact. Sometimes an uncompromised or disagreement can be seen. From this many social problems like crime, theft like social problems arises A positive social integration encourage community development. To understand the real-time impact of migration and social integration, a field survey was conducted among 310 migrants and 150 local people in and around Jalan Complex. A social and economic integration can be seen in Jalan Complex and its surrounding area. Many migrants come from different places because of the availability of low skilled jobs and demand of labor. And they normally come from Bihar, Uttar Pradesh, and Jharkhand. The majority migrants are male, so through them family migration is slowly increase. So, they live here and interact with local peoples in their daily life. In their workplace integration is necessity for word demand. Cultural assimilations take place during different festivals like Durga Puja, Holi, Chhath Puja, Ganesh Chaturthi etc. Schools and parks play an important role in assimilation.

SOCIAL CHANGES

Social changes is a modification of behavior over time. It includes education pattern, cultural shift, communication, transportation, banking, drainage system, health care facilities etc. The survey reveals that education pattern has been changed in Jalan Complex and surrounding areas. In 2010, there were only 11 Bengali medium school both primary and secondary which increases to 24, and most of the new schools follows English as their medium of learning. Therefore, it is clear that people coming from Bihar, Jharkhand , Uttar Pradesh etc are preferring English medium school for their child's education which give impetus to the changing pattern in education system. Job opportunity, expected monthly income reduce crime rate in any area. The area surrounding Jalan Complex is not exceptional. The primary survey reelecting that crime rate has been decreased in this area over time. During 2010, average monthly crime rate was 21 and in 2025 average monthly crime rate is 1. According to the survey there were hardly any kaccha drain found in Jalan Complex in 2025. According to my survey immigrants have a great impact for increasing hospital. The survey also depicts that number of hospitals increases from 6 to 13 in Jalan complex and surrounding areas from 2010 to 2025.

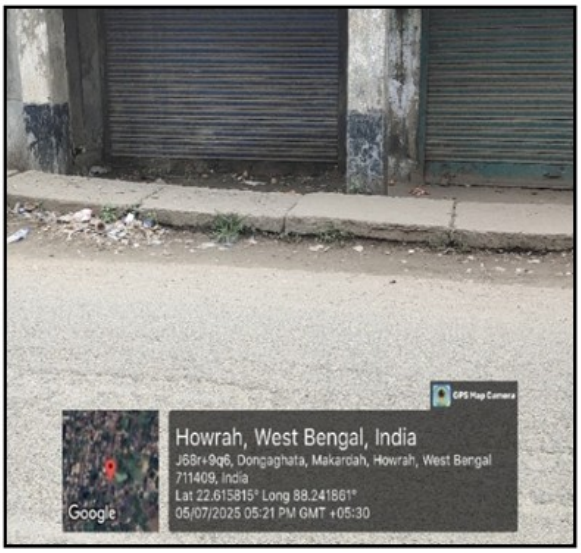


Photo: Pachha drain near study area



Photo: Rental houses near study area

ECONOMIC CHANGES

Due to the demand of goods for daily use and services by the migrants population, informal street markets such as roadside vegetable vendors, fruits and fish stalls has been developed. These vendors play an important role in social integration. Locals and migrants interact as buyers ana sellers.

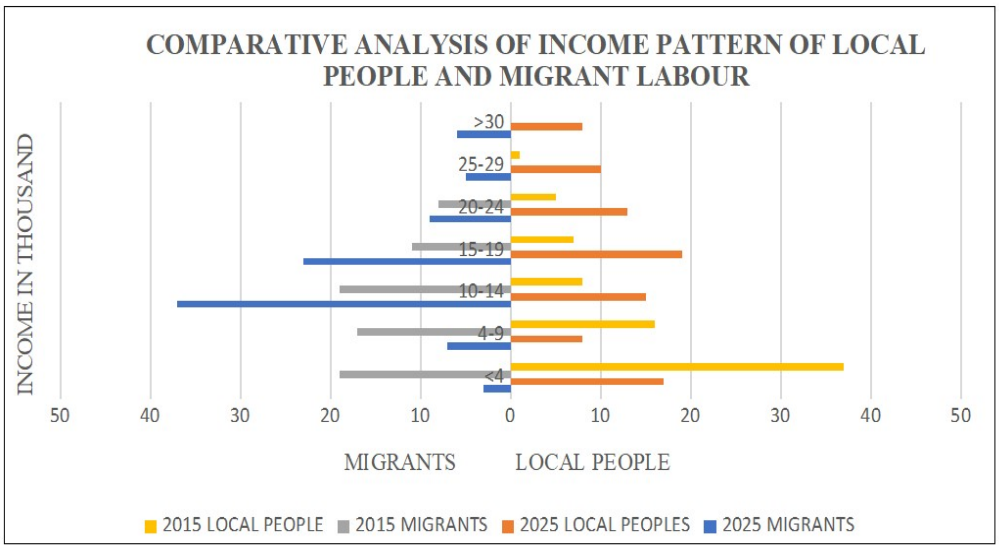


Fig. 11. Source: Primary Survey

From this diagram we can understand that how the economy of Jalan complex and its surrounding depend on local market. A huge amount of the consumer of this market are immigrants so we can say that local economy changed over time and it is highly depended on the immigrants.

FINDINGS OF THE STUDY

The main findings of this study include

- Change detection results indicate a rapid increase in buildup areas. Thia led to reduction of vegetation cover, agricultural land and water body. The changes are associated with a decline in air quality and an increase in environmental pollution.
- Population projection analysis shows an increase in population growth within the study area.
- From factor analysis, it is clear that the main dimensions influencing migration are migration history and employment difficulties in rural area, economic opportunity and agricultural hindrance, job stability in urban areas, infrastructural accessibility, and urban amenities.
- Migration has led to a cultural mix in the study area, resulting in increased diversity of traditions, language, and social practice. Migration boosts up the local economy.
- Although migrants come to the area primarily for income generation, data analysis reveals that while the income of both migrants and local people have Increased, the income level of local people remains higher than that of migrants workers.

CONCLUSION

By this study, it is clear that migration is actively occurring in the Jalan Complex area. This has led not only to demographic growth, but also give impetus in the development of infrastructure such as roads, and transportation and overall economic expansion. Migrants come to this area primarily for income generation. While both migrant and local populations have experienced income growth, data analysis shows that income of local residents become higher, largely due to renting out houses. However, it cannot be concluded that migration is the sole cause of this increase in local incomes. Therefore, further research is needed to establish the underlying factors.

REFERENCES

Abebe, G., D. Getachew and A. Ewunetu (2022). Analysing land use/ land cover changes and its dynamics using remote sensing and GIS in Gubalafito district, Northeastern Ethiopia, S. N. Applied Science, Vol 4, Article No. 30.

Alshari, Eman A. and Bharti W. Gawali (2021). Development of Classification System for LULC using remote sensing and GIS. Global Transitions Proceedings, Vol 2, Issue 1.

Arora, M. K., & Mathur, S. (2001). Multi-source Classification Using Artificial Neural Network in a Rugged Terrain. *Geocarto International*, *16*(3), 37–44.

Baig, M.F., M.R.U. Mustafa, I. Baig, H.B. Takaijudin and M.T. Zeshan (2022). Assessment of Land Use Land Cover Changes and Future Predictions Using CA-ANN Simulation for Selangor, Malayasia, Special Issue of Effects of Land Use and Climate Changes on Water Resources, Water, 2022, 14 (3).

Bandopadhyay, S. and N. S. Kar (2019). An Inventory for land use land cover and landform identification from satellite standard FCC: A Study in the Active Ganga Delta. In Quaternary Geomorphology in India, Geography of the Physical Environment, by B. C. Das et.al. (eds.), Springer Nature.

Barney, Cohen. (2004). Urban Growth in developing countries: A review of Current trends and a causion regarding existing forecasts, World Development Vol.32,No.1, 23-51.

Campbell, J. B., & Wynne, R. H. (2011). Introduction to remote sensing. Guilford press.

Chakraborty, A., Kamna, S. & Joshi, P. (2016). Mapping long-term land use and land cover change in the central Himalayan region using a tree-based ensemble classification approach. Applied Geography. 74.

Chand, S., Brar K.K., Kumar A. (2022). Land Use/ Cover Change Detection in High-Altitude Mountain Landscapes: A Case of Pangi Valley, Western Himalaya (India). Current World Environment, 17 (3).

Datta,P.(2006). Urbanisation in India: Regional and sub- regional population dynamic population process in urban areas, European Population Conference 21-24 June, 2006, Population studies Unit, Indian Statistical Institute, Kolkata.

Gans P. (2000). Urban population change in large cities in Germany, 1980–94. *Urban Studies* **37**: 1497–1512

Gogoi, P.P., V. Vinoj, D. Swain, G. Roberts, J. Dash and S. Tripathy (2019). Land use and land cover change effect on surface temperature over Eastern India. Scientific Reports, 9, Article No. 8859.

Gurung, A. and Hannan, A. (2021). Dynamics of Land Use and Trends of Agriculture in Sikkim. Journal of North East India Studies, Vol. 11 (1). Jan-Jun.

Hathout, S. (2002). The use of GIS for monitoring and predicting urban growth in East and West St Paul, Winnipeg, Manitoba, Canada, Journal of Environmental Management, Volume 66, Issue 3, 2002

Mishra, P.K. Rai, A. and Rai, S.C. (2020). Land use and land cover change detection using geospatial techniques in the Sikkim Himalaya, India, The Egyptian Journal of Remote Sensing and Space Sciences. 23.

Rasool, R., A. Fayaz, M. U Shafiq, H. Singh and P. Ahmed (2021). Land use land cover change in Kashmir Himalaya: Linking remote sensing with an indicator based DPSIR approach, Ecological Indicators, Volume 125, 2021.

Renschler, C. S., Harbor, J. (2002). Soil erosion assessment tools from point to regional scales—the role of geomorphologists in land management research and implementation, Geomorphology, Volume 47, Issues 2–4.

Saadat, H., Adamowski, J., Bonnell, R., Sharifi, F., Namdar, M. and Ebrahim, S.A. (2011). Land use and land cover classification over a large area in Iran based on single date analysis of satellite imagery, ISPRS Journal of Photogrammetry and Remote Sensing, Volume 66, Issue 5.

Singh, R. (1992). Concept of Landuse (Vol. 4). In N. Mohammad, (Ed.) New Delhi: Ashok Kumar Mittal, Concept Publishing Company.

Sumali D., John A.-Adjaye, R. Mahadeva (2017). Addressing climate change cause and effect on land cover and land use in South Asia, Land Use Policy, Volume 67, 2017.

Tiwari, P.C. (2000). Land-use changes in Himalaya and their impact on the plains ecosystem: Need for sustainable land use. Land Use Policy. 17.

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