Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

Socio-Economic Integration of Climate Migrant Families: A Study of Households Displaced by the 2010–2012 Floods and Permanently Settled in Karachi's Peri-Urban Areas

Imran Azeem
PhD Scholar, Department of Social Work, University of Karachi. imranazeem.se@gmail.com

Dr. Muhammad Faisal Zia
Assistant Professor, Department of Social Work, University of Karachi. faisal.zia2010@yahoo.com

Waheed Akbar Khaskheli
PhD Scholar, Department of Social Work, University of Karachi. khaskheliwaheed@usindh.edu.pk

Rafia Jaweed
M.Phil, Department of Social Work University of Karachi. rafia.jawed789@gmail.com

Saba Mubashir
PhD Scholar, Department of Social Work, University of Karachi. mubashirsaba12@gmail.com

Abstract
Climate-related displacement is increasingly shaping internal migration patterns across developing countries. Environmental disasters such as floods often destroy livelihoods, housing infrastructure, and local economic systems, forcing vulnerable populations to relocate to urban centers in search of economic opportunities and social stability. Pakistan has experienced repeated climate shocks in recent decades, with the devastating floods of 2010–2012 representing one of the largest humanitarian crises in the country's history. These floods displaced millions of people, many of whom migrated permanently to major cities, particularly Karachi. Despite the large number of internally displaced households settling in Karachi, limited empirical research has examined the long-term socio-economic integration of climate migrants within the city's peri-urban settlements. These settlements often emerge as transitional spaces where newly arrived migrants seek employment opportunities while facing challenges related to housing insecurity, limited access to public services, and unstable income sources. This study investigates the socio-economic integration of households displaced by the 2010–2012 floods who are currently residing in Karachi's peri-urban areas. The research specifically examines livelihood strategies, employment patterns, access to education and healthcare services, and community participation among climate migrant families. A quantitative research design was employed, and primary data were collected from 100 migrant households through structured questionnaires administered in selected peri-urban settlements of Karachi. The analysis reveals that the majority of displaced households have gradually integrated into Karachi's informal economic sector, primarily through daily wage labor, small-scale trade, transport services,

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

and domestic work. However, the findings also indicate persistent structural barriers that limit long-term socio-economic mobility among migrant households. These barriers include insecure housing arrangements, irregular income patterns, and insufficient access to formal education and healthcare services. Regression analysis suggests that employment stability, duration of residence in Karachi, and access to education significantly influence the degree of socio-economic integration among migrant households. Families who have resided in the city for longer periods demonstrate greater economic resilience and stronger participation in local community networks. The study highlights the need for policy frameworks that recognize climate-induced migration as a growing dimension of urbanization in Pakistan. Sustainable integration of climate migrants requires inclusive urban planning policies, improved social protection mechanisms, and targeted livelihood programs that support displaced populations in rebuilding stable urban livelihoods.

Keywords: Climate Migration, Internal Displacement, Flood Disaster, Urban Integration, Peri-Urban Settlements, Socio-Economic Adaptation, Informal Economy, Climate Change, Urban Poverty

1. Introduction

Climate change is increasingly reshaping patterns of human mobility across the world. Rising global temperatures have intensified the frequency and severity of environmental disasters such as floods, droughts, hurricanes, and heatwaves. These environmental changes are forcing millions of people to migrate either temporarily or permanently in search of safety, livelihood opportunities, and social stability.

According to the **Internal Displacement Monitoring Centre (IDMC, 2023)**, climate-related disasters displaced more than 30 million people globally in recent years. Unlike traditional economic migration, climate-induced migration often occurs under conditions of crisis and limited preparedness, leaving displaced populations highly vulnerable to socio-economic marginalization.

Pakistan is widely recognized as one of the countries most vulnerable to climate change impacts despite contributing minimally to global greenhouse gas emissions (Germanwatch, 2023). The country's geographical location, extensive river systems, and dependence on climate-sensitive agricultural activities make it particularly susceptible to environmental disasters.

Among various environmental hazards, flooding represents the most destructive natural disaster affecting Pakistan. The **2010 floods**, triggered by unprecedented monsoon rainfall, caused widespread devastation across several provinces including Sindh, Punjab, and Khyber Pakhtunkhwa. The floods submerged nearly one-fifth of the country's land area and affected approximately 20 million people (Government of Pakistan & World Bank, 2011). Subsequent flooding events in **2011 and 2012** further compounded the humanitarian crisis, destroying homes, infrastructure, agricultural land, and livestock. Many affected households were unable to recover their livelihoods due to limited reconstruction resources and repeated environmental shocks.

As a result, a significant proportion of displaced populations migrated to urban centers in search of economic opportunities and improved living conditions. Karachi, the largest city in Pakistan with a population exceeding 20

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

million, became a primary destination for internally displaced migrants. Historically, Karachi has served as a major hub for internal migration due to its diverse labor market and economic opportunities. However, the influx of climate migrants has added new pressures to the city's already strained urban infrastructure.

Many displaced households have settled in **peri-urban areas**, which are transitional zones between urban and rural environments. These settlements typically emerge through informal land occupation and are characterized by inadequate housing, limited public services, and weak institutional governance (Allen, 2003).

Despite these challenges, peri-urban settlements provide entry points for migrants seeking access to urban labor markets. Migrant households often engage in informal economic activities such as construction labor, domestic services, street vending, and small-scale entrepreneurship. The concept of **socio-economic integration** is central to understanding how migrants adapt to new urban environments. Integration involves the process through which migrants gain access to employment, housing, social networks, education, and healthcare services within host communities (Ager & Strang, 2008).

However, climate migrants face unique challenges in achieving integration. Unlike voluntary migrants who relocate in pursuit of economic opportunities, climate migrants are often forced to move abruptly due to environmental disasters. This displacement frequently results in the loss of land, assets, social networks, and community identity.

In Pakistan, scholarly research on climate-induced migration remains limited, particularly in relation to long-term socio-economic integration. Existing studies have primarily focused on disaster management, emergency relief efforts, and short-term displacement patterns rather than examining how displaced populations rebuild their lives over time.

Understanding the experiences of climate migrants in Karachi's peri-urban settlements is therefore essential for developing inclusive urban policies and sustainable climate adaptation strategies.

This study seeks to analyze the socio-economic integration of flood-displaced households who migrated to Karachi following the 2010–2012 floods. By examining employment patterns, access to services, and community participation, the research provides valuable insights into how climate migrants adapt to urban environments.

2. Research Objectives

1. To analyze the socio-economic conditions of flood-displaced migrant households residing in Karachi's peri-urban settlements.
2. To examine the relationship between employment opportunities and economic integration among climate migrant families.
3. To assess access to education, healthcare, and social services among climate migrant households.

3. Research Hypotheses

H1: Stable employment significantly improves socio-economic integration among climate migrant households.

H2: Length of residence in Karachi positively influences household economic stability.

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

H3: Access to education and healthcare services significantly enhances social integration of migrant families.

4. Conceptual Framework of Climate Migrant Integration

The integration of climate migrant households into urban environments is influenced by several interconnected socio-economic factors. Based on migration and integration theories, this study conceptualizes integration as a multidimensional process shaped by three primary determinants:

i. **Economic Integration**
- Employment opportunities
- Income stability
- Participation in informal or formal labor markets

ii. **Social Integration**
- Community participation
- Access to education
- Access to healthcare services

iii. **Urban Adaptation**
- Housing conditions
- Length of residence
- Access to urban infrastructure

These factors collectively determine the degree to which displaced households are able to establish sustainable livelihoods and participate in urban social networks.

5. Literature Review

Climate Change and Human Mobility

Climate change has emerged as one of the most significant global challenges influencing patterns of human mobility in the twenty-first century. Environmental transformations—including rising temperatures, extreme weather events, sea-level rise, droughts, and flooding—have intensified socio-economic vulnerabilities in many regions of the world. These environmental stresses disrupt agricultural productivity, damage infrastructure, reduce water availability, and undermine livelihoods, thereby pushing affected populations to seek alternative survival strategies such as migration (Black et al., 2011; McLeman, 2014). As climate risks intensify, migration is increasingly recognized as both a coping strategy and an adaptive response to environmental change.

Scholars have developed the concept of **"climate migrants" or "environmental migrants"** to describe individuals or communities who move because of sudden or gradual environmental degradation. The International Organization for Migration defines climate migration as the movement of persons who are compelled to leave their habitual residence temporarily or permanently due to environmental changes that adversely affect their lives or living conditions (IOM, 2019). These environmental changes may include both sudden disasters such as floods and storms, as well as slow-onset processes such as desertification, soil degradation, and salinization (IPCC, 2022).

Although climate change has global implications, its impacts are disproportionately felt in developing countries where livelihoods depend heavily on climate-sensitive sectors such as agriculture, fishing, and livestock rearing (Hallegatte et al., 2016). In such contexts, environmental shocks often trigger migration decisions as households attempt to diversify income sources and

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

reduce vulnerability. Migration therefore becomes an important adaptation strategy rather than simply a forced displacement phenomenon (Tacoli, 2009; Black et al., 2011).

Empirical research suggests that climate-induced migration is largely **internal rather than international**. Most individuals displaced by environmental hazards move within national borders, typically from rural areas toward urban centers in search of employment opportunities and access to services (World Bank, 2021). The Internal Displacement Monitoring Centre reports that millions of people are displaced annually by climate-related disasters such as floods, cyclones, and droughts, particularly in South Asia and Sub-Saharan Africa (IDMC, 2023).

Migration decisions are rarely driven by environmental factors alone. Instead, they result from a complex interaction of economic, social, demographic, and political variables (Black et al., 2011). For example, limited access to land, poverty, weak governance, and lack of disaster preparedness mechanisms can amplify the impact of climate shocks, making migration more likely. Scholars have therefore emphasized the importance of understanding climate migration as a **multi-causal process** embedded within broader development dynamics (Adger et al., 2014; Reuveny, 2007).

Furthermore, climate migration has important implications for both sending and receiving regions. While migration can help households cope with environmental stress by diversifying income sources, it may also place pressure on urban infrastructure and services in receiving areas. Rapid urban migration can exacerbate housing shortages, unemployment, and informal settlement expansion, particularly in large cities in developing countries (UN-Habitat, 2020). Consequently, climate migration is increasingly viewed as a critical policy challenge that requires integrated approaches combining disaster risk reduction, climate adaptation, and urban planning.

Flood Disasters and Internal Migration in Pakistan

Pakistan is considered one of the countries most vulnerable to climate-related disasters, particularly floods. Due to its geographical location, monsoon patterns, and extensive river systems, the country frequently experiences seasonal flooding that affects large populations and causes significant economic losses (Germanwatch, 2023). Climate change has further intensified the frequency and severity of extreme weather events, increasing the risk of displacement and livelihood disruption.

The **2010 floods** represent one of the most devastating disasters in Pakistan's history. Triggered by unusually intense monsoon rains, the floods affected approximately 20 million people, destroyed infrastructure across multiple provinces, and caused damages estimated at over US$10 billion (World Bank, 2011). Millions of households lost their homes, crops, livestock, and sources of income, forcing many families to relocate either temporarily or permanently. Subsequent flooding events—including those in 2011, 2014, and 2022—have reinforced the pattern of recurring climate-related disasters in Pakistan. These repeated shocks have contributed to long-term displacement and livelihood insecurity, particularly in rural areas where agriculture is the primary source of income (Mustafa et al., 2015). Research indicates that rural populations with limited financial resources are especially vulnerable because they lack the capacity to recover from repeated disasters.

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

Mustafa et al. (2015) highlight that marginalized communities in flood-prone areas often experience disproportionate impacts due to weak infrastructure, inadequate disaster preparedness systems, and limited access to government assistance. In many cases, households affected by floods face challenges in rebuilding agricultural livelihoods due to land degradation, damaged irrigation systems, and declining soil fertility.

As a result, migration becomes a critical coping strategy for affected households. Families may send one or more members to urban areas to seek employment and support household income through remittances (Gray & Mueller, 2012). This pattern reflects broader trends in environmental migration where households adopt **mobility as a risk diversification strategy**.

Internal migration within Pakistan has therefore become closely linked with environmental vulnerability. Flood-affected populations from provinces such as Sindh, Punjab, and Khyber Pakhtunkhwa frequently relocate to large cities including Karachi, Lahore, and Islamabad in search of better economic opportunities and access to services (Kugelman, 2013). However, the capacity of these cities to absorb new migrants is often limited, leading to challenges related to housing, employment, and social integration.

Urbanization and Peri-Urban Settlements

Rapid urbanization is one of the most significant demographic transformations occurring in developing countries. Urban populations are expanding rapidly as rural residents migrate to cities in search of employment opportunities, education, and improved living standards (United Nations, 2019). This trend is particularly evident in South Asia, where major metropolitan areas have experienced significant population growth over the past few decades.

Karachi, Pakistan's largest city and economic hub, has experienced substantial demographic expansion driven largely by internal migration. According to Hasan and Mohib (2013), rural-to-urban migration has played a central role in shaping Karachi's urban landscape. Migrants from various regions—including Sindh, Punjab, Khyber Pakhtunkhwa, and Balochistan—have settled in the city in search of economic opportunities.

The rapid influx of migrants has contributed to the expansion of **peri-urban settlements**, which represent transitional zones between rural and urban environments. These areas are characterized by mixed land uses, informal housing development, and limited access to infrastructure and public services (Allen, 2003). Peri-urban zones often emerge on the outskirts of rapidly growing cities where land is relatively affordable but governance structures remain weak.

Tacoli (2009) describes peri-urban areas as hybrid spaces where rural and urban livelihoods intersect. These areas frequently serve as entry points for newly arrived migrants who cannot afford housing in central urban locations. As a result, peri-urban settlements often accommodate large numbers of low-income households and migrants displaced by environmental disasters.

However, the growth of informal settlements presents significant challenges for urban governance. Residents of peri-urban communities often face limited access to essential services such as clean water, sanitation, healthcare, and education (UN-Habitat, 2020). Infrastructure deficits, insecure land tenure, and weak institutional oversight contribute to persistent urban poverty.

In Karachi, the expansion of informal settlements has been particularly pronounced. Large portions of the city's population reside in **katchi abadis**

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

(informal settlements) where housing conditions are often overcrowded and access to public services is inadequate (Hasan & Mohib, 2013). These settlements highlight the intersection of migration, poverty, and urban planning challenges. Urban growth driven by migration therefore raises important questions about the sustainability of cities and their capacity to accommodate displaced populations. Effective urban planning and inclusive policies are necessary to ensure that migrants can access housing, employment, and social services while minimizing the emergence of informal settlements.

Socio-Economic Integration of Migrants

The successful integration of migrants into urban communities is critical for both social cohesion and economic stability. Integration refers to the process through which migrants become active participants in the economic, social, and cultural life of host communities (Ager & Strang, 2008). Effective integration enables migrants to rebuild livelihoods, access services, and establish stable living conditions in their new environments.

Ager and Strang (2008) propose a widely used framework for understanding migrant integration, which identifies several key domains including **employment, housing, education, health, and social connections**. These domains are interconnected and collectively influence migrants' ability to achieve long-term stability and well-being.

Employment plays a central role in facilitating migrant integration because it provides financial independence and enables access to other resources such as housing and healthcare. Stable employment allows migrants to support their families, build social networks, and contribute to local economies. However, migrants often encounter barriers when attempting to enter formal labor markets, including discrimination, lack of documentation, and limited educational qualifications (Deshingkar & Akter, 2009).

Housing is another critical factor influencing integration outcomes. Access to secure and affordable housing contributes to social stability and improves access to services such as schools and healthcare facilities. However, migrants frequently face housing shortages and may be forced to reside in overcrowded or informal settlements due to financial constraints.

Social connections and community networks also play an important role in facilitating integration. Migrants often rely on informal support systems—including relatives, friends, and ethnic communities—to access employment opportunities and navigate urban environments (Ager & Strang, 2008). These networks can provide emotional support and practical assistance during the transition process. Despite these coping mechanisms, migrants often face significant challenges related to discrimination, marginalization, and limited access to social services. These barriers can hinder long-term integration and contribute to persistent socio-economic inequalities within urban communities.

Informal Economy and Migrant Livelihoods

The informal sector constitutes a major component of urban economies in developing countries. Informal employment refers to economic activities that operate outside formal regulatory frameworks and typically lack legal protections, social security benefits, and stable wages (Deshingkar & Akter, 2009). Despite these limitations, the informal economy provides essential livelihood opportunities for millions of urban residents.

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

DIALOGUE SOCIAL SCIENCE REVIEW

In Karachi, the informal sector plays a particularly important role in absorbing migrant labor. Estimates suggest that more than 60 percent of the city's workforce is engaged in informal economic activities such as street vending, transport services, construction labor, and domestic work (Hasan & Mohib, 2013). These sectors require relatively low levels of education and capital investment, making them accessible to newly arrived migrants.

While informal employment provides immediate income opportunities, it is often associated with precarious working conditions and limited economic mobility. Workers in the informal sector typically lack job security, health insurance, and social protection mechanisms (Tacoli, 2009). As a result, migrants working in informal jobs remain vulnerable to economic shocks and exploitation.

Nevertheless, the informal economy plays a crucial role in supporting urban livelihoods and sustaining household incomes. Many migrants rely on informal employment as a stepping stone toward more stable economic opportunities. Over time, some individuals transition into small-scale entrepreneurship or formal employment sectors.

The relationship between migration and informal labor markets highlights the importance of inclusive economic policies that support migrant livelihoods while promoting decent work standards. Strengthening vocational training programs, improving access to microfinance, and expanding social protection systems could help enhance economic opportunities for migrant populations.

6. Research Methodology

6.1 Research Design

The study employs a **quantitative cross-sectional research design**, which is particularly appropriate for examining socio-economic integration among climate-displaced households at a specific point in time. A cross-sectional approach allows for the collection of data on multiple variables simultaneously, facilitating the analysis of relationships between demographic characteristics, employment status, access to services, and levels of socio-economic integration. Quantitative methods were preferred for this study to enable statistical analysis of the factors affecting integration, ensuring that findings are objective, generalizable, and replicable.

6.2 Population | Study Area & Rationale

The research focused on **peri-urban settlements in Karachi**, where a significant number of flood-displaced households have permanently settled following the 2010–2012 floods. The following localities were selected based on their high concentration of internally displaced households:

- **Gadap & Orangi Town:** Often the first stop for migrants due to ethnic kinship networks and cheaper informal housing.
- **Korangi & Baldia Town:** Areas providing proximity to industrial zones, which are crucial for households relying on daily wage labor.

These areas were chosen due to their representativeness of peri-urban migration patterns in Karachi and the varying socio-economic conditions they present, which allows for a comparative analysis across different peri-urban contexts.

6.3 Sample Size

A total of **100 households** displaced by the 2010–2012 floods were included in

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

the study. The sample size was determined based on feasibility, the scope of the research, and the objective of generating meaningful statistical analysis while ensuring manageable fieldwork in peri-urban settlements.

6.4 Sampling Technique

- **Purposive Sampling:** Used to ensure every participant was specifically displaced by the 2010–2012 floods.
- **Snowball Sampling:** Since this population is "hidden" and lacks a formal registry, initial contacts in the community helped identify other eligible flood-affected families.

6.5 Data Collection Tool

Primary data were collected using a **structured questionnaire**, designed to capture both socio-economic and social integration indicators. The questionnaire included five main sections:

1. **Demographic Information:** Age, gender, marital status, household size, and educational background of family members.
2. **Employment Status:** Type of employment, income stability, working hours, and occupation sector (formal or informal).
3. **Housing Conditions:** Type of housing, tenure security, access to basic utilities, and housing adequacy.
4. **Access to Education and Healthcare:** Enrollment of children in schools, access to medical facilities, and health service utilization.
5. **Community Participation Indicators:** Involvement in local social networks, participation in community decision-making, and social support mechanisms.

6.6 Data Analysis

Collected data were coded and entered into **SPSS** for analysis. The following statistical techniques were applied:

- **Descriptive Statistics:** Frequency distribution, mean, median, and standard deviation were used to describe demographic characteristics, employment patterns, housing conditions, and access to services.
- **Correlation Analysis:** Pearson's correlation coefficients were calculated to identify relationships between key independent variables (employment stability, length of residence, access to education) and the dependent variable (socio-economic integration index).
- **Multiple Regression Analysis:** A multiple regression model was constructed to examine the predictive power of independent variables on socio-economic integration, allowing for hypothesis testing and identification of statistically significant determinants.

7. Data Analysis and Findings

7.1 Demographic Profile

Variable	Percentage
Male respondents	68%
Female respondents	32%
Average household size	6 members
Households with children under 12	62%
Households headed by female	18%

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

Interpretation:
The data reveals a traditional patriarchal household structure common in displaced populations:

- Gender Split: 68% Male / 32% Female. The higher male response rate often reflects the "head of household" cultural norm in survey participation.
- Household Size: Average family size indicates moderately large households, consistent with urban-poor family structures in peri-urban Karachi.

7.2 Employment Status:

Employment Type	Percentage	Insight
Daily Wage Labor	45%	Nearly half the population lacks job security, working on day-to-day contracts.
Domestic Work	17%	Primarily performed by female members in nearby affluent neighborhoods.
Small Business	18%	Includes pushcart vending or small "Cabin" shops in the colony.
Formal Employment	20%	Only 1 in 5 have managed to secure stable, contract-based factory or office work.

Interpretation: The data indicates that most households rely on informal employment. Daily wage labor dominates due to low entry barriers, while formal employment is limited, reflecting the integration challenges faced by displaced populations.

7.3 Access to Social Services

Indicator	Percentage	Insights
Access to education	54%	While over half have access, the 46% gap suggests child labor or lack of affordable schools is a major issue.
Access to healthcare	48%	Healthcare (48%): Most rely on expensive private clinics or low-quality dispensaries due to the distance from major government hospitals.
Secure housing	41%	Less than half feel they have "permanent" or "legal" claim to their home, leading to a constant fear of eviction.

Interpretation:
The lack of essential services is a significant challenge for the community, with critical gaps in education, healthcare, and housing security. While 54% have access to **education**, the remaining 46% face barriers likely rooted in child labor or a shortage of affordable schools. **Healthcare** access is even more strained at 48%, forcing residents to rely on distant government hospitals or costly, low-quality local alternatives. Most concerning is that only 41% report **secure housing**, leaving the majority in a state of constant vulnerability and fear of eviction.

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

DIALOGUE SOCIAL SCIENCE REVIEW

8. Regression Analysis

Dependent Variable: Socio-Economic Integration Index (constructed from employment, housing, and social service access indicators)

Variable	Beta	Significance (p-value)
Employment Stability	0.42	0.001
Length of Residence	0.36	0.004
Access to Education	0.31	0.009

Interpretation: Employment stability has the strongest influence on socio-economic integration, followed by length of residence and access to education. All predictors are statistically significant ($p < 0.01$).

9. Hypothesis Validation

Hypothesis	Statement	Result
H1	There is a significant positive relationship between Employment Stability and the socio-economic integration of flood migrants.	**Accepted**
H2	Length of Residence in Karachi significantly reduces the social vulnerability of displaced families.	**Accepted**
H3	Access to Basic Social Services (Education/Health) is the primary barrier to permanent urban settlement.	**Accepted**

Interpretation: All three hypotheses are supported by the data, confirming that economic, temporal, and service-access factors are critical determinants of integration for climate-displaced households.

9. Discussion

The findings indicate that climate migrants in Karachi's peri-urban settlements are gradually adapting to the urban economy despite substantial structural constraints. Unlike traditional economic migrants who move with planned employment prospects, climate migrants are often forced to relocate abruptly due to environmental disasters. As a result, their entry into urban labor markets is largely mediated through informal networks and survival-oriented employment strategies.

The prevalence of informal employment among migrant households reflects the structural realities of Karachi's urban economy. While informal labor provides accessible entry points, it offers limited economic security, often trapping households in cycles of precarious work and constrained upward mobility.

Social infrastructure also plays a critical role in shaping integration outcomes. Access to education and healthcare enhances long-term resilience, with households benefiting from school enrollment and basic health services showing stronger indicators of social inclusion and stability.

Overall, the urban integration of climate migrants is a multidimensional process that extends beyond economic participation. Successful adaptation encompasses livelihood strategies, social engagement, and access to public services, highlighting the need for holistic policies that support both economic and social dimensions of migrant well-being.

10. Recommendations

1. **Recognition of Climate Migrants in National Policy**

Pakistan currently lacks a formal policy framework addressing climate-induced

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

internal migration. Policymakers should incorporate climate migration into national disaster management and urban development strategies.

2. **Inclusive Urban Planning**

Urban planning initiatives should recognize peri-urban settlements as emerging communities requiring infrastructure development, including water supply, sanitation, and transportation networks.

3. **Livelihood Development Programs**

Vocational training programs targeting displaced populations can improve employment prospects and support economic mobility.

4. **Social Protection Mechanisms**

Expansion of social protection programs such as income support, health insurance, and education subsidies can enhance resilience among climate migrant households.

5. **Community Integration Programs**

Local community organizations and NGOs can play a significant role in facilitating social cohesion between migrant populations and host communities.

11. Conclusion

The study demonstrates that climate-induced migration has significantly reshaped urban socio-economic dynamics in Karachi. Flood-displaced households have gradually integrated into the city's informal economy, although their livelihoods remain precarious.

Employment opportunities, duration of urban residence, and access to public services significantly influence integration outcomes.

Despite gradual adaptation, institutional gaps and policy limitations continue to constrain the socio-economic mobility of climate migrants.

References

Adger, W. N., Barnett, J., Brown, K., Marshall, N., & O'Brien, K. (2014). Human security. In C. B. Field et al. (Eds.), *Climate change 2014: Impacts, adaptation, and vulnerability* (pp. 755–791). Cambridge University Press.

Ager, A., & Strang, A. (2008). Understanding integration: A conceptual framework. *Journal of Refugee Studies, 21*(2), 166–191. https://doi.org/10.1093/jrs/fen016

Allen, A. (2003). Environmental planning and management of peri-urban areas: The case of the Lima metropolitan region. *Environment and Urbanization, 15*(1), 135–148. https://doi.org/10.1177/095624780301500103

Black, R., Bennett, S., Thomas, S., & Beddington, J. (2011). Climate change: Migration as adaptation. *Nature, 478*(7370), 447–449. https://doi.org/10.1038/478447a

Deshingkar, P., & Akter, S. (2009). *Migration and human development in India.* United Nations Development Programme.

Germanwatch. (2023). *Global climate risk index 2023*. Germanwatch. https://www.germanwatch.org

Government of Pakistan, & World Bank. (2011). *Pakistan floods 2010:*

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

Preliminary damage and needs assessment. Government of Pakistan & World Bank.

Gray, C., & Mueller, V. (2012). Drought and population mobility in rural Ethiopia. *World Development, 40*(1), 134–145. https://doi.org/10.1016/j.worlddev.2011.05.023

Hallegatte, S., Bangalore, M., Bonzanigo, L., Fay, M., Kane, T., Narloch, U., Rozenberg, J., Treguer, D., & Vogt-Schilb, A. (2016). *Shock waves: Managing the impacts of climate change on poverty*. World Bank.

Hasan, A., & Mohib, M. (2013). Urbanization and migration in Karachi. *Environment and Urbanization Asia, 4*(1), 71–92. https://doi.org/10.1177/0975425313477753

Hashmi, Z., Ashraf, A., & Ahmed, S. (2025). Beyond the Classroom: Exploring the Motivational Impact of Globalization on EFL Learners. Journal of Social Horizons, 2(2), 64-73. https://doi.org/10.5281/zenodo.15616017

Intergovernmental Panel on Climate Change. (2022). *Climate change 2022: Impacts, adaptation and vulnerability*. Cambridge University Press.

Internal Displacement Monitoring Centre. (2023). *Global report on internal displacement 2023*. IDMC.

Internal Displacement Monitoring Centre. (2023). *Global report on internal displacement 2023*. Internal Displacement Monitoring Centre. https://www.internal-displacement.org

International Organization for Migration. (2019). *Migration and climate change: Evidence for policy*. IOM.

Kugelman, M. (2013). *Urbanization in Pakistan: Causes and consequences*. Woodrow Wilson International Center for Scholars.

McLeman, R. (2014). *Climate and human migration: Past experiences, future challenges*. Cambridge University Press.

Mumtaz Niazi , M. ., Ahmed, S. ., & Khan , D. S. . (2024). Uncovering the Determinants of English Language Anxiety among Undergraduate Learners in Pakistan: A Study at a Private University in Pakistan. International Journal of Experiential Learning & Case Studies, 8(2), 219-238. https://doi.org/10.22555/ijelcs.v8i2.1018

Mustafa, D., Wrathall, D., & Rizvi, S. (2015). Climate change and floods in Pakistan. *Regional Environmental Change, 15*(2), 287–298. https://doi.org/10.1007/s10113-014-0605-6

Qadr, T., Abbasi, S. F., & Ahmed, S. (2024). Cultivating Positivity: Role of Gratitude and Psychological Well-Being among Undergraduate Psychology Students. International Journal of Trends and Innovations in Business & Social Sciences, 2(3), 332-343.

Raza, S. A., Ahmed, S., Asif, A., & Rani, A. (2023). The impact of burnout on the psychological well-being of ESL students in higher education environment. *Siazga Research Journal*, *2*(3), 147-156.

Reuveny, R. (2007). Climate change-induced migration and violent conflict. *Political Geography, 26*(6), 656–673. https://doi.org/10.1016/j.polgeo.2007.05.001

Tacoli, C. (2009). Crisis or adaptation? Migration and climate change in a context of high mobility. *Environment and Urbanization, 21*(2), 513–525. https://doi.org/10.1177/0956247809342182

United Nations Department of Economic and Social Affairs. (2019). *World urbanization prospects 2018: Highlights*. United Nations.

ISSN Online: 3007-3154
ISSN Print: 3007-3146
Vol. 4 No. 4 (April) (2026)

United Nations Human Settlements Programme. (2020). *World cities report 2020: The value of sustainable urbanization*. UN-Habitat.

United Nations. (2019). *World urbanization prospects 2018: Highlights*. United Nations Department of Economic and Social Affairs.

World Bank. (2011). *Pakistan floods 2010: Preliminary damage and needs assessment*. World Bank.

World Bank. (2021). *Groundswell part 2: Acting on internal climate migration*. World Bank.