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Rural-urban migration and its socio-economic and environmental impacts: A study of Bundelkhand region, Madhya Pradesh

¹Uttam Kumar Tripathi, ²Satwik Sahay Bisarya and ³Hemraj Dwivedi

¹Ph.D. Scholar, Department of Agriculture Extension, Sunrise University, Alwar, Rajasthan, India

²Associate Professor, Department of Agriculture, Sunrise University, Alwar, Rajasthan, India

³Scientist, Home Science, Krishi Vigyan Kendra, Majhgawan, Satna, Madhya Pradesh, India

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Corresponding Author: Uttam Kumar Tripathi

Abstract

This study examines the influence of education, urbanization, migration drivers, and agricultural productivity on rural–urban migration in the Bundelkhand region of Madhya Pradesh. Using Human Capital Theory, Push–Pull Theory, and Urban Transition Theory, the study identifies key determinants of migration and their socio-economic and environmental impacts. The findings indicate that declining agricultural productivity, water scarcity, and lack of rural infrastructure act as major push factors, while better employment opportunities, education, and healthcare services in urban areas act as pull factors. However, rapid urbanization results in environmental degradation, infrastructure stress, and socio-economic inequalities. The study highlights the need for integrated rural development and sustainable urban planning.

Keywords: Rural–urban migration, Bundelkhand, agricultural productivity, urbanization, environment

Introduction

Migration refers to the movement of individuals from one geographical area to another, influenced by economic, social, and environmental conditions. Rural–urban migration is a prominent feature in developing regions, driven by disparities in opportunities and living conditions. In regions like Bundelkhand, declining agricultural productivity, water scarcity, and limited access to education and healthcare compel individuals especially youth to migrate to urban areas. While migration provides economic opportunities, it also creates challenges such as rural labor shortages and urban overcrowding.

Literature review

The study is grounded in key theoretical frameworks. Human Capital Theory suggests that migration enhances skills and income opportunities. Push–Pull Theory explains migration as a result of rural disadvantages (push factors) and urban advantages (pull factors). Urban Transition Theory highlights how economic development leads to population concentration in urban areas. Existing studies confirm that environmental stress, economic hardship, and lack of infrastructure are major drivers of migration.

Study area: Bundelkhand region

The Bundelkhand region spans parts of Madhya Pradesh and Uttar Pradesh. This study focuses on districts including Datia, Tikamgarh, Chhatarpur, Damoh, Sagar, and Panna. The region is characterized by low agricultural productivity due to poor soil and rainfall, high poverty levels and low human development index, as well as water scarcity and frequent

droughts.

Research methodology

The study adopts a descriptive and analytical research design to examine patterns, causes, and impacts of rural–urban migration in the Bundelkhand region. The methodology is primarily based on secondary data sources, providing a comprehensive macro-level understanding of migration dynamics. The data has been collected from Census of India reports, National Sample Survey Office (NSSO) data, NITI Aayog publications, research journals, books, institutional reports, and reports from international organizations such as the World Bank and UNDP. These sources provide insights into demographic trends, agricultural conditions, employment patterns, and migration flows. The analysis includes descriptive methods to explain migration patterns and regional disparities, qualitative interpretation of socio-economic and environmental drivers, and basic statistical tools such as percentages, averages, and trend analysis. Bundelkhand has been selected as the study area due to its frequent droughts, low agricultural productivity, high poverty and unemployment, and significant seasonal and permanent migration trends.

Limitations of the study

The study is based on secondary data, which may not capture recent developments or micro-level variations. The absence of primary fieldwork limits direct insights into migrants' experiences and motivations. The regional focus restricts the generalization of findings to other parts of India. Variations in data sources may also lead to inconsistencies in

interpretation.

Variables of the study

The study examines relationships between selected independent and dependent variables. The independent variables include education, which influences migration decisions by affecting employment opportunities and aspirations; urbanization, which acts as a pull factor by offering better infrastructure and job prospects; agricultural productivity, where declining productivity due to drought and poor irrigation drives migration; and migration drivers, including push factors such as poverty, unemployment, and water scarcity, and pull factors such as better wages, education, and healthcare. The dependent variables include rural–urban migration measured through population movement patterns, access to education and healthcare affected by migration in both rural and urban contexts, and environmental impact, including land degradation in rural areas and pollution and congestion in urban areas.

Hypothesis formulation

The study proposes a main hypothesis and several specific hypotheses based on its objectives. The null hypothesis states that there is no significant relationship between socio-economic factors and rural–urban migration, while the alternative hypothesis states that a significant relationship exists between these factors and migration. The specific hypotheses propose that education is positively associated

with rural–urban migration; urbanization significantly increases migration; declining agricultural productivity leads to higher migration; push–pull factors significantly influence migration decisions; migration significantly affects access to education and healthcare; and migration has a significant environmental impact.

6. Results and Analysis

Table 1: Push and pull factors of migration

Category	Factors
Push Factors	Agricultural decline, drought, unemployment, poor services
Pull Factors	Jobs, education, healthcare, infrastructure

Table 2: Socio-economic conditions of Bundelkhand

Indicator	Status
Agriculture	Low productivity
Rainfall	Irregular
Poverty	High
Infrastructure	Poor

Table 3: Impact of migration

Sector	Positive Impact	Negative Impact
Rural	Remittances	Labor shortage
Urban	Workforce supply	Overcrowding
Environment		Degradation

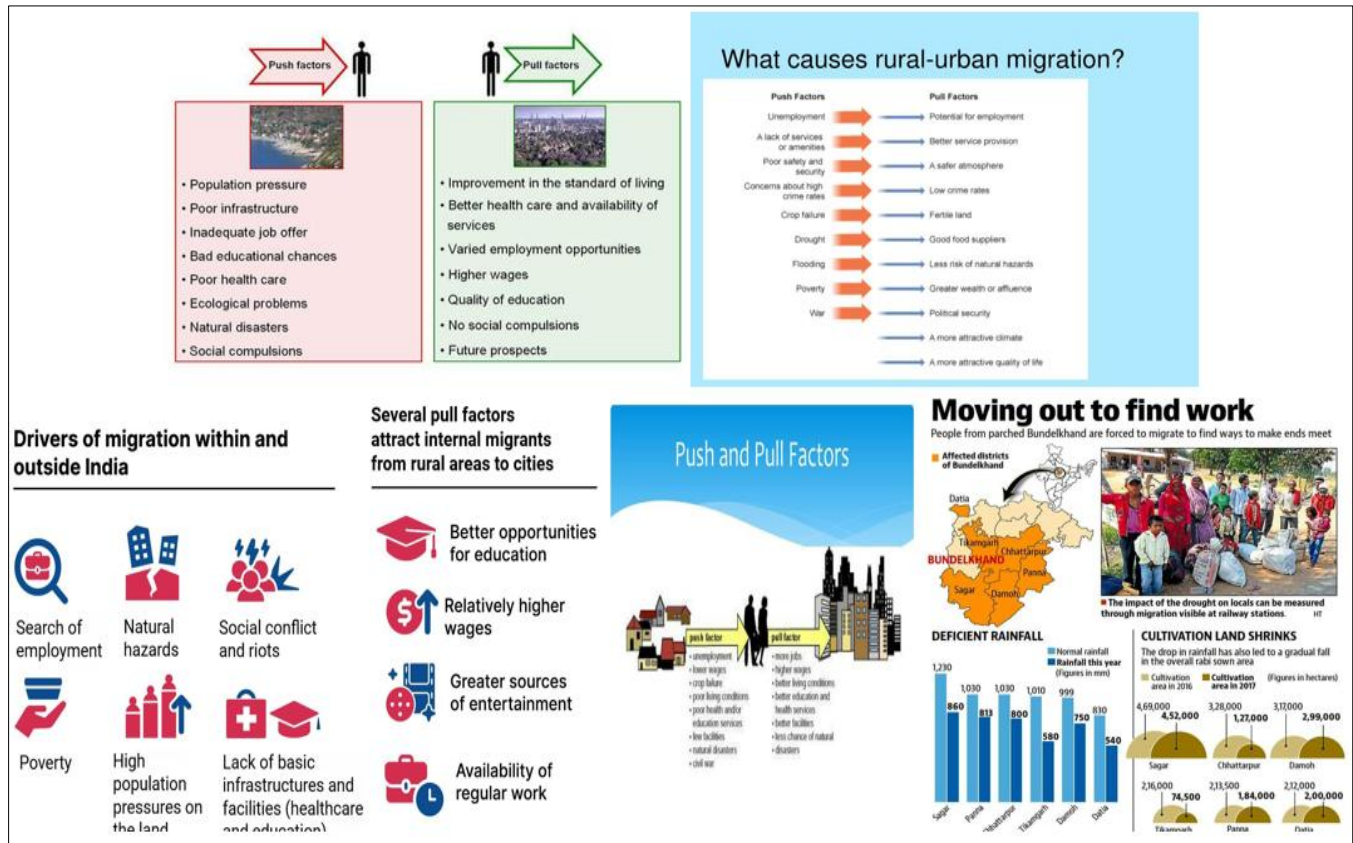


Fig 1: Major push factors influencing migration

Agricultural decline and water scarcity are identified as the most significant drivers of migration, followed by

unemployment and lack of education and healthcare.

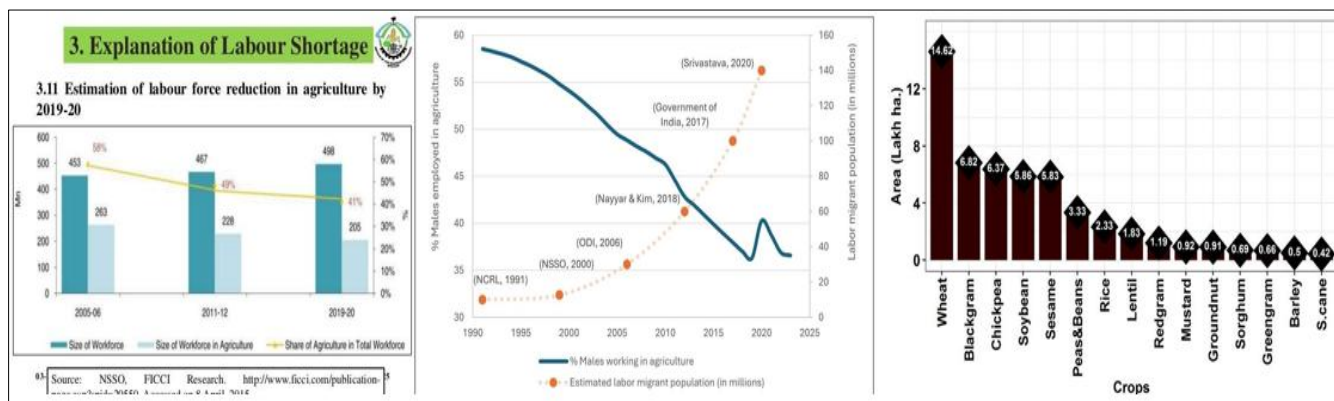


Fig 2: Distribution of migration impact

Migration impacts are distributed across economic (40%), social (30%), and environmental (30%) dimensions.

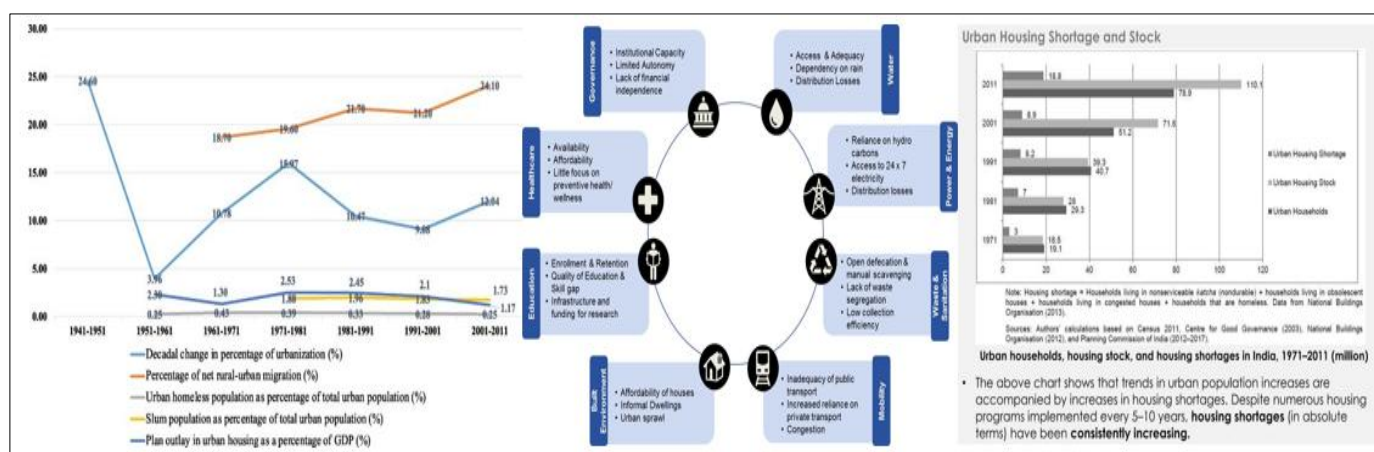


Fig 3: Rural vs urban impact comparison

Urban areas experience higher negative impacts (infrastructure stress), while rural areas suffer from labor shortages and reduced productivity.

Discussion

The findings strongly support the Push-Pull Theory. Environmental degradation and economic hardship in Bundelkhand push individuals toward urban areas, while better opportunities attract them. However, migration creates imbalances, weakening rural economies and overburdening urban systems.

Conclusion

Migration in Bundelkhand is driven by structural challenges such as low agricultural productivity, water scarcity, and lack of infrastructure. While migration offers economic benefits, it also leads to socio-economic and environmental challenges.

Balanced development strategies focusing on rural upliftment and sustainable urban planning are essential.

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