



GLOBAL MOBILITY: BIBLIOMETRIC APPROACH

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ABSTRACT

The research looks at the complex interactions between migration, population relocation, and climate change in today's dynamic global terrain. It explores changing trends, drivers, and repercussions of modern migration in the context of environmental changes using extensive data analysis. Notably, the research investigates new cyber migration tendencies, emphasizing the link between human movement and technology. It also examines how international student mobility affects global knowledge networks and talent migration. In addition, the study looks at both forced and voluntary migration, considering factors including environmental change, war, and socioeconomic differences. The study's goal is to use mobility trends to create evidence-based policy to address climate-induced migration and displacement. It positions itself inside the global mobility network, stressing the interrelated mechanisms that enable cross-border travel. With a more nuanced knowledge of these concerns, stakeholders may devise ways to enhance resilience, sustainability, and social equality in the face of global challenges.

Keywords: *Digital Mobility, International Student Mobility, Migration, Mobility Pattern, Global Mobility network.*

INTRODUCTION

In an era of unparalleled globalization, rapid technological progress, and environmental instability, the complex interaction of migration, climate change, and global mobility has sparked considerable scholarly interest and policy discussion. These fields intersect to form a complex web of interrelated influences that significantly impact human migration patterns, socioeconomic landscapes, and geopolitical dynamics throughout the world.

This research article conducts a multidimensional examination of the complex interaction between migratory patterns and the changing climatic landscape within the larger context of global mobility. At its heart is a basic investigation into how environmental changes, driven by climatic variability and anthropogenic impact, interact with socioeconomic variables, technological advancements, and geopolitical realities to affect patterns of human migration.

Motivated by a need for a deeper understanding, this research aims to uncover the underlying patterns, motivations, and consequences that define modern migratory dynamics in the face of environmental change. This study uses a multidisciplinary perspective to provide light on the complex interactions and feedback loops that drive the migration-climate nexus, relying on findings from domains as diverse as environmental science, sociology, geography, and policy studies.

Central to this attempt is an examination of emergent phenomena such as cyber migration patterns, which highlight digital technology revolutionary potential in changing traditional concepts of mobility and physical limits. The research dives into the complex dynamics of international student mobility, emphasizing its importance as a catalyst

for cross-cultural exchange, information dissemination, and talent movement on a worldwide scale. Investigates migratory trends through the prism of forced and voluntary migration, emphasizing the tremendous impact of environmental deterioration, wars, and socioeconomic inequities on human displacement. This study intends to inform evidence-based policies and intervention methods for tackling the complex issues faced by climate-induced migration and displacement by examining mobility patterns and their socioecological determinants.

Finally, this study places itself within the larger framework of the global mobility network, focusing on the interrelated systems and infrastructures that enable cross-border movement of people, products, and information. Understanding the flow of resources, capital, and human capital within this network allows policymakers and stakeholders to better understand the interdependence of nations and regions, as well as develop strategies to promote resilience, sustainability, and social equity in the face of global challenges.

LITERATURE REVIEW

The confluence of migration, climate change, and global mobility creates complicated challenges and possibilities, necessitating a multidisciplinary approach to revealing the subtle linkages across these areas. Climate change has a substantial impact on migratory patterns, resulting in both forced and voluntary movements owing to environmental degradation, conflicts, and socioeconomic considerations. Digital technologies are altering conventional concepts of mobility, with cyber migration allowing for remote economic and social activity. International student mobility, which is driven by educational opportunities and cultural interchange, has an influence on

both sending and receiving nations, raising concerns about brain drain.

Understanding the reasons for forced and voluntary migration, such as environmental, social, and political variables, is critical for effective policy responses. The global mobility network, which includes transportation and communication infrastructures, emphasizes national interdependence and the importance of robust, long-term plans. Tools like VOSviewer improve comprehension by showing migration patterns and trends. Addressing the intricacies of climate-induced migration and its larger ramifications allows policymakers to build evidence-based policies for promoting sustainable and equitable mobility, enhancing the global community's resilience to environmental and socioeconomic issues.

METHODS

In today's dynamic world, the intertwined domains of migration, population displacement, and climate change demand careful investigation. The aim is to comprehend the fundamental trends, forces, and influences influencing modern migration in the context of a changing environment. This study intends to contribute to evidence-based policies addressing migration and displacement caused by climate change by shedding light on the complex relationships between human populations and their environment through rigorous data collecting and analysis.

The original research was motivated by a simple question of how human movement is affected by environmental changes. While several subjects were covered, including brain drain, refugees, and digital mobility, "Cyber Migration Trends" stood out. This idea points to an intriguing nexus between human mobility

and technology, implying a digital realm in which people can move, work, and communicate without conventional geographic restrictions. This creates an abundance of chances for virtual exploration and communication.

Citation data, Harzing's Publish or Perish program, and Emerald Publishing's "Climate Change, Migration, and Displacement of Populations" were some of the resources utilized to monitor the development of concepts within the field. Visualizing intricate relationships between authors, publications, and research topics was made easier with the help of VOSviewer. Through the analysis of a dataset of 1,000 journal articles on international mobility, VOSviewer offered insightful information about the diverse themes and subtopics found in migration and mobility studies. Its visuals improved knowledge of the field by highlighting hotspots of activity, patterns, and trends.

Through this investigation, a story connecting environmental change to human movement was put together. To add to the conversation on migration, displacement, and climate change, insights were combined. The paper's early obstacles—such as VOSviewer code issues—were resolved by fine-tuning it considering recommendations from reputable publications and using ChatGPT for advice.

To guarantee a more precise and organized approach, it was decided to resume the job after careful deliberation and consideration of input. A solid framework for the research was created by revisiting the Harzing and VOSviewer tools and consulting Sinta for paper templates. The goal of this extensive revision is to create a final product that is more polished and professional. The emphasis was narrowed by choosing fresh and focused subjects including global mobility networks, migration trends, and

international student mobility. Visuals were used to improve clarity and make the elimination process easier for readers to understand. With this revised approach, we want to contribute to the ongoing discussion on displacement, migration, and climate change by offering a more nuanced understanding of these important topics.

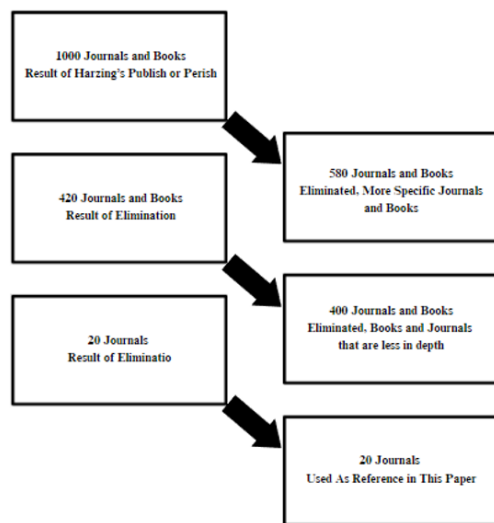


Figure 1. Elimination progress of journals and books.

RESULTS

In the current dynamic world, the intertwined domains of migration, population displacement, and climate change demand careful investigation. Through careful data collecting and analysis, this project seeks to understand the underlying trends, drivers, and repercussions defining modern migration in the context of a changing climate. It does this by contributing to evidence-based policies that address migration and displacement caused by climate change. The original research was motivated by a simple question of how human movement is affected by environmental changes. While several subjects were covered, including brain drain, refugees, and digital mobility, "Cyber Migration Trends" stood

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The extensive connections between authors, publications, and study subjects were usefully displayed using VOSviewer. Its user interface made it easier to comprehend the intricate web of concepts relating to migration brought on by climate change. Through the analysis of a dataset including 1,000 journal articles related to international mobility, VOSviewer provided insights into the diverse spectrum of topics addressed in migration and mobility studies. An overview of the links between various academic fields was provided by the visualizations, which also showed trends, patterns, and clusters of academic activity. Every aspect of the visualization—from the placement of authors around particular topics to the prominence of journals—offered helpful cues for more research. This visual understanding made it possible to navigate the complex world of

regions is made easier by studying the global mobility network. Strategies to improve connectedness, resilience, and sustainability in the face of global issues like climate change can be informed by insights into this network. Awareness of the wider idea of global mobility requires an awareness of migration, mobility patterns, international student mobility, and the global mobility network. These subjects draw attention to the complexity of human mobility and the range of variables that affect it. Research may address the difficulties of global mobility and provide insights into the opportunities and problems it provides by examining these topics. The results can help create fair and sustainable mobility policies and initiatives, which will strengthen the bonds and resilience of the global community.

DISCUSSIONS

1. International Student Mobility

Studying language gatekeeping mechanisms in migration frameworks is crucial to understanding the obstacles and complications faced by people who want to move across borders. The increasing use of language exams as gatekeeping measures in immigration laws is highlighted in this study, which has a substantial influence on migrant prospects for work, education, and residency—especially in countries like Australia. Through illuminating the possible disparities between language test results and real language competency levels, this study exposes underlying prejudices and profit-driven incentives in the testing sector. It emphasizes how important it is for decision-makers and interested parties in the immigration and language policy domains to understand these processes to guarantee that newcomers are treated fairly. (Glass et al, 2021). Global mobility programs play a vital role in the

acknowledgment of the educational value inherent in international learning experiences, particularly within higher education institutions that provide music. These programs provide students with priceless chances to fully immerse themselves in a variety of musical and cultural contexts, enhancing their academic pursuits. But delivering such experiences effectively is a difficult task, particularly in the context of shortened mobility programs. This study explores approaches to overcome these obstacles, highlighting the need to foster immersive musical and cultural learning settings for students participating in international mobility projects. Institutions can better prepare students to navigate the increasingly linked global world by tackling and resolving these problems. (Bartleet et al, 2020)

It is crucial to comprehend the complex socioeconomic inequality that overseas students encounter during their university education to promote inclusion and equity in learning settings. This study examines how different financing sources affect the academic experiences and support systems of foreign students, revealing differences in possibilities and levels of participation that are mostly related to financial means. Institutions may create a more welcoming and inclusive environment for foreign students from a range of socioeconomic backgrounds by recognizing and addressing these disparities, which will improve their overall academic experiences and accomplishments. (Hamid et al, 2019). Examining the linkages in the migration sector, especially in recruiting foreign students, sheds light on the complex processes affecting the movement of international students. This research looks at the complex connections that occur during the recruiting process between institutions and foreign education agencies. Comprehending these

intricacies is crucial in discerning and tackling the elements that mold global student migration trends, such as immigration industry policies and visa policies. Institutions may promote more diverse and inclusive academic communities by facilitating more successful and long-lasting foreign student recruiting campaigns by skillfully negotiating these issues and utilizing effective tactics. (Beech & S.E., 2021)

2. Migration

Evaluating global human mobility patterns is critical for migration research because it sheds light on how populations migrate across boundaries. Researchers may uncover migration trends, patterns, and causes by investigating spatial variances in human mobility. This information is critical for understanding migration policies and interventions. For example, information from research on global human mobility patterns might assist policymakers understand the elements that influence migratory flows, such as economic inequalities, environmental changes, and sociodemographic characteristics. This understanding is critical for designing effective migration management strategies, addressing urbanization difficulties, and mitigating the public health concerns associated with population mobility. (Kraemer et al, 2020)

Temporary mobility, which includes tourism, is strongly related to migration dynamics since it entails crossing borders for brief periods of time. Understanding the patterns and consequences of temporary mobility is critical for thoroughly examining population movements and their implications for destination nations. For example, research on temporary mobility can shed light on the economic, social, and environmental effects of tourism on host communities and destinations. Furthermore, by researching the similarities and

differences between temporary and permanent migrations, researchers may acquire a better knowledge of migration trends and patterns, which can be used to guide policies and strategies for regulating migration flows and allocating resources more effectively. (Bell et al, 2000)

The concept of mobilities provides a useful framework for analyzing migration as a dynamic and multidimensional process. The mobilities paradigm illuminates the many types of mobility that affect migration processes by focusing on the performative components of daily mobilities. For example, research on mobilities might investigate how mobility behaviors of humans, such as commuting, leisure travel, and migration for job or education, overlap and impact migration trends. Furthermore, by investigating the social, economic, and technical elements that influence mobility, researchers may obtain insight into the intricacies of migration processes and their consequences for individuals and society. This knowledge is critical for building inclusive migration policies and practices that consider migrants' different needs and experiences. (Büscher et al, 2000). Travel behavior is inextricably linked with migration since it entails moving across geographical boundaries for a variety of reasons, including job, education, leisure, and social contacts. Researchers can learn about the elements that influence migration and mobility decisions by investigating the reasons and repercussions of travel behavior. For example, research on travel behavior can look at how people's social networks, economic possibilities, and cultural factors impact their mobility choices, including migration decisions. Furthermore, by examining the functions of various modes of transportation in preserving social capital and fostering social inclusion, researchers can obtain insight into the larger social and economic

consequences of migration. This knowledge is critical for establishing policies and activities that help migrants integrate, improve social cohesion, and address migration-related disparities. (Urry & J, 2002)

3. Mobility Pattern

In particular, the first section emphasizes the need to research the worldwide movement patterns of highly trained persons, underscoring the vital need for a comprehensive research agenda focused on global mobility. It reveals a significant research gap, with a shortage of empirical studies on migrants and a dearth of detailed inquiries into the actual realities of global movement. By pushing for more in-depth, micro-level investigations, the text underlines the significance of understanding elite, professional, and highly skilled international migration to establish educated policy frameworks and intervention tactics. (Adrian et al, 2017)

The theoretical frameworks that support migration industries, diving deeper into the topics, with a particular emphasis on the Global Mobility Industry's (GMI) development and operating dynamics. It calls for a more theoretical understanding of migratory industries in the larger framework of the knowledge economy. The section emphasizes the complex relationship between migration processes and economic frameworks by describing how the GMI functions through the computation of expatriate movement behaviors. This theoretical debate is critical for deciphering the complex mechanics of migration industries and their consequences for global mobility models. (Cranston, S, 2020)

The third portion investigates the elements that influence travel habits, particularly with the growth of communication technology. It examines

how physical proximity and social ties impact travel decisions, stressing the value of face-to-face interaction in developing social bonds. The section emphasizes the complicated link between mobility patterns and societal structures by examining how various modes of transportation influence social dynamics. This study sheds light on the many incentives that drive travel patterns, as well as their influence on interpersonal relationships and community dynamics. (Urry, J., 2020)

The final portion discusses the fragmented character of literature on temporary movement in wealthy nations compared to underdeveloped countries. It investigates the methodological issues associated with classifying temporary and permanent movements, as well as the similarities and differences between these mobility modes. Using data from the Australian Population Census, the passage shows the interrelated nature of various mobility types and their spatiotemporal expressions. This analysis of mobility patterns provides vital insights into population migrations and their ramifications for policymaking, urban planning, and socioeconomic growth. (Bell et al, 2000)

4. Globality Pattern Network

The evaluation of geo-localized data, when combined with statistical insights into international migration, provides a significant potential for completely understanding global mobility trends. By combining statistics from social media platforms such as Twitter and Flickr with official migration records, researchers can shed light on both short-term trips and long-term moves. This multi-layered method produces complex understandings of human migration, revealing geographical patterns that are congruent with larger international links. Such findings are crucial for policymakers and stakeholders attempting to manage the

complex world of global mobility. (Belyi et al, 2017)

Mutual authentication arises as a significant component of roaming services in global mobility networks. However, previous authentication techniques have shown flaws, jeopardizing communication security and user anonymity. In response, a unique two-factor authentication technique is suggested that aims to address these problems. The proposed approach exhibits improved security and applicability through rigorous formal verification and analysis, opening new opportunities for strengthening secure communication across global mobility networks. (Wu et al, 2017)

Authentication processes in global mobility networks are examined in greater detail, showing flaws in crucial agreement procedures that ensure communication security and fairness. Criticizing existing techniques for their weaknesses, a unique authentication process is presented to overcome these flaws. Through rigorous performance analysis, the suggested mechanism demonstrates higher security and efficiency when compared to its predecessors. These findings highlight the need for strong authentication procedures in maintaining the integrity of global mobility networks, opening the path for greater security and efficiency in mobile communications. (Gope et al, 2016)

In the expanding world of the Internet of Things (IoT) and mobile connectivity, authentication procedures inside the Global Mobility Network (GLOMONET) are crucial. However, current authentication mechanisms are vulnerable, offering substantial security threats. In response, a groundbreaking three-factor authentication mechanism called the secure mobile authentication scheme for GLOMONET (SMASG) is established. Through rigorous security studies, SMASG emerges as a strong

solution that provides increased security and efficiency over previous alternatives. These findings highlight the critical significance of demanding authentication techniques in enhancing the security of mobile services inside the GLOMONET architecture, hence promoting seamless connection in the global mobility environment. (Ryu et al, 2000)

CONCLUSION

Finally, the study of diverse aspects of migration and global mobility gives insight on the intricate interaction of environmental, social, and technical elements that influence human movement patterns. Researchers have gained deep insights into the motivations, patterns, and repercussions of modern migration dynamics via meticulous data gathering, analysis, and theoretical investigation. Studies on international student mobility, migration trends, and the global mobility network offer useful insights into the varied character of human mobility in today's world. examinations into migration sectors, cyber migration patterns, and travel behaviors highlight the changing panorama of global mobility, shaped by technological breakthroughs and shifting cultural norms. Researchers have gotten a better knowledge of migration-related phenomena by using tools such as VOSviewer to visualize academic literature and investigate authentication processes inside global mobility networks.

These findings not only add to the academic discussion of migration and mobility, but they also have practical consequences for policymakers, stakeholders, and practitioners involved in migration management and policy creation. Addressing the problems and possibilities given by global mobility allows for the development of informed policies and initiatives that promote

equitable, sustainable, and inclusive cross-border movement. Ultimately, the findings from these varied study fields open the way for a more comprehensive knowledge of migration dynamics, emphasizing the need of multidisciplinary methods in tackling the complexity of human movement in the modern world. We may work toward resilient, cohesive, and linked global communities by expanding knowledge and encouraging cooperation.

LIMITATIONS

This research on the relationship between migration, climate change, and global mobility has significant drawbacks. The use of secondary data sources, such as Harzing's Publish or Perish program and Emerald Publishing's resources, introduces biases from the original data collecting methods. Tools like VOSviewer, while effective, may fail to capture the intricacies of migration study, thereby skewing conclusions. Broad coverage of themes such as international student mobility and cyber migration patterns may have resulted in a lack of focus on other crucial areas, such as internal migration or the unique effects of climate change on migration in the Global South. The lack of primary research or direct fieldwork implies that conclusions are dependent exclusively on previously published data, which may not reflect current migratory trends.

Advanced analytical technologies presented technical hurdles, which may limit the practical implementation of findings to people with the requisite technical expertise. The multidisciplinary approach, while advantageous, may have sacrificed depth in certain areas due to the necessity to balance findings from environmental science, sociology, geography, and policy studies. Despite

these limitations, the study contributes to a better understanding of the intricate relationships between migration and climate change. Future research should strive for more fair coverage, including primary empirical studies, and improve the accessibility of analytical tools in order to generate a more nuanced and complete knowledge of global mobility in the context of environmental change.

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