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Analysis of migratory movements from the perspective of push factors: A comparative study of West Africa and East Africa

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ABSTRACT

This study examines the main push factors driving migration in West and East Africa, highlighting the role of conflicts, climate change, poverty and food insecurity. Through a mixed-methods approach that combines a systematic literature review and quantitative data analysis, the research identifies correlations between macro-level structural factors and migration dynamics in both regions. The findings reveal significant contrasts: while migration in West Africa is predominantly influenced by economic instability, climate variability and localised conflicts, East Africa experiences large-scale forced displacements driven by protracted conflict, institutional weaknesses and severe climate crises. The main contribution of the study lies in the comparative approach, which provides a deeper understanding of how socioeconomic and geopolitical contexts shape migratory flows. These findings help identify common patterns and key differences between the two regions.

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Introduction

Migration in Africa is a complex and multi-causal phenomenon.[1] From a macro-level perspective, as proposed by the Foresight framework, it can be understood as the result of a series of interrelated structural factors including economic hardship, armed conflict (including terrorism), insecurity, climate change, and demographic pressure.[2] In addition, other social issues (such as lack of access to basic services, gender inequality, social exclusion, and institutional weakness) worsen living conditions and limit opportunities. Most migration occurs within the continent, particularly in regions with free movement protocols, and tends to follow a rural-to-urban and inland-to-coastal migration pattern, which in some cases evolves into international migration.[3] Some migration theories consider migration as a source of family income, where remittances help to mitigate economic instability.[4]

This study aims to comparatively analyse the structural push factors driving migratory movements in West and East Africa, identifying common patterns and contextual differences between both regions. It seeks to determine the relative weight of economic,

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political, social, and climatic factors in shaping internal, regional, and international migration flows.

To achieve this general objective, the following specific objectives were established: (1) to identify and systematise, through a literature review following the PRISMA method,[5] the main push factors associated with migratory movements in West and East Africa; (2) to select representative countries from both regions based on their geopolitical relevance and the generally perceived intensity of the identified push factors; (3) to collect and categorise quantitative data from reliable sources on variables related to conflict, economic, social, and climatic factors influencing migration; (4) to analyse the correlation between the identified push factors and the flows of international migrants, refugees, and internally displaced persons (IDPs) using a quantitative approach; (5) to compare the results obtained for West and East Africa, highlighting common patterns, differences, and contextual specificities in the configuration of migratory flows; and (6) to discuss the findings in light of existing migration theories, particularly the critique of the push-pull model and the role of trapped populations in highly vulnerable contexts.

The study examines expulsion factors from a multi-causal, macro-level perspective. It explores the interaction between these factors and migration dynamics, highlighting common patterns, key differences, and the influence of geographical and socioeconomic contexts.

Although African migration has been the subject of numerous studies, a significant gap remains in the literature on the comprehensive understanding of the expulsion factors driving migration in West Africa (WAF) and East Africa (EAF). While migration in Africa has been analysed from both qualitative and quantitative perspectives, most studies have focused on national approaches or a single region, without exploring in a comparative way how migration dynamics vary from one region to another. This gap in the literature limits the understanding of how the various structural expulsion factors interact and contribute to migration flows in these regions.

Additionally, previous research has not fully addressed the importance of intra-regional migration networks and their role in the sustainability of migration, especially in the context of globalisation effects and recurring crises. The main contribution of this study lies in filling this knowledge gap through a comparative and quantitative analysis of expulsion factors in WAF and EAF. This study not only examines socioeconomic, political, and climatic factors, but also evaluates how these factors influence both internal and international migration through a correlational approach.

This study selected key countries in the WAF and EAF regions to illustrate the expulsion factors. Countries were selected based on two main criteria: geopolitical relevance and the impact of the expulsion factors.

Geopolitical relevance refers to the influence of a country on migration flows within its region, whether due to its size, strategic location, political stability, or its role as a country of origin or destination for migrants. The impact of the expulsion factors is based on the degree to which severe economic, social, or political conditions drive citizens to migrate.[6]

Furthermore, the selection of these countries was in response to the availability of reliable migration data, which must be noted as a limitation of the study and a cause for further research on other states in these regions.[7]

Based on these criteria, the countries included in the study from West Africa are Nigeria, Mali, Burkina Faso, Ghana, Senegal, Niger, Mauritania, and Guinea-Bissau; those included from East Africa are Somalia, Kenya, Eritrea, Ethiopia, Sudan, and South Sudan.

Regarding WAF, Nigeria, Mali, Mauritania and Burkina Faso were selected due to their direct impact on regional migration movements. Nigeria, for example, is the most populous country in Africa and a key player in migration within the continent, due both to its economy and the internal displacements caused by armed conflict and terrorism. In the case of Mali and Burkina Faso, extremist violence, particularly in the Sahel, has forced thousands of people to flee their homes, generating significant migration flows to neighbouring countries. Mauritania, meanwhile, plays a dual role as both a country of origin and a major transit state for migrants from West Africa moving towards North Africa and Europe, given its strategic location and routes through Nouadhibou and towards Morocco. Niger, Senegal, and Guinea-Bissau were selected because they face high levels of poverty, food insecurity, and political crises. In Niger, for example, desertification and the lack of natural resources due to climate change are forcing rural populations to migrate, either within the country or to other regions in search of better living conditions. Senegal and Guinea-Bissau, on the other hand, suffer from high levels of emigration due to a lack of job opportunities and unemployment, pushing many to seek employment in Europe and other parts of Africa. Ghana was included due to its role as both a country of origin and destination in regional migration dynamics. Although it is considered relatively stable compared to its neighbours, Ghana faces significant youth unemployment and underemployment, which contribute to emigration, particularly towards Europe and other West African countries.

In EAF, countries such as Somalia, Sudan, South Sudan and Ethiopia have geopolitical relevance due to their prominent role in migration flows in this region. Somalia is a central point in forced migration due to internal conflict and the presence of the terrorist group Al-Shabaab, which has led millions of people to seek refuge in other countries.[8] Sudan and South Sudan are key countries in terms of migration. Sudan is currently experiencing a civil war that has generated large-scale internal displacement and refugee flows to neighbouring states. South Sudan, meanwhile, went through a devastating civil war that formally ended in 2020, but continuing episodes of violence and instability still force significant numbers of people to move both internally and across borders.

Regarding expulsion factors, the countries of Eritrea, Kenya, and Ethiopia face social and political conditions that deeply affect their populations. Eritrea has been a country of origin for migrants due to its authoritarian regime, which forces many to flee in search of freedom and better living conditions. Ethiopia, which has experienced internal conflicts such as the Tigray conflict, also has a high rate of forced displacements both internally and internationally.[9] Additionally, the effects of climate change, such as droughts and land degradation, are exacerbating food insecurity in countries like Ethiopia and Somalia, contributing to migration to other regions in search of resources.

In summary, past studies have indicated that WAF countries such as Nigeria, Mali, and Burkina Faso face terrorism, political instability, and environmental degradation, which undermine livelihoods and trigger displacement.[10] In addition, the Economic Community of West African States (ECOWAS) promotes regional integration and allows for free movement, facilitating intra-regional migration and strengthening local mobility networks.

On the other side of the continent, in EAF, studies indicate that the migratory context is shaped by protracted conflicts (such as those in Ethiopia, South Sudan, and Somalia), along with high levels of poverty and institutional weakness.[11] The region also experiences severe climate impacts, including prolonged droughts and land degradation, which exacerbate food insecurity and forced displacement.[12] In this region, the Intergovernmental Authority on Development (IGAD) promotes regional cooperation, although it lacks a formal free movement protocol and relies on informal mechanisms to facilitate mobility.[13]

Analysis in this article will seek to systematically identify the most important push factors in these regions. The article is structured as follows: first, the methodology used to identify push factors and their impact on migration is presented. Second, the theoretical framework through which the key themes from the literature were identified, and the analysis contextualised for the WAF and EAF regions, is presented. Third, the results of the authors' correlation index between the measurement variables of push factors and the figures for international migrants, refugees, and IDPs are presented. Fourth, discussion ensues on these findings, comparing the results obtained in this study with migration theories, previous data, and existing literature.

Methodology: Research design

This study focused on analysing the migratory dynamics of WAF and EAF in a comparative and correlational manner. This implied examining similarities and differences in push factors from political, economic, social, and environmental perspectives, and the use of correlational analysis to measure how these factors influence different migration flows.

The study uses a mixed-method approach (see Figure 1). The method combines a systematic review of the literature, applying the PRISMA method to identify key factors of expulsion, with an analysis of indicators derived from reliable sources such as the Armed Conflict Location & Event Data Project (ACLED),[14] the Intergovernmental Panel on Climate Change (IPCC)[15] and the World Bank.[16] A correlation analysis has been conducted to evaluate the impact of these factors on migrants, refugees, and IDPs.

Phase 1: Bibliographic review (PRISMA)

The theoretical framework of this study was developed using a systematic bibliographic review based on the PRISMA method. This was then applied to identify push factors mentioned in the literature, as well as the variables used to measure these factors. Figure 2 shows the steps followed for the selection and screening of the studies included in the

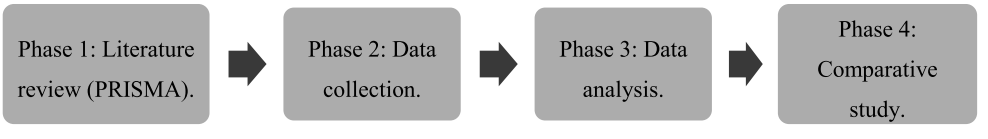

Figure 1. Phases of methodological process.

Source: Adapted from Page et al., 'The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews', BMJ 372 (2021): n71, https://www.bmj.com/content/372/bmj.n71.

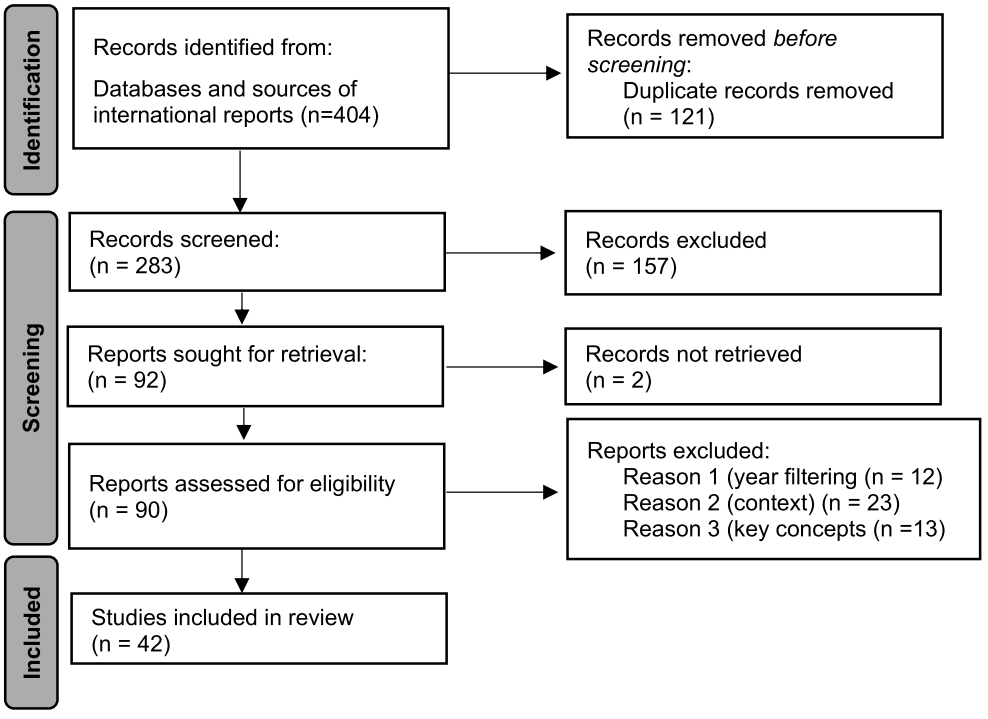

Figure 2. PRISMA flow diagram.

Source: Adapted from Page et al., 'The PRISMA 2020 Statement: An Updated Guideline for Reporting Systematic Reviews', BMJ 372 (2021): https://www.bmj.com/content/372/bmj.n71.
Note: This PRISMA flow diagram is available online at OSF.

review. In the figure, *n* denotes the number of works that have been reviewed and/or included in this work.

The protocol developed for the review includes the necessary methodological procedures, replicating the process established in the PRISMA 2020 Declaration.[17] The complete protocol for this review is online at Open Science Framework (OSF).[18]

The search for studies was conducted in academic databases such as Scopus and Web of Science, as well as in reports from international organisations such as the United Nations High Commissioner for Refugees (UNHCR), the International Organization for Migration (IOM), and the World Bank. Key terms such as 'migration', 'West Africa', 'East Africa', 'push factors', 'conflicts', 'poverty', 'climate change', and 'political instability' were used, along with synonyms and contextual variations, to expand the search. Filters were also applied to limit the results to peer-reviewed studies, government reports, and other academic publications.

For the selection of studies,[19] inclusion criteria were established to ensure the quality and relevance of the works reviewed. Only empirical studies addressing migration and push factors in West Africa and East Africa were included. These studies were supplemented with reports from international organisations such as the UNHCR and IOM, as well as previous relevant studies providing verifiable data on the socioeconomic, political, and climatic factors driving migration. The period of publication for the studies

ranged from 2000 to 2024, covering recent transformations in migratory dynamics and crises affecting the studied regions. Regarding the language of the studies, only those written in English, French, and Spanish were considered, as these are the predominant languages of the available research materials in West Africa and East Africa.

Regarding the coding and operationalisation of variables, a standardised system was used to classify the push factors identified in the selected studies[20] and to identify proxy variables in the data.[21]

Phase 2: Data collection

The second phase of the methodology involved collecting quantitative data on expulsion factors from secondary sources. The push factors were classified into macro, meso, and micro levels. A brief definition of each level is provided below:

- Macro-level factors: political, demographic, socioeconomic and environmental situations that affect large populations and generate mass migration, both internal and international, generally forced.
- Meso-level factors: land availability, social networks, and family ties. Although not the primary focus of this study, it should be mentioned that these also play an important role in the decision to migrate. These connections influence migrants' mobility by providing logistical and emotional support.
- Micro-level factors: educational level, religious affiliation, personal conditions, among other factors, also influence the decision to migrate. While these factors tend to influence more at the individual level, their cumulative effect can lead to widespread migration.

Although these factors are interrelated, this study focuses on macro-level factors, as they are considered the most significant and widespread influences on migration in both regions.[22] Factors like war, political violence, extreme poverty and climate change events have large-scale impacts, driving massive migration crises. These macro-level factors are key for several reasons. First, they have a broad and widespread impact: Macro factors influence extensive populations, often driving large-scale migration. Events such as armed conflicts, economic crises, and climate change events affect entire nations or regions, compelling significant numbers of people to relocate. Second, these influences tend to be persistent and enduring, with factors such as chronic poverty, prolonged conflict, and the ongoing effects of climate change contributing to sustained migration pressures over time. Third, macro-level factors have significant policy relevance. Macro-level analyses offer a comprehensive framework for the development of public policies and government interventions, facilitating more effective and targeted structural responses to migration challenges.

Phase 3: Data analysis

To assess the relationship between structural push factors and different types of displacement (international migration, refugees, and internally displaced persons), a Pearson correlation analysis was conducted.[23] This method was chosen for its ability to measure the

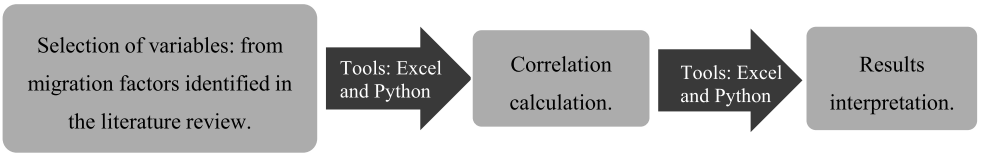

Figure 3. Process of data analysis.
Source: Own work, 2024.

strength and direction of linear relationships between continuous quantitative variables, being especially suitable for comparative studies using country-level aggregated data.

The push factors were treated as independent variables. These ranged from the percentage of the population affected by conflict, or by climate change effects (droughts, floods, land degradation), or by food insecurity; the unemployment rate; the poverty rate; the literacy rate; urbanisation; the prevalence of female genital mutilation and of forced marriage; access to education, access to drinking water and access to basic health services.

The dependent variables were the three main groups experiencing displacement: international migrants, refugees and IDPs.

All data were expressed in relative terms (percentage or rate) to ensure comparability between countries. Only countries with complete data across all variables were included in the analysis.[24]

The results are presented using visual correlation matrices (heatmaps), which display the Pearson correlation coefficients between each push factor and type of migration. No significance testing (such as p-values) was conducted because the aim of the study is exploratory and comparative, focused on identifying relative patterns and associations across regions rather than testing specific statistical hypotheses.[25] (Figure 3).

Phase 4: Comparative study

The final phase of the methodological process consists of a comparative study of WAF and EAF, aiming to identify similarities and differences in the push factors driving migration within these two regions of Africa. This analysis was conducted through a multidimensional approach that integrates qualitative, quantitative, and correlational analysis.

The qualitative analysis was carried out using the PRISMA method, which allows for a systematic review of the literature to identify and organise the main expulsion factors in both regions, providing a broad contextual foundation for the study. On the other hand, the quantitative analysis collected data from reliable sources such as ACLED, the World Bank, and the IPCC, to assess how factors such as armed conflicts, climate change, and poverty affect migration flows in both regions. Finally, the correlational analysis helped to identify which expulsion factors have more weight in migratory flows in both regions.

Theoretical framework

The migration theories on which this research is based are explained in this section, after which the most frequently mentioned push factors in the literature are outlined, along

with the variables that make up each push factor. This section also summarises the key ideas from the literature to contextualise the migration situation in the study regions based on these push factors.

As mentioned earlier, migration is a complex phenomenon that cannot be understood from a single perspective. Migration has often been studied as a response to disruptive events, and in the case of the study regions, such events carry significant weight. However, they are not the only causes and interact in complex ways with other factors. In this context, one of the most widely used theoretical approaches in migration studies is the classical push-pull model. This model suggests that migration occurs because of a combination of factors that push people out of their places of origin and factors that attract them to certain destinations. Its simplicity and ability to categorise the determinants of migration have made it a useful tool for conducting preliminary analyses.[26]

In this study, the model is considered relevant because, in both WAF and EAF, structural push factors play a key role in driving displacement. Based on this framework, the analysis focuses on push factors from a macro-level perspective. Nevertheless, the limitations of the model are acknowledged, particularly its simplification of migration as a linear response to adverse conditions, without considering intermediate contexts, personal decision-making margins, or actual restrictions on mobility.[27]

For this reason, the study also considers other complementary theoretical approaches. First, it is worth highlighting the capabilities and aspirations model proposed by Hein De Haas,[28] which suggests that migration is not only a response to adverse structural factors but also the result of the interaction between individuals' aspirations to improve their living conditions and their actual capacity to migrate. This capacity is shaped by factors such as income level, education, access to social networks, age or gender, introducing a component of differentiated and selective mobility.

This approach is especially relevant in high-vulnerability contexts (such as many within WAF and EAF), where a large part of the population faces multiple crises (armed conflict, extreme poverty, food insecurity, environmental degradation) but lacks the minimum resources needed to migrate. In these cases, the term 'trapped populations' refers to people who, despite being exposed to intense push factors, are unable to leave their environment due to a lack of material or social means.[29] This theoretical model helps explain why the most affected groups are not necessarily those who migrate the most, and how, in many cases, migration is part of family or community strategies to spread risk, rather than purely individual decisions.

Another relevant theoretical framework for understanding migration dynamics in WAF and EAF is the structural violence approach. This study addresses conventional forms of violence (such as conflict, war, and persecution) as push factors, but also includes those forms of violence that operate silently and persistently through social, economic, and institutional structures.[30] This type of violence is reflected in exclusion from access to basic services (such as drinking water, healthcare, and education), in the marginalisation of specific social groups, and in the reproduction of systemic inequalities that worsen living conditions. From this perspective, migration can be understood not only as a response to direct threats but also as a strategy to escape daily forms of oppression and structural deprivation.[31]

Within this framework, it is also useful to incorporate an intersectional approach, which allows for the analysis of how different axes of inequality (such as gender, age, class, or ethnicity) intersect and affect people in different ways. In this specific context, the analysis of practices such as female genital mutilation or forced marriage, documented in several of the countries studied, reveals forms of gender-specific violence that influence both the decision to migrate and the risks associated with migration. Likewise, unequal access to resources and opportunities within communities results in different migration paths for men and women, for youth and adults, or for majority and minority ethnic groups. Combining the structural violence and intersectionality approaches therefore helps to capture the complexity of origin contexts and to understand how certain individuals or groups are forced to migrate by more than the visible and measurable reasons (such as armed conflict or unemployment).

Overall, the analysis of push factors in this study starts from the classical push-pull model but is enriched by contemporary approaches that incorporate structural, contextual, and personal elements, such as unequal capacities to migrate, less visible forms of violence, and specific conditions related to gender, age, or social belonging. This conceptual foundation allows for the analysis of migration dynamics in WAF and EAF from a macro perspective, without overlooking the multiple dimensions that influence displacement processes. Based on this framework, the next section organises the main push factors identified in the specialised literature, structured around four main themes: armed conflict, climate change, economic factors, and social factors.

Organisation of main items identified in the literature

From the selected studies, four primary themes were identified as influential migration factors. (Detailed information on the list of included articles and the basic data obtained from each study can be found online at OSF.[32]) These migration factor themes are as follows:

(1) Armed conflicts: Studies highlight violence and political instability as primary drivers of forced displacement in both regions.
   (a) EAF: Conflict in Somalia, Sudan, and South Sudan drives large-scale internal and cross-border migrations.[33]
   (b) WAF: Internal conflicts in Nigeria and Mali create widespread displacement, fuelled by extremist groups and resource competition.[34]
(2) Climate change: Studies examine how droughts, desertification, and land degradation drive migration.
   (a) EAF: Droughts reduce livelihoods, pushing farming and pastoral communities to urban or cross-border areas.[35]
   (b) WAF: Climate effects deepen rural poverty, diminishing agricultural livelihood opportunities.[36]
(3) Economic factors: Economic motivations are consistent across both regions, driven by lack of employment and poverty in rural areas.
   (a) EAF: Migration to Gulf countries for employment in unskilled sectors is prominent.[37]

(b) WAF: Labour migration seeks quality of life improvements, with destinations within the region or Europe.[38]

(4) Social factors: Social barriers like gender inequality and restricted access to services also influence migration decisions.
   (a) EAF: Limited access to basic services and education drives rural-to-urban migration.[39]
   (b) WAF: Gender norms and family roles limit women's migration options.[40]

Contextualisation of key push factors in West and East Africa

Push factors in West Africa

Migration in WAF is a phenomenon influenced by a combination of economic, social, political and environmental factors, as well as personal and social networks.[41] More than 84% of migratory movements in WAF occur within the region.[42] These migrations range from those recognised as economic or labour migration to forced migration, which is more related to conflict or violence.[43] In these dynamics, social and family networks play a key role, facilitating mobility and supporting migrants' adaptation to new environments.[44]

The factors influencing migration in WAF are diverse and often intersect with various elements in migration decisions. According to the analysed literature, these factors include economic reasons, lack of livelihoods, search for better opportunities and political factors.[45] In addition to the factors mentioned, climate change is becoming an increasingly prominent element in migration studies. Climate change poses a significant challenge to livelihoods (agriculture, livestock, and fishing) as well as food security.[46] According to Romy Chevallier,[47] agriculture in Africa is highly dependent on natural resources and vulnerable to changes in climate, which affect food production, reduce rural incomes, and aggravate food insecurity. These dynamics not only provoke internal displacement but also generate cross-border migration in search of better living conditions. To address these challenges, strategies such as climate-smart agriculture have been promoted. However, the lack of policy coherence and the fragmentation in the implementation of such strategies limit their effectiveness.

Some works within the literature argue that the effects of climate change could limit migration. The loss of livelihoods, reduced incomes, and fewer economic opportunities can create trapped populations.[48] In recent years, interest in these groups has grown, including those facing involuntary immobility (due to lack of resources) as well as those who choose to stay voluntarily (deciding to remain).[49] Climate-induced migration, driven by floods and droughts, includes `short-term emergency migrants` who return after recovery as well as `permanent environmental migrants` who cannot return due to long-term impacts.[50]

Push factors in East Africa

Regarding EAF, armed conflict and political instability in countries such as Somalia, South Sudan, and Eritrea are reported as the main drivers of migration, as violence and persecution force people to seek safety, which leads to significant refugee movements.[51] Additionally, internal displacements are common in the region, especially from rural communities to urban areas in search of alternative livelihoods.[52]

Although conflicts and violence are considered the main drivers in the region according to the literature, poverty, food insecurity, lack of access to services and the effects of climate change are also highlighted. The lack of livelihoods creates situations of food insecurity, which have triggered recurrent humanitarian crises over the past decades, affecting millions of people in several countries in the region.[53]

In migration studies, climatic factors are closely linked to social, political, economic and demographic factors. While poverty, violence, conflict, and food insecurity are the main drivers of migration, climate change is seen to exacerbate these problems. Migration often serves as an adaptation strategy, adopted on a seasonal or permanent basis when resources allow. Another common strategy is to send a household member to urban areas to work and send remittances to support immobile families.[54]

In conclusion, key drivers of migration in West and East Africa include armed conflict, resource competition, and climate pressures like desertification and droughts, which impact rural livelihoods and food security. Poverty and economic instability reportedly drive migration, with social factors often secondary to economic influences.

What the correlations reveal about migration push factors in WAF and EAF

This section deals with the correlation between the variables used to measure the push factors and the figures on migrants, refugees, and internally displaced people.[55]

To review, the measurement variables identified in the literature were the following:

(1) Conflicts: percentage of the population affected by conflicts and percentage of the population affected by terrorist acts. Data were obtained from ACLED for 2020 and 2021 (the same period used for the other variables).
(2) Climate Change: percentage of the population affected by floods, drought, or land degradation. Data were obtained from the IPCC.
(3) Economic Factors: unemployment rate, youth unemployment rate, and poverty rate. Data were obtained from the World Bank.
(4) Social Factors: percentage of the population affected by food insecurity, women affected by female genital mutilation and forced marriages, population with access to education, access to clean water, access to basic health services, and percentage of the population urbanised. Data were obtained from the World Bank.

Once the data for each of the countries included in the analysis were collected, a Pearson correlation index was developed. This analysis yields a value from −1 to 1, where 1 equals a perfect positive correlation (as expulsion factors increase, migration also increases), −1 equals a perfect negative correlation (as expulsion factors increase, migration decreases), and 0 equals no correlation between variables. The results of this correlation exercise are reported for WAF and EAF, in turn, below.

The correlation index in West Africa

The correlation index in WAF (see Figure 4) shows that conflicts have a positive correlation with the number of international migrants (0.33), refugees (0.45) and IDPs (0.35). This

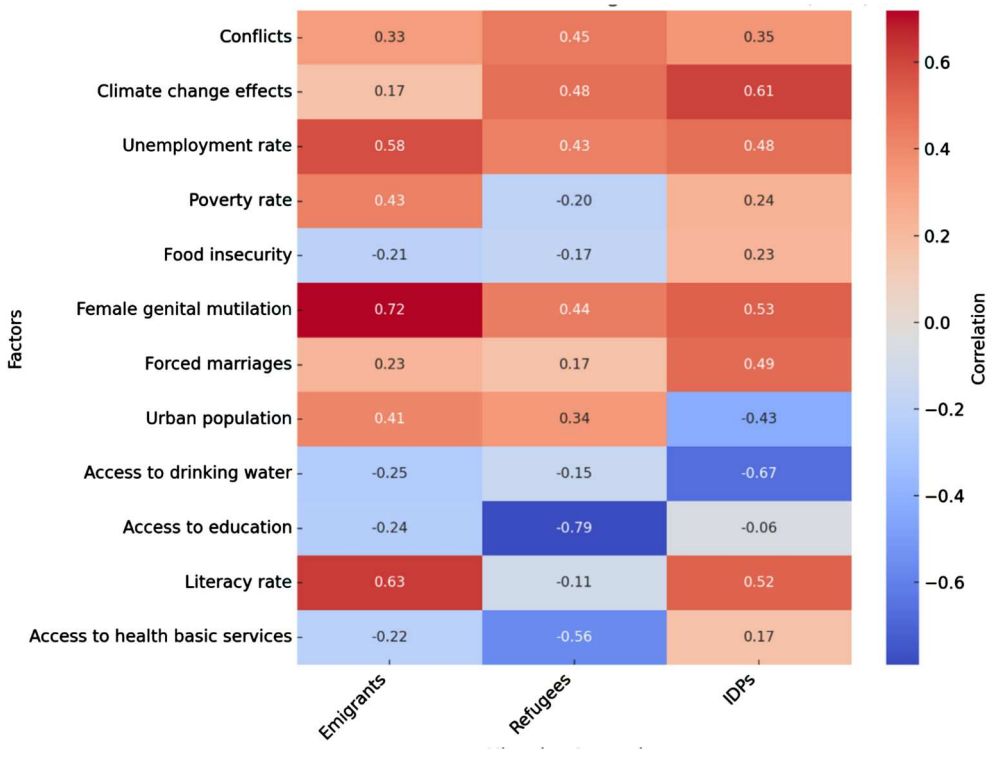

Figure 4. Correlation indices for migrants, refugees and IDPs with respect to the measurement variables identified in the literature on West Africa.

Source: Own work (2024), based on data from ACLED 'Armed Conflict Location & Event Data (ACLED) Codebook', https://acleddata.com/, IPCC, World Bank, and .International Organization for Migration (IOM), Global Migration Data Analysis Centre (GMDAC), Migration Data Portal, https://www.migrationdataportal.org/.

indicates that the presence of conflict drives mobility among all these groups, but especially in terms of refugees. The higher correlation in the case of refugees suggests that conflict tends to force people across borders in search of safety, with internal displacement also being a significant response. These results reflect the fragility of security systems and limited conflict resolution mechanisms in the region, despite the institutional framework provided by ECOWAS. Although ECOWAS promotes free movement of persons, its impact is often limited in areas with active conflict and weak state presence.[56]

The effects of climate change have a positive correlation with the number of refugees (0.48) and internally displaced persons (0.61), but a lower correlation with migrants (0.17), indicating that they mainly drive internal displacement. These results suggest that limited institutional preparedness to address environmental degradation and provide adequate climate adaptation support may intensify migration pressures, particularly in regions already suffering from socioeconomic precarity. Furthermore, the positive correlation with refugees is notable: while climate-related displacement is not formally recognised under the 1951 Convention Relating to the Status of Refugees, which excludes such drivers, the data indicate that climate effects nevertheless intersect with existing categories of forced displacement.

Unemployment has a positive correlation with the number of international migrants (0.58) and IDPs (0.48), as job shortages drive economic instability and both types of migration. Continuing with economic factors, the poverty rate also has a positive correlation with the volume of international migrants (0.43) and, to a lesser extent, with IDPs (0.24). In the specific case of poverty, even though the data show this positive correlation, it is necessary to consider the case of trapped populations, which will be later addressed in the discussion. These patterns suggest that ECOWAS protocols may facilitate mobility among those with some economic means, while the poorest remain immobile, reinforcing social inequalities.

Food insecurity is linked to economic and social factors, related to financial constraints that restrict access to food and its production, exacerbating at the same time social vulnerabilities and inequalities. In the WAF region, food insecurity is negatively correlated with international migration (−0.21) but there is a slight positive correlation between food insecurity and the number of IDPs (0.23), evidence that it at least partly drives rural-urban relocation. The inverse relationship with international migration reflects how extreme food scarcity can limit people's ability to move across borders due to a lack of financial and logistical resources.

Turning to consider the more social factors, in the case of gender inequality, data were collected on female genital mutilation (FGM) and forced marriages. FGM shows a high correlation with the number of migrants (0.72), refugees (0.44) and internally displaced people (0.53). In the countries of the region (such as Mali, Burkina Faso and Mauritania), more than 70% of women aged between 15 and 49 are victims of this practice.[57] This correlation suggests that gender-based violence plays a significant role in forced migration, pushing affected populations to seek safety elsewhere. As for forced marriages, the correlations are positive but moderate: 0.23 in the case of migrants, 0.17 in the case of refugees and 0.49 in the case of IDPs. These results align with feminist and intersectional perspectives on migration, which argue that gender-based violence not only acts as a driver of migration but also restricts women's mobility options.[58] Migration, in these cases, becomes both an act of resistance and a strategy for survival, shaped by structural and cultural constraints. Furthermore, the absence of adequate protection mechanisms addressing gender-based vulnerabilities can force many women to depend on informal or unsafe channels when seeking to escape violence, which in turn increases their exposure to risks during transit. In Niger, Burkina Faso and Mali, more than 50% of women are subject to forced marriages,[59] which could be linked to the notable rise in female migration in WAF, as many seek to escape these conditions. The data indicate that forced marriages may contribute to both internal displacement and international migration, particularly among young women escaping coercive social structures.

With regard to other social factors, such as urbanisation and others linked to access to services (drinking water, education, health services, literacy), correlations are negative in some cases. For instance, access to drinking water has a negative correlation (−0.67) with the number of IDPs; access to education has a negative correlation (−0.24) with regard to migrants, as does access to basic health services (−0.22). This means that greater access to basic services reduces international migration and internal displacement, providing stability to communities. The literacy rate, however, shows positive correlations with the number of migrants (0.63) and internally displaced people (0.52). This suggests that

education may serve as both a driver and an enabler of migration, as individuals with higher literacy levels seek better opportunities abroad.

Finally, the percentage of populations that are urbanised shows positive correlations with the number of international migrants (0.41) and a negative correlation with internal displacement (−0.43). This indicates that urban environments may act as stepping stones for international migration, which may be due to higher connectivity, access to networks, and employment opportunities.

The correlation index in East Africa

In EAF (see Figure 5), conflicts show a very high correlation with the number of refugees (0.96) and internally displaced people (0.95), and a somewhat more moderate relationship with the number of international migrants (0.43). This suggests that conflicts, which affect large segments of the population, generate significant forced displacement, both internal and cross-border. In Somalia, for example, around 24% of the population is affected by conflicts,[60] and it also has one of the highest displacement rates among the states in the region. These conflicts have often resulted in protracted refugee situations, with people remaining displaced for extended periods due to ongoing instability.[61]

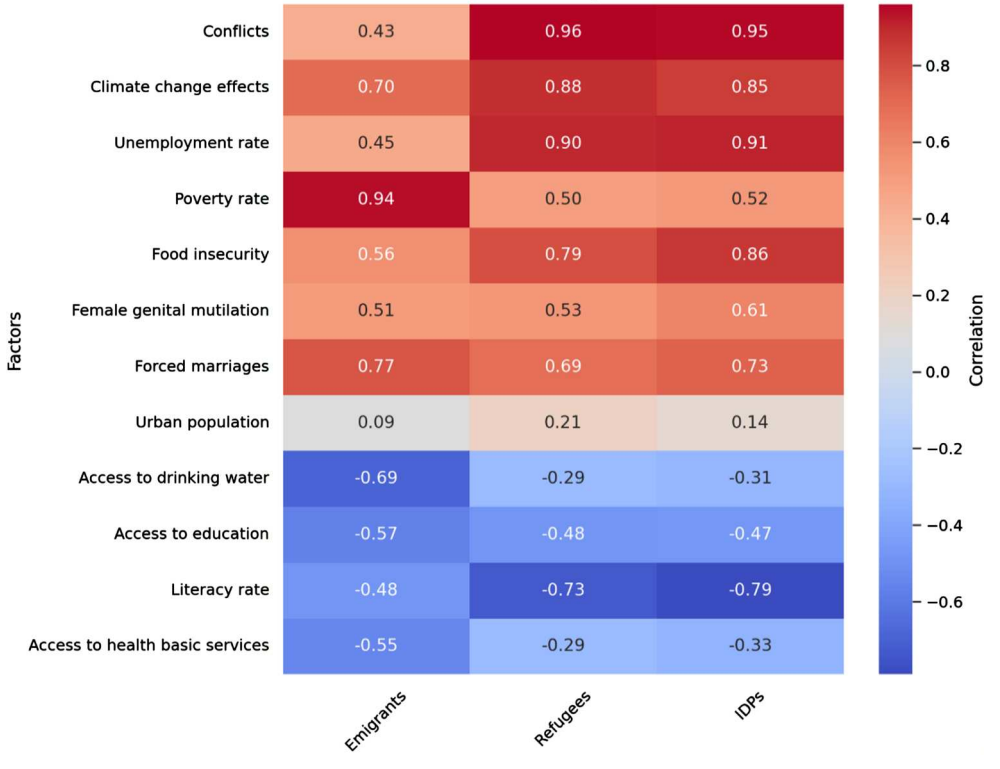

Figure 5. Correlation Indexes for migrants, refugees and IDPs with respect to the measurement variables identified in the literature on East Africa.

Source: Own work (2024), based on data from ACLED 'Armed Conflict Location & Event Data (ACLED) Codebook', https://acleddata.com/, IPCC, World Bank, and International Organization for Migration (IOM), Global Migration Data Analysis Centre (GMDAC), Migration Data Portal, https://www.migrationdataportal.org/.

The effects of climate change in EAF also have a high correlation with internal displacement (0.85) and a significant positive correlation with the number of migrants (0.70). In this region, the institutional weakness of IGAD countries, and limited regional cooperation to address climate displacement, reduce the ability of communities to adapt, thus translating environmental stress into forced migration.[62]

Economic factors show that the unemployment rate has a moderate correlation with the number of migrants (0.45) and a strong correlation with internal displacement (0.91). Lack of economic opportunities and loss of livelihoods induce migration, mainly within national borders, since people move within the territory in search of employment opportunities. The poverty rate has a very high positive correlation with the number of migrants (0.94) and a high correlation with IDPs (0.52). These values suggest that while economic hardship is a key driver, the absence of functioning social safety nets exacerbates forced displacement. Without mechanisms for economic stabilisation or labour migration agreements, people resort to irregular or unsafe migration paths.[63] In countries such as Ethiopia or Eritrea, where poverty rates exceed 50%,[64] the case of food insecurity has a positive correlation with the number of migrants (0.56) and an even greater correlation with IDPs (0.86). These dynamics reinforce the idea of migration as a coping strategy in the face of crisis, but must also raise concerns about involuntary immobility among the most vulnerable groups.

Among social factors, FGM and forced marriages have positive correlations, both with the number of migrants and with internal displacement. The prevalence of FGM reaches 98% of women in Somalia and 87% of the female population in Sudan. These high prevalence rates indicate that gender-based violence remains deeply embedded in social structures, often leaving migration as one of the few options for affected women. This, along with forced marriages (which occur in South Sudan for over half of the women, and in Somalia, Eritrea and Ethiopia for over 40%), contribute to the displacement of women seeking to escape gender-based violence and its effects.[65]

Limited access to basic services further fuels displacement. In countries like Ethiopia and Eritrea, where up to 50% of the population lacks access to safe drinking water, people are more likely to move internally. Educational and healthcare deficits in states with authoritarian regimes (eg, Eritrea) disproportionately affect young women and children, contributing to long-term structural vulnerability.

Comparative study of WAF and EAF push factors

Looking at the four themes affecting migration in these two regions, how do they compare with regard to conflict, climate change, economic factors and food insecurity? The comparison will also consider social factors (basic services), gender inequality and regional institutional responses, and present a summary of migration patterns in WAF and EAF (see Table 1).

In both regions, conflict is a key driver of migration, although its nature and impact are different. One common point in both regions is the presence of terrorist groups. The presence of Al-Shabaab in EAF (especially in Somalia) worsens the situation of conflict and insecurity, and in WAF, Boko Haram's presence (especially in Nigeria) poses a significant threat to the population.

Table 1. Comparative summary of WAF and EAF push factors.

Themes	West Africa	East Africa	Similarities
Conflict Dynamics	Ethnic tensions, resource competition, Boko Haram, conflicts in Mali/Nigeria	Protracted civil wars, political instability (Somalia, Sudan, South Sudan, Ethiopia)	Displacement from conflicts; terrorist groups (Boko Haram, Al Shabaab) heighten insecurity
Climate Change	Droughts, floods, desertification affecting agriculture/livestock	Severe droughts, major floods hitting rural livelihoods	Climate change drives mainly internal and rural-urban migration; often temporary
Economic Factors	High unemployment, poverty, labour migration within region	Extreme poverty, esp. rural/ conflict zones; trapped populations	Poverty/unemployment drive migration; extreme poverty more acute in EAF
Food Insecurity	Moderate impact on migration; frequently drives internal or seasonal migration.	High levels of food insecurity generate forced displacement, especially in countries like Somalia, Sudan, or South Sudan.	Key factor in forced displacement; stronger in EAF
Social Factors (Basic Services)	The lack of access to basic services is a key element in migration. The search for better living conditions and access to services is also critical.	Severe service gaps, but overshadowed by conflict/ poverty	Access to services influences migration; impact less than conflict/poverty
Gender Inequality	FGM, forced marriage limit women's options; drive migration	FGM and forced marriages, with gender-based violence in conflict contexts, force many women to move.	In both regions, practices like FGM and forced marriages limit women's opportunities and drive them to migrate in search of safety and autonomy.
Institutional Response	ECOWAS: free movement protocols, weak implementation	IGAD: informal mobility, no formal protocol	Regional frameworks exist, differ in scope/effectiveness
Migration Patterns	Predominantly intra-regional; economic/labour; some to Europe	Mostly involuntary; refugees and IDPs high	Intra-regional first step; international possible if conditions improve

Source: Own work (2024), based on literature review and data synthesis from ACLED, IPCC, World Bank, and IDMC.

The differences arise in the impact on migration. In EAF, protracted armed conflicts and civil wars in Somalia, South Sudan and Sudan are causing large-scale displacement, triggering humanitarian crises. In WAF, despite the presence of conflicts over resources and ethnic tensions such as in Mali and Nigeria, migration is more greatly influenced by economic and social factors; according to the data, conflicts have less severe and constant effects.

Climate change profoundly affects both regions, with its impact in terms of internal migration being particularly notable. In both regions, the adverse effects of climate change impact major livelihoods, causing temporary internal displacement, especially during fast-onset events like storms or torrential rains. In contrast, slow-onset events such as droughts or land degradation have often led to permanent more planned and organised internal displacements. This results in an increase in urbanisation. In these cases, a lack of infrastructure in cities may generate new challenges, creating tensions for access to basic resources and services.

In WAF, the findings suggest that economic factors are the main driver of migration. High unemployment, poverty and limited job opportunities in rural areas lead many people to migrate in search of better living conditions, either within the region or to other countries. However, extreme poverty can also lead to trapped populations. This

phenomenon of involuntary immobility is a serious problem in areas where poverty is high and contributes to the continued pressure on local resources and the perpetuation of inequality.

Food insecurity drives migration in both regions, being most severe in EAF, where countries such as Somalia and South Sudan face alarming rates, causing internal displacement and displacement to neighbouring countries. In WAF, its impact is less, with seasonal or internal migrations in search of work predominating.

Social factors, such as gender inequality and limited access to basic services, exacerbate vulnerabilities, especially for women, who face restrictive practices and turn to migration as a means of survival and empowerment. Migration is also encouraged by limited access to health and education, particularly in rural areas.

Survival migration is common in both regions due to conflict, climate change, and poverty. In EAF, this is particularly prevalent because of protracted conflicts and the lack of basic resources. In WAF, economic migrations are often considered voluntary, but they are conditioned by extreme poverty and lack of opportunity for livelihoods, functioning more as resilience strategies in the face of structural precarity. This highlights the need to combat the inequalities that force migration.

Push factors shaping migration dynamics in West and East Africa

This section analyses the main findings of the research by examining how key push factors (armed conflict, environmental degradation, economic instability, food insecurity, gender inequality, and institutional weakness) shape migration dynamics in West and East Africa. A thematic structure is adopted to identify comparative patterns and regional specificities.

Regarding conflict, it remains a key factor in both regions, although it manifests differently. In WAF, in line with Joseph Teye's thesis in *Migration in West Africa: An Introduction*,[66] the results show that migration is mainly driven by factors such as climate variability, socio-economic challenges, and violence by terrorist groups. According to Teye,[67] the Western Sahel, particularly in the triple border between Burkina Faso, Niger and Mali and in the Lake Chad basin, is one of the regions most affected by jihadist terrorism. The data presented by Teye indicate that Nigeria, Mali and Burkina Faso lead in terrorist incidents in 2020 and 2021, which has led to massive population displacements due to severe insecurity situations.

In EAF, by contrast, conflict is more systemic and protracted. Somalia and South Sudan are identified as epicentres of recurrent humanitarian crises, with millions of people forcibly displaced due to political violence, severe food insecurity, and poverty. Internal Displacement Monitoring Centre (IDMC) data indicate that between 2020 and 2023, internal displacement due to conflict amounted to 20 million, concentrated in Sudan, Ethiopia and Somalia.

Environmental factors play a decisive role in both regions, not as isolated causes, but as elements that intensify pre-existing vulnerabilities. In WAF, climate variability and events (particularly desertification, droughts, and severe floods) drive mass displacements of farming communities that are unable to sustain their livelihoods.[68] Extreme weather events in Nigeria and Niger have affected between 10% and 35% of the population, according to IPCC data,[69] resulting in high vulnerability and need to migrate. It must

be noted however that climate change can both increase forced migration and limit it, acting as a multiplier of pre-existing vulnerabilities.[70]

In EAF, environmental crises are even more severe. In Somalia and South Sudan, phenomena such as droughts and floods have affected more than 60% of the population. This generates local conflicts in the struggle for natural resources and reinforces the relationship between poverty, exclusion and violence, which is central to the theories of Padraig O'Malley[71] and Abdel Ghaffar M. Assal.[72]

Another aspect of conflict is competition for natural resources, which is particularly acute in contexts of institutional inequality and environmental scarcity. Abiodun Babatunde and Huda M. Ibnouf point out that, in areas such as Nigeria and Sudan, competition between farmers and pastoralists intensifies due to the unequal distribution of these resources, a situation that is deepened by policies that favour certain groups over others.[73] This context, influenced by climate change and population growth, creates an environment of high vulnerability that makes migration a survival strategy for many communities. In these cases, displacement is not only motivated by economic or security needs, but also by seeking equitable access to essential resources.

Regarding economic vulnerability and labour migration, it is important to note that poverty and unemployment are present in both regions. In WAF, Joseph Yaro argues that the region has historically been a space for economic migration to urban and economic centres, especially in Ghana.[74]

In East Africa, poverty is even more severe and is exacerbated by weak institutions. The inability to sustain livelihoods in rural or post-conflict areas increases displacement, especially in contexts lacking state support. In many cases, poverty does not drive mobility but rather restricts it, which supports the theory of trapped populations.

Food insecurity emerges as both a direct and indirect push factor. The data obtained in this study reveals a positive correlation between food insecurity and migration, supported by the World Food Program report (2017),[75] which highlights that displacement intensifies in contexts of armed conflict and food shortages. Food crises, combined with poverty, act as a 'push factor', increasing the likelihood of conflict and forced international migration.[76] However, other researchers argue that food insecurity limits the ability to migrate, since, in severe crises, migrants often allocate their resources to cover immediate needs, reducing their possibility of moving regionally and internationally.[77] This finding is consistent with theories of 'trapped populations' and financial constraints on migration.[78] This paradox, in which food insecurity can be seen as both a driver and a constraint on mobility, highlights the understanding of migration as a constrained choice, shaped by access to resources, networks, and infrastructure. Beyond economic indicators, access to basic services such as healthcare, education, and water constitutes a key dimension of social exclusion. In both regions, the lack of access to public goods contributes to precarity and indirectly motivates migration. Rural populations, in particular, migrate not only in search of income but also to gain access to essential services.

Data suggest that better provision of basic services is associated with lower rates of displacement, reinforcing the importance of long-term social investment as a preventive migration strategy. The findings confirm that forms of gender-based violence such as female genital mutilation and forced marriage are significant structural push factors. In both WAF and EAF, the high prevalence of these practices is linked to higher rates of female migration. However, the study also highlights the limitations of quantitative

indicators when it comes to capturing deeply cultural and context-specific phenomena. From feminist and intersectional perspectives, it is essential to recognise that women's migration experiences are shaped by overlapping inequalities (class, age, ethnicity, legal status). In many cases, migration becomes a survival strategy in response to gender oppression, but it also exposes women to greater risks during transit and upon arrival.

The role of institutions is crucial in both cases. On the one hand, the role of ECOWAS in this regional dynamic is key, yet uneven in impact. While its protocol on free movement facilitates cross-border mobility, the implementation remains fragmented and security challenges in border areas often prevent the effective realisation of these rights. Moreover, ECOWAS does not currently offer coordinated protection mechanisms for people displaced by environmental or gender-based causes, limiting its institutional response in complex migration scenarios.

On the other hand, IGAD plays a more limited role. Unlike ECOWAS, IGAD lacks a formal protocol guaranteeing freedom of movement. Although it has launched initiatives like the IGAD free movement protocol (still under development), its institutional architecture is not yet robust enough to mitigate large-scale forced displacement. The absence of a coordinated migration policy and weak border governance exacerbate the vulnerabilities of displaced populations.

These contradictory effects demonstrate the importance of institutional support. In the absence of state programmes to mitigate food crises or support rural livelihoods, many communities must rely on migration (whether feasible or not) as their main coping strategy.

A relevant aspect in the migration debate is the critique of the `push-pull` model, pointed out by authors such as De Haas, who argue that this model fails to fully capture the complexity of migration decisions.[79] Although this model identifies the push and pull factors, its simplified approach can obviate the multiplicity of elements that influence migration. However, in this study it was considered that the analysis of the expulsion factors remains crucial to understand the dynamics of vulnerability and risk in the study regions. While migrants' aspirations and resources influence their decisions, expulsion factors create the conditions that force many people to migrate, even without sufficient resources to do so. Therefore, this research considered that these factors configure the structural conditions that force people to see migration as a strategy. Factors such as extreme poverty, armed conflicts, political violence and climate change generate high levels of vulnerability, which constitute the fundamental context for understanding the dynamics of mobility in both African regions.

Among the expulsion factors analysed, gender-based violence (including practices such as female genital mutilation and forced marriage) has been addressed through quantitative indicators. While this approach allows for the identification of structural vulnerabilities, it is essential to recognise the limitations of numerical analysis when dealing with highly complex and culturally situated phenomena. Drawing on feminist and intersectional perspectives, this study recognises that gender-based violence affects women and girls differently depending on intersecting factors such as class, ethnicity, age, religion, or legal status.[80] Indicators such as FGM may unintentionally reinforce culturalist or racialised narratives if interpreted without proper contextualisation or engagement with the communities concerned. Therefore, the use of these indicators in this study is

framed within a broader reflection on the need to complement quantitative approaches with qualitative and intersectional analyses. This methodological awareness seeks to avoid the homogenisation of migrant women's experiences and to promote a more nuanced understanding of gendered vulnerabilities within migration dynamics.

Even so, as De Haas also argues, migration is not an automatic response to adversity.[81] In addition to expulsion factors, migration decision-making depends on migrants' aspirations, resources, and social networks. This approach shows that not all people migrate exclusively because of poverty or violence; in many cases, migration involves a planned strategy that requires financial, social, and human capital. Migrants with greater resources and access to support networks, whether local or transnational, may opt for more distant and safer destinations, while those without such resources are limited in their options.

The 'push-pull' model, as noted, does not take into account trapped populations (those who, despite facing severe push conditions, are unable to migrate). While focusing on push factors helps to highlight the severity of certain structural conditions like conflict, extreme poverty, and institutional weakness, it often overlooks communities that remain trapped in crisis areas, unable to move to safer environments and relying on humanitarian aid. This study prioritised the analysis of push factors without exploring the phenomenon of trapped populations in depth. However, this decision does not reduce the importance of these populations or their vulnerability in crisis contexts. On the contrary, it is recognised that those who cannot migrate represent a highly vulnerable group whose situation requires special attention in public policy design. The exclusion within this analysis is due solely to the scope of the study, which aims to understand how push factors shape migration dynamics in West and East Africa. Nevertheless, the findings may indirectly contribute to the development of policies that address both migrants and those who remain in difficult conditions due to mobility barriers. It is suggested that future studies focus on trapped populations to better understand and address the challenges faced by vulnerable communities in these contexts.

Conclusion

The study highlights the complex interaction between push factors with a focus on the macro-level in West and East Africa. By comparing regions, the analysis reveals similarities and differences that underscore how socioeconomic and geopolitical contexts shape migratory flows. This comparative approach, along with the use of a mixed methodology, makes an innovative contribution to the field of study.

The literature review, applying the PRISMA model, has served to identify the most addressed macro-level push factors in migration studies within the selected regions, as well as to understand which variables previous studies have used to measure the impact of these factors. This made it possible to contextualise the study and determine which data was needed to develop the subsequent data analysis.

For the data analysis, a quantification of push factors has been carried out based on the available data about populations affected by conflicts, climate change, social and economic factors. Then, correlation between these data and the displacements observed in the regions under study in terms of emigrants, refugees and IDPs have served to determine the impact of each factor on the migratory movements.

Based on this, it has been observed that conflict is a key driver of migration, as is the impact of climate change. However, while in EAF it is conflict that correlates most highly with mass displacements, in WAF it is economic factors that appear from the correlations to be the main driver of immigration. In both cases, terrorism and food insecurity worsen situations of vulnerability – though this is more pronounced in effect in EAF.

Additionally, a future line of research could expand the analysis by including push factors at the meso and micro levels, following the Foresight framework. This approach would examine how family, community, transnational networks, as well as individual aspirations and resources, influence migration decisions. By combining these perspectives with macro-level analysis, future studies could provide a more comprehensive understanding of the complex migration dynamics in vulnerable contexts.

Although the study focuses on push factors in two regions of Africa, it has provided a foundation for understanding the dynamics of vulnerability and risk that force thousands of people to migrate, whether temporarily or permanently, and thus can contribute to the formulation of public policies. Identifying the most vulnerable areas and understanding the social, economic, political, and climatic complexities allows for the development of preventive interventions and support programmes in the most affected areas.

In conclusion, the analysis of push factors highlights the challenges faced by these populations and allows for an assessment of how socioeconomic and political conditions limit migration options for many people. While the 'push-pull' model has limitations in capturing the multifaceted reality of migration, the study of push factors remains essential. While migrants' aspirations and resources are critical elements in their migration decisions, macro-level push factors create an environment that forces many people to migrate, even when they lack the resources to do so. The findings therefore have direct implications for policy: targeted interventions to address poverty, conflict, and environmental degradation are not only urgent but essential to reduce forced displacement. At the same time, the study underscores the importance of designing migration policies that recognise both structural drivers and the agency of migrants themselves.

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7. During the data collection process, significant challenges were encountered, especially due to the lack of updated data. This problem posed a considerable obstacle, particularly in a dynamic environment where socioeconomic, climatic, and political conditions are constantly changing. The limited availability of reliable and current data affected the ability to accurately measure some push factors in the regions under study, and should be a focus in research generally going forward.
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19. The publication selection process was carried out in two phases: first, a review of titles and abstracts of the identified studies was conducted, and studies that met the inclusion criteria advanced to the second phase, where the full texts were reviewed for final inclusion. The tool Zotero was used to eliminate duplicates, ensuring that only relevant studies were considered. Additionally, if discrepancies arose regarding the inclusion of a study, they were resolved by the intervention of two independent reviewers, and in persistent cases, a third reviewer was consulted to make the final decision.
20. Each study was reviewed, and the key variables were categorised into the following specific categories: conflicts and insecurity, climate change, economic factors, and social factors. Studies that mentioned multiple factors were classified under multiple categories, reflecting the interconnected nature of these factors.
21. The operationalisation of the variables was carried out as follows: conflicts were operationalised using indicators such as the percentage of the population affected by conflicts, both armed and by the presence of terrorist groups. Data on these factors were extracted from ACLED, which provides detailed information on armed conflicts and affected areas. To measure the impact of climate change, data on floods, droughts, and land degradation were used, with data from the IPCC. These indicators reflect how extreme climatic phenomena influence migration patterns, especially in the most vulnerable regions. Economic factors were operationalised through indicators such as the poverty index, unemployment rate, and youth unemployment rate, with data provided by the World Bank. Finally, social factors were measured using indicators such as the percentage of the population affected by food insecurity, the percentage of women affected by female genital mutilation and forced marriages, as well as the

percentage of the population with access to education, clean water, basic health services, and the percentage of the urban population, all obtained from the World Bank.

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24. No imputation techniques were applied for missing values. The data were processed in Microsoft Excel and the statistical analysis was carried out in Python, using the pandas and scipy.stats libraries. Separate correlation matrices were generated for WAF and EAF, allowing for a comparative analysis of the relative weight of each factor across regions.
25. While *p*-values are commonly reported in correlation analyses to test whether coefficients are significantly different from zero, they were not included here because the objective of this study is descriptive and comparative rather than inferential. Given the limited number of countries per region and the use of aggregated data, reporting statistical significance would not meaningfully alter interpretation, which is centred on cross-regional patterns rather than formal hypothesis testing.
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