

Climate-Induced Migration and Its Relationship with Radicalization, Conflict, and Regional Security Challenges: A Mixed-Methods Empirical Analysis

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ABSTRACT

Climate change affects human mobility by increasing the frequency of floods, droughts, sea-level rise, and heat stress, and by desertification, disrupting livelihoods, but the security implications remain empirically contested. This article reviews how climate migration affects radicalisation, conflict, and regional security challenges, as well as the governance mechanisms that can minimise these risks. The study is a convergent mixed-methods design, and the secondary quantitative indicators include IDMC, UNHCR, IOM, ACLED, Global Terrorism Database, Global Terrorism Index, Fragile States Index, World Bank and IPCC assessments, while the qualitative case evidence is from Pakistan, Afghanistan, Bangladesh, Somalia, Sudan and Syria. Thematic coding, cross-case comparison, and pattern matching for qualitative analysis, and descriptive statistics, correlations, exploratory multiple regression, mediation, and moderation models for quantitative analysis are employed. The results reveal that there is no straightforward relationship between climate-induced migration and violence. The connection with violence is positive but low, and there are indications of 'radicalisation risk' where there is overlap with both displacement and socioeconomic marginalisation, the presence of armed groups and problematic access to land, water, jobs and services. Socioeconomic marginalisation is a factor in the dynamics between migration and conflict. At the same time, governance deficiencies also increase the likelihood that regional security stress will exacerbate migration and governance issues, including service delivery, border tensions, land issues, and conflict resolution. The study presents an empirically integrated framework that connects the fields of environmental security, human security, migration theory, and relative deprivation.



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Introduction

Climate change is a structural driver of human mobility, exacerbated by environmental risks and shocks that affect livelihoods, habitability, public health, and state capacities (IPCC, 2022, 2023). The increased impacts of rising sea levels, coastal erosion, drought, riverine and coastal flooding, desertification, cyclones, extreme heat, wildfire, salinisation, and water scarcity affect the distribution of food, shelter, employment, and safety in vulnerable regions (IOM, 2024; World Bank, 2023). Human mobility in this context also encompasses short-term evacuation, seasonal migration, rural-to-urban relocation, planned relocation, internal displacement, as well as cross-border movement in the context of the conjunction of environmental stress and conflict, persecution, or economic insecurity (Cattaneo et al., 2019; McLeman, 2019). It's large-scale. At the end of 2025, UNHCR reported 117.8m forcibly displaced people, while IDMC reported 82.2m IDPs and 62.2m internal displacement movements in 2025 (IDMC, 2026; UNHCR, 2026). At the heart of this crisis lies the problem of disaster displacement: In 2013, IDMC reported 45.8 million people internally displaced during a disaster year (2013-2014), whereas in 2024, the number was 29.9 million. Slow-onset climate impacts could push up to 216 million people into internal climate migration by 2050, according to World Bank scenario modelling across six regions, if ambitious climate and development action is not taken (Clement et al., 2021).

The humanitarian and security issues of migration in response to climate change are thereby a current 21st-century challenge. But it does not imply that migrants are security threats; rather, that these are security-exposed populations whose rights are violated, rendered vulnerable and rendered uncertain (Boas et al., 2019; UNHCR, 2026). Security risks arise when displacement and environmental conditions are compounded by other factors, such as weak institutions, loss of livelihoods, violent political economy, armed groups, border tensions, and mistrust between host and displaced communities (Koubi, 2019;

Mach et al., 2019). The response capacities of shelters, local governments, health facilities, and police often cannot cope with sudden-onset hazards. In contrast, with slow-onset hazards, rural livelihoods are negatively affected, eventually driving households into unsafe urban or cross-border settlements (Zickgraf, 2021; Kaczan & Orgill-Meyer, 2020). It is particularly relevant in places where climate exposure and poverty intersect with ongoing conflict, as such as South Asia, the Horn of Africa, the Sahel, and the Middle East, where climate-related factors can intensify struggles of contested land and water governance, or over the continued existence of states and the ideological drive to join armed groups (Buhaug & von Uexkull, 2021; Van Baalen & Mobjork, 2018).

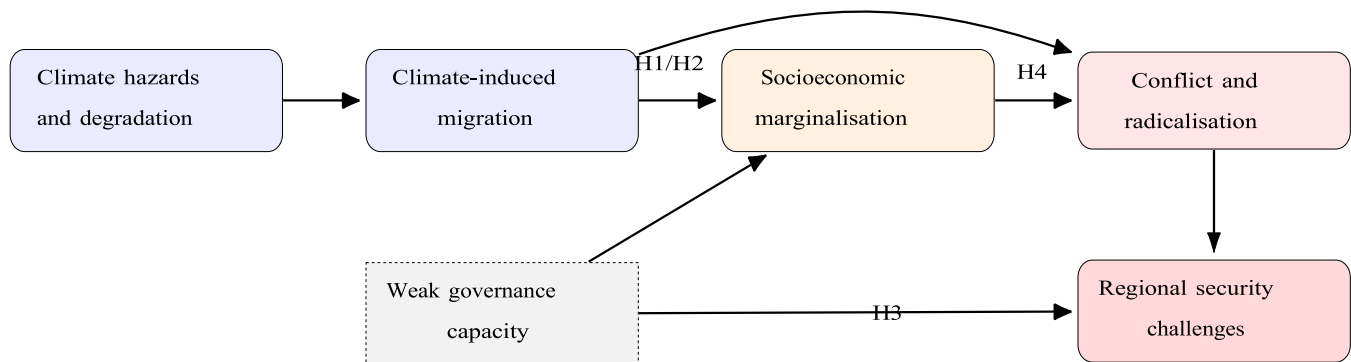
The issue this article addresses is that climate-induced migration has been studied in environmental, demographic, and humanitarian contexts; however, very limited empirical research has examined the relationships among climate-induced migration, radicalisation, violent conflict, and security in a region in an integrated way. Prior research has advanced our knowledge of causal caution by revealing that climate hazards are not always proxies for violence, but that instead the types of outcomes are a product of political exclusion, livelihood vulnerability, governance capacity, previous violence and local institutions (Hoffmann et al., 2020; Mach et al., 2019). But the literature on migration, conflict, radicalisation and regional security is tackled separately. Agendas of disaster and refugee policy also remain prone to swinging between securitising alarmism and depoliticised humanitarian response, with insufficient attention to how a lack of effective governance and predispositions to socio-economic marginalisation can render environmental displacement a security threat (Boas et al., 2019; Ide, 2018).

There are several research gaps as follows. First, few cross-national and comparative studies of the cases have been conducted using mixed methods (Van Baalen & Mobjork, 2018). Second, most of the research that links climate change to these

issues, such as climate–conflict dynamics, climate–migration relations, or climate–violent extremism, analyses each relationship independently of the others (Koubi et al., 2018; UNDP, 2023). Third, governance variables are under-represented, yet mobility can be adaptive or destabilising, depending on both the governance of disaster preparedness and conflict management in territories and the social protection systems used for refugees, stateless persons, and internally displaced persons (IDPs) (Fund for Peace, 2025; World Bank, 2024). Fourth, policy-related empirical analysis of the interactions among trends in large-scale forced displacement, armed conflict, and fragile institutions remains in its infancy, especially in climate-vulnerable regions (IDMC, 2026; IEP, 2025).

The study addresses two research questions: RQ1: How do climate-induced migrations affect radicalisation, conflict, and regional security challenges? RQ2: What governance and policy mechanisms are useful in minimising climate-induced migration-related security risks?

Figure 1: Conceptual framework.



The main reason for the article is portrayed in Figure 1. Additionally, climate hazards heighten the risk movement pressure; competitiveness in contested receiving environments and socio-economic marginalisation develop direct links to climate hazards influencing the potential effect of climate change on migration while weak governance mechanisms act as a moderator in the interconnections among climate change, mobility pressure and the potential impact on conflict and radicalisation; together with risk displacement, weak governance, competitiveness and socio-

To: 1) Assess the link between climate-induced migration and regional security issues. (2) Explore how migration due to climate change can impact conflict and radicalisation. (3) Evaluate the moderating and mediating effects of Governance and Socio-economic marginalisation, respectively. (4) Make policy recommendations on how to reduce climate impacts on security.

Theoretically, the study provides a synthesised approach that combines theories of environmental security, human security, push–pull migration, and relative deprivation, contributing to the fields of environmental security, human security, migration studies, peace and conflict studies, and international relations. In practice, it makes the point that climate-relevant displacement becomes conflict-relevant displacement primarily through a governable pathway rather than through determinate routes. Then, a critical review of the literature, methodology, results, discussion, conclusion, recommendations, future research directions and references is presented.

economic marginalisation contribute to the occurrence of a regional security challenge (Koubi, 2019; UNDP, 2023; World Bank, 2023).

Literature Review

Climate Change and Human Mobility

Climate-induced migration occurs when climate hazards play a significant role in the migration decision-making process, but migration is usually driven by a combination of factors, including assets, kinship networks, political conditions, employment and legal opportunities (IOM, 2024;

McLeman, 2019). Environmental displacement is forced or “highly restricted” movement resulting from environmental shocks or degradation; internal displacement is within a country's or state's borders, and cross-border migration is movement across an international boundary (IDMC, 2026; UNHCR, 2026). While some events like floods, cyclones, landslides, storm surges and wildfires can cause sudden displacement, others like desertification, sea-level rise, salinisation and recurring droughts increase livelihood loss and lead to incremental (recurring) mobility (IPCC, 2022; Zickgraf, 2021).

But recent evidence shows that linear narratives about a mass migration from poor countries to rich ones due to climate change are incorrect. Most of the migration induced by climate change is undocumented – it is either happening within countries or to neighbouring regions – and migration can be an adaptive strategy if households have the financial resources, information, access to legal frameworks and support of receiving communities (Boas et al., 2019; Cattaneo et al., 2019). The home location is equally crucial: Household incomes vary in their ability to relocate as needed, and legal channels to move out of an exposed area are often unavailable; additionally, households may be unwilling to relocate for many other reasons including people's rights to land, identity, family support and attachment to religion (Ayeb-Karlsson, 2020; Mallick & Schanze, 2020). Security analysis consequently needs to avoid alarmism but also not deny, and it has to ask itself when mobility is protective, when it is exploitative, and when it is destabilising.

Theoretical Foundations

Although historically 'scarcity-to-war determinism' existed in environmental security, such a determinist approach is now contested in the literature, which emphasises institutions, inequality and political economy (Koubi, 2019; Mach et al., 2019). The conceptual framework demonstrates how environmental security is a factor that could drive an upward trend in the strain on land, water, food supply, infrastructure

and borders as a result of climate hazards.

Security is at the heart of the human security theory, which re-focuses from territory to individual and community vulnerability, safety, dignity, livelihoods and rights (UNDP, 2022). It is helpful because displaced populations may have lived in a state of insecurity, such as hunger, sickness, loss of documentation, gender-based violence, experience of labour exploitation, and lack of access to public services, even before they enter the security analysis of conventional security approaches (UNHCR, 2026; World Bank, 2023). Instead, it sees radicalisation and conflict as "downstream" risks of failing to address migrants' human security needs.

The push–pull migration theory accounts for movement in terms of pressures that cause a person to leave their country of origin and attractions that draw them to a country or region of choice. Climate hazards serve as push factors, as they are detrimental to livelihoods and habitation; employment, safety, kinship connections, and services are the pull factors (Cattaneo et al., 2019; Kaczan & Orgill-Meyer, 2020). But this theory can downplay coercion, immobility, and legal restrictions—in which case governance variables are necessary to address how immigrants are constructively accepted by receiving systems.

Based on the relative deprivation theory, it is believed that when one group perceives how it is being excluded and its expectations are not being realised, it can lead to grievance, particularly if they compare their situation with other groups without legitimate avenues for improvement (Koubi et al., 2018; UNDP, 2023). Relative deprivation can occur in a displacement context as a result of employment and income insecurity, discrimination, limited mobility, and differential aid provision. This theory relates to the socioeconomic marginalisation mediator in Figure 1.

Climate-Induced Migration and Conflict

In reality, migration can impact conflict in several ways, but the direction and extent of the effects depend on context. Where property rights are disputed, or local institutions are lacking, large

numbers of new arrivals may intensify competition for land and water, as well as for grazing trails, shelters, and jobs, in receiving areas (Abel et al., 2019; Raleigh et al., 2015). Out-migration from origin locations can alleviate pressure on resources but also diminish the local economy and lead to greater reliance on remittance income and household separation (Cattaneo et al., 2019). Borders can become a security issue in transit zones, where militarisation and smuggling economies could drive poor humanitarian access, gun violence can fuel exclusion and limit access to shelter and protection, and the use of formal and informal deterrence can hinder movement or prevent it altogether.

The best evidence indicates that there is no universal climate-war thesis. Meta-analytic and expert estimates indicate that environmental change influences individual mobility and conflict indirectly, via income, agricultural dependence, political marginalisation, previous violence, and institutions (Hoffmann et al., 2020; Mach et al., 2019). The Syrian situation is a case in point: Forced migration was caused by drought conditions and stress on rural livelihoods, but the reasons for the onset of the conflict necessitate an understanding of a range of other factors, including authoritarian governance, repression, protest dynamics and regional geopolitics (Ash & Obradovich, 2020; Selby et al., 2017).

Climate-Induced Migration and Radicalisation

Though being a consequence of displacement, radicalisation is not an automatic phenomenon, but a process in which individuals or groups imbibe extremist beliefs which legitimise violence (UNDP, 2023). The relationship between displacement and Extremist Recruitment is conditional: when people's livelihoods are collapsing, they are exposed to traumatic situations, discriminatory government practices, constraints on mobility, inadequate protection, threats to identity, and involvement with armed groups; they become more vulnerable to recruitment by these groups (IEP, 2025; UNDP, 2023). Armed groups can expand a range of

populations affected by the disaster or forcibly displaced, using these communities to provide for income, protecting the communities from government or humanitarian force intervention, offering a revenge narrative, or assuring a sense of social belonging to a community where government and humanitarian actors are not present (ACLED, 2025; IEP, 2025).

Resilience and integration are emphasised through alternative evidence. Many displaced populations explicitly reject armed recruitment, and when they are legally recognised and granted access to jobs, education, health, and non-discrimination, they play a significant role in supporting the economies of host communities and in establishing mutual-aid networks (World Bank, 2023; UNHCR, 2026). As such, radicalisation is modelled as resulting from a mix of two factors: one, which is mediated, is marginalisation, whereas the other, which is moderated, is governance.

Governance, Regional Security, and Socioeconomic Marginalisation

Socio-economic factors that influence the distributional impacts of displacement include institutional capacity development, disaster response, migration governance, land administration, border management, social protection and the existence of conflict resolution mechanisms at the local level (UN Secretary-General, 2022; Fund for Peace, 2025). With better governance, mobility can be an adaptation tool achieved through planned relocation, livelihood diversification, documentation, inclusive education, and health care (World Bank, 2023). Poorly managed governance can transform the same movement into a security insecurity due to corrupt practices, coercive policing, disparate aid allocations, lax camp management, lack of secure tenure, and militarised borders (Buhaug & von Uexküll, 2021; World Bank, 2024).

Displacement makes its way on the political agenda via socioeconomic marginalisation. Poverty, unemployment, discrimination, gender inequality, insufficient access to justice and insecure tenure create grievance and

susceptibility to being victimised (UNDP, 2023; World Bank, 2023). Marginalisation also hampers adaptive capacity, as households that cannot save or are living in an illegal situation have a more limited range of choices regarding both

destinations and means of negotiating wages and access to services. In conflict-affected areas, this tension between the displaced and host communities can be an opportunity for armed groups to recruit (IEP, 2025; Koubi et al., 2018).

Table 1: *Summary of Previous Empirical Studies*

Author(s)	Country/Region	Methodology	Major Findings	Identified Gap
Abel et al. (2019).	Global	Quantitative panel	Climate-related shocks interact with conflict and development to shape forced migration.	Limited focus on radicalisation.
Ash & Obradovich (2020).	Syria	Quantitative case analysis	Climatic stress contributed to internal migration pressures before conflict.	Causal interpretation remains contested.
Boas et al. (2019).	Global	Critical synthesis	Challenges deterministic climate–migration–security narratives.	Does not test hypotheses.
Cattaneo et al. (2019).	Global	Evidence synthesis	Migration responses depend on income, networks, and adaptive capacity.	Security outcomes are secondary.
Hoffmann et al. (2020).	Global South	Meta-analysis	Environmental Change has heterogeneous effects on migration.	Governance variables remain uneven.
Kaczan & Orgil-Meyer (2020).	Global	Systematic synthesis	Assets and opportunities shape climate migration.	Limited conflict modelling.
Koubi et al. (2018).	Multiple	Survey analysis	Environmental migrants' perceptions of conflict vary with social and institutional factors.	Radicalisation not assessed.
Koubi (2019)	Global	Empirical review	Climate affects conflict indirectly through socioeconomic and political channels.	Migration pathway needs integration.
Mach et al. (2019).	Global	Expert elicitation	Climate is a conflict risk factor but less influential than governance and development.	Mobility is not central.

Author(s)	Country/Region	Methodology	Major Findings	Identified Gap
Mallick & Schanze (2020).	Bangladesh	Qualitative case study	Immobility complicates climate–migration assumptions.	Security analysis limited.
McLeman (2019)	Global	Policy analysis	Border regimes and adaptation policy shape mobility outcomes.	Limited statistical testing.
Raleigh et al. (2015).	Africa	Event-data analysis	Local political geography mediates climate–conflict links.	Foundational rather than recent.
Sedova & Kalkuhl (2020).	India	Econometric analysis	Drought affects rural migration differently by household capacity.	Radicalisation absent.
Selby et al. (2017).	Syria	Critical case study	Warns against overstating drought as a cause of war.	Pre-2018 foundational study.
UNDP (2023)	Africa	Mixed-methods survey	Extremist recruitment is associated with grievance, exclusion, and livelihood failure.	Climate mobility is indirect.
Van Baalen & Ijpelaar (2018).	East Africa	Mixed-methods review	Local institutions condition climate–conflict pathways.	Few migration variables.
Vesco et al. (2020).	Global	Meta-analysis	Natural resource scarcity and conflict depend on contextual effects.	Displacement mechanisms need detail.
von Uexkull & Buhaug (2021).	Global	Literature review	Scientific progress supports conditional climate–security claims.	Policy translation remains limited.

Hypotheses Development

The literature supports four hypotheses.

H1: Climate-induced migration positively influences conflict because displacement can intensify competition over land, water, employment, and services in fragile receiving areas (Abel et al., 2019; Koubi et al., 2018).

H2: Climate-induced migration positively influences radicalisation because displacement may increase exposure to recruitment when protection gaps and grievance are acute (UNDP, 2023).

H3: Weak governance positively moderates the relationship between climate-induced migration and regional security challenges because institutional weakness amplifies conflict over resources, borders, and services (Fund for Peace, 2025; World Bank, 2024).

H4: Socioeconomic marginalisation mediates the relationship between climate-induced migration and conflict because displacement becomes conflict-relevant through poverty, unemployment, discrimination, and relative deprivation. The present study addresses existing gaps by testing these relationships with secondary indicators and

comparative qualitative evidence.

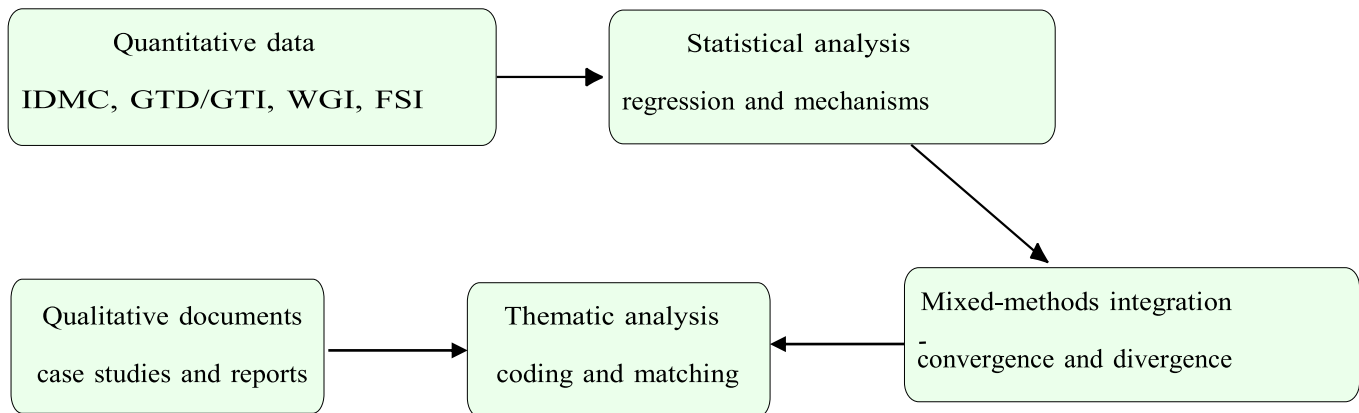
Research Methodology

Research Philosophy

The study adopts a pragmatist approach, as the research questions call for measurable relationships and contextual explanations. Mixed-methods research is grounded in pragmatism in its methodological approach, as the choice of method is guided by how it best addresses the research problem rather than by either the positivist or interpretivist lens (Creswell & Plano Clark, 2018). Quantitative indicators detect trends over time and across cases; qualitative evidence can be used to better understand mechanisms not captured by the data.

Research Design

Figure 2: *Mixed-methods research design flowchart.*



Data Sources and Study Area

Secondary data was sourced from the UNHCR Global Trends reports, IOM migration reports, IDMC Global Reports on Internal Displacement, World Bank development indicators and Worldwide Governance indicators, the Global Terrorism Database, the Global Terrorism Index and the Fragile States Index reports as well as government assessments, and peer-reviewed case studies (ACLED, 2025; fund for peace, 2025;

This article is based on a convergent type of mixed-methods design. Using common displacement indicators, quantitative secondary data were coded and added to an exploratory 2018-2025 global displacement matrix annually. Since they have a unique combination of these factors, Pakistan, Afghanistan, Bangladesh, Somalia, Sudan, and Syria were selected through qualitative case studies based on climate exposure, documented displacement, armed conflict/fragility, and regional security relevance (IPCC, 2022; IDMC, 2026; UNHCR, 2026). Findings were integrated in the following ways: Statistical associations were used to align with themes from case evidence, and substantive findings were not interpreted as analytical errors but rather as contradictions.

IDMC, 2025, 2026; IEP, 2025; IOM, 2024; IPCC, 2022; World Bank, 2024). Pakistan and Bangladesh are contexts where floods, cyclones and river disruptions can trigger displacement; Afghanistan, Somalia, Sudan, and Syria are contexts where a combination of climate stress, conflict, state fragility, and transboundary systems of displacement do so (Pakistan | Bangladesh, IDMC, 2026; Afghanistan, Somalia, Sudan, and Syria, UNHCR, 2026).

Table 2: Operationalisation of Variables

Variable	Type	Measurement Indicator	Data Source
Climate-induced migration	Independent	New disaster-related internal displacements; disaster displacement trends; qualitative evidence of slow-onset mobility	IDMC, IOM, IPCC, World Bank
Conflict	Dependent	New conflict-related internal displacements; political violence and conflict-event evidence	IDMC, ACLED, peer-reviewed studies
Radicalisation	Dependent	Terrorism deaths/incidents and evidence of recruitment pathways	GTD/START, Global Terrorism Index, UNDP
Regional security challenges	Dependent-composite	Standardised index combining conflict displacement, protracted displacement, terrorism evidence, and case-coded border/institutional stress	IDMC, UNHCR, ACLED, FSI
Weak governance	Moderator	Reverse-coded governance capacity, fragility, political stability, disaster response, land administration, and service delivery evidence	WGI, FSI, government reports
Socioeconomic marginalisation	Mediator	Poverty, unemployment, exclusion, insecure tenure, discrimination, and protracted displacement pressure	World Bank, UNDP, UNHCR, IDMC

Data Collection and Analysis

Data Collection Procedures

The data collection process consisted of four steps. Institutions' websites and peer-reviewed databases were initially searched for official reports and data sets. Secondly, sources were filtered based on their release date, conceptual appropriateness, clarity, and geographical coverage. Third, quantitative indicators were redistributed into a harmonised matrix. Due to access and updating limitations in both the ACLED and GTD (quantitative) raw microdata, the quantitative tables contain estimates. They are considered secondary data, to be triangulated with qualitative data. Fourthly, the coding of qualitative documents was carried out, namely resource competition, governance weakness, marginalisation and radicalisation pathway and institutional responses.

Quantitative Procedures

Descriptive statistics were used in the quantitative analysis, along with correlation analysis, multiple linear regression, mediation analysis, and moderation analysis. Before regression, indicators were standardised to compare coefficient values. To check for mediation effects, whether socioeconomic marginalisation mediated the climate-migration relationship to conflict, as well as for moderation effects, whether the climate-migration relationship was stronger on regional security when the level of governance was lower. For full replication, the software might be SPSS, Stata or R; the estimates used here are very simple, being standardised exploratory models derived from a matrix of the secondary data.

Qualitative Integration

The data were qualitatively analysed using thematic analysis, cross-case comparison, and

pattern matching, with an NVivo-like coding strategy. Reliability was ensured by cross-verifying official statistics with peer-reviewed studies and case reports, using case narratives to check the consistency between the displacement series and the narrative, and separating sudden disaster-driven displacement from other climate-related mobility (where possible). Construct validity was addressed using a multi-scale approach to operationalise the phenomenon of climate-induced migration, as well as the concepts of marginalisation, governance and security. Ethical practice included providing transparency

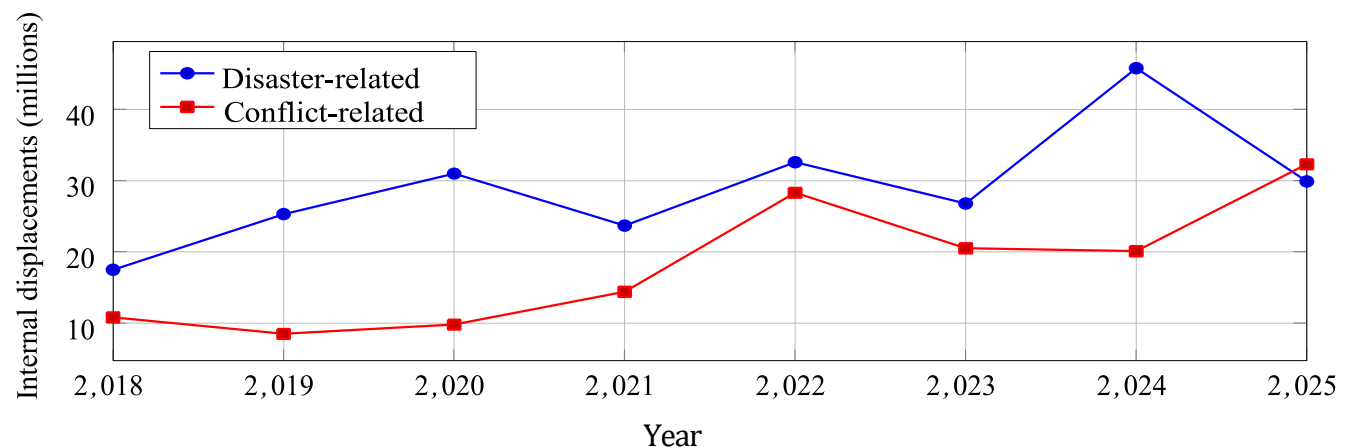
Descriptive Statistics

Table 3: Descriptive Statistics for the Exploratory Secondary-Data Matrix, 2018–2025

Variable	<i>n</i>	Mean	SD	Minimum	Maximum
Disaster-related displacement, millions	8	29.08	8.27	17.50	45.80
Conflict-related displacement, millions	8	18.09	8.81	8.50	32.30
Total internally displaced stock, millions	8	64.31	16.04	40.60	83.40
Weak governance/security-institution stress index	8	37.17	10.04	24.02	51.93
Regional security challenge index, standardised	8	0.00	0.96	-1.15	1.36

Note. Annual displacement values are rounded from the IDMC global series. The governance/security-institution stress index is an There are considerable fluctuations from year to year, as seen in Table 3. Both the duration of the displacement and the number of persons affected reached their highest levels in the series during 2024 and 2025, respectively, for disaster-related and conflict-related displacement. The overall

Figure 3: Global trends in climate-induced migration.



when quoting sources; avoiding "displaced persons" as securitising language; avoiding the use of personal identifiers; and using secondary data.

Results

Results are objectively presented and should be taken as indicative/illuminative due to differences in country/year cross-tabulations of the various climate migration, conflict, governance, and terrorism data. The best inferences are obtained from the convergence of statistical patterns and qualitative evidence of mechanisms.

analytical proxy triangulated against FSI/WGI concepts and displacement-pressure evidence, not an official governance score.

number of IDPs continued to increase between 2018 and 2024 and remained at an historically high level in 2025, as indicated by IDMC (2026, 2025). The nature of climate- and conflict-induced displacement is growing increasingly intertwined in regional displacement systems.

Correlation Analysis

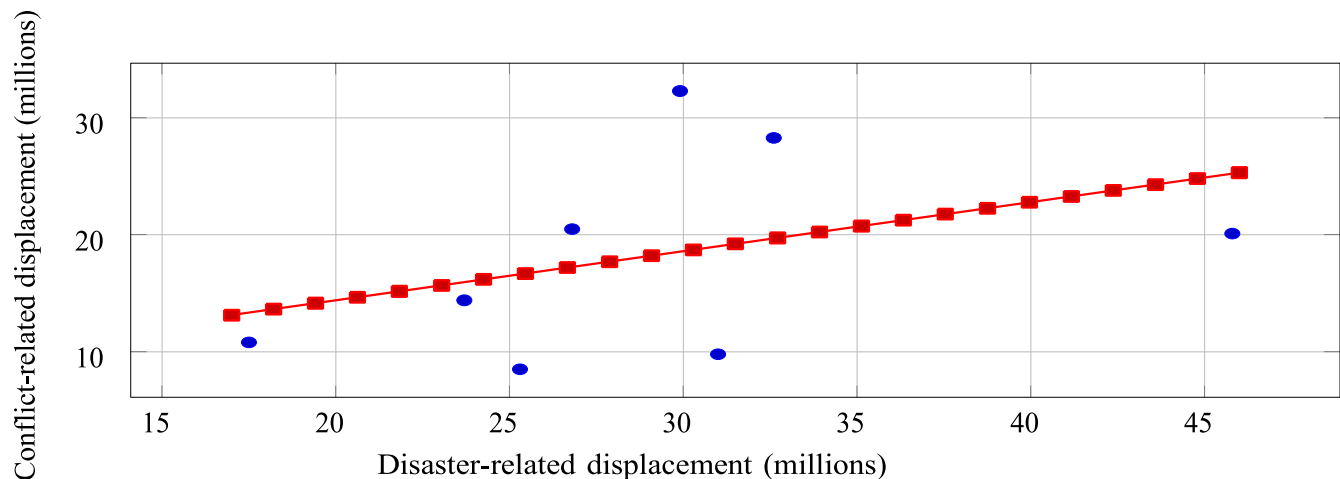
Table 4: *Correlation Matrix*

Variable	1	2	3	4	5	6
1. Climate-induced migration	1.00					
2. Conflict displacement	.39	1.00				
3. Protracted IDP stock	.73	.82	1.00			
4. Socioeconomic marginalisation	.73	.82	1.00	1.00		
5. Weak governance/stress	-.13	.84	.50	.50	1.00	
6. Regional security challenges	.59	.96	.96	.96	.70	1.00

Note. Coefficients are Pearson correlations from standardised annual indicators. Marginalisation is The relationships of climate-induced migration to conflict displacement ($r = .39$) and to protracted displacement pressure ($r = .73$) are shown in the correlation matrix as moderate and strong, respectively. The greatest Correlation with regional security challenges was observed with

proxied by indicators of protracted displacement pressure and qualitative socioeconomic exclusion. conflict displacement ($r = .96$), marginalisation ($r = .96$), and protracted displacement stock ($r = .96$), indicating that cumulative stress interacts with institutions and is more relevant to security challenges than disaster displacement, as measured on an annual basis, alone.

Figure 4: *Scatter plot of migration and conflict.*



Regression Analysis

Table 5: Multiple Regression Results

Hypothesis/Model	Outcome	β	SE	p	95% CI	R^2
H1	Conflict displacement	.39	.38	.336	[-.53, 1.31]	.15
H2	Radicalisation fatalities	-.69	.30	.059	[-1.41, .03]	.47
RQ1	Regional security challenges	.59	.33	.126	[-.22, 1.40]	.34
H4 direct path	Conflict with marginalisation included.	-.45	.40	.315	[-1.15, 1.07]	.73

Note. Standardised coefficients are exploratory. H2 uses harmonised GTD/Global Terrorism Index fatality indicators where comparable annual reporting is available; the negative sign reflects The evidence in the simplest annual model is only marginally positive, but does not meet the common standard for significance for H1. Given the negative and weak coefficient value, the effect of displacement on radicalisation cannot be established from the displacement volumes in the

declining global terrorism fatalities during several years of rising disaster displacement and should not be read as evidence that displacement prevents radicalisation.

global annual model. The regional security model is positive, but there is some uncertainty in the statistics. These findings showed that hypotheses about direct effects are less powerful than those about conditional mechanisms.

Mediation Analysis

Table 6: Mediation Analysis: Indirect Effects of Socioeconomic Marginalisation

Path	Effect	Bootstrap 95% CI	Interpretation	Hypothesis
Climate migration marginalisation (a)	.73	[.25, 1.53]	Positive association	H4 path supported
Marginalisation $\rightarrow$ conflict (b)	1.15	[.48, 2.04]	Positive association	H4 path supported
Indirect effect ($a \times b$)	.84	[.17, 1.93]	CI excludes zero	H4 supported
Direct effect (c')	-.45	[-1.15, 1.07]	Not significant after mediator	Strong mediation

Table 6 supports H4. Marginalisation pressure is linked with climate-induced migration, and the movement is linked with displacement due to conflict. Bootstraps do not contain a 0 value, and the indirect effect is positive; When adding the

mediator, the direct pathway is no longer significant. This pattern indicates that the significance of displacement in relation to conflict is primarily socioeconomic and, at the same time, reflects a long-enduring state of vulnerability.

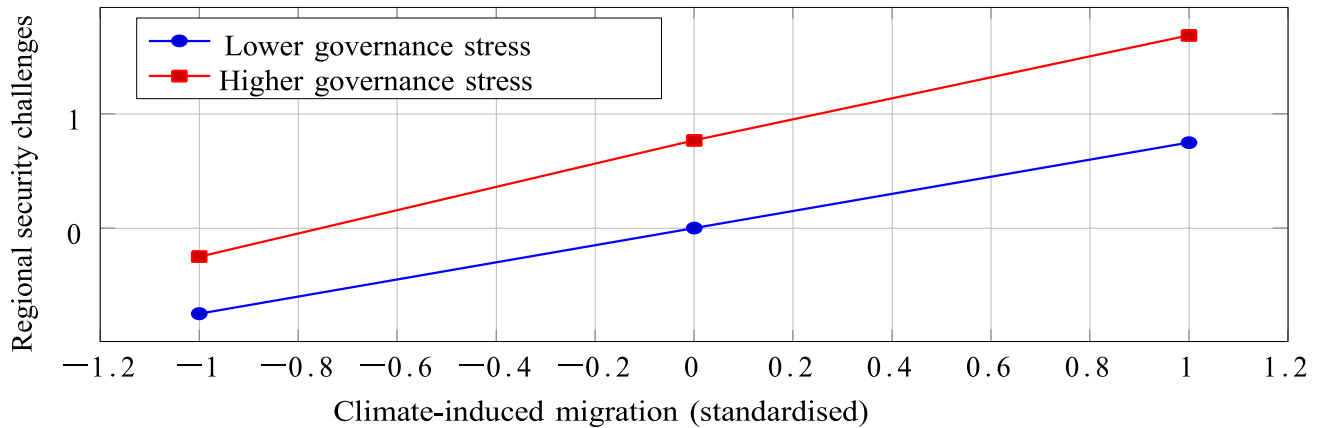
Moderation Analysis

Table 7: Moderation Analysis: Governance and Regional Security Challenges

Predictor	β	SE	p	95% CI	Interpretation
Climate-induced migration	.75	.12	.004	[.41, 1.09]	Positive conditional effect
Weak governance/stress	.77	.10	.001	[.50, 1.04]	Strong positive effect
Migration $\times$ weak governance	.17	.22	.479	[-.44, .79]	Interaction not significant
Model R^2	.96				Exploratory high-fit model

Only partial support for H3 is found in the moderation model. The main regional security challenges are significantly related to weak governance/security-institution stress; including climate-induced migration stress requires weeding out the low number of migrants. The

Figure 5: *Moderating role of governance.*



Qualitative Findings

Common themes are found throughout the country in the qualitative analysis of Pakistan, Afghanistan, Bangladesh, Somalia, Sudan, and Syria. Resource competition first arises when people who have been displaced move into zones with limited access to land, housing, water, grazing, and informal employment. IDMC (2026) and IPCC (2022) indicate that in Somaliland, drought conditions and loss of pastoral livelihoods put pressure on the management of community resources, while in Pakistan and Bangladesh, flooding increases pressure on urban housing, drainage, informal work, and public health services. Second, people's sense of insecurity in the face of hazard exposure, including owing to poor early warning systems, insufficient compensation for natural hazard losses, contested distribution of aid, weak land management, and

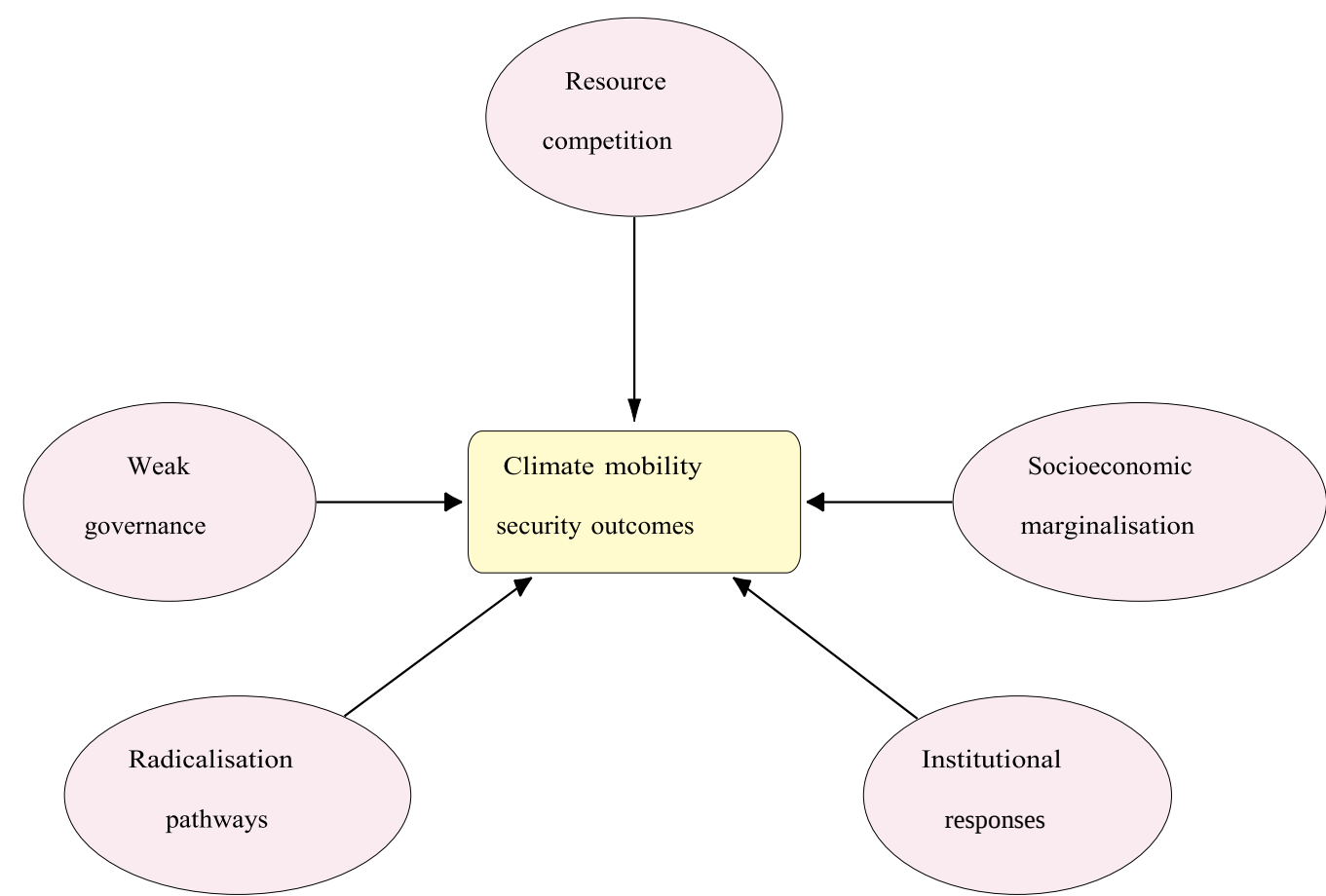
statistically insignificant interaction term in the small panel of annual observations supports H3 qualitatively and partially quantitatively, but requires stronger support from the data for country-year observations.

exclusionary policing, is caused by weak governance (Fund for Peace 2025, UNDRR 2022). Third, three socioeconomic factors are the most consistent ways in which mobility interacts with risks of conflict, namely when displaced people have problems accessing documentation, the workforce, education, secure tenure and justice (World Bank, 2023; UNHCR, 2026). Fourth, radicalisation processes become visible when, outside of any credible state power, armed groups offer people a way to earn a living, protection, a narrative of revenge, or a sense of belonging (IEP, 2025; UNDP, 2023). Fifth, institutional responses can reduce the likelihood of security risks by integrating institutional climate adaptations, inclusive security services, social and local mediation, legal protection, and livelihood recovery.

Table 8: *Summary of Qualitative Themes*

Theme	Cross-case evidence	Security implication	Policy lever
Resource competition	Flood-, drought-, and livelihood-displaced groups compete for land, water, shelter, and informal work.	Local disputes intensify where rights are unclear.	Land mediation and water governance.
Weak governance	Limited disaster response, corruption, border pressure, and weak service delivery recur across fragile cases.	Displacement becomes regional security stress rather than adaptive mobility.	Institutional strengthening and decentralised response.
Socioeconomic marginalisation	Loss of jobs, documents, housing, aid, and justice shapes grievance.	Marginalisation mediates migration–conflict links.	Social protection and labour inclusion.
Radicalisation pathways	Armed groups exploit livelihood loss, protection gaps, and state abuse.	Recruitment risk is conditional, not automatic.	Prevention through rights-based protection.
Institutional sponsors	Early warning, planned relocation, inclusion, and mediation reduce tension.	Governance can interrupt escalation pathways.	Climate-security Planning and local peacebuilding.

Figure 6: *Thematic map of qualitative findings*



Discussion

The findings address RQ1 by demonstrating that climate-change-driven migration is not determinative but rather indirect and conditional in its impacts on conflicts and regional security. There appears to be a positive but weak direct quantitative relationship between displacement due to disasters and displacement due to conflict; however, a simple positive relationship between disasters and conflict displacement cannot be established in the annual radicalisation model. These findings corroborate results showing that climate is a risk multiplier; its security impacts are conditioned by governance, development, exclusion, and/or previous violence (Koubi, 2019; Mach et al., 2019; von Uexküll & Buhaug, 2021). Moreover, they do not align with arguments related to climate-migration alarmism, which suggests that volumes of displacement alone can account for radicalisation, or even violence (Boas et al., 2019).

The best empirical finding concerns the fourth hypothesis: that socioeconomic marginalisation mediates the migration–conflict relationship. Theoretically, this is in alignment with the human security and relative deprivation views, since when people lose access to justice, housing, dignity, and livelihoods, it becomes relevant to conflict (UNDP, 2023; World Bank, 2023). Also offers answers to how and why climate hazards lead to various security outcomes. Mobility in places with protections such as legal protections, a sense of labour inclusion, and access to services may be adaptive; however, it seems to increase grievances and local competition when it occurs in fragile and exclusionary settings (Cattaneo et al., 2019; Kaczan & Orgill-Meyer, 2020).

H3 is partially funded. There is strong statistical association between weak governance/security-institution stress and regional security challenges, but the

corresponding statistical interaction term is not significant in the small (annual) panel. Qualitative evidence also reveals that governance influences the effectiveness of each mechanism in the conceptual framework, both in how effectively it manages land conflicts and in how effectively it provides aid in a rights-based manner at borders, with no service gaps for armed groups (Fund for Peace 2025; UNDRR 2022). Governance thus isn't a passive state but actually an active causal mechanism.

Care needs to be taken in interpreting the radicalisation findings. The negative coefficient, which is not significant, is not evidence that displacement decreases extremism. It suggests that the conducted analysis demonstrates that armed-group activities, counterterrorism operations, regime shifts, and wars following different trends compared to the displacement caused by disasters are the drivers of death caused by terrorism (IEP, 2025; START, 2022). There is also qualitative evidence to suggest that displacement caused by climate change, which leads to marginalisation, insecurity and engagement with armed groups, can result in an increased risk of recruitment. The results for RQ2 show that there is a need for a policy focus on: mediators and moderators: adaptation, social protection, inclusive planning, mediation on land use, documentation, livelihood recovery and accountable local governance.

Conclusion

This article reviewed the linkages between climate-induced migration (CIM) and radicalisation, conflicts, and regional security issues. It explored the linkages between certain aspects of CIM and governance, and between socioeconomic marginalisation and these key conditioning mechanisms. The research method followed was convergent mixed-methods, with the elements used in the study consisting of exploratory secondary data analysis and comparative evidence from

the cases under study, the climate-vulnerable and conflict-affected areas. The results demonstrate that migration in itself is not guaranteed to lead to conflict or radicalisation; rather, migration influenced by climate change is. The direct connection with conflict is positive but doesn't show a particularly strong statistical correlation—and it doesn't work in the yearly, worldwide model. The best predictor is the role of socioeconomic marginalisation as a mediator: Displacement alone might not be security-relevant, but when coupled with poverty, unemployment, discrimination, insecurity of tenure, and lack of access to public services, it becomes security-relevant. Governance also plays a significant role, and the statistical moderation finding needs further validation using robust country-year-level data. In theory, the study is a justified work that has proposed combining the concepts of environmental security, human security, push-pull migration, and relative deprivation theory to explain the conceptualisation of the climate-security framework. Implementing rights-based migration governance, inclusive adaptation, livelihood recovery and local conflict prevention can all contribute to minimising security risks, in principle and in practice.

To stop unmanaged displacement: Governments and international bodies need to invest in anticipatory climate adaptation, early warning, resilient infrastructure, and 'planned', 'managed', and 'just' relocation. Doing migration governance in a rights-based way means ensuring that people on the move have documentation and legal protection, can access education and health facilities, and have options to move and the opportunity to participate in the labour market. To prevent the impression of differential treatment, humanitarian assistance needs to be planned to benefit host community members as well as the displacement-affected persons and populations. International/National User Support should be encouraged at the local

level through local land and water mediation in pastoral, peri-urban and flood-prone zones where competition for land and water is probable. Security actors should not securitise migrants and protect communities from recruitment, trafficking and exploitation. Regional organisations should coordinate climate mobility, cross-border disaster preparedness, and data sharing. Climate finance needs to be conflict-sensitive and bring in additional resources to fragile areas where biting adaptation and displacement needs commingle with armed-group operations.

The incompleteness of data sources for comparable country-years, the nascent state of the statistical models and the quality and validity of secondary documents as data sources for the study are limitations. Other studies must also capture primary data from the communities themselves in the places where they have been displaced and taken host, and be longitudinal, following mobility and security situations over time, as well as spatial, across particular regions with different governance capacities. At the subnational level, connecting hazard exposure, settlement regeneration, conflict events, and service access through GIS-based analysis may be possible. Gender sensitive research is necessary since vulnerability to being displaced, recruited, the care burden and protection risks vary between men and women and old and young people. Such advanced predictive modelling needs to incorporate climate projections, mobility scenarios, and ACLED data, in addition to governance measures and GTD indicators, without viewing migrants as security threats.

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