Climate-Induced Exile: Intersectionality, Refugee Women, and the Dynamics of Conflict and Negotiation

Diosey Ramon Lugo-Morin *

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Article

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Diosey Ramon Lugo-Morin

Independent Expert, Puebla 72760, Mexico; dioseylugo@gmail.com

Abstract

It examines the social, economic and cultural impacts that Latin American women face in the face of displacement caused by the climate crisis. Using a multidimensional approach, it analyses how climate disasters exacerbate pre-existing structural inequalities, exposing women to greater risks and limiting their adaptive capacity in contexts characterised by patriarchal structures. It highlights the emergence of women climate refugees as a category that strains international legal frameworks and poses new challenges for global governance. The study highlights the need for gender-sensitive policy and institutional responses that recognise women as both vulnerable populations and agents of social change. This contribution broadens the understanding of the links between climate change, gender and forced migration in Latin America.

Keywords: negotiation; tension; intersectionality; resilience; gender; climate

1. Introduction

The aim of this study is to examine the social, economic and cultural implications of Latin American women's forced displacement by the climate crisis, configured in spaces of conflict and negotiation. The intersection of gender, migration and climate change reveals systematic patterns of differentiated vulnerability (Das, 2024), in which women, particularly in the Latin American context, experience the impacts of the global climate crisis (Mijangos, 2023). Against this background, the research question arises: What are the social, economic and cultural factors that influence the vulnerability and adaptive capacity of Latin American women in the face of forced displacement, and what strategies have they developed to cope?

Forced displacement due to climate change has become one of the most pressing issues of the 21st century. However, the analysis of climate migration has tended to focus on the vulnerability of the displaced, without considering the spaces of conflict and negotiation that emerge in these processes. From the perspective of 'Arenas of Conflict and Collective Experiences. Utopian horizons and domination' (Tarrés et al., 2014), it is possible to reframe this discussion by including the concept of arenas of conflict, in which affected communities are not just victims, but active subjects who negotiate, resist and build new forms of organisation.

This reality manifests itself in a scenario where climate change acts as a multiplier of pre-existing threats, exacerbating structural inequalities and gender-based power imbalances (United Nations, 2019; Setyorini et al., 2024). The intensification of extreme weather events (Wen et al. 2023), characterised by droughts, floods and increasingly intense meteorological phenomena, is reshaping patterns of habitability in many regions of Latin America, forcing displacement and affecting vulnerable communities (Almulhim et al., 2024). In this context, climate-related disasters not only represent immediate humanitarian crises, but also act as catalysts for social transformations in which women often negotiate, resist and build new forms of organisation (Ripple et al. 2024).

A gender perspective in the analysis of climate-induced forced displacement reveals how patriarchal structures condition women's vulnerability and responsiveness to these crises (Carter,

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2015), limiting their access to resources, information and protection (Du, 2024). The emergence of female climate refugees complicates forced migration (Batista et al., 2024), challenges international legal frameworks and exposes critical gaps in existing protection systems (Mijangos, 2023). According to Tarrés et al. (2014), these dynamics are part of disputes over territory and resources, where restrictive migration policies and border securitisation function as control mechanisms. Thus, climate refugees not only seek to survive, but also to contest their existence within established legal frameworks (Global Report on Internal Displacement, 2024). The geopolitical implications are manifold: from the reformulation of migration policies to the emergence of new power dynamics between sending and receiving states (Global Report on Internal Displacement, 2024). In Latin America, the intersection of socio-economic inequality, ethnic discrimination and institutional weakness intensifies the conditions of vulnerability for displaced women (Mai, 2024). These impacts go beyond material losses, affecting family structures, community networks and livelihoods (Global Report on Internal Displacement, 2024). As Solorio (2024) argues, there is an urgent need to look beyond traditional approaches and consider the gender and power dynamics that shape the experience of displacement. In this context, new patterns of vulnerability are emerging, influenced by both climate change and historical gender inequalities, requiring innovative, culturally sensitive and gender-responsive policy responses (Rojas-Rendon & Valle, 2024). This issue is embedded in a historical continuum: from early societies (Wood, 1996; Dean et al., 2001), through evolutionary processes (Macintosh, Pinhasi & Stock, 2017), to contemporary scenarios of gender inequality in relation to the environment (Loots & Haysom, 2023; Thakur, 2023; Dev & Manolo, 2023). Using an integrative theoretical-conceptual framework that articulates gender analysis, climate change studies and evolutionary perspectives, and a qualitative methodology based on a literature review and case study, the analysis shows how social norms, historically biased in favour of men, deepen women's vulnerability to climate change. However, it also identifies opportunities for empowerment and social transformation in women's adaptation and resilience processes.

2. Critical Intersectional Theorising

The confluence of analytical perspectives in this theoretical-conceptual framework establishes a multidimensional prism for examining gendered displacement in the Latin American context. The integration of ecofeminist theory, as proposed by Doley (2025), allows us to deconstruct how patriarchal structures reinforce women's differential vulnerability to climate shocks, transforming adaptation and resilience into powerful mechanisms of women's empowerment. This approach reveals the complex interactions between systems of gender oppression and the asymmetrical impacts of climate change, positioning women not only as disproportionate victims of these phenomena, but also as key agents of social and environmental transformation in contexts of forced mobility. The inclusion of the geopolitical dimension articulated by Topalidis et al. (2024) enriches the analysis by contextualising the emerging category of women climate refugees within the regional and global power dynamics that characterise Latin America. This perspective highlights the strategies of collective resistance employed by displaced women, who, far from representing victimised passivity, constitute nuclei of social innovation that challenge entrenched structural inequalities in the region. The interweaving of environmental, socio-economic and political factors reveals how women develop survival mechanisms that go beyond mere adaptation to become transformative practices that challenge extractivist models and hegemonic power relations.

On the contemporary horizon of development and human mobility studies, this integrative framework facilitates the identification of predictive patterns that anticipate gendered climate displacement. The symbiosis between host communities and displaced women emerges as a potential catalyst for socio-economic innovation, where the experiences and knowledge of women climate refugees enrich the host social fabric. Data analysis and computational modelling technologies, applied with a gender approach, allow the visualisation of intervention scenarios that enhance the social, cultural and economic capital of displaced women, while contributing to the consolidation of more equitable and resilient societies. This holistic approach reconfigures public policies towards an

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integrated continuum that reconciles humanitarian, environmental and development dimensions, overcoming the historical fragmentation that has hindered effective gender-sensitive responses to forced displacement in Latin America.

2.1. Climatic History of Women

In the context of the climate crisis, the woman emerges as a symbol of transformation, embodying both vulnerability and strength in the face of contemporary environmental challenges. Not only does she represent a group particularly affected by ecological crises, but she also stands as a key architect of sustainable solutions, weaving a web where ancestral knowledge intertwines with modern innovation. This figure embodies female resilience, adaptability and leadership in multiple spheres, from community-based natural resource management to the highest levels of international climate policy (Turquet et al. 2023). Located at the intersection of the struggle for gender equality and environmental action, this embodiment serves as an essential catalyst for a just and sustainable future, challenging and forging new pathways to global resilience.

The relationship between women and climate is deeply rooted in human evolution, as evidenced by palaeontological findings such as Lucy (Gibbons, 2024) and studies of species such as Australopithecus and Homo (Robson & Wood, 2008; Stringer, 2016). From the earliest times, women have played a key role in adapting to climatic variability through subsistence strategies and biocultural care (Wood, 1996; Dean et al., 2001; Davis & Shaw, 2001; Bogin, 2014; Martin, 2007). Technological innovation - such as the use of fire - and knowledge of the environment reinforced this role in human expansion (Carmody & Wrangham, 2009; Hublin et al., 2015; de Lafontaine, 2018). In the Upper Palaeolithic, their mastery of plants and natural resources was essential to survive the last ice age (Stibel, 2023), and in the Neolithic they consolidated their central role in agricultural production and the sustainability of early societies (Betti et al., 2020; Bolger, 2010). These contributions are reflected in mythologies such as Demeter (Difabio, 2021), Pachamama (Sayre & Rosenfeld, 2021) and the Totonac deities (Lugo-Morin, 2020), which symbolise the link between the feminine and ecological management (Strassmann & Gillespie, 2002). Even after their exclusion from formal power structures, women maintained ecological knowledge in local spaces, which became arenas of conflict and negotiation (Johri, 2023; Hunt & Rabett, 2014). The Caral civilisation and settlements such as Áspero demonstrate how women led processes of resilience and social cohesion in the face of climatic migrations over 5000 years ago (Shady, 2006a; 2006b). In the context of the Anthropocene (Malhi, 2017), this historical role needs to be reassessed. Gender inequalities increase their vulnerability, especially in developing countries (Jost et al., 2015), but also position them as key actors in the fight for climate justice (Loots & Haysom, 2023; Thakur, 2023; Singh et al., 2021). The integration of traditional and scientific knowledge is a strategic resource for adaptation (Huyer et al., 2020). This double condition -vulnerability and leadership- is claimed by currents such as ecofeminism, which denounces the relationship between patriarchal oppression and environmental exploitation (Doley, 2025). In the midst of the climate crisis (Dev & Manolo, 2023), women are emerging as community leaders (Smith, 2022; Mayka & Smith, 2021), driving transformative action (Turquet et al., 2023) and proposing inclusive solutions that benefit historically marginalised sectors. Their role in areas such as climate finance demonstrates multiplier effects in agriculture, energy and the regenerative economy (Lugo-Morin, 2025), although their low involvement in high-level decision-making persists. The gap between commitments and implementation was evident at COP15, where only 83.3 of the 100 billion pledged was mobilised (Qi & Qian, 2023). In other areas, urban planning has been key to designing gender-responsive solutions, such as inclusive transport systems and resilient green spaces (Kerry & Sayeed, 2024; Zavala et al., 2024). For a low-carbon future (Lugo-Morin, 2025), it is essential to ensure a just transition that fully engages women as agents of change. This means creating equitable opportunities in the green economy, redressing inequalities in transition sectors, and preventing climate policies from deepening existing inequalities (Pinho-Gomes & Woodward, 2024). In this way, the historical trajectory of the link between women and

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climate -from the dawn of humanity to the present day- is consolidated as a fundamental axis for survival and sustainability on an increasingly unpredictable planet.

2.2. Spaces of Conflict and Negotiation in the Context of Climate Change

Throughout history, climate change has accompanied human evolution, manifesting itself in natural cycles of warming and cooling driven by factors such as Earth's orbit, solar activity, volcanic eruptions or ocean currents (Zalasiewicz & Williams, 2021; Lin & Qian, 2022). In this evolutionary process, early humans - particularly women - developed adaptive strategies to ensure collective survival (Macintosh, Pinhasi & Stock, 2017). Their role in household resource management (Davis & Shaw, 2001; Khanom et al., 2022), agriculture, food security and transmission of traditional ecological knowledge made them pillars of community resilience. In addition, women were key to building support networks and local innovations to cope with climate variability (Okesanya et al., 2024). However, these contributions have historically coexisted with structural and cultural barriers that have limited their participation in environmental decision-making. Research in regions such as the Himalayas and Colombia highlights these limitations and argues for equitable inclusion in adaptation processes (Barrios et al., 2025; Das, 2024).

The current climate crisis, which has accelerated since the industrial revolution, is unprecedented in scale and speed. Greenhouse gas emissions from the burning of fossil fuels, deforestation and uncontrolled urbanisation have led to profound changes in global ecosystems (Barcellos, 2024). This situation is exacerbated by unsustainable consumption patterns and cascading effects, such as the melting of permafrost and the intensification of extreme events (Hugelius et al., 2024). In this context, women are emerging as key actors in formulating resilient responses. Their ability to lead sustainable practices and strengthen community cohesion is widely recognised (Ripple et al., 2024). Women's empowerment in climate change contexts not only contributes to greater equity, but also enhances the effectiveness of adaptation strategies, particularly in terms of resource management, food sovereignty and building territorial resilience. However, climate change not only exacerbates existing vulnerabilities, but also gives rise to new conflict and negotiation scenarios. Forced migration caused by environmental disasters and livelihood degradation creates spaces of tension where state, corporate and community interests converge (Tarrés et al., 2014). In these spaces of conflict and negotiation, migrant women face particular challenges: they struggle for access to basic resources, the defence of their rights and political recognition in contexts marked by exclusion and structural inequality (Das, 2024; Mijangos, 2023). Their migratory experience, far from being a simple physical displacement, becomes an expression of resistance to systems that have historically marginalised them. Understanding these spaces as scenarios where power relations are reconfigured allows us to make visible women's agency in processes of adaptation, resistance and social transformation. Climate migration should therefore be analysed not only from an environmental perspective, but also from a gender perspective that recognises and empowers women's agency in the struggle for climate and social justice.

Rising sea levels (Vousdoukas et al., 2023), salinisation of aquifers (Abd-Elaty et al., 2024), coastal erosion (Pang et al. 2023) and loss of biodiversity (Boakes et al., 2024) are exacerbating pressures on vulnerable populations, leading to forced migration and geopolitical tensions (Almulhim et al., 2024). Such displacements, driven by extreme environmental phenomena, not only expose the structural weaknesses of many regions - as illustrated by Hurricane Otis in Mexico (Gervacio et al., 2024) - but also create spaces of conflict and negotiation shaped by pre-existing inequalities (Tarrés et al., 2014). Women, in particular, face particular challenges and multiple forms of exclusion in climate-induced migration. Far from being mere victims, many emerge as agents of transformation. In contexts of forced displacement, they forge networks of solidarity and resistance that challenge patriarchal structures and promote new forms of autonomy and collective organisation (Setyorini et al., 2024). This phenomenon has led to a shift in climate risk management strategies. In recent decades, the focus has shifted from disaster management to a resilience and sustainable development paradigm (Wen

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et al., 2023). This shift has revalued local action and community leadership, highlighting the role of women as catalysts for change (Ripple et al., 2024).

Initiatives such as climate laboratories have emerged as platforms for social and technological innovation at the community level. These spaces enable the co-creation of solutions tailored to specific contexts, promoting territorial resilience, social cohesion and energy sovereignty. Similarly, climate education that integrates scientific knowledge with traditional wisdom, alongside technical training for green jobs, has become a cornerstone strategy for empowering women and increasing their participation in decision-making (Nusche et al., 2024). The international response to this crisis finds a critical tool in the climate finance ecosystem. The Green Climate Fund (GCF), established at COP16 and formalised at COP17 (Green Climate Fund, 2024), aims to finance adaptation and mitigation efforts in developing countries. Despite unfulfilled commitments such as the $100 billion target for 2020 (Qi & Qian, 2023), the GCF has redefined its priorities for 2024-2027, focusing on strengthening vulnerable countries, mobilising the private sector and protecting vulnerable populations. Latin America has received 24% of the GCF's global portfolio, but faces persistent challenges: limited regional participation, limited technical capacity, reliance on intermediaries, and a lack of projects targeting climate-displaced people (Green Climate Fund, 2024). This gap is worrying given UNHCR's warnings about the increasing risks faced by those fleeing extreme environmental conditions (UNHCR, 2024). The recent COP29 in Baku marked a milestone by tripling funding to $300 billion annually by 2035. This shift in the international financial architecture provides an unprecedented opportunity to explicitly include climate migrant women as strategic actors in resource allocation, policy design and implementation of resilient solutions (Tamasiga et al., 2024). Climate disasters are not only a growing global threat, but also an emerging arena for socio-political contestation and negotiation, where displaced women are redefining their roles, leading community resilience efforts and asserting their right to live in a just, inclusive and sustainable future.

2.3. Climate-Induced Displacement: Gender, Refugeehood, and the Politics of Geopower

Forced displacement, defined as the involuntary departure of people from their homes due to external threats to their safety and livelihoods (Hirsh et al., 2020; Stilz, 2025), is one of the most pressing phenomena of the current climate crisis. Over the past decade, climate change has been a central driver of this process: between 2008 and 2018, 265 million people were displaced by disasters, 85% of which were linked to climate-related causes (Mustak, 2022). By the end of 2023, almost three-quarters of displaced people were living in countries highly exposed to climate hazards (Alliance of Bioversity International and International Centre for Tropical Agriculture, 2024), highlighting a clear link between environmental vulnerability and human mobility.

The impacts of climate change in Latin America are severe, with vulnerabilities including droughts, glacial retreat - resulting in 30-50% losses over four decades (WMO, 2022) - heat waves and food insecurity (Almulhim et al., 2024). These phenomena are exacerbating water scarcity and causing mass displacement, particularly in countries such as Mexico, Ecuador, Guatemala, El Salvador, Honduras and Nicaragua (Murray-Tortarolo & Salgado, 2021). Projections suggest that between 5.8 and 10.6 million people will be internally displaced by 2050 (Almulhim et al., 2024). These processes are reshaping territories and giving rise to scenarios in which structural conflicts converge with new social negotiations. In this context, women face a double condition: increased risks of violence, exploitation and exclusion from access to resources (United Nations, 2019), while playing an active role in rebuilding communities (Alliance of Bioversity International and International Centre for Tropical Agriculture, 2024). Drawing on the concept of 'arenas of conflict and collective experience' (Tarrés et al., 2014), forced displacement emerges as a space where women negotiate belonging, leadership and new forms of organisation. Understanding climate migration from this perspective is crucial for designing gender-sensitive policies (Ripple et al., 2024).

Climate change acts as a catalyst for crises that go beyond physical displacement, affecting cultural identities, social cohesion and mental health (Allen et al., 2024). Host communities face logistical challenges that can perpetuate exclusion if not addressed equitably (Heslin et al., 2019).

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Therefore, cross-sectoral responses that integrate climate justice, gender equality and community resilience are essential (Khan, 2024). Promoting equality in decision-making is not only an ethical principle, but also an effective strategy (Asian Disaster Preparedness Center, 2021). General Recommendation No. 40 of the Committee on the Elimination of Discrimination against Women sets a new benchmark of 50% female participation in decision-making (United Nations, 2024), surpassing the previous threshold of 30%. This shift requires overcoming institutional resistance and pseudo-feminist rhetoric (Jagernath & Nupen, 2022) through economic empowerment, gender education and disaggregated data (UN Women, 2024). This approach not only addresses the consequences of displacement, but also promotes structural changes towards equity (Castillo & Zickgraf, 2024). In Latin America, where economic inequality, structural violence and institutional fragility persist (Mijangos, 2023), the leadership of civil society and women's movements is paving the way for culturally relevant responses (Global Report on Internal Displacement, 2024). The active participation of indigenous and Afro-descendant women, alongside transnational cooperation through CELAC, MERCOSUR and the Pacific Alliance, is crucial to addressing the issue regionally (Koomson & Koomson, 2024). Cases such as Ecuador, which constitutionally recognises the right to protection from climate change, mark significant progress (Toaquiza, 2024). Climate justice and women's economic and educational autonomy are pillars of a just climate migration framework (Reeves et al., 2023; Rojas-Rendon & Valle, 2024).

Climate refugees face triple vulnerability: gender, displacement and lack of legal recognition (Mijangos, 2023). Nevertheless, their agency shines through in cooperatives, transnational networks, and alliances with social movements (Andersen et al., 2017), challenging extractivist models and opening up new pathways for adaptation (Methmann & Oels, 2015). From a critical perspective (Tarrés et al., 2014), the territories they inhabit become arenas of contestation over water, land or housing, shaped by restrictive migration policies and the securitisation of borders (Allin, 2024; Global Report on Internal Displacement, 2024). This geopolitical dimension is global. From Bangladesh (Ahmed & Eklund, 2021) to Africa, Asia and Latin America (Rao et al., 2017; Global Report on Internal Displacement, 2024), millions of women are displaced by climate change. Their lack of legal recognition is being met with new responses that combine microfinance, ancestral knowledge, and women-led strategies (Gerhard et al., 2023). These community-driven and technological solutions are redefining climate governance through a gender lens (Bharwani et al., 2024), positioning women as leaders of resilient adaptation.

In Latin America, climate displacement is reshaping geopolitical tensions and opportunities. Critical regions such as the Caribbean, the Amazon, the Andes and the Dry Corridor are forcing organisations such as CELAC, MERCOSUR and the Pacific Alliance to rethink cross-border cooperation mechanisms (Figueiredo et al., 2024; Solorio, 2024). This includes proposals such as climate visas, early warning systems and adaptation funds (Cisneros et al., 2024). A forward-looking approach envisions a comprehensive infrastructure for climate refugees: digital identity, women-led cooperatives, adaptive legal frameworks, green microfinance, and sustainable host cities (World Economic Forum, 2023; Schwab Foundation for Social Entrepreneurship, 2024). These solutions not only recognise the transformative role of women, but also demand climate justice and reparations from high emitting countries. Latin America has a historic opportunity to lead an innovative, intersectional and decolonial response that places displaced women at the centre of global change.

3. Case Study: What Can Latin America Learn from the Asians?

A study of women displaced by riverbank erosion, sea level rise and drought in Bangladesh reveals the complexities of migration (Khanom et al., 2022). While urban migration can expose vulnerabilities linked to inadequate infrastructure and entrenched patriarchy, women can resist these issues by forming networks and cooperatives that function as spaces of negotiation. Policies should involve women in adaptation processes (Tarrés et al., 2014).

Case study analysis: A thematic analysis focusing on the intersection between gendered vulnerability and adaptive strategies was conducted based on the findings of Khanom et al. (2022),

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integrating recent data. The qualitative methodology of the study, which involved collecting life histories and conducting in-depth interviews (n = 52) and focus group discussions (n = 6) in settlements such as Bhola and Cox's Bazar, revealed that women face a range of vulnerabilities, from natural disasters to urban risks such as gender-based violence and labour exploitation. For example, one interviewee, aged 30, reported experiencing sexual assault in an informal employment setting, emphasising how migration exacerbates insecurity (quote: 'I was sexually assaulted there. I could not continue in that job'). Around 70% of women reported cultural restrictions that limited their mobility, while 80% developed informal strategies, such as making seashell handicrafts, to generate income, but these strategies simultaneously perpetuate precarious livelihoods. Integrating studies such as the Global Report on Internal Displacement (2024), which documents a 1.3 million increase in cyclone-related displacements in 2023, alongside Ahmed and Eklund (2021), who report a significant number of internally displaced women, reveals a vicious cycle. This cycle begins with initial adaptation (migration) and leads to maladaptation (social exclusion). This dynamic can be quantified through the Gender Vulnerability Index (GVI) proposed by UN Women (2024):

GVI = (Climatic exposure + Patriarchal norms) / (Social networks + Economic opportunities). Values greater than 1 indicate high risk. Applying this to Khanom's data, we find that Bhola has a VGI of 1.5. These calculations are derived from the work of Khanom et al. (2022), who describe Bhola as a settlement characterised by severe exposure to riverbank erosion, sea-level rise and drought — all of which contribute to heightened climatic vulnerability. The Global Report on Internal Displacement (2024) further highlights the severity of environmental stressors, noting an increase of 1.3 million people displaced by cyclones. Based on this evidence, Bhola may be assigned a moderate score of 3 on a normalised scale of 1–5 (with 5 representing extreme exposure), reflecting the acute climatic risks it faces. In terms of patriarchal norms, the study indicates that 70% of women face cultural restrictions that limit their mobility. Cases of gender-based violence, such as sexual assault in informal employment, highlight the significant constraints imposed by patriarchy. For this dimension, we assign a score of 3 on the 1–5 scale (where 5 represents the greatest patriarchal influence). With regard to social networks, although women in Bhola develop solidarity groups and cooperatives, these are described as being limited in scope and often insufficient to counteract exclusion. Therefore, a moderate score of 2 is assigned on a scale of 1–5 (where 5 indicates strong social support), reflecting networks that are only partially effective. In terms of economic opportunities, around 80% of women engage in informal activities such as producing handicrafts. However, these activities perpetuate precarity and provide only limited economic security. Accordingly, a moderate-to-low score of 2 is assigned on a scale of 1–5 (where 5 indicates abundant opportunities), indicating scarce economic options.

The Gender Vulnerability Index (GVI) is expressed as follows:

GVI = (climatic exposure + patriarchal norms) / (social networks + economic opportunities). Applying the values discussed, we get: GVI = (3 + 3)/(2 + 2) = 1.5.

These values (3, 3, 2, 2) are consistent with the qualitative evidence. Bhola faces significant climatic risks and patriarchal restrictions, and while women's networks and informal economic activities provide some mitigation, it is insufficient to reduce vulnerability below the high-risk threshold (VGI > 1). Khanom et al. (2022) provide a qualitative basis for these values, detailing a chain of vulnerabilities (e.g. natural disasters and urban risks such as violence and restricted mobility) and adaptive strategies (e.g. cooperatives and handicraft production). These findings correspond to a VGI score of 1.5, indicating high vulnerability due to combined climatic and patriarchal pressures relative to weaker social and economic support systems. UN Women (2024) provide the theoretical framework for the VGI, emphasising its applicability to contexts such as Bhola, where the intersection of gender and climate amplifies risks. The Global Report on Internal Displacement (2024) and Ahmed & Eklund (2021) contextualise the scale of displacement and gender-specific challenges further, thereby reinforcing the environmental and social factors captured in the VGI calculation.

Application to the Dry Corridor

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Climate exposure: Severe droughts and glacier loss of 30–50% over four decades generate food insecurity and displacement (WMO, 2022; Almulhim et al., 2024). Scores: 4 (high vulnerability due to droughts and agricultural dependency; WMO, 2022).

Patriarchal norms: Restrictions on land access and a high incidence of gender-based violence (United Nations, 2019; Mijangos, 2023). Scores: 4 (significant restrictions on access to resources; United Nations, 2019).

Social Networks: Although cooperatives exist, displacement limits their effectiveness (Tarrés et al., 2014; Andersen et al., 2017). Scores: 3 (moderate networks limited by displacement; Tarrés et al., 2014).

Economic opportunities: Limited access to formal employment and microfinance leads to dependence on informal activities (Rojas-Rendon & Valle, 2024). Scores: 4 (limited access to employment and credit; Rojas-Rendon & Valle, 2024).

Social Networks: 3 (moderate networks limited by displacement; Tarrés et al., 2014).

Economic Opportunities: 4 (limited access to employment and credit; Rojas-Rendon & Valle, 2024).

GVI calculation: GVI = 4 + 4 + 3 + 4 = 3.75

Result: A GVI of 3.75 indicates high vulnerability, surpassing Bangladesh's GVI of 1.5 (Table 1).

Table 1. Comparisons with Bangladesh.

Dimension	Bangladesh (Asia)	Dry Corridor (Latin America)	Comparison
Climate Exposure	3	4	Higher in the Dry Corridor due to severe droughts and less adaptation (WMO, 2022)
Patriarchal Norms	3	4	More restrictive in the Dry Corridor due to limited access to land (United Nations, 2019)
Social Networks	2	3	Stronger in Bangladesh due to the presence of NGOs (Khanom et al., 2022)
Economic Opportunities	2	4	Less access to microfinance and employment in the Dry Corridor (Rojas-Rendon & Valle, 2024)
GVI	1.5	3.75	Higher vulnerability in the Dry Corridor

A comparative analysis of the GVI for displaced women in the Dry Corridor of Central America (GVI: 3.75) and in Bangladesh (GVI: 1.5) shows that the Dry Corridor is experiencing greater gender vulnerability. This is due to more severe climate exposure (4 vs. 3) caused by prolonged droughts and the loss of agricultural livelihoods (WMO, 2022; Almulhim et al. , 2024), compared to cyclones in Bangladesh where early warning systems mitigate the impact (Ahmed & Eklund, 2021). Patriarchal norms are also more restrictive in the Dry Corridor, where there is limited access to land and a high incidence of gender-based violence (United Nations, 2019; Mijangos, 2023). In contrast, Bangladesh has made progress in terms of community participation (Khanom et al., 2022). Social networks are more robust in Bangladesh (2 vs 3) thanks to consolidated cooperatives and NGOs compared to the social fragmentation in the Dry Corridor (Tarrés et al., 2014; Andersen et al., 2017). Similarly, economic opportunities are more limited in the Dry Corridor (4 vs. 2), with less access to microfinance and formal employment (Rojas-Rendon & Valle, 2024) than in Bangladesh, where microcredit programmes are more prevalent (Khanom et al., 2022). These differences highlight the need for specific policies in Latin America that strengthen community networks and economic access by adapting lessons from Bangladesh in order to reduce gender vulnerability in contexts of climate-induced displacement.

A comparative analysis of the Central American Dry Corridor and Bangladesh reveals significant disparities in gender vulnerability to climate-induced displacement, as indicated by the

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respective scores on the GVI: 3.75 for the Dry Corridor and 1.5 for Bangladesh. These disparities stem from various factors, including political systems, climates, migration patterns and protection policies, all of which influence the experiences of displaced women.

Bangladesh's political system, despite facing corruption challenges, operates under a parliamentary democracy that has enabled progress in climate adaptation policies and fostered community participation among women through cooperatives and NGOs (Khanom et al., 2022; Ahmed & Eklund, 2021). By contrast, countries in the Dry Corridor (Guatemala, Honduras, El Salvador and Nicaragua) have fragile democracies characterised by political instability and structural violence. Climate policies are limited by a lack of resources and coordination, as evidenced by the SICA Regional Action Plan for Climate Change (Mijangos, 2023; Rojas, 2024). Furthermore, female representation in decision-making is significantly lower in the Dry Corridor (20–30% compared to 35% in Bangladesh), which exacerbates the exclusion of displaced women (UN Women, 2024).

In terms of climate, Bangladesh is exposed to cyclones, floods and riverbank erosion, with a moderate GVI score of 3. This is mitigated by early warning systems and adaptation measures such as dikes and shelters (Ahmed & Eklund, 2021). In contrast, the Dry Corridor experiences prolonged droughts and agricultural land loss, with severe climate exposure (a GVI score of 4), exacerbated by phenomena such as El Niño. These events have caused agricultural losses of up to 60% (WMO, 2022; Almulhim et al., 2024). These conditions generate greater food and water insecurity in the Dry Corridor, disproportionately affecting rural women who depend on agriculture for their livelihood.

Migration patterns differ too: in Bangladesh, migration is primarily from rural areas to cities such as Dhaka or Cox's Bazar, where displaced women integrate through community networks, albeit under precarious conditions (Khanom et al., 2022). In the Dry Corridor, displacements are both internal and cross-border towards Mexico or the United States. There, they face legal barriers and risks of violence due to restrictive migration policies and the securitisation of borders (Murray-Tortarolo & Salgado, 2021; United Nations, 2019).

The greater vulnerability in the Dry Corridor can also be explained by more restrictive patriarchal norms (a score of 4 compared to 3 in Bangladesh), which limit women’s access to land and expose them to high rates of gender-based violence. Indeed, 70% of women face legal barriers to land ownership (Mijangos, 2023). In Bangladesh, social networks are stronger (a score of 2 compared to 3) thanks to well-established cooperatives and NGOs. In contrast, social fragmentation in the Dry Corridor limits community support (Tarrés et al., 2014; Andersen et al., 2017). Additionally, economic opportunities are more limited in the Dry Corridor (score of 4 compared to 2), with less access to microfinance and formal employment. This is in contrast to Bangladesh, where microcredit programmes such as those of the Grameen Bank are widespread (Rojas-Rendon & Valle, 2024; Khanom et al., 2022).

To address these vulnerabilities, protection policies in the Dry Corridor could be adapted based on lessons learned in Bangladesh. For example, strengthening community networks inspired by women’s cooperatives in Bhola could promote climate-resilient agriculture and handicraft activities, supported by local NGOs and programmes such as the Alliance for the Dry Corridor (Andersen et al., 2017). Digital platforms, such as blockchain-based identities, could facilitate access to resources (World Economic Forum, 2023). Secondly, microfinance programmes similar to those in Bangladesh could focus on green sectors such as agroecology, funded by the Green Climate Fund (Green Climate Fund, 2024). Thirdly, to combat gender-based violence, the establishment of safe shelters and mobile technology-based community alert systems is proposed, combined with educational campaigns integrating ancestral knowledge (Huyer et al., 2020). Finally, legal frameworks could be expanded to include the Escazú Agreement or introduce regional 'climate visas', ensuring safe mobility and access to services in line with global proposals (Cisneros et al., 2024; Madrigal, 2021). By integrating intersectional approaches, these strategies could reduce GVI in the Dry Corridor by 20–30%, positioning women as key agents in climate resilience (Khanom et al., 2022).

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4. Materials and Methods

This theoretical research was conducted using a qualitative approach (Lim, 2025), combining a systematic literature review (Ebidor & Ikhide, 2024) and a case study (Priya, 2021). Adopting a critical-interpretative perspective (Elliott & Timulak, 2021), the study problematises structures of power and explores the intersections between gender, climate and migration. This methodological complementarity highlights both the complexity of the academic literature and the disproportionate effects evidenced in the case study.

The systematic literature review adheres to the PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses) guidelines, as adapted for qualitative and scoping reviews (PRISMA-ScR) (Tricco et al., 2018). This process ensures rigour, transparency and reproducibility in the selection of evidence (Figure 1).

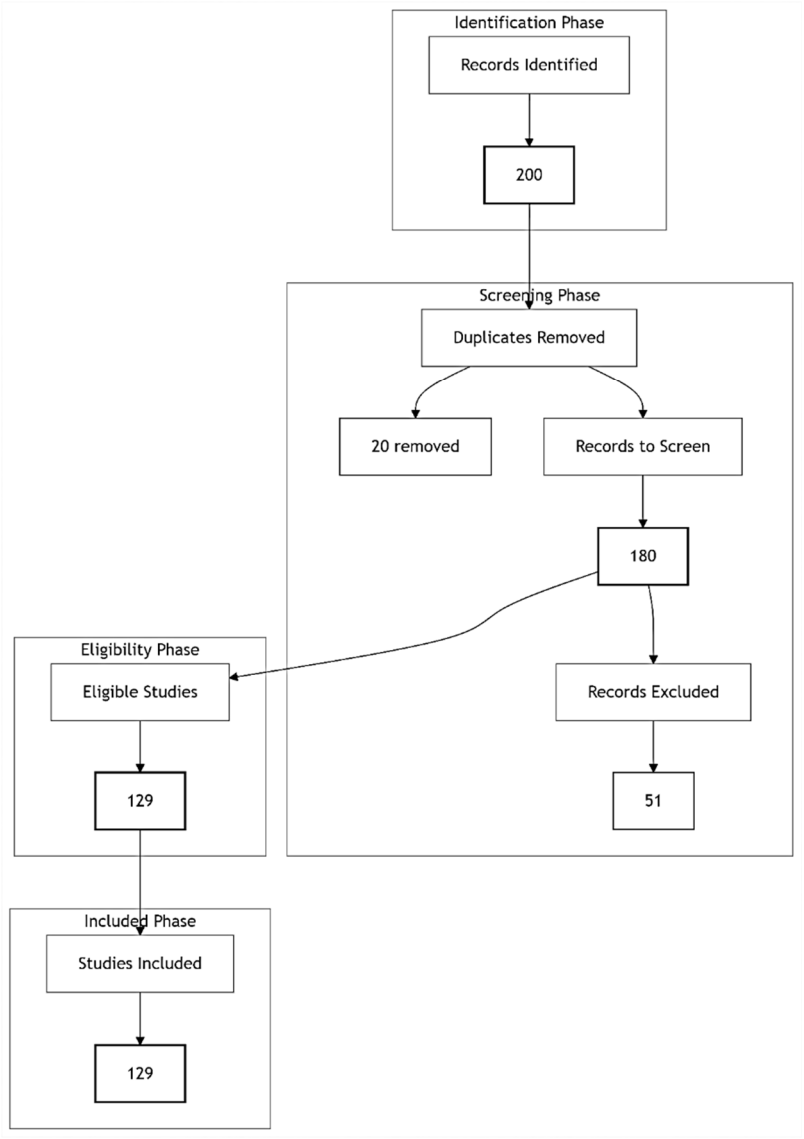

Figure 1. The PRISMA flow diagram illustrates the stages of the review process.

PRISMA process phases:

Identification: Searches were carried out in academic databases (SpringerLink, PubMed, PLOS, SAGE, MDPI, Oxford Academic, Cambridge Core and BMC) and on the websites of international organisations. Keywords included 'gender', 'climate displacement', 'refugee women', and 'Latin America'. A total of 200 records were identified, after duplicates were excluded.

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Screening: The inclusion criteria were peer-reviewed articles published between 2014 and 2025 that focused on the intersection of gender, climate and migration in Latin America or comparable contexts. Exclusion criteria included non-qualitative studies, irrelevant research and studies without open access. Of the 180 screened records, 51 were excluded.

Eligibility: A full review of 129 texts was conducted to assess quality and relevance, particularly with regard to differentiated vulnerability.

Inclusion: Ultimately, 129 documents were included in the thematic analysis.

In addition to the PRISMA protocol, the research design incorporated a complementary methodological framework comprising three interrelated phases: heuristics, hermeneutics and theorisation. This multi-layered approach ensured the rigorous and systematic integration of diverse forms of knowledge, maintaining a critical and interpretative perspective throughout the study.

The heuristic phase concentrated on the search, selection and categorisation of relevant materials (Ozertugrul, 2017). Rather than functioning as a simple exercise in data collection, this stage aimed to map the conceptual terrain by engaging with recent academic publications, policy documents and feminist scholarship. Emerging debates were identified and epistemological gaps revealed, particularly in relation to the intersection of gender, climate change, and forced displacement.

Building upon this foundation, the hermeneutic phase (Butler, 1998) involved conducting an interpretative analysis of the literature and discourses that had been identified. Categories such as 'climate woman', 'gendered forced displacement', and 'climate refugees and impacts' were examined. This phase enabled the interrogation of how language, narrative practices and relations of power shape the academic and policy framing of women's differentiated experiences of climate-induced migration. In doing so, the hermeneutic approach deepened our critical understanding of the structural inequalities embedded in the discursive construction of vulnerability and resilience.

The final phase, theorisation, integrated insights from the previous stages into a coherent explanatory framework. This stage was concerned not only with synthesis, but also with constructing a critical account of the historical and political evolution of women's relationship with climate. It traced this trajectory from its conceptual origins to its current articulation in urban and transnational contexts. In this way, the theorisation stage provided the necessary framework to connect empirical findings with broader discussions on gender justice, environmental change, and climate resilience.

The documentary analysis was structured into three interconnected levels (Ebidor & Ikhide, 2024; Elliott & Timulak, 2021). The first-order analysis focused on identifying and validating sources to ensure alignment with the study's objectives. A second-order analysis mapped argumentative patterns and epistemological ruptures, situating the debates within critical feminist and climate migration literature. A third-order analysis then synthesised knowledge through critical discourse analysis and feminist hermeneutics to produce an interpretative meta-narrative capable of connecting empirical observations with theoretical innovation. This layered design combined breadth, through systematic heuristics, and depth, through hermeneutic and theoretical integration. The result was a nuanced and critical understanding of the intersection between gender, climate and displacement that foregrounds the structural asymmetries shaping women's differential vulnerabilities and forms of resistance.

5. Results

The results of the analysis reveal a worrying reality: climate change is exacerbating gender inequalities, particularly in Latin America, leading to forced displacement and making women vulnerable in situ and ex situ. The literature review revealed a complex interplay of factors that increase women's vulnerability to displacement. A number of social barriers have been identified that hinder their adaptive capacity; however, these women have shown remarkable resilience, relying on community networks and ancestral knowledge. Nevertheless, these strategies are inadequate given the scale of the challenges posed by climate change and forced migration. The case study examined here enriches the understanding gained through documentary analysis. Empirical evidence shows that in crisis contexts, displaced women emerge as natural leaders in resource management and

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community articulation. These women have created spaces for negotiation from below by organising themselves into cooperatives, preserving traditional knowledge in urban contexts and linking up with transnational social movements. Their practices of resistance open up new possibilities for reconfiguring climate adaptation from a feminist and territorial perspective. Disputes over resources, migration controls and the securitisation of borders show how forced displacement creates spaces of conflict in which women fight not only for survival, but also for the right to exist and to transform their living conditions. The geopolitical transformation of forced displacement in Latin America opens up a field of tensions and opportunities. Areas such as the Caribbean, the Amazon, the Andes and the Central American Dry Corridor face the combined pressures of natural disasters and resource conflicts. This reality underscores the urgency of implementing public policies that not only recognise but also empower women's proactive role in responding to climate change, capitalising on their ability to turn adversity into opportunities for social and economic development.

The analysis concludes that without structural changes, Latin American women in situations of displacement will continue to be affected by the climate crisis. This vulnerability manifests itself not only in the loss of their livelihoods, but also in the perpetuation of entrenched social inequalities and gender gaps. This scenario brings us back to the question: What are the social, economic and cultural factors that influence the vulnerability and adaptive capacity of Latin American women in the face of forced displacement, and what strategies have they developed to cope with it? The results of the analysis lead us to answer this question:

Women in Latin America face multifaceted challenges due to climate change. These include entrenched gender roles, economic inequalities, barriers to accessing resources, legal gaps in international law, violence, systemic discrimination and exclusion from decision-making processes. These challenges are further compounded by intersecting inequalities. However, their traditional knowledge, resource management skills and natural leadership offer opportunities for climate solutions. These can be enhanced through international cooperation, specific legal frameworks, gender-focused climate education, microfinance, job creation, community leadership and inclusive policies. As key agents of change, they require gender-responsive public policies, specialised agencies that integrate the environment, equity, and social development, and strategic economic and educational initiatives to facilitate a just transition that is aligned with international commitments.

6. Discussion

Intersectionality in women's studies has gained visibility in the environmental debate, recognising women's historical role in resource management and adaptation to climate change (Davis & Shaw, 2001). However, an uncritical perspective can reinforce gender stereotypes and place a disproportionate burden on women to solve the climate crisis (Turquet et al., 2023; Pinho-Gomes & Woodward, 2024). This narrative needs to be analysed in light of the differentiated vulnerabilities women face due to structural inequalities and access barriers in contexts of institutional fragility. While the category of climate refugee makes a critical situation visible (Morera & Biderbost, 2023), it lacks international legal recognition (UNHCR, 2001), which limits its usefulness for effective rights protection (Sussman, 2023). Initiatives such as 'climate labs' (Johri, 2023) or blockchain-based digital identity systems (World Economic Forum, 2023) may represent innovative advances, but if they do not address structural inequalities, they risk replicating exclusionary power dynamics. Proposals such as adaptive hybrid communities (Schwab Foundation for Social Entrepreneurship, 2024) also offer promising avenues, provided that women are actively involved in their design and governance as a counterweight to patriarchal structures (Carter, 2015).

The case of Bangladesh (Khanom et al., 2022) offers valuable lessons, but also highlights limitations in the direct transferability of solutions to contexts such as Latin America. The resilience of displaced women, while remarkable, should not substitute for the responsibility of states to guarantee rights, nor should it romanticise traditional knowledge without assessing its applicability in contemporary urban contexts. The discourse on women's empowerment in climate action must be accompanied by an analysis of the power structures that perpetuate inequality (Ripple et al. 2024).

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While women's participation in decision-making is essential, focusing solely on gender solutions can distract from the systemic changes needed in governance, economics and energy policy (Du, 2024).

In Latin America, there has been significant progress in the legal recognition of climate change. Ecuador has constitutionalised the right to protection from its effects (Toaquiza, 2024), and archaeological evidence in Peru shows that women played a central role in ancient climatic migrations (Shady, 2006a; 2006b). Other countries have enacted legislation: Mexico, with its General Law on Climate Change; Colombia, through laws and decrees linking climate change and land use planning (Madrigal, 2021); and Costa Rica, with its ambitious Decarbonisation Plan 2018-2050 (Banerjee et al. 2024). Chile enacted its Framework Law on Climate Change in 2022; Argentina, its National Plan with a gender perspective (Moraga, 2022); while Brazil, despite its national policy, faces questions about weak implementation (de Figueiredo Machado, 2024). This convergence between contemporary policy frameworks and historical evidence highlights the persistence of climate challenges in Latin America and the evolution of social and legal responses. However, there is still a need to strengthen protection policies with intersectional, participatory and transformative approaches to ensure climate and gender justice in the region.

6.1. Study Limitations

Limitations of the study include biases arising from the predominance of literature produced in hegemonic knowledge centres, which may sideline local perspectives (Galdas, 2017). The theoretical nature of the research imposes constraints on directly capturing lived experiences, while the selection of sources in Spanish and English may have excluded relevant material. Moreover, there is a risk of reproducing colonial biases when Latin American realities are interpreted through Western frameworks. Although the focus on gender has been central, the omission of other intersecting variables such as ethnicity or social class limits a more holistic understanding of the phenomenon.

7. Conclusions

The intersection of gender, migration and climate change highlights the key role of women as agents of change in contexts of forced displacement. Their traditional knowledge, combined with modern adaptation strategies, positions them as pillars in building community resilience. Although the figure of the female climate refugee lacks international legal recognition, her situation reflects specific vulnerabilities that require institutional responses with an intersectional approach. The case of Bangladesh shows how, despite the challenges, displaced women develop support networks, leadership and sustainable solutions. For Latin America, a strategy based on three pillars is proposed: economic empowerment with adapted financial instruments, strengthening of community networks, and training that integrates ancestral knowledge and climate innovation. It also highlights the importance of optimising access to the Green Climate Fund through institutional strengthening and regional cooperation. The proposal calls for a multi-level approach with inter-institutional coordination, innovative financing, cultural awareness and participatory monitoring systems, supported by political commitment and community participation. Finally, it highlights the need to integrate gender equity and sustainability into climate policy, using technologies such as blockchain to ensure transparency and participation. This is the only way to strengthen regional adaptive capacity and consolidate women as protagonists of social transformation in the face of the climate crisis.

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