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Women on the move? Mainstreaming gender in policies and legal frameworks addressing climate-induced migration

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Abstract

Climate change impacts are gendered. This is also true for climate-induced migration, which affects men and women differently. On account of this difference, legal instruments and policies seeking to address and support climate-induced migration need to be gender-focused to address differentiated needs and outcomes. This paper looks at existing policies and legal instruments for the inclusion of gender aspects of climate-related migration. We focus on Ethiopia, India, and Peru, all of them with developed instruments to address the human mobility-climate change nexus. We investigate the scope of provisions concerning gender in relevant instruments in the three country contexts, their likely impact to tackle gender-specific vulnerabilities arising with climate-induced migration and suggest strategies and priorities for enhancing gender-inclusion in policy development and application broadly.

Keywords Gender, Climate change, Climate-induced migration, Human mobility, Policies and legal frameworks

Introduction

Gender¹ is shaped by societal norms that delineate not only roles and responsibilities but also access to resources (Ramos & Dias, 2021). In patriarchal systems, these norms impose hierarchies that restrict women's agency, participation in social structures, and their ability to enjoy basic human rights (Borràs-Pentinat, 2022). Existing inequalities are exacerbated when these dynamics intersect with climate change; that is, the effects of climatic change are not gender-neutral. Rather, they amplify pre-existing disparities and vulnerabilities (Ibid.). In many communities, men typically control access to resources such as land, leaving women dependent on marriage or male relatives for economic stability, even survival. This can be coupled with limited economic opportunities and access to education, as well as exclusion from decision-making (Bleeker et al., 2021). Gender

¹ Socially constructed characteristics or roles that a given society attributes to women and men (or girls and boys). It defines what is considered "appropriate" for women and men and in their relationship. These gender-based expectations and vulnerabilities may, for instance, lead to differentiated access to resources, often putting women and girls at a disadvantage in both private and public spheres (EIGE 2016).

inequality also creates barriers that limit women's opportunities to move, as well as the adaptive potential of moving. When men move due to the impacts of climate change, disasters, and environmental degradation, women are frequently left behind with increased responsibilities, including tasks traditionally associated with men (e.g., farming and livestock cultivation). This further exacerbates gender inequalities, as women struggle to fulfill multiple roles without support (Ramos & Dias, 2021). Despite global efforts to address climate-induced migration and promote gender equality in climate- and disaster-related responses, existing policies and legal frameworks overlook the intersectionality of gender dynamics and mobility patterns. While international arrangements such as the *Beijing Platform for Action*, the *Sustainable Development Goals*, and the *Paris Agreement* emphasize the need for gender mainstreaming, their integration with instruments acknowledging the climate change-human mobility nexus remains limited (Castiglione, 2023).

Focusing on select national contexts - namely, Ethiopia, India, and Peru - this paper aims to bridge this gap by examining existing policies and legal frameworks dealing with climate-induced migration through a gender lens. Relying on a detailed analysis of evidence and official policy documents, this study explores ways to incorporate gender perspectives in policies and legal documents tackling climate-induced migration. The following aspects are taken into account: (i) how gender considerations are currently integrated into policies and legal instruments related to the topic; (ii) how these instruments can reduce women's vulnerability to climatic impacts, increase adaptive capacities, and promote adequate gender equality; and (iii) the identification of strategies and practices for enhanced integration of gender perspectives. The research emphasizes the need for the revision of existing policies and legal frameworks, with the inclusion of measures addressing the underlying causes of gender-based vulnerabilities, such as inequality and poverty, thus ensuring long-term resilience. Integrating gender perspectives into policies and legal frameworks offers a unique opportunity for inclusive responses dealing with climate-induced migration.

Notes on methodology

Despite using the term "climate-induced migration", this study recognizes that the term "human mobility" covers various forms of population movements in the context of climate change, disasters, and environmental degradation. This includes: (i) migration, primarily voluntary movements; (ii) displacement, primarily forced movements, encompassing evacuations; and (iii) relocation, involving moves to new areas through planned processes. These movements can be internal or cross-border, short-term or long-term. The terminology adopted here aligns with the language adopted in key international and intergovernmental processes on the topic.

Acknowledging the multicausal nature of climate-induced migration and relevant gender aspects, the study reviews literature on climate and environmental changes, mobility, and gender, including scientific papers and grey literature. It then examines policies and legal frameworks related to human mobility, climate change, and disaster risk reduction (DRR) in Ethiopia, India, and Peru for comparative analysis across Africa, the Americas, and Asia. Each country selected faces unique socioeconomic and environmental challenges like droughts, floods, and glacial melting, influencing policy responses to climate-induced migration. They also cover different governance models, from federal

systems (India and Ethiopia) to centralized governance (Peru), to explore how political frameworks affect policy development and implementation. All three countries engage with international frameworks such as the Global Compact for Migration (GCM) and the Sendai Framework for Disaster Risk Reduction, making them relevant for assessing national policy alignment with global standards. The methodology allows detailed analysis of normative instruments and evaluation of gender integration through specific criteria (see Mokhnacheva, 2022).

Data collection focused on national-level legislation (e.g., acts, decrees, and laws) and policies (e.g., action plans, frameworks, policies, and strategies), covering human mobility (e.g., migration, displacement, planned relocation, and refugee protection), climate change (e.g., adaptation and mitigation), and disasters (DRR and response, as well as humanitarian assistance).² All identified instruments were systematically logged in a spreadsheet, capturing the following details: (i) country name, (ii) policy/legislation title, (iii) year of issuance, (iv) type of instrument (policy or legislation), (v) thematic area (human mobility, climate change or disasters), (vi) type of human mobility (migration, displacement, planned relocation, general movements and others),³ (vii) environmental drivers (specific or generic references to climate- or disaster-related impacts); (viii) specific provisions on climate-induced migration with quotes, and (ix) reference to gender issues. Each provision related to the topic identified in the instruments was classified as either “direct” or “indirect” and “general” or “specific”. Whereas a “direct” provision refers to the nexus (e.g., migration due to droughts, disaster displacement), an “indirect” provision does not specifically mention this nexus but applies to addressing human mobility challenges in such contexts (e.g., victims of events disturbing public order). “General” provisions acknowledge the topic, while “specific” ones detail concrete measures for addressing it. The methodology proposes gender markers to evaluate the integration of gender considerations in instruments as follows: A (significant integration – inclusion of provisions on the topic),⁴ B (partial integration – the acknowledgment of the importance of gender equality), and C (no integration – no reference to gender issues). The mapping of policies and legislation for the three countries faced some limitations due to partially restricted access to documents, language barriers (notably for India), and documents’ public access. Hence, the findings do not offer an exhaustive overview of policies and legislation but highlight examples of key normative instruments at the time of the study.

The linkages between climate-induced migration and gender

The processes by which climate and environmental changes impact migration decisions are intricate and often non-linear (Oakes et al., 2019; McLeman, 2017; Hastrup & Olwig, 2012). Social, political, economic, and demographic drivers, alongside physical changes, influence individuals’ choices to move or remain in a specific area. Migration is triggered by complex factors varying across spatial and temporal scales (HRC 2018, Ionesco et al., 2017, Mayer, 2016, McLeman, 2017). As such, population movements

² For the identification of national policies and legislation, the study consulted the following online databases: (i) UNHCR’s *RefWorld Global Law and Policy Database*, (ii) *UNDRR’s PreventionWeb*, (iii) *UNFCCC’s NDC Interim and NAP Central*, and (iv) *Climate Change Laws of the World* database hosted by the Grantham Research Institute on Climate Change and Environment at the London School of Economics.

³ Whereas displacement includes evacuation processes, general movements and others encompass return and reintegration.

⁴ For instance, provisions for participation in decision-making processes and access to information for women and girls.

result from the interplay of these factors, which cannot be isolated from one another (Cournil, 2017, HRC 2018). Hence, existing migration patterns are modified and intensified by the impacts of climate and environmental changes, rather than solely caused by them (IDMC 2018, UNFCCC 2012).

Although migration can be considered a coping mechanism to address climatic impacts (Oakes et al., 2019; McLeman, 2014), when forced, it exacerbates socioeconomic and environmental vulnerabilities, limiting access to resources and essential services (HCR 2018). Climate change compounds existing vulnerabilities, not least by affecting poverty and food (in)security (IPC-IG 2019, Olsson et al., 2019). This, in turn, influences migration decisions (ACP Observatory on Migration, 2011; Warner et al., 2012; McAdam, 2012) and may “trap” individuals in places of origin. Therefore, the notion of migration as adaptation remains nuanced (ACP Observatory on Migration, 2011; Warner et al., 2012; McAdam, 2012). Bergmann et al. (2021) show that, in Peru, despite the impacts of climate change in certain areas, people choose to stay, attempting local adaptation strategies. In the meantime, continuous environmental degradation depletes the resources migrants need, “trapping them in increasingly dangerous areas” (Ibid.: 114).⁵ Moreover, factors like place attachment and social ties can further bind people to their current locations, as observed in communities in the highlands of the Lima Region (Ibid.)

Mobility dynamics are further influenced by socially constructed gender roles and cultural norms (Hennebry & Williams, 2022; Smith et al., 2021; Ramos & Dias, 2021; White et al., 2021; Bergmann et al., 2015; Jost et al., 2015; Chindakar, 2012; Hunter & David, 2009; Braham n.d.). Gender roles dictate responsibilities and, coupled with climatic impacts, lead to differentiated impacts on men and women (Theis et al., 2019; Bryan et al., 2017; Kristjanson et al., 2017; Goh, 2012). In the case of women, traditionally seen as caretakers, the impacts of climate change affect their roles in overseeing activities assigned to them, often involving the management of essential resources like fetching water or firewood (White et al., 2021; Smith et al., 2021; Sams, 2019; Hunter & David, 2009).

Similarly, migration decisions are also intertwined with gendered roles, resulting in women having limited mobility and autonomy (Bergmann et al., 2021; Bower & Olson, 2018, Braham n.d.). This is because, in patriarchal societies, cultural norms and values usually assign decision-making to male members of the household (Borràs-Pentinat, 2022; Bower & Olson, 2018). Patriarchal norms enhance women’s vulnerabilities by limiting their access to resources (e.g., land ownership, education) and participation in decision-making (Hennebry and Williams 2022, Bleeker et al., 2021, Becker, 1999). In Ethiopia, for example, gender disparities constrain women’s ability to cope with climate change. Ethiopian women often face limited access to information and participation in processes addressing climatic impacts (EFCCC and UNDP 2021).

Systemic gender inequalities hinder women’s capability to participate in the planning and implementation of strategies tackling the impacts of climate change (Sarker Dev & Manalo, 2023; White et al., 2021; Smith et al., 2021; Huyer & Partey, 2020; Eastin, 2018; Sumner et al., 2017, IOM, n.d.). Whilst women’s limited involvement in community processes affects their capacity to respond to climate and other environmental changes

⁵ For more on immobility, see: Thornton et al., 2023.

(Borràs-Pentinat, 2022; Bleeker et al., 2021; Ramos & Dias, 2021, Jost et al. 2016, Perez et al., 2015), the control over productive resources like land and livestock – frequently skewed in favor of men – limits their capacities to secure livelihoods (Hennebry and Williams 2022, Smith et al., 2021, Nchu et al., 2019, Chindarkar, 2012, Goh, 2012). All of these impact women's decision-making power regarding adaptation measures, including migration (IOM n.d.).

When faced with the impacts of climate change and environmental degradation, men are more likely to migrate in search of alternative sources of income. In turn, women typically remain in situ to manage households under increasingly strained conditions. Evidence from Bangladesh shows that poor men tend to migrate to search for work, “while a majority of women remain behind, bound by the responsibility of looking after children” (Bower & Olson, 2018). In this context, women take over multiple roles, increasing their workload (Leder, 2022; Bleeker et al., 2021; Ghimire et al., 2021; Sams, 2019; Bergmann et al., 2015; Antman, 2013; Hunter & David, 2009). These gender-specific roles and responsibilities exacerbate existing inequalities and result in further food insecurity, gender-based violence, health issues, as well as poverty (Hennebry and Williams 2022, Bleeker et al., 2021, Bergmann et al., 2015, Goh, 2012).

A study in Junín (Peru) underscored the gendered nature of migration, with a higher proportion of male migrants (Milan & Ho, 2014). The migration of male youth and adults in the region left women behind with extra work and emotional burdens (Ibid). Conversely, in India, Desai and Banerji (2008) state that rural women whose husbands have migrated experience increased autonomy in decision-making, especially when they are not part of an extended family structure. In extended family settings, the absence of the husband does not change women's role or workload, as other male relatives fill the gap left by the migrant husband (Ibid.). That is, the extent of vulnerability among women varies, primarily determined by the level of gender inequality they face, among other variables (Castiglione, 2023). As migrants, women face hardships due to limited access to information and resources before migration, as well as lower incomes and lesser control over assets in destination areas (Acosta Gálvez, 2023, Chindakar

2012, Kavar, 2004). Such economic disparities expose women to exploitation during migration, frequently forcing them to move under precarious circumstances (Bastia & Piper, 2024; Borràs-Pentinat, 2022; Ramos & Dias, 2021, Braham n.d., Mawby, n.d.).

Still, disasters disproportionately affect women not only due to societal norms limiting their mobility but also due to restricted access to resources (Fatema et al., 2023; Trentin et al., 2023, Hennebry and Williams 2022, Bleeker et al., 2021, Ayeb-Karlsson, 2020, Ginige et al., 2014). These constraints increase women's mortality rates during disasters and expose them to higher risks of gender-based violence (Smith et al., 2021; Ahmed et al., 2019; Rezwana & Pain, 2021, Mawby n.d.). Moreover, women's caretakers roles (e.g. remaining with children and managing the household) prevent timely evacuation and increase their vulnerability to disaster-related impacts, being left behind or “trapped” as a result (Bleeker et al., 2021; Ayeb-Karlsson, 2020; Goh, 2012, Mawby n.d.). Traditional gender roles further restrict women's participation in disaster planning (White et al., 2021), with men frequently prioritizing livelihoods and underestimating warnings – for example, in Bangladesh (Ayeb-Karlsson, 2020). This context calls for disaster response and recovery policies with gender considerations (Ginige et al., 2014), as highlighted

by the increased incidence of gender-based violence in post-disaster contexts, like after Hurricanes Iota (2020) and Maria (2017) (Ramos & Dias, 2021; Bower & Olson, 2018).

Review of existing policies and legal frameworks addressing climate-induced migration through gendered lenses

An assessment of 1,348 publicly available national instruments from 172 countries with reference to climate-induced migration reveals 463 instruments in Africa, 383 in the Americas, 249 in Asia, and 163 in Oceania. Of this total, 59% (or 797 instruments) were categorized as policies, another 23% were registered as legislation, and 18% as others (e.g., guidelines and programmes). Furthermore, around 32% (512) of the instruments relate to the climate agenda, most of them linked to documents submitted to the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat. Approximately 27% refer to disaster management and 23% cover aspects of human mobility such as immigration and asylum. Finally, around 18% were ascribed to the sustainable development thematic area (Serraglio et al., 2024a).

Importantly, 560 instruments present broad references to climate-induced migration, whereas 357 instruments have direct and specific provisions.⁶ An increase in the number of national instruments addressing the topic since 2010, particularly after 2015, was also noted. This increase correlates with global policy shifts marked by agreements such as the 2030 Agenda for Sustainable Development, the Sendai Framework for DRR (2015–2030), the Paris Agreement, others (Ibid.). Concerning gender responsiveness, more than 300 national instruments incorporate varying degrees of gender considerations, accounting for about 22% of the instruments reviewed. Despite this, a growing recognition of the need to address gender-specific impacts and challenges within frameworks governing human mobility, climate change, and disaster response has been noticed. This is because recent international arrangements have highlighted the need of addressing the climate-gender nexus (Serraglio et al., 2024a).

This section scrutinizes policies and legislation addressing climate-induced migration, identifying interventions that enhance gender perspectives. By examining the policy and legal landscapes in Ethiopia, India, and Peru, we offer an overview of national responses and highlights gender as a cross-cutting issue, shedding light on the challenges faced by each country (see Table 1). The analysis pinpoints policy gaps and opportunities, informing regional and international action agendas on how to better address the implications of climate-induced migration on gender.

Source: Prepared by authors, 2024.

Ethiopia's response to climate-induced migration and gender aspects

In examining instruments relevant to human mobility governance, two pieces of legislation pertaining to environmental factors were identified.⁷ One addresses displacement and planned relocation, and the other focuses on refuge. Environmental drivers include development projects (one instance) and environmental degradation (one). One

⁶ Recent examples include: (i) National Migration Policy (Sierra Leone, 2022); (ii) National Adaptation Plan to Climate Change (Spain, 2021); (iii) Policy and Strategy on Internal Displacement Management (Mozambique, 2021); (iv) National Adaptation Plan (Iraq, 2020); (v) Immigration Bill (Cook Islands, 2020); (vi) Special Law on Migration and Aliens (El Salvador, 2019); and (vii) National Strategic Resilience Framework (Lesotho, 2019);

⁷ These are: (i) Refugees Proclamation (No. 1110/2019), and (ii) Constitution of the Federal Democratic Republic of Ethiopia (1994).

Table 1 Overview of Ethiopia, India, and Peru's response to climate-induced migration and gender aspects

Country	No. of identified instr.	Instr. per governance sphere	Type of human mobility	Environmental drivers	Type of provision	Gender Marker						
Ethiopia	9	Human Mobility	Migration	0	Specific drivers	0	Direct Specific	1	A	0		
			Displacement	1			Direct	0	B	0		
			Planned Relocation	1	Broad references	2	General					
			Refuge	1			Indirect General	1	C	2		
		Climate Change	Migration	3	Specific drivers	4	Direct Specific	3	A	3		
			Displacement	2			Direct	1	B	0		
			Planned Relocation	2			General					
			Refuge	0	Broad references	0	Indirect General	0	C	1		
		DRR	Migration	0	Specific drivers	0	Direct Specific	2	A	1		
			Displacement	4								
			Planned Relocation	2			Direct	1	B	2		
			Refuge	0	Broad references	3	General					
		India	11	Human Mobility	Migration	1	Specific drivers	0	Direct Specific	1	A	1
					Displacement	1			Direct	0	B	0
					Planned Relocation	1	Broad references	2	General			
Refuge	0						Indirect General	1	C	1		
Climate Change	Migration			4	Specific drivers	4	Direct Specific	2	A	2		
	Displacement			3			Direct	3	B	3		
	Planned Relocation			4			General					
	Refuge			0	Broad references	1	Indirect General	0	C	0		
DRR	Migration			1	Specific drivers	0	Direct Specific	4	A	1		
	Displacement			4								
	Planned Relocation			2			Direct	0	B	3		
	Refuge			0	Broad references	4	General					
	General movements & others			0			Indirect General	0	C	0		

Table 1 (continued)

Country	No. of identified instr.	Instr. per governance sphere	Type of human mobility	Environmental drivers	Type of provision	Gender Marker		
Peru	16	Human Mobility	4 Migration	2 Specific drivers	1 Direct Specific	3 A	0	
			Displacement	0				
			Planned Relocation	1		Direct	0 B	2
			Refuge	3	Broad references	2 General		
		Climate Change	8 Migration	6 Specific drivers	1 Direct Specific	3 A	3	
			Displacement	2				
			Planned Relocation	0		Direct	4 B	4
			Refuge	0	Broad references	7 General		
	DRR	4 Migration	3 Specific drivers	0 Direct Specific	1 A	0		
		Displacement	0					
		Planned Relocation	1		Direct	2 B	2	
		Refuge	0	Broad references	4 General			
			4 General movements & others	0	Indirect General	0 C	0	

instrument has indirect and generic provisions, while the other includes direct and specific measures. Ethiopia's 1994 National Constitution addresses displacement due to development initiatives, emphasizing compensation and relocation (FDRE 1994). The Immigration Proclamation (No. 354/2003) calls for comprehensive immigration law to prevent climate-induced migration (FDRE 2003). Gender considerations are absent, warranting a C marker.

Regarding the climate agenda, four instruments acknowledging the topic were mapped,⁸ with three formulated post-Paris Agreement and the establishment of the Task Force on Displacement (TFD).⁹ This indicates alignment with global climate commitments. All instruments are policies and incorporate migration (75%), displacement and/or planned relocation (50%), and general population movements (25%). Environmental drivers mentioned include flooding, droughts, storms, soil erosion, and development projects. Provisions range from general references (25%) to direct and specific measures (75%). Ethiopia's Climate Resilient Green Economy: National Adaptation Plan (NAP) – Implementation Roadmap (2020) aims to enhance urban resilience through improved housing, infrastructure, climate awareness, and urban planning (FDRE 2020). Three out of four instruments (75%) recognize the link between climate change and gender dynamics, with specific provisions for mitigating impacts on women, earning an A marker. For example, the 2021 Updated Nationally Determined Contribution (NDC) emphasizes a

⁸ These are: (i) Updated Nationally Determined Contribution (2021), (ii) Ethiopia's Climate Resilient Green Economy: National Adaptation Plan (NAP) – Implementation Roadmap (2020), (iii) Ethiopia's Climate Resilient Green Economy NAP (2019), and (iv) Ethiopia's Climate Resilient Green Economy – Green Economy Strategy (2011).

⁹ Human mobility in the context of climate change was first expressly addressed under the international climate regime in 2010, at the 16th Conference of the Parties (COP16) to the UNFCCC. The topic was raised again two years later in discussions related to the support of a loss and damage mechanism to tackle the impacts of climate change. The inclusion of this subject in the climate agenda was further promoted with the adoption of the Paris Agreement. Decision 1/CP.21 (§ 49) requested the Executive Committee of the Warsaw International Mechanism on Loss and Damage (WIM) to establish a Task Force on Displacement (TFD) to develop recommendations to prevent and reduce forced migration processes driven by climate change. The TFD's first report was made available at the COP24 (2018).

gender-responsive approach for equitable outcomes, advocating for diversified adaptive livelihoods to enhance resilience to climate shocks (FDRE 2021).

Three DRR instruments were catalogued due to references to mobility in disaster scenarios,¹⁰ all delineating displacement situations: two involving planned relocations and one referring to evacuations. Two instruments, both policies, include provisions for the return and reintegration of person.¹¹ Each instrument links disaster-related events to environmental drivers. One policy has general provisions, while the other two offer specific measures on disaster displacement. The Humanitarian and Disaster Resilience Plan (HDRP) focuses on saving lives during drought and food insecurity, protecting livelihoods, and addressing humanitarian shocks like disaster displacement. It also supports voluntary return, integration, and resettlement, providing immediate assistance and disaster risk recovery (FDRE 2018). All identified DRR instruments recognize women's vulnerability to disaster impacts. The 2018 HDRP received an A marker for its community-based protection structures and efforts to reduce gender inequality, empowering women economically and socially (Ibid.).

India's response to climate-induced migration and gender aspects

The review identified eight instruments related to human mobility, with 25% (two instruments) acknowledging climate-induced migration.¹² The remaining 75% (six instruments) address broader mobility issues but do not cover environmentally driven population movements.¹³ These instruments discuss movements caused by the partition of British India and civil disturbances, focusing on shifts between India and Pakistan. The two relevant instruments include the National Rehabilitation and Resettlement Policy (2015) and the Climate Migrants (Protection and Rehabilitation) Bill (No. 160/2022).¹⁴ The Policy addresses displacement, while the draft legislation includes migration and planned relocation, referring to "return" and "reintegration," aligning with Objective 21 of the Global Compact for Safe, Orderly, and Regular Migration (GCM). The policy focuses on development projects as a cause of movement, while the draft legislation takes a broader stance on climate and environmental impacts. Furthermore, the Policy addresses internal movements, whereas the draft legislation covers internal, cross-border, voluntary, and forced movements; the Policy provides a general and indirect provision related to development projects, while the draft legislation focuses entirely on protecting "internally displaced climate migrants" and includes provisions for a National Policy for Climate Migration, a National Climate Migration Authority, and a climate migration fund (RI 2015 and 2022). The draft legislation also calls for specific

¹⁰ These are: (i) Humanitarian and Disaster Resilience Plan (HDRP, 2018), (ii) Disaster Risk Management Strategic Programme and Investment Framework (2014), and (iii) National Policy and Strategy on Disaster Risk Management (2013).

¹¹ They conform to Objective 21 of the Global Compact for Safe, Orderly, and Regular Migration (GCM), focusing on safe and dignified return, readmission, and sustainable reintegration as outlined in paragraphs 37(a) and 37(h).

¹² These are: (i) Climate Migrants (Protection and Rehabilitation) Bill (No. 160/2022), and (ii) National Rehabilitation and Resettlement Policy (2007).

¹³ These are: (i) Right to Fair Compensation and Transparency in Land Acquisition and Resettlement Bill (Amendment Ordinance, 2015), (ii) Displaced Persons (Compensation and Rehabilitation) Act (1954), (iii) Displaced Persons (Claims) Supplementary Act (No. 12/1954), (iv) Displaced Persons (Debt Adjustment) Act (No. 70/1951), (v) Administration of Evacuee Property Act (No. 31/1950), and (vi) Resettlement of Displaced Persons (Land Acquisition) Act (No. 60/1948).

¹⁴ Although the Climate Migrants (Protection and Rehabilitation) Bill (No. 160/2022) remains draft legislation, it has been included in the analysis due to its relevance to the subject matter.

measures for women's and children's shelters, ensuring their security, privacy, and access to female response personnel at all times (marker A) (RI 2022).

With the climate agenda, five instruments were identified, comprising 80% policies and 20% legislation.¹⁵ These instruments address different mobility forms: migration and planned relocation (four each) and displacement (three). Environmental drivers include sea-level rise, floods, storms, drought, and, to a lesser extent, cyclones, deforestation, and development projects. Three instruments (60%) link population movements to rural-urban migration, highlighting coastal areas' vulnerability, which is emphasized in 80% of the instruments due to concerns about infrastructure damage and relocation. While 60% of the instruments reference climate-induced migration generally, 40% provide specific provisions. The Compensatory Afforestation Act focuses on protecting state-protected areas, facilitating voluntary relocation (RI 2016b). The National Action Plan on Climate Change includes a "National Mission for Sustainable Agriculture" to address climate change's socioeconomic impacts, including migration. Although hydropower is India's cheapest power source, resettlement of displaced populations by development projects needs attention. Adaptation measures include relocating communities from sea shores to manage rising sea levels (RI 2008). Additionally, four instruments (80%) address gender issues, acknowledging women's vulnerabilities related to water scarcity, literacy, awareness, and empowerment. Three instruments have marker B, while the Third National Communication and Initial Adaptation Communication to the UNFCCC was categorized with marker A (RI 2023). This policy document affirms that climate change impacts are gender-specific, with women facing heightened vulnerability. As a result, gender has been integrated into India's development planning, and a "Gender Responsive Budgeting" was adopted in 2005 to ensure equitable budget allocation. More importantly, it lists key impacts of climate change on practical and strategic gender needs of women that include: reduced crop and livestock production, reduced water and fuel availability, increased occurrence of diseases, climatic extremes, male out migration, and human security (Ibid.).

In the DRR agenda, four instruments addressing the climate-migration nexus were identified,¹⁶ with half of them introduced alongside the establishment of the Sendai Framework. These consist of three policies (75%) and one piece of legislation (25%), all containing direct and specific references to the topic. Human mobility dimensions include displacement, evacuation and planned relocation, as well as migration; and they are all linked to disaster-related impacts. Moreover, half of the instruments refer to "affected families" and the other half mentions "temporary shelters". For instance, the National Guidelines on Temporary Shelters for Disaster-Affected Families (2019) aim to assist families affected or displaced by disasters. For displaced families, shelters provided as part of emergency response require additional essential services. In turn, relocation should consider the following aspects: prioritize consent and proximity to the original location, ensure access to basic services, avoid areas prone to environmental

¹⁵ These are: (i) Third National Communication and Initial Adaptation Plan to the UNFCCC (2023), (ii) Compensatory Afforestation Act (2016), (iii) Second National Communication to the UNFCCC (2012), (iv) National Action Plan on Climate Change (2008), (v) Initial National Communication to the UNFCCC (2004).

¹⁶ These are: (i) National Guidelines on Temporary Shelters for Disaster-Affected Families (2019), (ii) National Disaster Management Plan (2019), (iii) National Policy on Disaster Management (2009), and (iv) Disaster Management Act (2005). The study acknowledges the existence of 33 National Disaster Management Guidelines, covering a wide range of hazards, facilities, and cross-cutting issues. Nevertheless, due to the scope of this study, it opted to analyze only the National Guidelines on Temporary Shelters for Disaster-Affected Families.

degradation, and consider land ownership, others (RI 2019a). This said, three instruments (75%) received B markers for acknowledging the disaster-gender nexus and emphasizing the principle of “no one left behind”, gender-based violence, and assistance post-disasters. The National Disaster Management Plan (2019) (marker A) calls for “social rehabilitation that addresses the special needs of women and girls” (RI 2019b).

Peru’s response to climate-induced migration and gender aspects

Four pieces of legislation address climate-induced migration in Peru’s human mobility agenda,¹⁷ with 75% (three instruments) referring to refuge, 50% (two) to migration, and 25% (one) to planned relocation. These are mainly linked to cross-border movements (75%) and (in)voluntary internal movements (25%). Only the Law on Population Relocation for Areas of Very High Unmitigable Risk explicitly addresses environmental drivers like landslides and flooding (RP 2022), while two pieces of legislation broadly refer to climate and disaster impacts. The Refugee Law (No. 27.891/2002) extends the refugee definition to include human rights violations and public order disturbances (RP 2002). The other three pieces of legislation specifically reference climate-induced migration. Peru’s Migration Law (No. 1.350/2017) permits entry and residence for those facing life-threatening disasters and provides for migration regularization, particularly for vulnerable individuals, including forced displaced persons (RP 2017a). From a gender perspective, 50% of the legislation received B markers: the Law on Population Relocation emphasizes equality (RP 2022), and the Supreme Decree on the National Migration Policy (No. 15/2017) calls for gender mainstreaming at all government levels (RP 2017b).

Within the climate agenda, eight instruments tackle human mobility as a result of environmental drivers,¹⁸ with 62.5% (five) emerging post-2015. The primary mobility types are migration (75%) and displacement (25%), with references to forced and rural-urban movements. Environmental drivers include broad mentions of climate changes and deforestation. Half of the instruments (four) emphasize (forced) population movements due to climatic impacts. Another three instruments call for strategies to minimize climatic impacts on human mobility. Examples include Peru’s National Climate Change Adaptation Plan (2021) and the Supreme Decree Approving the Regulations of Law No. 30.754 (2018), both advocating for an action plan to address climate-induced migration (RP 2021 and 2018a). The Framework Law on Climate Change (No. 30.754/2018) aims to reduce urban infrastructure pressure and mitigate social conflicts, health, and education issues among migrants, defining “environmental migrants” (RP 2018b). Gender considerations are identified in 87.5% (seven) of the instruments: 50% (four) emphasize adopting a gender approach to tackle climate change effects (marker B); while 37.5% (three) have A markers. The 2015 National Climate Change Strategy calls for a platform with training for formulating gender-inclusive climate adaptation mechanisms (RP 2015). Peru’s Third National Communication mandates incorporating a gender perspective in environmental management across all government levels (RP 2016b). Additionally, the

¹⁷ These are: (i) Law on Population Relocation for Areas of Very High Unmitigable Risk (2022), (ii) Migration Law (No. 1.350/2017), (iii) Supreme Decree approving the National Migration Policy (No. 15/2017), and (iv) Refugee Law (No. 27.891/2002).

¹⁸ These are: (i) Supreme Decree Declaring the Climatic Emergency to be of National Interest (2022), (ii) Peru’s National Climate Change Adaptation Plan (2021), (iii) Supreme Decree Approving the Regulations of Law No. 30.754/2018 (2019), (iv) Framework Law on Climate Change (No. 30.754/2018), (v) Peru and Climate Change – Third National Communication from Peru (2016), (vi) National Climate Change Strategy (2015), (vii) Peru’s Second National Communication to the UNFCCC (2010), and (viii) Peru’s National Communication to the UNFCCC (2001).

Framework Law on Climate Change emphasizes considering climate change impacts on human rights, especially for women, and encourages informed citizen participation (RP 2018b).

In the DRR agenda, four instruments—two policies and two legislative pieces—address climate-induced migration.¹⁹ Three of these focus on migration, and one on planned relocation. These movements are characterized as internal, unplanned, and rural-urban. All DRR instruments link population movements to disaster events, with one also addressing general climate impacts. The Supreme Decree approving the Regulations of Law No. 29.664, which established the National Disaster Risk Management System (No. 48/2011), includes provisions for information for reconstruction, relocation options, and socioeconomic analysis of affected communities. It also mandates temporary relocation to safer areas as part of humanitarian assistance, including shelter setup, camp management, and physical and mental health support (RP 2011). Regarding gender considerations, half of the instruments received B markers, highlighting the need for gender approaches in disaster preparedness, management, and recovery.

Gender-related instruments addressing climate-induced migration

The study also investigated national policies and legal instruments specifically addressing gender issues in each of the countries, seeking provisions that may relate to the vulnerabilities inherent to women and girls who move due to environmental drivers, or who suffer the impacts of such movements. In Ethiopia, 05 gender-related instruments were identified.²⁰ Nevertheless, none of them associates gender with climate-induced migration. Attention is drawn to the Growth and Transformation Plan II (2015/16–2019/20), which aims to promote gender and youth empowerment, presenting specific targets to this end (FDRE 2015).

In India, two instruments include direct and specific provisions on the topic. The National Policy for the Empowerment of Women outlines measures to assist women affected by disasters, and emphasizes a gendered approach in housing policies and environmental strategies (RI 2001). In turn, the (draft) National Policy for Women: Articulating a Vision for Empowerment of Women underlines the need to avert climate change and environmental disproportionate impact on women, ensuring that gender considerations are incorporated into climate policies. This Policy also envisages strengthening social infrastructure for women, tackling education gaps for children of migrant families, and developing skill development programs to meet the needs of women in the workforce (RI 2016b).

Finally, three national gender instruments were found in Peru.²¹ In this regard, the 2016 Gender and Climate Change Action Plan addresses deforestation, underscoring migration as a driver and the gendered roles and impacts of migration. That is, the

¹⁹ These are: (i) the National Policy on Disaster Risk Management (No. 038/2021), (ii) the Ministerial Resolution detailing the Technical and Methodological Procedure for the elaboration of the Specialized Study of Disaster Risk Assessment and Vulnerability to Climate Change for Land-Use Planning (2016), (iii) the National Disaster Risk Management Plan (2014), and (iv) the Supreme Decree approving the Regulations of Law No. 29.664, which creates the National Disaster Risk Management System (SINAGERD, No. 48/2011).

²⁰ These are: (i) Ethiopia 2030: The Pathway to Prosperity – Ten Years Perspective Development Plan (2021), (ii) the Growth and Transformation Plan II (GTP II, 2015/16–2019/20), (iii) the Growth and Transformation Plan I (GTP I, 2006–2010), and (iv) the National Action Plan for Gender Equality (2006–2010).

²¹ These are: (i) the National Gender Equality Policy (2019), (ii) the Gender and Climate Change Action Plan (2016), and (iii) the National Plan Against Gender Violence (2016).

Action Plan discusses how women often take additional responsibilities in the aftermath of disasters, e.g. increased female-headed households and gender-based violence in such contexts (RP 2016a).

Implications, recommendations & conclusions

Ethiopia, India, and Peru face increased migration due to climate change, disasters, and environmental degradation (Serraglio et al., 2024b, Upadhyay et al. 2023, Bergmann et al., 2021). National policies and legal frameworks show a growing acknowledgment of these phenomena's impacts on vulnerable communities, including climate-induced migration and gender issues, though gaps remain (Serraglio et al., 2024a; Borràs-Pentinat, 2022; Mokhnacheva, 2022; Bower & Olson, 2018). The following sub-section examines further the extent of gender considerations in policies addressing climate-induced migration in the three countries, highlighting strengths and areas for improvement.

Climate-induced migration and gender integration in national instruments: synergies across countries

Regarding the inclusion of gender aspects in national policies and legal frameworks that recognize or provide for climate-induced migration, the analysis reveals a trend of increasing integration of gender considerations into human mobility, climate, and DRR instruments, albeit with varying degree of depth (Serraglio et al. 2024, Mokhnacheva, 2022). Each country's policy landscape exhibits unique approaches to incorporating gender perspectives in instruments addressing the climate change-human mobility nexus.

Initially, Ethiopia, despite lacking gender considerations in its human mobility agenda, effectively integrates gender into climate and DRR frameworks. For instance, the 2021 NDC calls for alternative livelihoods to bolster women's resilience against climate shocks,²² while the 2018 Humanitarian disaster Response Plan provides community-based protections for women (FDRE 2021 and 2018).²³ India integrates gender considerations across all national policy areas, with specific actions and budgeting measures tackling gender disparities arising from climatic impacts. In this regard the draft 2022 Climate Migrants Bill ensures the safety and privacy of women and children in shelters.²⁴ Moreover, the Third National Communication emphasizes incorporating gender-specific vulnerabilities in development planning, and the 2019 National Disaster Management Plan focuses on the social rehabilitation of women and girls post-disaster (RI 2022, 2023, and 2019b).²⁵ Peru shows room for more direct provisions linking gender to

²² "[...] a gender-responsive approach will be adopted and vulnerable groups and communities will be considered to ensure equity in sharing benefits that arise thereof the efforts. Together with these initiatives, efforts will be made to diversify adaptive livelihood alternatives that enhance households' resilience to climate shocks in a manner that the livelihood options are friendly co-exist with the natural ecosystem" (FDRE 2021, 18).

²³ "Community based protection structures, including women centers and child friendly spaces, will be established. These structures will ensure that persons with specific needs, including women and older persons at risk, persons with disabilities and children without appropriate care are identified and provided with emergency protection services" (FDRE 2018, 15).

²⁴ "Ensuring temporary shelters basic safety, security and privacy provisions for women and children, including but not limited to presence and accessibility of female response personnel at all times, sufficient communication infrastructure, and frameworks to address complaints related to gender-based violence in said shelters as per existing laws; [...]" (RI 2022).

²⁵ "Social rehabilitation is also an important part of disaster rehabilitation. The vulnerable groups such as the elderly, orphans, single women and young children would need special social support to survive the impact of disasters. The rehabilitation plan must have components that do not lose sight of the fact that the victims have to undergo the entire process of resocialization and adjustments in a completely unfamiliar social milieu" (RI 2019b).

climate-induced migration but is committed to integrating gender in the climate agenda. Almost all instruments identified advocate a gender-inclusive approach in climate adaptation mechanisms, such as the 2018 Framework Law on Climate Change and the 2016 Gender and Climate Change Action Plan (RP 2018 and 2016).²⁶ Domestic DRR instruments focus on preparedness, management, and recovery with a gender perspective.

A comparative analysis of these three countries reveals that Ethiopia's human mobility instruments lack gender mainstreaming, unlike those in India and Peru, which incorporate explicit gender provisions. In Ethiopia, gender considerations are significantly embedded within the climate agenda, as evidenced by three of the four identified climate instruments receiving an "A" marker. Similarly, in India, of five identified instruments, two received an "A" and three a "B" marker. In Peru, eight climate instruments were examined, with three rated "A" and four rated "B." Therefore, gender provisions within broad national climate policies of the three countries emphasize empowering women and ensuring their participation in adaptation efforts. Another common trend among these countries is the recognition of the need for gender-sensitive approaches in disaster risk management. Ethiopia and India explicitly incorporate gender-specific needs in DRR strategies, while Peru's approach is less direct. This pattern indicates that gender considerations are more comprehensively addressed in broad environmental and disaster contexts than in migration-specific policies. Furthermore, when gender provisions are included, they are often generalized and serve as guiding principles, with fewer tailored actions addressing the unique needs of women in climate-induced migration contexts (GIZ, 2021). For instance, Ethiopia's Climate Resilient Green Economy: National Adaptation Plan (NAP) considers gender to be a significant factor in a broader context, "recognizing that women may be particularly vulnerable to climate change due to socio-economic inequalities that limit their adaptive capacity" (FDRE 2020).

Conclusions

Climate change, disasters, and environmental degradation affect people differently, with women being more vulnerable due to gender roles, economic disparities, and limited decision-making power. Gender inequalities restrict women's migration as an adaptation strategy, often leaving men to migrate and women to manage household duties, depend on available natural resources, and bear increased agricultural workload. Migration itself exposes women to risks like abuse and exploitation, while in disaster situations, they disproportionately bear the burden of being left behind. Reviewing national policies and legal frameworks on climate-induced migration reveals progressive recognition and policy efforts in the countries studied. These countries have developed instruments influenced by international and regional policy advancements. However, the scope of human mobility types covered is limited, primarily addressing internal movements rather than international migration and displacement. National immigration legislation also often addresses this topic broadly and indirectly. Thus, policy development in Ethiopia, India, and Peru has focused more on addressing environmental drivers of migration than facilitating population movements. Regarding gender mainstreaming, some instruments explicitly designate gender responsiveness as a core principle, suggesting

²⁶ "The Gender and Climate Change Action Plan is a public management instrument aimed at guiding the actions of various entities within the Peruvian government to reduce gender inequalities in the country in the scope of their competencies related to greenhouse gas (GHG) emissions management and climate change adaptation" (RP 2016).

that actions under these instruments should follow gender-responsive guidelines. This approach enhances resilience by addressing gender inequality-related mobility drivers and recognizing women's and girls' diverse needs. However, without clear integration of gender considerations within provisions for climate-induced migration, these aspects may be overlooked in implementation. The instruments do not adequately consider challenges like patriarchal norms that exacerbate women's vulnerabilities, limited access to information and resources, economic independence, and rights fulfillment for migrant women.

Recommendations

Given that gender dynamics are frequently overlooked or underdeveloped in migration, climate change, and DRR frameworks, we make the following recommendations:

- Strengthen and make more specific policy and legal frameworks on climate-induced migration and gender, which is crucial to address the needs and protect the rights of displaced women and girls. Instruments with indirect provisions could be adapted to enhance safe migration pathways for vulnerable groups.
- At the national level, countries should integrate climate-induced migration and gender impacts into climate, DRR, and migration policies. National human mobility agendas could incorporate gender-related topics by referencing existing policy provisions that address climate-induced migration's gender impacts.
- Countries should create detailed action plans with specific objectives to understand and address climate-induced migration gender impacts. Instruments for protecting women and girls, such as India's 2001 National Policy for the Empowerment of Women and Peru's 2016 Gender and Climate Change Action Plan, can guide gender-focused provisions.
- Locally, community-based approaches empowering women can ensure their societal roles and contributions are recognized, promoting their participation in developing climate-induced migration solutions. Emphasis should be on enhancing women's contributions to climate adaptation and disaster risk reduction.
- Policy interventions must acknowledge gender intersectionality, recognizing how privilege, discrimination, and resource access intersect. Gender operates alongside other identity aspects, affecting social inequalities or advantages.
- Addressing gendered climate impacts requires policies that facilitate women's access to education and resources, involve them in decision-making, and ensure gender-sensitive migration instruments.
- Better data and research on gender and climate-induced migration linkages are needed. Improved evidence could clarify how climate change differentially affects women and men, aiding effective policy measures.

Appendix: Country policies and Legal Frameworks Analysed

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Supplementary Information

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Data availability

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

Declarations

Competing interests

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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