



COMMENT



<https://doi.org/10.1057/s41599-026-07094-2>

OPEN

Inherited inequalities: intergenerational gender norms and the non-migration of women in a changing climate

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Socio-cultural divisions of roles, tasks, and expectations reinforce societal norms surrounding gender. In many contexts, individuals enact and execute gendered scripts (consciously or not) in ways that create and maintain a social order that favors men and masculinity over women and femininity. This order serves to reinforce historical gender inequalities and divisions. As with other gender norms, gender ideologies surrounding migration decision-making persist from past generations, shaping present-day mobility dynamics. These gendered mobility norms can be rigid, failing to account for changing climate conditions. Intergenerational gendered norms surrounding migration are therefore significant in shaping patterns of migration and non-migration across gendered lines, resulting in unequal distributions of climate risk and unequal access to migration or non-migration as adaptation strategies. This position paper advocates for a framework to explain the intergenerational non-migration of women in the context of environmental risk. The proposed framework is *intergenerational gendered environmental non-migration (IGEN)*, where non-migration is placed at the center of the analysis, and applies an intergenerational lens to understand gendered aspirations and capabilities to execute mobility decisions in the climate-vulnerable patriarchal landscape

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Introduction

Migration is widely recognized as an adaptation strategy to environmental risks (Boas et al., 2025), and environmental shocks often increase migration aspirations (Freihardt, 2025). According to the Internal Displacement Monitoring Centre (IDMC) (2025), extreme weather events and disasters triggered an unprecedented 45.8 million internal displacements worldwide in 2024, nearly double the annual average of the past decade, with storms and floods accounting for the majority of these movements across multiple continents. While environmental factors significantly shape such mobility patterns, they intersect with social structures—including gender—to determine who moves and who remains (Hoffmann et al., 2019). In Bangladesh, seasonal climate disasters affect roughly 32% of coastal communities, and 64% of households in floodplain areas experienced at least one displacement due to river erosion, with an average of seven displacements per household (Seddiky et al., 2024; Khan et al., 2021). Displacement events often reproduce gendered vulnerabilities, as women disproportionately shoulder caregiving responsibilities and face mobility constraints (Furlong et al., 2022). Thus, one key understudied dimension of the relationship between environmental risk and staying in place (hereafter non-migration) is gender.

Again, knowledge about how people respond to livelihood threats—whether to migrate or stay—within a particular environment is often passed down through generations (Mallick and Hunter, 2024). Likewise, attitudes towards gender roles and how gender is constructed in the family and in society more broadly are also intergenerational and deeply entrenched in societies and cultures. At the same time, the gendered dimensions of environmental migration are beginning to be explored, but much less is known about those of non-migration (Hunter and David, 2009). Thus, a significant knowledge gap remains regarding how women's non-migration decisions evolve across generations in the face of environmental risk and how those decisions are rooted in intergenerational gender norms.

Actually, intergenerational gendered outcomes, including patterns of non-migration, are deeply embedded within patriarchal social structures that shape norms, expectations, and entitlements across generations (Mallick and van den Berg 2025). In such contexts, women (daughters) are often socialized into traditional domestic and caregiving roles that are socially legitimized but simultaneously constrain access to socially prestigious positions and long-term economic mobility (Farré and Vella, 2013). Moreover, when mothers engage in counter-stereotypical roles, such as paid employment, daughters may experience negative social evaluations that further limit their opportunities within gender-stratified local hierarchies (Bridges et al., 2002; De La Rica and Román, 2016). Under conditions of climate change and disaster risk, these gendered norms are not only reproduced but amplified. Women and girls disproportionately shoulder intergenerational care responsibilities, particularly for children and older family members, which can delay access to early warning systems, evacuation, and safe shelters during climate-related hazards (Furlong et al., 2022). These socially embedded obligations increase women's exposure to risk and constrain their mobility options, whether to stay or migrate.

A mounting body of literature finds complex, context-dependent relationships between non-migration and environmental risk (Pemberton et al., 2021; Furlong et al., 2022). It examines how households may use non-migration as an adaptive strategy for livelihoods under environmental stress. Assessing non-migration is more than just the opposite of evaluating migration (IOM, 2017). Instead, it is crucial to collect information on the aspirations and capabilities of both migrants and non-migrants to determine whether the decision to remain non-

migrant was forced or voluntary. Non-migrants in risky locales who can migrate but elect not to are voluntary non-migrants, while those who desire to migrate but cannot (due to lack of resources, self-efficacy, access to information, etc.) may be considered forced or involuntary non-migrants (Mallick and Schanze, 2020). This classification, however, is complex and not simply based on whether one has the resources to move. Some residents who lack the capabilities to migrate may choose to stay voluntarily, especially if they have the capacity to adapt in place. Still, it is important to note that the logical distinction between voluntary and involuntary non-migrants is critical to understanding agency's role in environmental non-migration and its gender inclusiveness. Consequently, gendered non-migration in climate-vulnerable contexts cannot be adequately explained through individual choice or economic reasoning alone. Instead, it emerges from the intersection of intergenerational gender norms, care responsibilities, and structural inequalities. As mentioned, the gendered nature of environmental migration has begun to be explored in the literature, but equal attention should be given to why and how non-migration is gendered. This highlights the need for a more holistic analytical framework that integrates gender, intergenerational relations, and climate vulnerability to inform inclusive and equitable climate adaptation and migration policies. The framework should address the question: How do gendered societal customs, religious practices, and beliefs, as well as intergenerational transfers and transformations of gendered expectations, influence women's non-migration in the face of environmental stress?

Existing gendered frameworks in climate change research, including feminist political ecology (Rocheleau et al., 2013; Elmhirst, 2015), gender and development (Rathgeber, 2003; Kataeva et al., 2024), intersectionality (Crenshaw, 2013; Bonu Rosenkranz, 2024), and social vulnerability approaches (Drakes, and Tate, 2022), have been central to explaining differentiated climate impacts across social groups. These frameworks highlight how gendered divisions of labor, unequal access to resources, power asymmetries, and institutional exclusions shape vulnerability, adaptation capacity, and resilience. Intersectional analyses further demonstrate how gender interacts with class, age, ethnicity, and location to produce uneven climate outcomes (Bonu Rosenkranz, 2024). Despite these advances, much of this literature treats gender as temporally static and primarily focuses on intra-generational inequalities, often neglecting how gender norms, roles, and responsibilities are reproduced, contested, or transformed across generations. However, an intergenerational, gendered framework is essential to understanding climate vulnerability as a dynamic process shaped by the transmission of care obligations, mobility constraints, and adaptive capacities within families and communities. Such a perspective moves beyond immediate exposure to climate risk and enables more inclusive climate and migration policies that address the long-term social reproduction of gendered vulnerability.

Keeping the above-mentioned lacuna of intergenerational gendered influence on non-migration in the face of climate change, this position paper proposes a conceptual framework, titled *Intergenerational Gendered Environmental Non-Migration (IGEN)*, that places non-migration at the center of the analysis and applies an intergenerational lens to understand gendered aspirations and capabilities to execute mobility decisions in the climate-vulnerable patriarchal landscape. This IGEN framework helps identify and elucidate (1) the historical dimensions of environmental risk related to women's non-migration and (2) the role of intergenerational experience and knowledge of women non-migrants in climate adaptation. The IGEN framework is designed to serve as an instrumental tool for connecting the

historical dimensions of environmental risks to non-migration decision-making among women living in a climate-vulnerable context. While outlining the historical dimension, entrenched intergenerational experiences and knowledge, gendered histories, familial expectations, and local acquaintance, the framework advances a deeper understanding of women's mobility decisions. Hence, the framework sheds light on a rarely discussed issue of gendered immobility rooted in complex social, cultural, and historical processes within climate-affected communities. Increased knowledge about such intergenerational dynamics and interlinkages between environmental non-migration and gender will support locally driven adaptation strategies and action plans.

The following sections advance the IGEN framework by tracing how gendered non-migration emerges under environmental risk. "Gendered ideology of the society at environmental risk" examines gendered social ideologies shaping exposure and adaptation expectations, followed by "Intergenerational transmissions of gendered ideology and knowledge," which applies an intergenerational lens to show how norms around care and mobility are transmitted across generations. "Agency, gender, and mobility decisions in the context of environmental stress" analyzes how these constraints shape agency and mobility decisions under environmental stress. "Edifying intergenerational gendered environmental non-migration (IGEN) framework" synthesizes these insights into the IGEN framework, while "Outlook" discusses implications for future research and inclusive climate and migration policy.

Gendered ideology of the society at environmental risk

Environmental risks disproportionately affect women due to societal roles, responsibilities, and socio-economic status (Erman et al., 2021). Prevailing gender attitudes, beliefs, and ideologies affect these ascribed roles and responsibilities (Perales et al., 2021). Especially in some Global South nations, where patriarchal power structures are entrenched, forming the foundation of a traditional, conservative social and cultural system, men are typically expected to be the primary economic providers. At the same time, women are assigned primary caregiving roles (Furlong et al., 2022; Perales et al., 2021) with tasks that often align with access to and processing natural resources, such as collecting water, producing household crops, gathering and carrying fuel for cooking, and using herbs to treat diseases (Abid et al., 2018). Processing and primary use of natural resources necessitate women staying home, making their low- or unpaid informal work homebound (Resurrección et al., 2019).

Women's vulnerability to environmental risks is then threefold. First, reliance on natural resources, which are subject to climate variability, makes women more susceptible to climate change and other environmental risks (Abid et al., 2018). Second, extreme climatic conditions increase women's domestic responsibilities, especially when caring for ill or injured family members (Resurrección et al., 2019). This constrains their ability to access essential supplies such as food, fuel, and government services. Third, women are more likely to be harmed or die from the effects of climate-related disasters, such as storms and floods, as they are often confined to their houses and care for less mobile family members (Resurrección et al., 2019).

In their study, Neumayer and Plumper (2007) reported that 90% of the 140,000 people who died during the 1991 cyclone in Bangladesh were women. Reasons for the intense inequality in fatalities include women being the last to leave the house because of protecting the wealth of the family pre-disaster situations, gender-based violence due to inadequate design of cyclone shelters, and women's inability to swim (Erman et al., 2021; Tanny and Rahman, 2017). In addition to drastic fatality rates among

women, lack of ownership and control over resources, limited access to household or community decision-making, and their traditional role as caretakers of their families add to their increased vulnerability (Neumayer and Plumper, 2007; Reggers, 2019).

In many developing regions, especially those highly susceptible to environmental or climatic stress, men often migrate to earn income elsewhere, while women remain to manage the household. In addition, women's mobility can be limited by cultural norms (Furlong et al., 2022; Arora-Jonsson, 2011). However, to strengthen the analysis of intergenerational gendered non-migration, more evidence is needed on the specific aspects of gender socialization transmitted across generations, such as caregiving responsibilities, household decision-making, and socially sanctioned mobility norms.

Intergenerational transmissions of gendered ideology and knowledge

Research on intergenerational gender socialization assesses the extent to which children adopt or adapt these norms from parents and grandparents, using surveys, life-history interviews, or observational studies. Comparative analysis could examine whether variations in these socialization patterns correlate with differences in non-migration decisions, disaster preparedness, or adaptive outcomes. Such an approach would clarify how gendered social learning shapes resilience and mobility decisions across generations.

We engage an intergenerational perspective on the environment (non)-migration, following other arenas of scholarship that use this lens, e.g., the intergenerational transmission of violence (Widom and Wilson, 2014), risk and trust attitudes (Dohmen et al., 2011), and depression (Goodman, 2020). For example, research by Dohmen et al. (2011) suggests that parental attitudes and behavior influence children's attitudes and behavior. Such transmission attitudes and behavioral tendencies may also include important worldviews and fundamental preferences. Regarding gender, they conclude that there is little support for the hypothesis that intergenerational knowledge transmission of risk and trust is gender-specific, i.e., varies between parents and children (Dohmen et al., 2011). For instance, in their longitudinal study of 1806 Australian 14/15-year-old adolescents, Perales et al. (2021) found that fathers' attitudes influence sons' and daughters' attitudes equally. In contrast, mothers' attitudes influence daughters' attitudes more than sons'. This pattern is not consistent across both parents, thereby weakening the overall claim that knowledge transmission is systematically gender-specific.

Beyond the discussion of paternal-maternal influence, "gender socialization" theory is highly influential in interpreting similarities in parent-child sociocultural attitudes. Considering the intergenerational transmission of specific gender attitudes, beliefs, and ideologies, this theory postulates that parents are fundamental in shaping their children's culturally conventional gender norms from a young age (Perales et al., 2021). Being exposed to specific gender scripts and ways of performing gender, children internalize and learn to copy their parents' behavioral tendencies, shaping their worldviews and own attitudes of gender. For instance, Mallick and Hunter (2024) show that intergenerational disaster experience shapes non-migration decisions. After the 1970 Bhola Cyclone in Bangladesh, two clear patterns emerged: first, in families where first-generation survivors stayed and shared specific knowledge about warning signs, evacuation, shelter use, and recovery strategies. Children and grandchildren in these families developed greater preparedness and stronger confidence to cope locally, reducing their inclination to migrate. In families where first-generation survivors were migrated

(temporarily) soon after the cyclone, little experiential knowledge was passed down. Younger members in these households showed lower adaptive confidence and were more inclined to consider migration. Complementing this, Mallick and van den Berg (2025) found that women's adaptive practices—such as flood coping strategies—are passed from mothers to daughters, even as gendered norms constrain mobility. Similarly, T. Furlong et al. (2022) show that women's emotional attachments, caregiving roles, and sense of belonging shape immobility in hazard-prone areas. Comparable patterns appear in other countries: in Indonesia, intergenerational knowledge of typhoon survival enhances local adaptation among children (Harada, Shoji, and Takafuji, 2023), and in Pacific Island nations, mothers' disaster experiences influence daughters' decisions to stay or migrate (Campbell et al., 2025). These studies collectively demonstrate that prior generations' experiences and adaptations critically shape how current generations, particularly women, make gendered (non-)migration decisions. Relatedly, the experience of, and adaptations to, environmental risks of prior generations may shape the understanding and decision-making of current generations, including those associated with gender and (non)migration.

Agency, gender, and mobility decisions in the context of environmental stress

Usually, the Feminist Political Ecology (FPE) framework highlights women's often-invisible, unpaid environmental and caregiving labour, which constrains mobility and intensifies under environmental stress, especially in areas with weak infrastructure (Bélangier and Silvey, 2020). By extending ethics of care to human and non-human relations, FPE shows how care-centered, intergenerational practices anchor women to place and shape gendered non-migration (Ojeda et al., 2022). Again, intersectionality is central to FPE, emphasizing that (im)mobility is shaped not by gender alone but through its interaction with class, caste, age, ability, and religion (Crenshaw, 2013). This lens reveals substantial variation in women's experiences of environmental change and mobility. For example, disabled women often face heightened vulnerability during disasters due to limited access to institutional support. Religious identity further conditions risk, as Hindu women in Muslim-majority Bangladesh experience climate impacts differently (Ahmed and Eklund, 2021). Age also intersects with gender: in Cambodia, young women increasingly migrate for work, while older women who remain assume greater care responsibilities, illustrating how age and gender norms jointly shape who moves and who stays (Nurick and Hak, 2019). Thus, individual agency is critically essential in mobility choices, and this agency is influenced by social structures and power relations (e.g., gender dynamics) (Rao et al., 2019). Prevalent gender ideologies often portray women as selfless mothers who remain at home to care for their children, thereby socially constructing women's immobility as natural (Mata-Codesal, 2017). For rural Mexican women, this idea means that while young married men are encouraged to migrate, women are expected to patiently wait for their migratory spouse at home, as their prescribed tasks and values are meant to encompass partnership and motherhood. Nonetheless, women are sometimes included in migratory movements. They often move for family reasons, for instance, when marrying someone from another village, which may be considered a socially acceptable form of migration. There are very real social consequences for women who challenge these expectations surrounding migration, including exclusion, stigmatization, and discrimination (Rao et al., 2019).

Research by Furlong et al. (2022) on the gender dynamics within immobility decisions in rural Bangladesh illustrates the “locally bound agency” of women's migration decisions. In this

context, women consciously decide to stay, not simply subscribing passively to existing patriarchal structures. Intentionally choosing immobility aligns with feelings of attachment to home and the moral obligations of becoming respectable wives. The latter correlates with the expectation of taking on domestic and caretaking responsibilities. In this decision-making sphere, immobility is appraised as a sign of pride, honor, and good nature. Migrating, on the other hand, is, for rural Bangladeshi women, generally considered shameful. Moreover, male-dominated discourse allows for conveying the idea that women's migration is a significant safety risk. The village and home are generally perceived as safe places for women, whereas life outside the village is considered a greater risk, even greater than exposure to environmental risks. These internalized perceptions make non-migration a safer option for women (Furlong et al., 2022).

An example is also provided by research in a small Senegalese fishing community, where women often remain in their hometowns. At the same time, men engage more frequently in seasonal migration in response to changes in maritime conditions driven by weather (Zickgraf, 2022). The divide in occupational gender roles constrains women's migration opportunities. Specifically, men dominate the role of fisherman, while women process and sell the caught fish [ibid]. These studies thus reflect a notion of agency in which women's decisions regarding migration are bounded by socio-cultural and economic circumstances, thereby making agency local and gendered [ibid]. Taken together, these intersecting dynamics of gender, intersectionality, and intergenerational gender socialisation show that climate-related non-migration cannot be adequately explained through static or single-axis frameworks, underscoring the need for an Intergenerational Gendered Environmental Non-migration (IGEN) framework that captures how gender norms, socialisation processes, and generational experiences jointly shape mobility and staying decisions under environmental risk, is presented in the following section.

Edifying intergenerational gendered environmental non-migration (IGEN) framework

As evident in previous discourse, non-migration decisions within a sociocultural context can be usefully determined from an intergenerational perspective. The proposed conceptual IGEN framework (Fig. 1) presents the underlying socio-cultural and historical elements that influence gendered non-migration, as well as (inter)generational migration and non-migration trends and knowledge transfers: social structures, socio-environmental context, and locally bound individual agency. It also investigates intergenerational influences on which environmental risk leads to

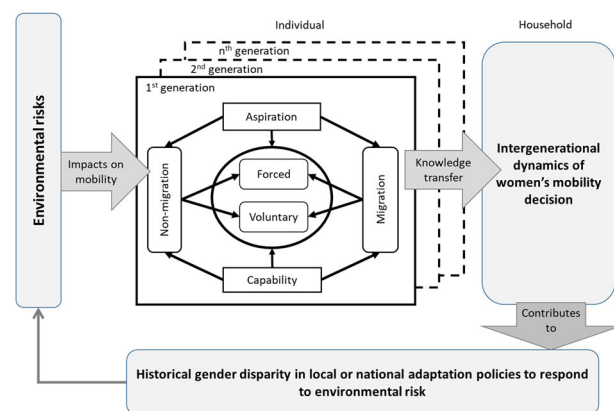


Fig. 1 Conceptual framework by the author(s).

Table-1 Operationalising the IGEN framework.

Component	Analytical focus	Example of indicators
Environmental risks	Exposure and intensity	Flood frequency, salinity intrusion, heat stress days, livelihood loss
Aspiration	Desired futures and mobility preferences	Migration intentions, education aspirations for daughters, perceived benefits of staying
Capability	Ability to act on aspirations	Education, income control, land ownership, access to transport, social networks
Mobility outcome	Form of movement or staying	Voluntary migration, forced displacement, constrained non-migration
Intergenerational dynamics	Knowledge and norm transmission	Parental narratives, caregiving roles, inheritance practices, honour/safety norms
Gendered policy context	Institutional constraints/enablers	Access to adaptation programmes, housing schemes, disaster compensation, migration support
Knowledge transfer	Household-level learning	Risk awareness, coping strategies, adaptation practices shared across generations

women’s migration or non-migration, under what conditions, by what mechanisms, and with what gendered outcomes. Thus, individuals rely on socio-cultural factors to guide their mobility decisions, which are often reinforced and transferred inter-generationally (Furlong et al., 2022). As shown in Fig. 1, environmental risks and individual perceptions are influenced by historical gender disparities in mobility decisions. However, mobility decisions—either forced or voluntary—are further distinguished by aspiration and capability (Mallick and Schanze, 2020), i.e. “aspirations to stay”, “aspirations to move”, “capabilities to stay,” and “capabilities to move” and results in four categories in mobility outcome: (i) voluntary non-migrants, (ii) involuntary (forced) non-migrants, (iii) voluntary migrants, and (iv) forced migrants.

Environmental risks and stressors make it more challenging for people to maintain their way of life, which may impair their ability to migrate or stay and their aspirations. As mentioned, gender norms and gendered expectations often contribute to unequal mobility capabilities and different aspirations. These gender dynamics may influence personal knowledge, experiences, ideas, and values, which are then transferred intergenerationally. This means that behavioral tendencies and ideologies from prior generations shape the current generation’s decision-making and contribute to a dominant mobility discourse (Goodman, 2020). Prevailing gender ideologies are thus sustained and reinforced by historical gender dynamics, shaping every family layer vis-à-vis society. Therefore, any form of policymaking at the local or national level is affected by gender ideologies, which also shape the boundaries of human agency, freedom of movement, and access to different adaptation strategies.

Women’s vulnerability to environmental risks is maintained through the intergenerational transmission of gendered ideologies and policies. These, in turn, affect an individual’s capabilities and aspirations to stay or migrate, which are then passed on to the next generation. This conceptual framework asserts that mechanisms that shape mobility decisions are self-perpetuating and must be appreciated across temporal scales.

Although there are more opportunities (physical, economic, social) to migrate, women are still constrained by social desirability, familial/societal expectations, socio-economic status, etc. Generationally reinforcing norms surrounding migration and non-migration may limit women’s ability to consider migration or non-migration as proactive adaptation strategies. Research asserts that women are more likely to die during an environmental disaster and are more affected by climate change consequences (Erman et al., 2021; Resurrección et al., 2019). This stems from systemic inequalities and gender ideologies that outline constructed scripts, performances, and the physical spaces where women can move freely (Perales et al., 2021). Climate change risks thus don’t discriminate by gender, but their effects do (Erman et al., 2021). Being homebound and reliant on natural

resources, the reinforcement of traditional gender roles and climate change disproportionately affect women’s livelihoods. These gender ideologies translate to the context of environmental risks (Resurrección et al., 2019), shaping environmental (non-)migration decisions.

Here, the IGEN framework conceptualizes these dynamic interconnections among environmental risk, women’s mobility and immobility, intergenerational dynamics, and historically embedded gender disparities. Rather than operating in isolation, these components interact recursively over time, jointly shaping women’s mobility decisions across generations. At the core of the IGEN framework, aspiration and capability function as distinct yet interrelated determinants of migration and non-migration. Mobility outcomes are further differentiated into voluntary and forced forms, reflecting the influence of individual- and household-level gender relations. Environmental risks do not directly determine mobility outcomes; instead, they exert cumulative, often gradual pressure that is mediated by deeply rooted gender inequalities. These inequalities are themselves shaped and reinforced by local and national adaptation policies that have historically marginalised women’s needs, agency, and access to resources.

To operationalise the framework empirically, key components can be measured using observable indicators (see Table 1). Environmental risk may be assessed through exposure to flooding, salinity intrusion, heat stress, or livelihood loss. Aspirations can be examined via perceived desirability of migration, future livelihood expectations, or educational goals for daughters. Capabilities may be operationalised using access to financial resources, land ownership, social networks, education, mobility autonomy, and access to information or transport. Intergenerational dynamics can be captured through parental narratives, caregiving responsibilities, inheritance practices, and norms governing women’s safety and honour. Finally, policy-level gender disparities may be assessed through women’s access to adaptation programmes, disaster compensation, housing schemes, or migration support mechanisms.

Thus, intergenerationally transmitted gender ideologies of mobility decision-making stem from past generations, are persistent, and may not respond to changing climate conditions. This challenges future research on the gendered dimensions of environmental migration decisions, which must consider the influences of deeply entrenched gender norms. In addition, future policies surrounding environmentally induced migration must assume that these norms and attitudes are likely deeply entrenched, including across generations.

Outlook

Intergenerational knowledge transfer at the household level forms a critical mechanism through which gendered norms, aspirations, and perceived capabilities are transmitted. This process influences

women's mobility decision-making while simultaneously reinforcing broader social norms and gendered power relations. Over time, these recurring dynamics reproduce cycles of immobility, vulnerability, and constrained adaptive pathways, even as lived experiences and environmental conditions evolve across generations. Importantly, environmental non-migration is not a linear or purely rational choice. Understanding women's immobility requires attention to gendered dynamics at individual, household, community, and policy levels, particularly where patriarchal norms are historically embedded in institutions. An intergenerational lens is essential, as aspirations and capabilities are socially produced and transmitted over time. While climate impacts may intensify, shift spatially, or transform in nature, gender norms governing women's mobility often remain remarkably persistent. This persistence underscores the need for research and policy to move beyond economic or environmental explanations and recognise mobility as a socially conditioned outcome grounded in history, culture, and power relations. Effective adaptation planning must therefore confront entrenched gender ideologies and support women not only in navigating existing constraints but also in redefining the boundaries of agency and decision-making across generations.

The IGEN framework thus offers an analytical lens for understanding why women may remain immobile despite high exposure to environmental risks. It demonstrates how environmental stressors intersect with patriarchal social structures and intergenerational learning processes to shape mobility outcomes over time. The recursive and integrated nature of the framework makes it conceptually robust and empirically applicable across diverse hazard-prone and climate-vulnerable contexts.

Received: 11 June 2025; Accepted: 12 March 2026;

Published online: 28 March 2026

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Acknowledgements

First author acknowledges the support of the NWO-SSH-XS grant for the project “Why Female Stay despite Environmental Risk: Intergenerational Perspective (FeStay),” Grant ID # 406.XS.01.020.

Author contributions

Conceptualization, BM; writing drafts, BM, JB, and MB; review and writing: KB, AB, and LH; copy-editing and revision, BM, LM; finalizing, BM, JB, and MB.

Competing interests

The authors declare no competing interests.

Ethical statement

This article does not contain any studies with human participants performed by any of the authors.

Informed consent

All authors have read and agreed to the published version of the manuscript.

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