Climate Change, Urban Planning and Environmental Migrants

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Abstract

Climate change has emerged as a key driver of contemporary migratory movements, alongside traditional causes such as conflict, political persecution, and economic hardship. Unlike war-related or economic migration, climate-induced displacement is typically large-scale, involuntary, and permanent. Environmental migrants are often compelled to abandon their territories due to extreme drought, desertification, flooding, and climate-related diseases, with many relocating to urban centres already facing significant infrastructural and environmental pressures. The arrival of these populations exacerbates existing vulnerabilities, including the urban heat island effect, soil sealing, loss of biodiversity, and the overburdening of essential services such as healthcare, housing, food supply, and waste management. Furthermore, integrating culturally diverse, non-autochthonous groups poses additional challenges for social cohesion and governance. Methodologically, this paper is grounded in a theoretical framework and a systematic review of the relevant literature. By explicitly combining the themes of environmental migration, climate change, and urban planning, this study offers a novel perspective, highlighting the urgent need for anticipatory, inclusive, and solidarity-based urban planning aligned with Sustainable Development Goal (SDG) 11, integrating migration risk mapping to ensure sustainable and just urban development.

Keywords: *climate change; environmental migrants; urban planning; Sustainable Development Goal (SDG).*

JEL Classification*:* J15, K32, K37

DOI: 10.62768/TBJ/2025/15/4/09

Please cite this article as:	**Article History**
Carvalho, Raquel, 'Climate Change, Urban Planning and Environmental Migrants', *Juridical Tribune – Review of Comparative and International Law* 15, no. 4 (December 2025): 757-770.	Received: 19 September 2025 Revised: 25 October 2025 Accepted: 20 November 2025

1. Introduction

Addressing climate change encompasses a broad array of objectives, extending beyond its immediate ecological consequences to include profound social and geopolitical implications. Among the most evident environmental effects are biodiversity loss, rising global temperatures, and the increased frequency and severity of extreme events and hazards such as droughts that accelerate desertification processes, and floods that pose both infrastructural and health hazards, heat waves, continuous sea-

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level rise, ocean warming, and acidification as glacial loss[2].

These environmental stressors are inextricably linked to a range of cascading impacts: the proliferation of diseases facilitated by extreme weather conditions; the degradation of ecosystems and agricultural lands; and the growing scarcity of natural resources, particularly water and arable land, which in turn jeopardizes food production and long-term food security.

In urban environments, climate change contributes to social fragmentation through the erosion of public and communal spaces, while also exacerbating health vulnerabilities, particularly during increasingly intense heatwaves[3]. The health impact of climate change may be direct such as the heat, but there are also indirect effects such as "altered freshwater availability and food security, changing disease ecologies including altered distribution of disease vectors and pathogens, and (…) the health impacts of climate-related migration, displacement, and relocation"[4].

Within this broader context, it is also essential to highlight a relatively recent and growing phenomenon: climate-induced migration[5]. This form of displacement, driven by environmental degradation and the collapse of livelihood systems, represents a critical frontier for research and policy, demanding integrated responses across environmental, social, and humanitarian domains. As Kelman and Clark-Ginsberg state, "environmental (and all other) migrants ought to be included within governance framework as part of achieving sustainable cities"[6].

To address the drivers of environmental migration, the subsequent impacts on urban centres, and strategies for their prevention, mitigation, and/or adaptation, an extensive literature review was undertaken.

2. Climate-Induced Migration

2.1. Concept and Causes

There is currently no universally accepted definition of environmental migrants[7]. Mitchell and Pizzi also highlight the complexity of the concept of environmental migrants: "The definition of environmental migrant can be so broad as to include all kinds of ecological and economic migrants, refugees fleeing natural disasters, and temporary and permanent climate refugees or migrants who leave

[2] Giulia Dal Ben, 'Judicial Trajectories in the Recognition of Environmental Migrants', *University of Bologna Law Review*, *8*(1), 187–216. https://doi.org/10.6092/issn.2531-6133/18057.

[3] Patricia Schwerdtle, Kathryn Bowen & Celia McMichael, 'The Health Impacts of Climate-Related Migration', *BCM Medicine* 16, no. 1 (2018), https://doi.org/10.1186/s12916-017-0981-7.

[4] Schwerdtle et al., 'The Health Impacts of Climate-Related Migration'.

[5] Satchit Balsari, Caleb Dresser & Jennifer Leaning , 'Climate Change, Migration, and Civil Strife', *Current Environmental Health Reports*, Climate Change and Health, vol. 7 (2020): 404–14, https://doi.org/10.1007/s40572-020-00291-4.

[6] Ilan Kelman and Aaron Clark-Ginsberg, 'An Urban Governance Framework for Including Environmental Migrants in Sustainable Cities', *Climate* 10 (2022): 1.

[7] Hedda Ransan-Cooper, Carol Farbotko, Karen E. McNamara, Fanny Thornton, Emilie Chevalier, 'Being(s) Framed: The Means and Ends of Framing Environmental Migrants', *Global Environmental Change* 35 (2015): 106–15, https://doi.org/10.1016/j.gloenvcha.2015.07.013.

climate-affected locations"[8]. Nonetheless, it is broadly recognized that the term refers to individuals who are compelled to leave their homes due to environmental factors[9]. To these authors, these migration movements can be "forced, voluntary, or (more commonly) a combination and tends to involve some societal reasons rather than being purely environmental"[10]. The International Organization for Migration (IOM) uses a similar definition: "Environmental migrants are persons or group of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad"[11]. The International Organization for Migration (IOM) also contends that environmental migratory movements may be driven by a multiplicity of underlying causes[12].

According to Balsari, Dresser and Leaning, climate change-induced migration emerged as a phenomenon in the 1990s, marking the beginning of its examination within academic scholarship, public discourse, and the formulation of public policies[13].

Environmental migration movements are a complex phenomenon: "converging interactions between migration, internal displacement, livelihoods, and poverty"[14].

These climate-induced migratory movements differ structurally from traditional forms of migration. While the pursuit of improved living conditions remains a constant underlying motivation, the immediate drivers of displacement are distinct in nature, rooted primarily in environmental degradation, and marked by unique characteristics that generate specific territorial pressures.

Unlike traditional migration, based on economic purposes, in the search of better labour conditions, which often unfolds gradually, seasonally and may allow for adaptation, these movements tend to be large-scale and irreversible[15]. They predominantly involve populations with limited economic and financial resources,

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[8] Sara McLaughlin Mitchell and Elise Pizzi, 'Natural Disasters, Forced Migration, and Conflict: The Importance of Government Policy Responses', *International Studies Review* 23 (2021): 585, https://doi.org/10.1093/isr/viaa058.

[9] Kelman and Clark-Ginsberg, 'An Urban Governance Framework for Including Environmental Migrants in Sustainable Cities'.

[10] Kelman and Clark-Ginsberg, 'An Urban Governance Framework for Including Environmental Migrants in Sustainable Cities', 1; Walter Kälin and Sanjula Weerasinghe, 'Environmental Migrants and Global Governance: Facts, Policies and Practices', in McAuliffe, M. and M. Klein Solomon (Conveners) (2017) *Ideas to Inform International Cooperation on Safe, Orderly and Regular Migration,* IOM: Geneva.

[11] IOM. 2014. *IOM Outlook on Migration, Environment, and Climate Change*. Geneva: International Organization for Migration (IOM).

[12] Idem.

[13] Balsari et al., 'Climate Change, Migration, and Civil Strife'.

[14] Debojyoti Das and Srija Basu, 'Climate Change, Migration, and Internally Displaced Populations in the Indian Ocean Region – Evidence from South Asia and East Africa', *Journal of the Indian Ocean Region* 19, no. 2 (2023): 167–90, https://doi.org/10.1080/19480881.2023.2255386; Balsari et al., 'Climate Change, Migration, and Civil Strife', 405.

[15] Balsari et al., 'Climate Change, Migration, and Civil Strife', 405; Mitchell and Pizzi, 'Natural Disasters, Forced Migration, and Conflict: The Importance of Government Policy Responses', 585; Gaim Kibreab, 'Climate Change and Human Migration: A Tenuous Relationship Symposium', *Fordham Environmental Law Review* 20, no. 2 (2017): 357–401.

many of whom already suffer from compromised health. In most cases, the environmental degradation in their regions of origin is so severe that return or restoration is no longer viable, thereby rendering displacement both permanent and urgent.

2.2. Urban Challenges

Spatially, these populations tend to seek refuge in proximate areas, with a preference for regions that share cultural affinities. However, the primary destinations are frequently urban centres, "coastal regions or adjacent lands that remain fertile"[16], where the influx of migrants places significant and often unforeseen pressure on already strained infrastructure – including sanitation, water supply, housing, and healthcare systems. The climate effects can have long-term economic effects: "Displaced people often face challenges accessing essential services, livelihood opportunities, and adequate housing, leading to prolonged vulnerability and marginalization. For instance, in the Lake Chad region, climate change has contributed to shrinking water supplies, desertification, and displacement, and has led to competition over scarce resources and increased tensions between host communities and new arrivals, straining social cohesion and exacerbating conflict dynamics"[17].

This sudden demographic shift contributes to increased environmental stress within urban environments, exacerbating existing challenges such as resource scarcity, informal settlement expansion, greenhouse concentration intensification, and public health risks. Moreover, the accelerated convergence of culturally diverse groups often occurs without adequate preparation on the part of host communities, further complicating social integration and urban governance.

Spilker et al. have drawn attention to the acceptance of environmental migrants by urban residents, comparing it to the acceptance of political refugees and economic migrants in Kenya and Vietnam. They have concluded that "although residents in receiving areas view short-term climate events and long-term climate conditions as legitimate reasons to migrate, they do not see environmental migrants as more deserving than economic migrants"[18]. However, the authors advise that their findings are related to low-income countries and the conclusions they have drawn must be interpreted within the territorial context[19]. Ash and Winchester have come to a completely different conclusion: "While a changing climate may produce more internally displaced persons, results from the United States suggest internal migrants fleeing an environmental shock, regardless of their ethnicity, will ostensibly be welcomed by host communities.

[16] Balsari et al., 'Climate Change, Migration, and Civil Strife', 406.
[17] Abraham Ename Minko, *Adaptation Efforts May Reduce Harms amid Significant Climate-Linked Displacement in Sub-Saharan Africa*, Migration Policy Institute, 2025, http://migrationpolicy.org/article/climate-adaptation-displacement-africa accessed 5th May 2025.
[18] Gabriele Spilker, Quynh Nguyen, Vally Koubi & Tobias Böhmelt, 'Attitudes of Urban Residents towards Environmental Migration in Kenya and Vietnam', *Nature Climate Change*, no. 10 (2020): 622–27, https://doi.org/10.1038/s41558-020-0805-1.
[19] Spilker et al., 'Attitudes of Urban Residents towards Environmental Migration in Kenya and Vietnam', 626.

However, animosity toward excluded out-group migrants remains prevalent and suggests that approval is underpinned by a subtler lack of acceptance. Specifically, dominant groups remain averse to excluded group migrants, expressing greater fear of out-group migrants and reporting stereotypes about some excluded out-groups, which suggest dominant locals' concerns about migrants taking locals' public services"[20]. Ransan-Cooper et al. have constructed a four frame of environmental migration:

a) environmental migrants as victims: "the victim framing tends to create an impression that external humanitarian, legal and even financial assistance is required, sidelining how mobile people themselves understand their experience". This trend is linked to the intend to raise awareness and promote policy action but "is rooted in notions of people (often racialised 'other') as passive and helpless in the face of changing environments. What might, perhaps, be worthwhile preserving from the victim frame is the element of compassion and care, which does not necessarily reproduce a binary saviour-victim relation, but instead, could inspire reflexivity on the inter-connected nature of vulnerabilities."

b) environmental migrants as security threats: "this frame places 'solutions' to environmental migration and environmental change generally within the realm of the military and the protection of sovereignty rather than as a global commons problem and an issue for foreign policy. Underlying the frame is a myth that, collectively, migration associated with environmental decline will exacerbate tensions over resources and thus lead to conflict."

c) environmental migrants as adaptive agents: environmental migration is often cited as a 'positive adaptation response… rather than as a failure to adapt'; "also places the emphasis on affected individuals or households to alter their own behaviour in response to external pressures and change, which includes their willingness to participate in capitalist markets as labourers";

d) environmental migrants as political subjects: "a shared assumption is that vulnerable people are constrained in their choice (to stay or leave) by unequal power relations, though they possess the potential agency to challenge fundamental socioeconomic systems, as well as the institutions and policies that shape environmental degradations and vulnerability". "Framing environmental migrants as political subjects raises questions about the challenges surrounding a normative agenda of democratising/ bottom-up decision-making in environmental migration policy. In the development policy arenas, for example, caution has long been expressed about overly romanticised notions of participatory decision-making often pushed by major donors from the Global North"[21].

The link between climate change and security is based on movement of people[22].

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[20] Konstantin Ash and Puck Winchester, 'Ethnicity and Response to Internal Environmental Migrants in the United States', *Political Research Quarterly* 77, no. 2 (2024): 532–48, https://doi.org/10.1177/1065 9129231225669.

[21] Ransan-Cooper et al., 'Being(s) Framed: The Means and Ends of Framing Environmental Migrants', 109–12.

[22] Mitchell and Pizzi, 'Natural Disasters, Forced Migration, and Conflict: The Importance of Government

According to the Migration Policy Institute[23], such forms of migratory movement are not unprecedented, as evidenced by the displacement of approximately one million Somalis in 2022 due to severe drought conditions – most of whom were relocated within Somalia itself. Furthermore, "in rural Honduras and Guatemala, for instance, these impacts have combined and amplified other drivers to prompt people to move to cities, the United States, and other destinations". However, this Institute stresses that most of the times the migratory movements are internal rather that cross-border[24]. But the kind of movements is linked to "the nature and scale of the environmental impact." For example, "short-term, more localised events associated with the growing intensity of natural disasters such as tropical cyclones, heavy rains, and floods may lead only to internal migration. However, slow onset mega-events such as warming and drought (which will trigger heat stress and affect agricultural productivity and freshwater access), sea-level rise (which renders coastal areas and islands uninhabitable), and consequential struggles for natural resources (as sources of conflict) may be long term drivers of international environmental migration"[25].

A more recent study, *Adaptation Efforts May Reduce Harms amid Significant Climate-Linked Displacement in Sub-Saharan Africa*[26], from February 19, 2025, already mentioned the particular fragility of sub-Saharan Africa: "the World Bank has projected that climate change could force as many as 86 million Africans to be internally displaced by 2050, more than any other region of the globe". On the other hand, Bolleter et al. state that "projections for the number of people displaced by climate change globally are startling and vary from 100 million to 1 billion; however, a widely repeated prediction is for 200 million by the mid-twenty-first century"[27]. The Global South is the most vulnerable set of countries for this phenomenon.

Droughts and floods, increasingly intensified by climate change, disproportionately impact the most vulnerable populations, thereby deepening existing hardships. As previously noted, these climatic events significantly disrupt agricultural production (crop failures, loss of livestock, water scarcity) – a sector of critical importance in this region – resulting in heightened levels of poverty, malnutrition, hunger, and widespread food insecurity. As can be read in the abovementioned study, "agriculture, forestry, and fishing account for approximately 17 percent of the gross domestic product (GDP) of sub-Saharan Africa, compared to 4 percent globally and about 1 percent in countries of the Organization for Economic Cooperation and Development (OECD), according to World Bank data". Moreover, the existing housing

Policy Responses', 585.

[23] Lawrence Huang, Climate Migration 101: An Explainer, Migration Policy Institute, 2023, https://www.migrationpolicy.org/article/climate-migration-101-explainer accessed 5th May 2025.

[24] Spilker et al., 'Attitudes of Urban Residents towards Environmental Migration in Kenya and Vietnam'; Mitchell and Pizzi, 'Natural Disasters, Forced Migration, and Conflict: The Importance of Government Policy Responses', 583.

[25] Julian Bolleter, Bill Grace, Robert Freestone, 'Preparing Australia for a Potencial Surge in Environmental Migration', *Australian Planner* 58, nos 1–2 (2022): 12, https://doi.org/10.1080/07293682.2022.2116061.

[26] Minko, *Adaptation Efforts May Reduce Harms amid Significant Climate-Linked Displacement in Sub-Saharan Africa*.

[27] Bolleter et al., 'Preparing Australia for a Potencial Surge in Environmental Migration'.

conditions due to poverty circumstances exacerbate "residents' vulnerability to climate-related disasters"[28]. Thus, not only the 13th SGD is at stake, but also all of the SGDs that are established to pursue the end of hunger, women and children vulnerability, as other socially vulnerable member. The 2nd SDG (end hunger, achieve food security and improved nutrition and promote sustainable agriculture); 3rd SDG (ensure healthy lives and promote well-being for all at all ages); 5th SGD (achieve gender equality and empower all women and girls) and so on.

As we can read in the *Study*, "Women often bear primary responsibility for household food security and caregiving, and as such are disproportionately affected by the loss of livelihoods and resources resulting from climate-related disasters. Similarly, children are at heightened risk of malnutrition, disease, and forced labour exploitation in the aftermath of displacement. Indigenous communities, which tend to have close connections to natural resources and ecosystems, face unique challenges adapting to climate change impacts and, because many have been marginalized by the state, often lack access to government support and resources to cope with displacement."

Many of the areas suffering from intense heat waves may most likely become uninhabitable. On the other hand, some other territories may turn more desirable and become an asset of dispute[29].

In addition to these environmental and social consequences, there is also the risk – present in traditional migrations as well – of generating or exacerbating conflicts[30]. Consequently, the communities' integration becomes harder and more challenging. Balsari et al. have identified four regions where populations are particularly vulnerable: African Sahel, the Middle East, and North Africa (MENA), the "dry corridor" in Central America, and South Asia[31]. Mitchell and Pizzi differentiate the risks of political conflict based on the specific types of climate change impacts: "Rapid-onset disasters such as earthquakes, floods, and monsoons pose greater risks for conflict than slow-onset disasters like drought, land degradation, or desertification. Humans can adapt to long-term environmental changes more easily, reducing grievances toward the government"[32].

Findlay has examined the migration pathways of environmental migrants in response to climate-related impacts, such as food insecurity, and challenges the assumption that these individuals predominantly migrate to wealthier countries. For the author, "the most likely effect of environmental change over the next 50 years will be to amplify and modify pre-existing migration channels, and it is these that will shape the pattern of migration destinations selected by future environmentally linked movers"[33].

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[28] Minko, *Adaptation Efforts May Reduce Harms amid Significant Climate-Linked Displacement in Sub-Saharan Africa*.

[29] Balsari et al., 'Climate Change, Migration, and Civil Strife', 406.

[30] Balsari et al., 'Climate Change, Migration, and Civil Strife'.

[31] Balsari et al., 'Climate Change, Migration, and Civil Strife', 406–8.

[32] Mitchell and Pizzi, 'Natural Disasters, Forced Migration, and Conflict: The Importance of Government Policy Responses', 584.

[33] Allan M. Findlay, 'Migrant Destinations in an Era of Environmental Change', *Global Environmental Change* 21 (2011): S50-S58, https://doi.org/10.1016/j.gloenvcha.2011.09.004.

3. The Implicated SGD Urban Planning Challenges

One of the key objectives of Sustainable Development Goal (SDG) 11 is to enhance the resilience of cities to the impacts of climate change. Within this framework, several specific targets are particularly noteworthy:

a) "Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically."

b) "By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations.

c) "By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management".

d) "By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities".

e) "By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels"[34].

It is also important to underscore SDG 9 on building resilient infrastructures. One of the tools that can be used to address some of the issues that environmental migration poses is resilient infrastructure to support the increase of use.

SDG 13, which deals precisely with climate change, aims to "take urgent action to combat climate change and its impacts. Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters. Integrate climate change solutions and measures into national policies, strategies, and planning. Improve education on climate change mitigation, impact reduction and early warning."

In the context of the specific objectives relevant to this reflection, we would call attention to:

a) The number of countries that have adopted and implemented national disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030 (point 13.1).

b) The proportion of local governments adopting and implementing local disaster risk reduction strategies in line with national disaster risk reduction strategies.

c) Improve education, increase awareness and human and institutional capacity on mitigation, adaptation, impact reduction and early warning measures with regard to climate change (point 13.3.).

d) Promote mechanisms to build capacity for effective climate change planning

[34] United Nations. Sustainable Development Goal (11). Make cities and human settlements inclusive, safe, resilient and sustainable https://sdgs.un.org/goals/goal11#targets_and_indicators accessed 5 May 2025.

and management in least developed countries and small island developing states[35].

4. The Instruments to Address the Challenges

First and foremost, it is essential to implement preventive measures prior to the onset of migration flows driven by climate-related factors. This process must begin with a comprehensive assessment of the current situation – one of the fundamental roles of Urban Law and the associated domain of spatial and territorial planning. It involves identifying the existing core infrastructures, evaluating their operational condition, and understanding the extent to which they are prepared for crisis scenarios.

This initial phase necessarily entails the activation of the principle of collaboration among public authorities, citizens, and economic stakeholders. Naturally, the nature and scope of such collaboration will vary depending on the specific territorial context and prevailing governance systems. In regions governed by democratic principles, where the provision of essential services – such as energy, healthcare, water supply, and sanitation – is frequently shared with or delegated to private actors, a broader and more complex framework of cooperation is required. This stands in contrast to territories in which such infrastructures are exclusively managed by public entities.

One of the most effective tools for preventive spatial and infrastructure planning, following a thorough assessment of the existing conditions, is the development of a comprehensive risk map. Such a map should delineate the operational thresholds of current infrastructures in terms of their capacity and quality, identify strategies to enhance their resilience, and incorporate an understanding of migratory dynamics to anticipate areas likely to experience the greatest impact. As Findlay states, "Most research on environmental migration examines the drivers of mobility, identifying the locations that are most affected by environmental change. By contrast, little attention is paid to where migrants might move to in response to these changes"[36].

This, in turn, enables the formulation of informed responses for the management and accommodation of both internal and cross-border population movements.

A key component to be integrated into this risk mapping process is a prognostic analysis of the factors that may attract potential environmental migrants. In this context,[37] there are six fundamental principles that provide a conceptual framework for understanding environmentally driven migration patterns:

"1. Most potential migrants want, if at all possible, to stay in their current place of residence, even although economic and social metrics might suggest that there are external gains to be achieved by moving. This is sometimes referred to as 'the immobility paradox'[38].

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[35] United Nations. Sustainable Development Goal (13). Take urgent action to combat climate change and its impacts, https://sdgs.un.org/goals/goal13#targets_and_indicators, accessed 5 May 2025.
[36] Findlay, 'Migrant Destinations in an Era of Environmental Change', 550.
[37] Ibid.
[38] Peter A. Fischer and Gunnar Malmberg, 'Settled People Don't Move: On Life Course and (Im-)Mobility in Sweden', *International Journal of Population Geography* 7, no. 5 (2001): 357–71, https://doi.org/10.

2. Once a decision to move has been taken, there is an almost immutable law that most people move over short distances rather than longer distances. And places with large populations have greater interaction with each other than those with fewer people.

3. Potential migrants often do not move to the most attractive possible destination but if they move (given principle 1) they end up working or living at a nearer rather than more distant place simply because it represents an 'intervening opportunity'.

4. The relative attraction of a range of destinations can be interpreted in economic terms, such as the increased income offered (in terms of wages), or benefits (in terms of returns to 'human capital') that can be derived from moving there. Chiswick (2008) has argued that the human capital model explains why migration is positively selective with those commanding high levels of human capital most likely to move, and with the same group more likely to move to more distant destinations. There is certainly much evidence from the global south that the poorest members of society are least able to migrate.

5. The selection of migrant destinations is to some extent shaped by pre-existing social and cultural connections, which some researchers have used to explain the uneven attraction of places within a 'transnational social field'.

6. It is increasingly recognised that places are viewed as attractive because of the 'social' and 'cultural capital' that they may offer, and not only because of possibilities for immediate financial gain".

Nevertheless, the author acknowledges the limitations and risks associated with basing prognoses solely on these principles. For example, certain areas may unexpectedly become attractive despite lacking prior indications, while previously uninhabited or neglected regions may emerge as desirable locations[39].

In the context of preventive measures, it is essential to ensure preparedness for environmental disasters, even in territories not yet experiencing significant pressure from environmentally displaced populations. Given the increasing intensity and frequency of climate-related events, contingency planning must be a priority and should be continuously updated in all regions receiving environmental migrants. Urban infrastructures are likely to face heightened strain, necessitating a proportionate expansion of civil protection capabilities. Strategic measures should include the implementation of early warning systems, the development of redundant communication networks to avoid outages, and the pre-designation of assembly points in the event of floods or other disaster scenarios. Furthermore, it is crucial to engage in anticipatory assessments regarding the likely duration of environmental crises, as such evaluations are necessary for the effective planning of essential goods and service delivery[40]. From an urban planning perspective, the identification of zones vulnerable to droughts and flooding must inform the adoption of adaptive planning solutions aimed

1002/ijpg.230.

[39] Findlay, 'Migrant Destinations in an Era of Environmental Change', 552.

[40] Md. Nasif Ahsan et al., 'Displaced by Nature, Driven by Choice: Exploring the Factors Influencing Environmental Migrants' Habitat Preferences in Coastal Bangladesh', *Habitat International* 153 (2024), 103215: 12, https://doi.org/10.1016/j.habitatint.2024.103215.

at mitigating these risks.

This form of planning serves as a highly valuable instrument in relation to another key dimension of spatial organization: urban planning. Primarily from the standpoint of territorial governance: "Environmental migration to cities can lead to new and exacerbated vulnerabilities, or to fewer vulnerabilities, for both migrants and those living there already, with the outcomes depending on governance. Governance means that vulnerabilities from and within an urban area can shape environmental migration"[41]. It is unquestionable that most of the migrants seek urban areas, increasing urbanization. And even though urbanization can contribute to economic growth and therefore poverty reduction and enhancement of public goods and services, these positive outcomes only appear if "large inflows of migrants" are well managed[42]. If not, the outcomes reverse to unemployment, poverty, environmental degradation, social disruption, and social conflicts[43].

As migration movements are continuous, predictable, and definitive urban places are not only strictly urban – there are suburban, peri-urban, and rural areas –, some urban planning governance challenges arise. Urban areas are distinctively influenced by population. Thus, they must embody frequent monitoring procedures of urban solutions, namely NBS solutions. Therefore, "due to the predictability and foreseeability of climate change impacts, the governance of climate migrants can thus 'be better organized and planned than in the case of victims of political turmoil or war, and can be carried out in planned, voluntary relocation and resettlement programmes – sometimes over many years and decades – for certain populations, as opposed to spontaneous flights"[44]. The enduring and foreseeable nature of environmental migration necessitates the implementation of permanent resettlement solutions rather than temporary asylum measures. As Van Der Vliet and Biermann assert, these migratory movements are permanent, as individuals are unable to return to their places of origin due to the irreversible loss of their homes[45].

IOM refers several measures to mitigate, minimize and present displacement: "*Reducing vulnerability and strengthening resilience* through: a. Disaster risk reduction (DRR) in accordance with the Sendai Framework on Disaster Risk Reduction 2015-2030 (Sendai Framework), which calls, *inter alia*, for the promotion of 'transboundary cooperation … to build resilience and reduce disaster risk, including … displacement risk'; b. Climate change adaptation in accordance with the Cancun Adaptation

[41] Kelman and Clark-Ginsberg, 'An Urban Governance Framework for Including Environmental Migrants in Sustainable Cities', 4.

[42] Kelman and Clark-Ginsberg, 'An Urban Governance Framework for Including Environmental Migrants in Sustainable Cities', 2; Md. Masud Parves Rana, 'Urbanization and Sustainability: Challenges and Strategies for Sustainable Urban Development in Bangladesh', *Environment, Development and Sustainability* 13 (2011): 237–56, https://doi.org/10.1007/s10668-010-9258-4.

[43] Spilker et al., 'Attitudes of Urban Residents towards Environmental Migration in Kenya and Vietnam', 622; Mitchell and Pizzi, 'Natural Disasters, Forced Migration, and Conflict: The Importance of Government Policy Responses'.

[44] Jolanda Van Der Vliet and Frank Biermann, 'Global Governance of Climate Migrants: A Critical Evaluation of the Global Compacts', in *Climate Refugees Global, Local and Critical Approaches* (Cambridge University Press, 2022), 66.

[45] Ibid 68.

Framework; c. Full implementation of the sustainable development goals as set out in the 2030 Agenda for Sustainable Development (2030 Agenda), which refers to "more frequent and intense natural disasters" and related "forced displacement of people" as factors undermining development; *Allowing people to move out of harm's way* by: a. Facilitating, both legally and practically, safe, orderly, and regular migration as a coping mechanism and adaptation measure; b. Implementing planned relocation in accordance with international standards as an option of last resort.; Available *tools to address displacement* include: a. Implementing existing normative frameworks to protect IDPs; b. Exercising discretion to admit, or refrain from returning, persons displaced across borders".

5. Conclusions

In sum, climate change generates multidimensional challenges that extend well beyond the environmental sphere, significantly affecting human rights, urban governance, and social cohesion. Climate-induced migration represents a complex and permanent phenomenon that amplifies existing urban vulnerabilities and places immense strain on infrastructure, services, and systems of inclusion. It poses a tangible threat to a range of fundamental rights, including those to life, health, food security, and a healthy environment — concerns already acknowledged in international legal discourse, notably in the *Teitiota* case[46] and the emerging recognition of environmental migrants, as argued by scholars such as Giulia Dal Ben[47].

To ameliorate these interconnected impacts, urban planning must adopt a proactive, integrated, and participatory approach. This entails embedding environmental risk reduction into territorial planning, strengthening adaptive urban infrastructures, and anticipating demographic pressures linked to climate mobility. Yet technical and policy measures alone are insufficient. The effectiveness of any public intervention depends critically on the engagement of an informed and active citizenry. Therefore, investing in education for responsible and climate-aware citizenship is imperative. Only through collective and collaborative action can cities enhance their resilience, safeguard human rights, and ensure equitable and sustainable futures for both current and incoming populations.

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