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HUMAN MOBILITY AND ADAPTATION TO ENVIRONMENTAL CHANGE¹

Introduction

Millions of men, women and children around the world move in anticipation or as a response to environmental stress every year. Disruptions such as cyclones, floods and wildfires destroy homes and assets, and contribute to the displacement of people. Slow-onset processes – such as sea-level rise changes in rainfall patterns and droughts – contribute to pressures on livelihoods, and access to food and water, that can contribute to decisions to move away in search of more tenable living conditions. Advances in meteorological and other sciences which inform about the dynamics and pace of climate change indicate that disruptions ranging from extreme weather events to large scale changes in ecosystems are occurring at a pace and intensity unlike any other known period of time on Earth.² Anthropogenic climate change is expected to increasingly affect migration and other forms of people moving to manage these changing risks.³

This chapter provides an up-to-date overview of environmental change and the spectrum of human mobility. It first explores different perspectives on environmental change and migration, ranging from the view that human mobility including migration is a security issue, that it is an issue of protection, and that it is a matter of adaptation and managing risks associated with environmental change. The chapter then provides examples of environmental migration from empirical research around the world. It then summarizes recent developments in the international policy sphere on the topic. The conclusion draws out the implications for research, policy and practice.

Understanding the links between environmental change and migration

The mechanisms through which environmental impacts contribute to migration are complex.⁴ Over the last decade, it has become accepted that links between the environment and migration are rarely linear. Some literature frames the issue as a normal and neutral social process and other articles refer to the “migrancy problematic”.⁵ Economic, political, cultural and demographic factors interact with environmental drivers to shape intentions of people to move or stay in a given location. These interactions can contribute to building

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2 NASEM, 2016; IPCC, 2014.

3 Since the end of the twentieth century there have been estimates of the future numbers of people who will move due to climate change (Myers, 1993; Stern et al., 2006). While policy circles may embrace such estimates, academia has been critical of the assumptions necessary to produce models, in particular the lack of consideration given to non-migratory adaptation measures (Gemenne, 2011). Nonetheless, these approaches, and the numbers they generate continue to influence media and policy discourses (Rigaud et al., 2018).

4 Siddiqui et al., 2019.

5 Castles, 2010; Hall, 2015.

pressure – sometimes referred to as tipping points – after which remaining in situ becomes less attractive than leaving.⁶ Whether and when these intentions are manifested into actions is partially dependent on the material ability to move,⁷ with some immobile populations labelled as “trapped”.⁸ Immobility is not necessarily related to material conditions, and also relates to psychological and cultural limitations and preferences.⁹

Numerous terms have been used to describe people who move as a result of environmental and climate change. This chapter uses terms such as “human mobility” in the context of climate change, which refers to a broad spectrum of people movement. It covers migration, displacement and planned relocation, as well as “environmental migrants”, including in relation to extreme events and other environmental stressors. Three main framings of environmental migration and human mobility in the context of climate change have emerged in academia, the media and in policy circles: (a) irregular migration related to environmental change and resource shortages as a border security issue, particularly for areas of destination; (b) protection of environmental migrants; and (c) environmental migration as a form of adaptation and climate risk management (see table 1), reflecting the political sensitivities of migration.

Table 1. Three different ways of framing interactions between environmental change and migration

| | Securitization | Protection | Adaptation and climate risk management |
|-------------------------------|--|--|--|
| <i>Key concepts</i> | Irregular migration | Human rights | Adaptive capacity; Remittances; Averting, minimizing and addressing the adverse impacts of climate change. |
| <i>Migrants as:</i> | Factor of instability in the face of resource shortages (climate as a threat multiplier) | Lacking agency | Agential. |
| <i>Normative implications</i> | National borders should be controlled to reduce risks to society, resources, and culture in areas of destination | If people move they must be able to do so in dignified, safe conditions within protection frameworks | Human mobility can be one of a spectrum of responses to climate impacts and risks. |

6 McLeman, 2018.

7 Black et al., 2011.

8 Black and Collyer, 2014.

9 Ayeb-Karlsson, Smith and Kniveton, 2018; Oakes, 2019.

| | | | |
|---|---|---|---|
| <i>Policy arenas</i> | | Platform on Disaster Displacement; Global Compact on Refugees. | UNFCCC Cancun Agreement; UNFCCC Task Force on Displacement; Global Compact for Migration. |
| <i>Examples in reports and literature</i> | IPCC AR5 chapter on human security and migration; UNSG Climate as a threat multiplier. | Kelman et al., 2015; Nansen protection framework. | McLeman and Smit, 2003; IPCC special report on land and climate change; IPCC AR6. |

Notes: UNFCCC is the United Nations Framework Convention on Climate Change; IPCC is the Intergovernmental Panel on Climate Change; AR5 is the IPCC Fifth Assessment Report; AR6 is the IPCC Sixth Assessment Report; UNSG is the United Nations Secretary-General.

The first type of framing tends to emphasize environmental migrants as part of a wider “threat multiplier” landscape as either explicitly or implicitly a threat to security in areas of destination,¹⁰ and has been argued as being related to a focus on national borders and resource control.¹¹ In policy, these ideas can translate into border security discussions and measures. The second framing tends to represent environmental migration as a phenomenon associated with vulnerable people moving in adverse circumstances and who need protection. Protection approaches share commonalities with approaches that highlight human rights related to rights to work, education, health care, food and water, and other rights that environmental shocks can disrupt. Protection approaches place the needs of the affected people who may be moving at the centre. The protection framing is evident in the work of the Platform on Disaster Displacement.¹²

The securitization and protection framings have been critiqued as they have not sufficiently acknowledged the agency of the people affected by environmental change, emphasizing threats without fully acknowledging opportunities that may also play a role in environmental migration. The third type of framing views human mobility ranging from migration, displacement, and planned relocation as a set of possible adaptive responses to climate impacts and risks. In climate policy, human mobility appeared for the first time in the Cancun Adaptation Framework and currently features in a dedicated workstream on human mobility as well as the Task Force on Displacement. This framing recognizes the possibility of reducing exposure and vulnerability to physical disruptions associated with climate and other environmental stressors.¹³ It also emphasizes the pursuit of approaches to avert, minimize and address displacement related to the adverse effects of climate change. The following section briefly sets out the evolution of the framing of migration as a form of adaptation.

10 Baldwin, 2013; Bettini, 2013.

11 Piguet, Kaenzig and Guélat, 2018.

12 PDD, 2016.

13 Adger, Campos and Mortreux, 2018.

Understanding migration as a possible response to climate impacts and risks

Though outcomes are context specific, some understanding has emerged over the last decade of the opportunities migration presents in the face of environmental disruptions.¹⁴ When voluntary migration is considered, people may be able to protect or use their assets and health, decide on who in the household moves and how, as well as when and where they will go. In this manner, migration is part of a suite of adaptation measures, which people use to deal with climatic and environmental change and reduce poverty and boost resilience.¹⁵ Where households are more resilient, younger, better-educated migrants improve the condition of the household through remittances used to pay for education, health care or livelihood diversification. Where households are in a more precarious position, migrants might be the household heads and outcomes can be described as surviving through securing food, or cash to acquire food.¹⁶ The distinction between voluntary and forced migration is somewhat arbitrary and has been described as more accurately resembling a continuum from entirely voluntary to entirely forced.¹⁷ In responding to environmental issues, even “voluntary” migration can involve some degree of pressure. Supportive policies and legal pathways therefore act as an enabling factor for migration in these situations, with the effect of facilitating safe, orderly and regular migration that is better able to be managed.

Once adaptation possibilities (both in situ and ex situ strategies) and community resilience have been exhausted, an entire community may have to relocate as a last resort.¹⁸ The resulting change in circumstances means that the consequences of the move could be considered adaptive under certain circumstances. In the case of planned relocation, outcomes may be adaptive if processes are participatory and include acceptance among both areas of origin and areas of destination from an early stage, and when suitable livelihood opportunities are available for people who may move.¹⁹

Critiques and nuances

The questions of framing environmental migration and human mobility in the context of climate change as part of a threat multiplier (security) discourse, as a protection framework issue, and as an issue of risk management has a significant subjective element. Migration has been explained as a failure to adapt or a strategy of last resort.²⁰ The “environmental refugee” literature that emerged further reinforced this framing which depicted the prospect of climate change causing large-scale movements to urban areas and from developing to developed countries.²¹ The term “adaptation” has been critiqued as some uses emphasize the role of individuals and households over responsibility to the political and economic structures that foster

14 Ionesco, Mokhnacheva and Gemenne, 2017.

15 ADB, 2012.

16 Warner and Afifi, 2014.

17 Hugo, 1996.

18 ADB, 2012.

19 Brookings Institution and UNHCR, 2015.

20 Baro and Deubel, 2006; Adamo, 2008; Penning-Rowsell, Sultana and Thompson, 2013.

21 El-Hinnawi, 1985; McLeman, 2016.

vulnerability.²² The concept of migration as adaptation has been challenged as ignoring political economic realities,²³ and some literature claims that the migration as adaptation framing obscures the discourse about climate change and migration along ethnic and racial lines.²⁴ The emphasis of positive outcomes in the migration as adaptation framing has been criticized by some scholars as not reflective of migrants' realities.²⁵ Further, planned relocation processes have proven to be complex, and can also affect the relationship between governments and subnational jurisdictions in urban and rural areas, so are sometimes not considered as adaptation to climate change.²⁶

Moving may reduce vulnerability in the short-term, but contribute to further problems in the medium-term, as populations may recreate exposed and vulnerable conditions in new sites.²⁷ Migration for work may help migrant-sending households to manage environmental shocks and stressors in the short-term. However, it could expose migrant workers, and thereby migrant-sending households, to shocks and stressors in the medium- or long-term.²⁸ Consideration of the "who" and "when" of adaptation reveals that adaptation is experienced subjectively; in the last decade there has been an increase in research which highlights the subjective nature of climate risk,²⁹ and subjective barriers to both climate change adaptation and potentially adaptive migration.³⁰

Data and knowledge on environmental mobility

Research on environmental mobility is still developing and while advances have been made in the two decades there are various data and knowledge gaps that persist.^a Increasingly reliable figures for the number of new internal displacements related to rapid onset environmental disruptions are produced each year. But there are difficulties in obtaining reliable numbers of migration when it is not forced; for example, it is difficult to compute reliable estimates for the numbers of people moving in anticipation of or response to slow-onset processes such as desertification or sea-level rise.^b There is also a need for the assessment of the economic and other costs associated with migration.^c Research on this theme continues to be about the Global South and by researchers from the Global North.^d There is scope for South–South and South–North capacity-building and improved integration of research and local knowledge.

a Ionesco, Mokhnacheva and Gemenne, 2017; PDD, 2016.

b IDMC, 2019.

c Ibid.

d Pigué, Kaenzig and Guélat, 2018.

22 Ribot, 2011.

23 Felli and Castree, 2012; Bettini, 2014;

24 Baldwin, 2017.

25 Ransan-Cooper et al., 2015.

26 Arnall, 2019.

27 Adger et al., 2015.

28 Banerjee, 2017.

29 Adger et al., 2013.

30 Grothmann and Patt, 2005; Adams, 2016; Oakes, 2019.

Evidence of migration and environmental change

The following section presents examples of migration and environmental change drawn from around the world. It builds on the three ecological zones identified in the Foresight Report (i.e. mountainous, dryland and coastal) which face disruption related to climate change.³¹ The examples address a variety of adaptive responses to these environmental disruptions, ranging from migration for work to diversify income to national policy to promote anticipatory forms of migration (table 2).

Table 2. Examples from empirical research

| Ecology | Geographical focus | Migration pattern | Geographical focus | Migration pattern |
|----------------------------------|----------------------------|--|--------------------------|---|
| <i>Mountains</i> | Himalayas and Central Asia | Circular migration and pastoralists | Peru | Circular migration |
| <i>Drylands</i> | Senegal | International migration for remittances | Mexico | Migration possibly beneficial to health |
| <i>Coastal areas and islands</i> | Pacific Islands | Migration with dignity | United States of America | Planned relocation |
| <i>Urban areas</i> | Kenya | Resilient cities to cope with urbanization | Bangladesh | Urbanization brings employment and agency for women |

Mountains

A diverse range of human migration pathways in the context of environmental change have been documented in mountainous regions: displacement, labour migration, planned relocation and transhumance.³² Changes in climate adversely affect transhumant movements between summer and winter pastures of herders in high mountains.³³ Herders in Afghanistan, Nepal and Pakistan perceive negative changes in vegetation composition as a result of erratic snowfall patterns and a decrease of rainfall.³⁴ Livestock deaths due to heavy snowfall and water scarcity in traditional water sources along migration routes have been reported across

31 Black et al., 2011.

32 IDMC, 2016; Brandt, Kaenzig and Lachmuth, 2016; Liu et al., 2018; Namgay et al., 2014.

33 Namgay et al., 2014.

34 Shaoliang, Ismail and Zhaoli, 2012; Joshi et al., 2013; Gentle and Thwaites, 2016.

the Hindu Kush Himalayan region.³⁵ At the same time, an increase in temperature, with its effects on snow cover, have had some positive impacts such as an early start of seasonal migration from winter to summer pastures and lengthening of residence in summer pasture.³⁶ Pastoral communities also face complications from other factors which interact with climate change, such as conflict with sedentary communities, institutional barriers, market forces and inadequate policy support.³⁷ Different adaptation measures have been adopted by pastoral communities to manage environmental shocks and stressors. In the Himalayan region, herders have incorporated changes in their movement (such as shifting grazing areas, change in routes and reducing the length of stay at different locations on the route), and in a few cases have relocated families or entire villages. Herders have also adopted in situ measures such as stall-feeding animals, changing types of livestock, temporary ban on livestock sale, and digging ponds to store water.³⁸

Migration for work, particularly circular and seasonal migration, is a traditional strategy of mountain people to manage the risks posed by environmental hazards to farming and livestock rearing. Transitioning from farm-based income to labour migration and associated remittances was one of the ways in which communities in Naryn River Basin in Kyrgyzstan, particularly those located in the downstream region, responded to changes in water supply.³⁹ Remittances finance relief during disasters and support recovery and reconstruction in their aftermath. Migrants and diaspora in the United States of America were actively involved in sending money to support their families and relief efforts after the 2015 earthquake in Nepal.⁴⁰ The extent of remittances' positive or negative impacts on recipient households and origin communities varies from one context to another.⁴¹ For example, the effect of remittances on vulnerability to extreme weather events is non-linear. Remittance-recipient households in drought affected rural communities in South-west China have less adaptive capacity than non-recipient households. However, remittance-recipient households that received remittances over longer periods were found to have improved adaptive capacity.⁴² In Tajikistan, families have a high dependency on migrant remittances and also largely lack understanding of possible adaptation responses that lower their capacity to adapt to environmental and climate stressors.⁴³

In many mountain regions, migration for work is a gendered process. Women left behind bear the responsibility of taking care of children and the elderly, managing household assets and responding to new challenges.⁴⁴ Factors such as social and cultural norms, access to information and institutional issues act as barriers to adaptation for women.⁴⁵ In Nepal remittance-recipient households are more likely to invest a part of their savings in flood preparedness if women left behind have access to capacity-building interventions that aim to strengthen autonomous adaptation measures such as precautionary savings and flood preparedness.⁴⁶

35 Shaoliang, Ismail and Zhaoli, 2012; Gentle and Thwaites, 2016.

36 Joshi et al., 2013; Shaoliang, Ismail and Zhaoli, 2012.

37 Shaoliang, Ismail and Zhaoli, 2012; Gentle and Thwaites, 2016.

38 Aryal, Maraseni and Cockfield, 2014; Banjade and Paudel 2008; Moktan et al., 2008; Ingty and Bawa, 2012.

39 Hill et al., 2017.

40 Shivakoti, 2019.

41 Barnett and Webber, 2009; de Haas, 2012.

42 Banerjee et al., 2018.

43 Babagaliyeva et al., 2017.

44 Resurrección et al., 2019.

45 Jones and Boyd, 2011; Singh, Osbahr and Dorward, 2018; Achandi et al., 2018.

46 Banerjee et al., under review.

Drylands

In drylands around the world, environmental change is increasingly contributing to human migration.⁴⁷ In particular, changes in rainfall are contributing to pressures on livelihoods, including those supported by agriculture, pastoralism and fisheries. These factors have a potentially serious and difficult-to-predict impact on different ethnic groups. For example, insufficient information exists about indigenous communities in Australia, their responses and the way that local knowledge may contribute to different forms of adaptation, including migration.⁴⁸ In Central America, a significant relationship has been found between changes in rainfall in dry Mexican states and human flows to the United States.⁴⁹ Other authors have highlighted the relationships between food security, migration and violence in Honduras, Guatemala and El Salvador.⁵⁰

There is evidence of diaspora investment into dryland areas. In the Senegal River Valley, migration is related to environmental change and water extraction.⁵¹ The new mosques and schools that have been built in the Podor Department in the Senegal River Valley are illustrations of diaspora funding to contribute to community resilience and development.⁵² A joint project of the International Organization for Migration (IOM) and the United Nations Convention to Combat Desertification was successful in encouraging investment by diaspora communities in sending areas of Burkina Faso, the Niger and Senegal. This money was used for investments in sustainable land management and to formalize networks between communities in Milan, Italy, and areas of origin.⁵³

Movements from the Senegal River Basin to Saint-Louis, in part driven by drought and water extraction in the last quarter of the twentieth century may have seemed adaptive initially. But, after the end of a dry cycle, newly settled areas of the city, which were previously subject to flash floods, were once more inundated.⁵⁴ One response to this risk has been the creation of an early warning mobile app through which users are informed of likely flood risks when mobile signals are attenuated due to atmospheric water.⁵⁵ This shows the need to consider the combination of slow- and rapid-onset hazards. Migration from densely populated areas to more sparsely populated agricultural frontiers in Dagara, Ghana, contributed to reducing the pressure on the land in sending areas and resulted in increased remittances which facilitated the purchase of bullock and ploughs. On the other hand, it also facilitated the continuance of potentially unsustainable agricultural practices in sending areas.⁵⁶ International movements related to environmental change may increase due to reduced costs and development of (regular and irregular) routes and of networks to support cross-border movements.⁵⁷

47 Rigaud et al., 2018.

48 Carson et al., 2014.

49 Nawrotzki, Riosmena and Hunter, 2013.

50 IOM and WFP, 2016; IABD et al., 2017.

51 Madgwick et al., 2017.

52 Ibid.

53 IOM, 2014; IOM and UNCCD, 2019.

54 Diagne, 2007.

55 Ouedraogo et al., 2018.

56 Van der Geest, 2011.

57 Donato and Massey, 2016.

Slow-onset processes

Dry regions are at risk of slow-onset processes, such as land degradation and desertification, changes in rainfall and drought. It may be possible to evacuate from a cyclone, return home and continue with a livelihood such as fishing. When a livelihood is dependent on rain-fed agriculture, in situ adaptation may be more problematic when precipitation or access to water slowly decreases over time. As such mobility related to slow onset processes can take on a more permanent profile with related impacts on livelihoods, health and human rights. The longer lead time relative to sudden-onset hazards can also provide scope for all forms of adaptation, in situ and through mobility. On the other hand, slow-onset processes may also erode people's ability to move and this can make people more vulnerable with respect to the impacts of sudden-onset hazards.^a

a Black et al., 2011.

Coastal areas and islands

Historically, migration has been a way of life in many islands around the world, and these processes are accelerating under the influence of a changing climate.⁵⁸ Coastal and island communities face increasing exposure to the impacts of tropical storms and sea-level rise.⁵⁹ In addition, many coastal regions and islands are adversely impacted by a shortage of freshwater sources, compounded by changes in rainfall patterns and salinization caused by flooding.⁶⁰ The prospect of disappearing land, islands and freshwater poses serious challenges and a range of human mobility patterns are emerging in this context, including a range of solutions to protect the well-being of those moving.⁶¹

In Pacific small island developing States (SIDS), research has shown that migration (related to anticipated climate impacts) results in remittances, more opportunities for younger people and is complementary to other adaptive measures.⁶² Because migration is not an option available to all, moving and flows of remittances can recreate or enhance vulnerabilities and inequalities, as was the case in Tonga.⁶³ Coastal fishing communities can have their homes and livelihoods affected by climate change. Declining fish populations and biodiversity related to overfishing and increased sea temperatures have forced artisanal fishers in Senegal to fish further out in sea or seek work as fishing labourers. Some fishers could fund building homes away from the encroaching ocean with the money they had made from international migration.⁶⁴

Deltaic regions provide fertile land and access to water for irrigation, fisheries and trade. Climate change has put them at risk of sea-level rise and flooding as they are located at meeting points of rivers and coasts. This

58 Kirch, 2017.

59 IPCC, 2014.

60 Oakes, Milan and Campbell, 2016.

61 Van der Geest et al., 2019.

62 Shen and Gemenne, 2011; Goldsmith, 2015; Ash and Campbell, 2016.

63 Le De, Gaillard and Friesen, 2013.

64 Zickgraf, 2018.

is contributing to flows of migration and, in Viet Nam, migration from the Mekong Delta was found to be related to higher incomes and employment.⁶⁵ In Jamalpur, Bangladesh, dry spells and drought have impacted farming and people have responded by switching livelihoods and moving, often to the capital, Dhaka. Often it is the young who move and the remittances they send can contribute to the development of new livelihoods and enterprise facilitated through the purchase of a water pump.⁶⁶

Perceptions of adaptive mobility in the Marshall Islands

The Republic of the Marshall Islands is exposed to a variety of environmental risks as livelihoods and infrastructure are affected by sea-level rise, heat stress and drought. As the impacts of climate change increase, the Marshallese may have to decide whether to stay on their islands or to move. The United States is the most popular destination as the Marshallese can work and live there under the Compact of Free Association. A recent study suggests that environmental pressures are already contributing to the decision to move to the United States.^a For example, a respondent in a field interview stated:

“If more people leave there will be less people and more jobs open then my husband will be able to find a job.”

Another participant explained the tangible benefits of migration in the context of challenging environmental and economic conditions:

“By going abroad for a short time this can prevent the migrant or the person moving from losing his or her lands and houses”.

When asked about the potential threats to Marshallese culture for migrants in the United States, another participant responded:

“I disagree because I see Marshallese on Facebook singing Marshallese songs and dancing Marshallese dances.”

a Van der Geest et al., 2019.

In Haiti, the “Migration, Environment and Climate Change: Evidence for Policy” (MECLEP) project found that seasonal migration might have a beneficial impact on household vulnerability.⁶⁷ Accordingly, the new migration policy of Haiti developed within the project recognizes the positive outcomes of migration and how it can lead to adaptation through the transfer of skills, money and knowledge. Migration has been integrated into urban development, adaptation and disaster risk reduction programmes. Questions related to migration and environmental change have now been added to the census.⁶⁸

65 IOM, 2017.

66 Ayeb-Karlsson et al., 2016.

67 IOM, 2017.

68 Ibid.

Relocation of some coastal and island communities has begun. One study projects that over 400 towns, villages and cities in the United States, including a large number of coastal indigenous communities, will need to relocate by the end of the century as a result of environmental change.⁶⁹ Isle de Jean Charles in Louisiana will be the first community to receive federal funds and support for relocation. Residents have worked with local non-governmental organizations to plan a new sustainable community and settlement using modern technology and innovative use of wetlands and parklands to protect against flooding while maintaining fishing livelihoods. A significant challenge will be to incorporate the history, traditions and culture of the Biloxi-Chitimacha-Choctaw tribe.⁷⁰ The full involvement of affected communities in decision-making on matters including access to resources, where the new settlement will be sited and when and how the project develops plays an important role in community relocation.⁷¹

Migration with dignity

Pacific small island developing States (SIDS) leaders have coined the term “migration with dignity” to envisage a situation in which people have control over whether, when, where and how they can move, or stay if that is their wish. The idea centres on boosting education standards so that migrants can compete in the international labour markets and on strengthening networks with the diaspora in the region to create new opportunities and support new arrivals.^a It is hoped that such flows of people could reduce the strain on households and environmental resources, and provide financial and social remittances to enable other forms of adaptation.

In the absence of overarching global frameworks to promote and ensure adaptive forms of migration, innovative, more flexible arrangements will be necessary.^b Regional frameworks can build on existing bilateral agreements. Such plans could be successful with the support of regional economic powers willing to open borders to migrants. For example, countries in South America have introduced a non-binding agreement on the protection of persons displaced by disasters across borders and migrants in countries affected by disasters.^c

State-level planning for environmental migration is also emerging. Fiji’s Planned Relocation Guidelines state that relocation is a last resort, to be considered “after all other feasible adaptation options have been explored”.^d Should it occur, it needs to ensure long-term economic sustainability, support and services, and the protection of the rights and well-being of vulnerable groups. The Guidelines describe the steps that should be taken, such as consultations with all affected stakeholders, including people moving, host communities and those choosing not to move.^e

a Voigt-Graf and Kagan, 2017.

b Barnett and McMichael, 2018.

c CSM, IOM and PDD, 2018.

d Government of Fiji, 2018.

e Ibid.

69 Maldonado et al., 2013.

70 King, 2017.

71 Ibid.

Urban areas

While it is important to consider areas of origin, it is also vital to analyse areas of destination when assessing the outcomes of environmental migration. For example, after three years of drought in Mexico, increased flows of people from rural to urban areas have been documented.⁷² Such movements can be adaptive or maladaptive. Cities are often situated in areas prone to hazards, such as on the low-lying coastal areas or in areas of geological hazards, such as landslides, earthquakes and volcanic eruptions. In cases where migrants settle in areas exposed to hazards, such as in slums on hillsides or in flood-prone regions, these populations may be more exposed and vulnerable to environmental and climatic disruptions in the future. It is possible that more environmental hotspots will emerge in the future with a population subject to a triple jeopardy of population growth, increased vulnerability and exposure to more severe and frequent and climate events.⁷³

Urban settings can magnify the differences in the experiences of women and men, highlighting the gendered aspects of migration and environmental disruption. Women are considered to be more vulnerable than men before, during and after moving, with implications for their safety and security, psychological needs and access to services and property rights.⁷⁴ Migration in the wake of disasters can also increase risks of trafficking.⁷⁵ However, migration, and even displacement, can also bring opportunities for women. In the Philippines, women took on roles as camp managers in the aftermath of Typhoon Haiyan.⁷⁶ Women leaving environmentally marginal areas in Bangladesh have the potential to find employment in the Dhaka garment industry where they are perceived favourably by potential employers in comparison to men. Women must weigh benefits of being able to send remittances to sustain families against possible stigma of migration. These factors make women less likely to move in the context of environmental impacts.⁷⁷

Minority migrant groups in urban settings are most affected by risks to critical infrastructure.⁷⁸ They are often portrayed as a vulnerable group in the face of a hazard (see chapter 10 of this report). However, recent research has shown that linguistic minority immigrants and refugees might be resilient because of the challenges they have experienced in the past.⁷⁹ For example, urban residents who have left Pacific SIDS, where they experienced floods and cyclones, were better placed to cope with new urban risks in destination, such as the Wellington earthquake.⁸⁰

States are beginning to plan for resilient and transformative settlements. Kenya's National Adaptation Plan explicitly mentions that climate change places a strain on urban infrastructure. The Plan states that droughts drive urbanization which places people – especially vulnerable groups such as children, persons with disabilities and the aged – in marginal lands prone to flooding. It therefore recognizes the need for climate-resilient urban development.⁸¹ In Bangladesh, State actors are planning to encourage people to move to climate-resilient and migrant-friendly urban centres. These urban areas need to be developed through a combination of bottom-up

72 Nawrotzki et al., 2017.

73 Hugo, 2011.

74 Sierra Club, 2018.

75 IOM, 2016.

76 Sherwood et al., 2015; Ionesco, Mokhnacheva and Gemenne, 2017.

77 Evertsen and Van der Geest, 2019.

78 Garschagen and Sandholz, 2018.

79 Uekusa and Matthewman, 2017.

80 Ibid.

81 Government of Kenya, 2016.

participatory processes to address the local needs and contexts and top-down planning and support.⁸² This concept fits into Bangladesh’s Seventh Five Year Plan, which focuses on “transformative adaptation”.⁸³

Policy frameworks

As outlined in chapter 11 of this report, there have been substantial developments in global migration governance in recent years. However, an overarching framework has not yet fully emerged to provide policy guidance where human mobility and environmental stressors, including climate change, intersect. A number of different global governance mechanisms exist, having emerged in different contexts and with varying emphasis on the mobility aspects of climate change. The chapter briefly describes two key mechanisms that seek to address environmental change, migration and aspects of adaptation and climate risk management: the United Nations Framework Climate Change Convention’s climate negotiations and the recently adopted Global Compact for Safe, Orderly and Regular Migration. Beyond the Global Compact for Migration, there are, however, much more international considerations of, and policy approaches to, this highly topical issue. A summary of international policy aspects beyond these two mechanisms is outlined in appendix A.

Global climate change negotiations and human mobility

Human mobility – migration, displacement and planned relocation – has been framed as an issue of climate risk management under the UNFCCC, particularly in the work conducted under the adaptation and loss and damage work streams. The framing of risk management has evolved between the 13th Conference of the Parties (COP13) in 2007 and the 24th Conference of the Parties (COP24) in 2018. Figure 1 highlights decision milestones and progress.

Figure 1. Emergence of human migration as a risk management topic in international climate policy



Source: Warner, 2018.

82 ICCCAD, 2018.

83 GED, 2015.

The first time that the issue was recognized in international climate policy was at COP16 (2010) when Parties to the UNFCCC adopted the Cancun Adaptation Framework.⁸⁴ It included paragraph 14(f), which laid out the range of movements people may take, what measures should be taken, and at what level these actions could be taken:

14. Invites all Parties to enhance action on adaptation under the Cancun Adaptation Framework ... by undertaking, inter alia, the following: ... (f) Measures to enhance understanding, coordination and cooperation with regard to climate change induced displacement, migration and planned relocation, where appropriate, at national, regional and international levels

In 2013, at COP19, Parties to the UNFCCC established the Warsaw International Mechanism to explore arrangements to manage residual risks, including those related to human mobility.⁸⁵ Ongoing work under the UNFCCC process, including the Warsaw International Mechanism, aims to bolster the capacity of countries to make risk-informed decisions about pre-emptive activities, planning, and contingency arrangements that affect where and how people live.

At COP21, a turning point occurred when the Paris Agreement established a Task Force on Displacement under the Warsaw International Mechanism, mandated to develop recommendations for integrated approaches to avert, minimize and address displacement related to the adverse effects of climate change.⁸⁶ The Task Force is comprised of States, technical experts from different groups under the UNFCCC, United Nations organizations and representatives from civil society. The Task Force produced comprehensive recommendations that touched upon the whole human mobility spectrum, such as encouraging countries to integrate climate change and migration concerns when formulating national laws, policies and strategies, and supporting the facilitation of regular and safe migration pathways.⁸⁷ In parallel, the Warsaw International Mechanism also endorsed a five-year work programme where one work stream relates to migration, displacement and human mobility.⁸⁸

COP24 adopted the Task Force on Displacement recommendations in 2018 and extended the Task Force mandate for another two years.⁸⁹ The text box below summarizes the types of recommendations addressed to countries, United Nations agencies and stakeholders.

84 UNFCCC, 2010.

85 UNFCCC, 2013.

86 UNFCCC, 2015.

87 Ionesco and Traore Chazalnoel, 2018.

88 UNFCCC, 2017.

89 UNFCCC, 2018.

UNFCCC Task Force on Displacement

Recommendations were made by the Task Force to countries parties to the UNFCCC as well as United Nations and other stakeholders. They were ultimately adopted at COP24. The following are examples of recommendations made by the Task Force.

Countries:

- Laws, policies, strategies to avert, minimize and address displacement;
- Research, data collection, risk analysis including community participation;
- Strengthen preparedness (early warning, contingency planning, evacuation planning, resilience-building, innovative approaches like forecast-based finance);
- National planning processes;
- Find durable solutions;
- Facilitate safe, orderly, regular migration and mobility of people.

United Nations agencies and stakeholders:

- Provide support (finance, technology, capacity-building) including to affected communities;
- Enhance regional, subregional and transboundary cooperation;
- Develop and share good practice (understanding risk, accessing support, assistance and protection, international legal instruments and normative frameworks);
- Invite the United Nations Secretary-General to conduct a system-wide strategic review and facilitate integrated approaches to avert, minimize and address displacement in the envisaged high-level panel on internally displaced persons.

Note: The full decision text is available at https://unfccc.int/sites/default/files/resource/cp24_auv_ec%20wim.pdf.

Global Compact for Safe, Orderly and Regular Migration

Ahead of deliberations on the Global Compact for Safe, Orderly and Regular Migration, the United Nations Agenda for Sustainable Development made mention of migration, although the connection between migration and the environment was not explicitly stated. That said, the Agenda for Sustainable Development and its related goals for 2030 have paved the way for linking migration and the environment in future frameworks. Of particular note is the Global Compact for Safe, Orderly and Regular Migration, which is a legally non-binding agreement by States that is directly linked to target 10.7 of the Agenda for Sustainable Development:

10.7 Facilitate orderly, safe, regular and responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

The Global Compact for Migration sets out 23 objectives in a comprehensive approach to optimize the benefits of migration while addressing its risks and challenges, including those relating to climate stressors and disaster. The Global Compact states that migration is “a source of prosperity, innovation and sustainable development”.⁹⁰ Nonetheless, when environmental migration is mentioned, it is mainly presented in the context of vulnerability as opposed to beneficial outcomes. Four objectives of the Global Compact for Migration are especially relevant to climate and disaster risks. In particular, Objective 2 is about minimizing the adverse drivers that compel people to move and includes a standalone section dedicated to climate change and disasters. In that respect, the text recognizes that climate change adaptation and resilience measures in countries of origin need to be prioritized to minimize the adverse drivers of migration. However, the text also acknowledges that adaptation in situ or return of migrants might not be possible in some cases and mentions the need to consider planned relocation and visa options (Objective 5 on enhancing availability and flexibility of pathways for regular migration). Objective 7 of the Global Compact for Migration aims to address and reduce vulnerabilities in migration. Finally, Objective 23 commits to international and regional cooperation in the context of disasters.

Overall, the Global Compact for Migration articulates a comprehensive set of potential responses to address the adverse drivers of migration and make migration a choice rather than a desperate necessity. However, due to the non-legally binding nature of the Compact, some States may decide to only take limited action to address environmental migration challenges.

Conclusion

This chapter has provided an overview of three prominent framings of environmental migration and human mobility in the context of climate change: securitization, protection, and adaptation and climate risk management. The chapter has also highlighted existing evidence of patterns of human movements – ranging from migration, displacement and planned relocation – in different settings, principally mountainous areas, drylands, coastal zones and urban areas. This evidence illustrates some of the trade-offs people make as they weigh the realities and potential risks of staying or moving away in the face of environmental and climate stress. It has also highlighted the relevance of context, as it relates to environmental settings but also how different communities are able to demonstrate resilience as well as adaptive capacities.

The chapter has also reviewed two key mechanisms in international policy where discussions about environmental migration and human mobility in the context of climate change are taking place (with additional material in the appendix). There has been growing recognition in recent years of the need to better integrate migration into global climate and environmental mechanisms, and for climate change mechanisms to incorporate human mobility aspects. Significant steps have been taken to ensure that the issue of human mobility in the context of environment and climate change receives greater consideration at the international level. And yet, its inherent sensitivities – as reflected, for example, in the different framings discussed above – means that there is still more work to be done in the development of cohesive

90 UNGA, 2018: annex, preamble para 8.

policy approaches. Nevertheless, the ultimate success of these frameworks and guidelines relies on the degree to which recommendations are implemented by States and other actors through migration, development, risk and environmental policies in addition to mainstreaming into other programming.

In conclusion, climate science suggests that the magnitude and frequency of extreme weather events are rising, exposing more people and their assets to adverse impacts. The places people currently live and work in are under increasing pressure from environmental and climate change. Migration, displacement and planned relocation are capturing increased attention from research, policy and practice as people attempt to move away from stress and risk, and towards safety or opportunity. In this context, measures are needed with the following characteristics:

- people are enabled to choose whether, when, and with whom to move (existing networks and dignified options appropriate to cultural contexts and preferences);
- people who move can access livelihood opportunities and remit resources that enhance adaptation; and
- people who move can do so in a dignified, safe and regular manner.

The literature and cases examined in this chapter indicate a need for research, policy and practice on which adaptive options can help people move towards well-being even in the face of growing environmental and climate risks.

The importance of environmental, climate change and disaster drivers will continue to be a key area for future research and policy developments in the international migration governance debate. The reality of how slow and sudden-onset hazards impact people's livelihoods and influence their migration strategies, as much as the significance of the political questions around migration and climate change issues will continue to position environmental migration at the forefront of these debates.

Appendix A. Policy processes of significance for the governance of environmental migration

Beyond the UNFCCC and the Global Compact for Safe, Orderly and Regular Migration, environmental migration continues to be discussed in various thematic policy processes. This includes but is not limited to, the United Nations Convention to Combat Desertification (UNCCD), the Sendai Framework for Disaster Risk Reduction, the Human Rights Council (HRC) and the work under the Office of the High Commissioner for Human Rights (OHCHR), the discussions conducted by the tripartite constituents of the International Labour Organization (ILO), the United Nations Environment Assembly (UNEA), the United Nations High Commissioner for Refugees (UNHCR) Executive Committee as well as IOM governing body mechanisms.⁹¹ All these global policy spaces have devoted specific sessions to migration and displacement in the context of climate change, disaster and environmental degradation. Other processes – such as the small island developing States focused SAMOA Pathway or dealing with key environmental issues such as oceans, ecosystems or water – are also incorporating migration issues. The infographic below summarizes the main elements of the various policy forums and mechanisms.

Of particular note is the Platform on Disaster Displacement (PDD), which is a State-led initiative that seeks to bring migration and environmental change together to address the protection gap for persons displaced across borders, and in particular to implement the Nansen Protection Agenda adopted by 108 countries in 2015.⁹² The PDD focuses primarily on displacement and also has a work plan aimed at increasing adaptive capacity of all people who may move in relation to environmental stresses like disasters and climate change. For example, the PDD's recently updated strategy promotes managing displacement risks through moving “out of harm's way in a dignified manner, through the creation of pathways for safe, orderly and regular migration”.⁹³ The PDD's work plan states that migration can be a response to disaster risk.⁹⁴

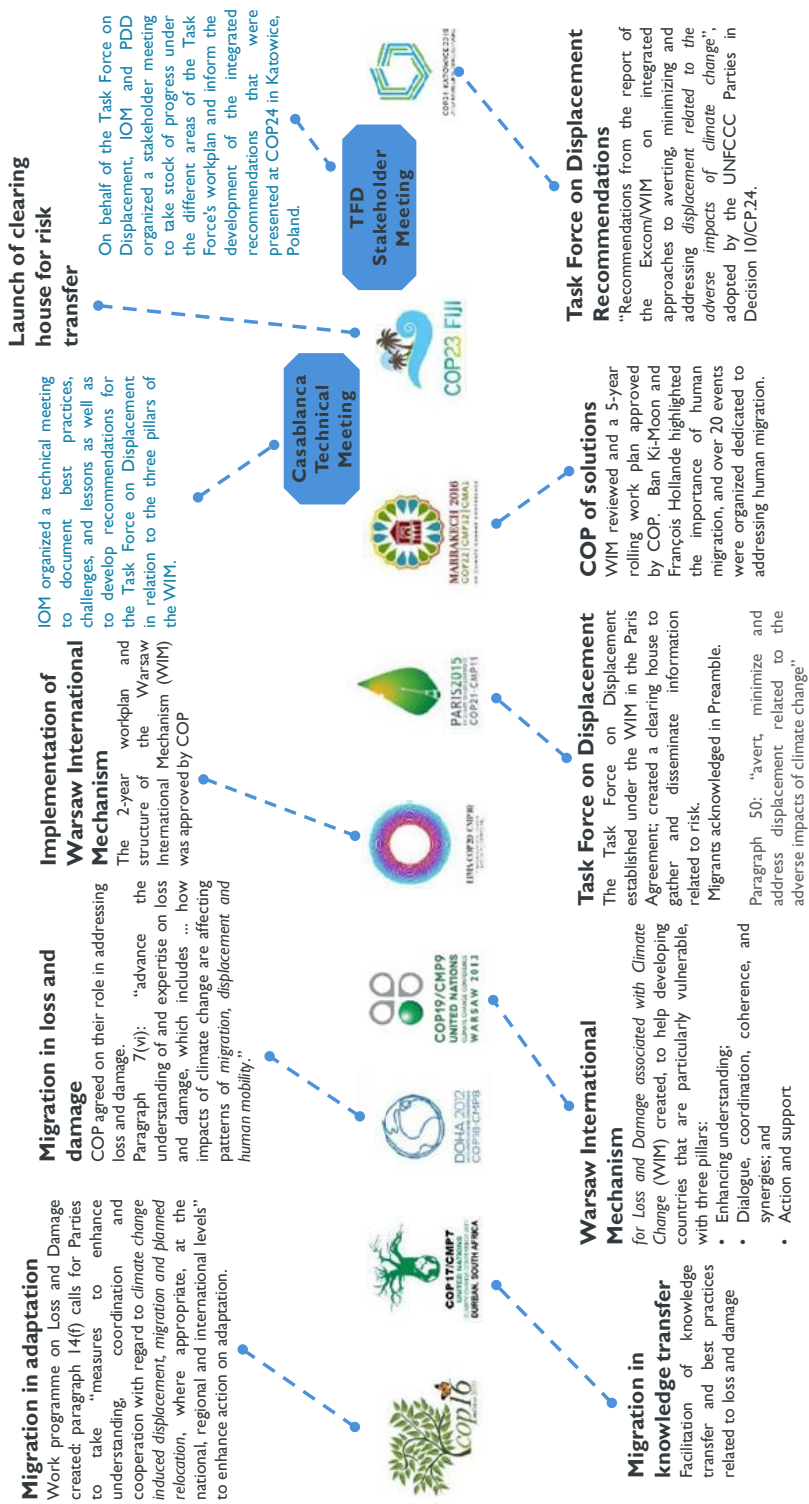
91 States have increasingly engaged at intergovernmental level on migration, environment and climate change within IOM's intergovernmental policy dialogues, including the International Dialogue on Migration (IDM) and the regular meetings of IOM's governing bodies (such as IOM Council), as well as regional policy discussions linked to regional migration consultative processes supported by IOM. See, for example, IOM, 2007.

92 Nansen Initiative, 2015.

93 PDD, 2019.

94 Ibid.

Figure 2. Summary of migration and displacement in global policy processes



Source: Figure created by IOM's Migration, Environment and Climate Change Division.

National policy developments

A 2018 mapping conducted under the Task Force on Displacement workplan highlights that national policies on migration on the one hand, and climate change on the other hand, increasingly consider environmental migration issues.⁹⁵ Out of 66 countries and territories reviewed, 53 per cent made reference to climate change and environmental factors in their national migration and displacement frameworks. Out of 37 countries and territories having submitted national climate change adaptation policies, plans or strategies, 81 per cent referred to human mobility.

Different dimensions of human mobility are touched upon (migration, displacement and planned relocation), through a variety of thematic lenses (such as security, urbanization, labour, adaptation and health). This demonstrates an increased level of integration of the environment-migration nexus in national policies, in line with the greater awareness witnessed at the global level. However, gaps remain in terms of national policy coherence, although efforts are made to create synergies between climate/environmental and human mobility communities.

The full report is available at <https://environmentalmigration.iom.int/iom-pdd-task-force-displacement-stakeholder-meeting>

95 IOM, 2018.

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