



Conceptualising Environmental Change and Global Migration Futures

Global Migration Futures Project Expert Workshop

21–22 June 2012

Organiser: International Migration Institute, University of Oxford

Venue: St Anne's College, University of Oxford

This report,¹ reviews the key conceptual questions and issues discussed at the 'Environmental Change and Global Migration Futures' workshop that was organised by the International Migration Institute (IMI) at the University of Oxford as part of its Global Migration Futures (GMF) project, and held from 21–22 June 2012.

The workshop involved early/mid-career and senior migration, environment, and climate experts from different regions across the world. Its aim was to begin elaborating a shared conceptual starting point and common language, to explore appropriate methods and methodologies, and ultimately to develop an improved understanding of the reciprocal relationship between environmental change and migration that is strengthened by the rigour of both the environment/climate and migration fields.

On the first day of the workshop, migration and environmental change experts explored how they conceptualised each other's fields and examined the reciprocal relationship between environmental change and migration, drawing upon case studies from their own work. On the second day, they analysed the methods and methodologies in the social and natural sciences that might be best suited to study this reciprocal relationship. The workshop concluded with a discussion of potential ways forward for migration and environmental change research and policy.

The workshop received generous support from the Oxford Martin School at the University of Oxford. The outcomes of this workshop have supported the development of IMI's Global Migration Futures project scenarios on future migration in Europe, North Africa, the Horn of Africa, and the Pacific.

Background

Increasingly, academics and policy makers are interrogating the relationship between environmental change and migration and shifting away from the oft-quoted forecast of 150 million 'environmental refugees' by 2050 put forward by Myers and Kent in 1995. There is increasing awareness that environmental factors are among many other variables working in concert to shape, prompt or constrain migration flows; and that environmental factors tend to affect migration more indirectly and their indirect

¹ Written by Ayla Bonfiglio. Thanks are owed to Hein de Haas and Sally Kingsborough.

impacts depend on their interaction with structural drivers of migration, such as economic and political conditions.²

Notwithstanding these insights about the complex interactions and the need to shift away from deterministic views, the key challenge is how to achieve a better conceptual and methodological integration of the largely separate fields of environmental and migration studies. While many migration researchers make assumptions about the nature, complex causes, and impacts of environmental change, many researchers studying environmental change base their often unrealistically high migration projections on outdated push-pull or neoclassical migration models. The lack of integration between these fields is manifested in the weak theorisation and lack of sound empirical evidence on links between migration and environmental change.

This raises a number of fundamental questions. For instance, how does each field conceive the other in its research and what assumptions does each field make? What are the implications of such conceptions and assumptions for research methods and outcomes? It is necessary to address these questions to develop shared conceptual starting points and common language, to create appropriate methods and methodologies, and ultimately to develop an improved understanding of the reciprocal relationship between environmental change and migration that is strengthened by the rigour of both fields.

The ‘Environmental Change and Global Migration Futures’ workshop organised by IMI sought to draw attention to the differences underpinning these fields and to begin to develop an integrated approach to better understand the complex relationship between environmental change and migration processes. The initiative involved 30 early/mid-career and senior migration, environment, and climate experts from different regions across the world. The participation of experts at different stages in their careers brought a diversity of perspectives, concepts, and methodologies to the workshop and prompted stimulating exchanges throughout the two days.

To fully engage experts in the initiative, each fulfilled one of three roles during the workshop: panellist, discussant, or chair. Panellists were asked to prepare research notes on one of several assigned themes, addressing the current state of the art, key challenges and unresolved questions, and potential avenues for future research. Discussants were responsible for synthesising and interrogating the insights presented by panellists, and laid the foundation for discussions among the wider workshop group. Finally, chairs were asked to moderate and prompt exchanges between workshop participants. Each participant was responsible for studying the research notes in advance of the workshop and arrived in Oxford prepared to analyse and debate features of environmental change and migration research and policymaking and to propose how we might further this subject of study as a whole for the future.

² Foresight (2011) ‘Migration and Global Environmental Change: Future Challenges and Opportunities’. Final project report. The Government Office for Science: London; Black, R., Adger, W., Arnell, N W., Dercon, S., Geddes, A and Thomas, D (2011) ‘The effect of migration on global environmental change’, *Global Environmental Change*; Zetter, R. (2010) ‘Protecting People Displaced by Climate Change: Some Conceptual Challenges’, in McAdam, J., (ed), *Climate Change and Displacement in the Pacific: Multidisciplinary Perspectives*, Hart Publishing: Oxford; Castles, S. (2002) ‘Environmental Change and Forced Migration: Making Sense of the Debate’, *New Issues in Refugee Research*, Working Paper No. 70, United Nations High Commissioner for Refugees; Black, R. (2001) ‘Environmental refugees: myth or reality?’, *New Issues in Refugee Research*, Working Paper no. 34 Geneva: United Nations High Commissioner for Refugees; Hugo, G. (1996) ‘Environmental Concerns and International Migration’, *International Migration Review*, 30(1): 105-131;

The outcomes of this workshop have contributed to IMI's research base on environmental change and migration and have supported the development of the Global Migration Futures project's scenarios on future international migration for various regions across the globe (Europe, North Africa, the Horn of Africa, and the Pacific). The Global Migration Futures project is a project that uses a scenario methodology to examine the future of international migration by focusing on key future uncertainties in the structural processes driving international migration.

This workshop report serves two functions. First, it aims to summarise a number of state-of-the-art conceptual issues related to environmental change and migration research. Second, it suggests how future research and policymaking might be advanced by first developing new and enhancing current concepts that grasp the complex and reciprocal nature of environmental change and migration; and second exploring new research questions that may help in setting the agenda for future scholarship.

Conceptualising environmental change

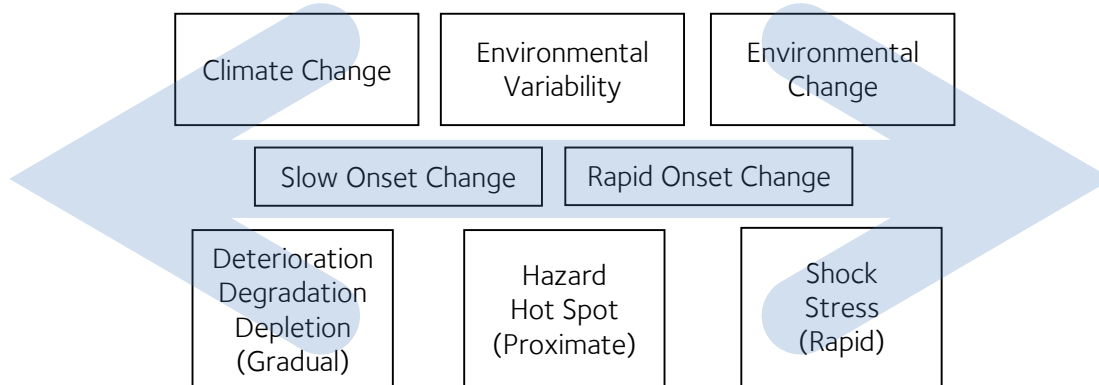
On the first day of the workshop, presentations and discussions focused on how to conceptualise the reciprocal relationship between environmental change and migration and, more fundamentally, how to conceptualise 'the environment' and 'migration'. Thus, participants' presentations and discussions began by exploring how 'environmental change' is conceived, particularly by migration scholars, and then turned to examine conceptualisations of migration, with particular reference to how environment and climate scholars perceived migration.

Understanding how scholars and practitioners from the migration and the environment fields perceived each other's subjects was a key first step in having fruitful cross-disciplinary discussions and debates and in reaching meaningful cross-disciplinary concepts to perceive the relationship. This step revealed the diverse array of concepts and units of analysis currently being employed in research on environmental change and migration; the divergent meanings within these concepts; what the concepts represent, in terms of their implications for the wider migration or environment literature and for policymaking; and the various authors behind the concepts and their possible motivations for developing such concepts. This section synthesises what the workshop presentations and discussions revealed about conceptualising environmental change.

Terms and meanings

Workshop participants used numerous terms with varying meanings when referring to changes in the environment. Many did so specifically to prompt discussions on conceptual clarity or to emphasise the diversity that exists within environmental and climactic change. In compiling and analysing the concepts employed during the first day of the workshop, two primary categories emerged: concepts describing changes to the natural environment and concepts describing shifts in ecological services. Here, the 'natural environment' refers to the physical space in which people and societies live, and 'ecological services' refer to the resources offered by the physical space, such as water, food, or fuel, which individuals, households, and communities in a given area may rely on for their survival. It should be noted that these categories overlap and that this report highlights these categories only to draw attention to the differences underpinning their conceptualisations. Below, Figures 1 and 2 graphically represent these categories.

Figure 1: Concepts describing changes in the environment



Concepts describing changes in the environment appeared to exist on a continuum, characterised by the speed and scale of change as well as by the direct and causal nature of the impact of change on migration. On the left side of the continuum sit changes in climate, which represent broad processes that tend to take place gradually and over the longer term. Participants argued that these processes often have an indirect effect and are a part of a larger complex of factors affecting mobility (as well as immobility) by impacting people’s livelihoods, access to resources and wellbeing (Castles 2012, Versvoort 2012). For this reason, relationships between slow onset environmental changes and migration are difficult to identify, are generally indirect, and require micro-level examination to identify all of the variables in operation (Zetter 2012, Alverson 2012).

On the right side of the continuum sit changes in the environment, which refers to narrower or more targeted processes of change marked by rapid and, at times, cataclysmic events. Participants held that such changes tend to have more direct impacts on migration and may therefore be easier to identify. Macro-level studies may be well suited to describe the relationship between rapid onset change and migration because of the overwhelming significance of these environmental events (Zetter 2012). Environmental variability lies in the middle because it represents shifts that occur in the shorter term, but are a part of larger cycles of change that may or may not be associated with fundamental changes in climate. For instance, climates are intrinsically variable, which implies that there is a risk in over interpreting a series of dry years as evidence of climate change. Environment-migration relationships involving environmental variability must examine the extent to which such variations are an established feature of socio-economic life or present themselves as shocks to understand variability’s implications for migration processes (de Haas 2012).

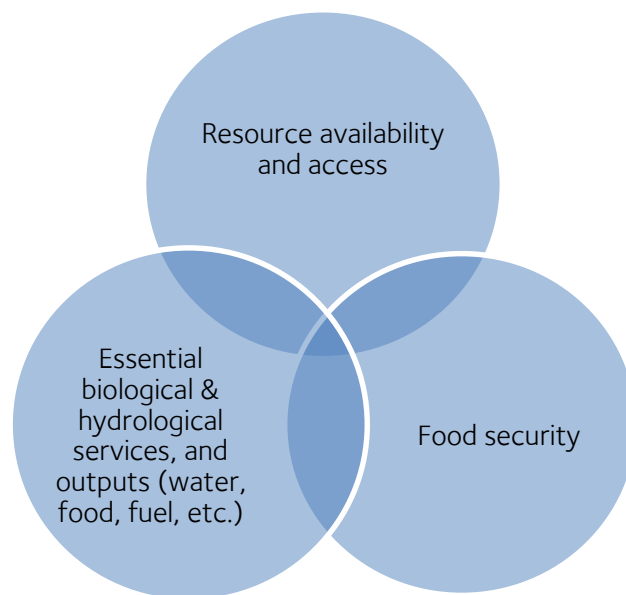
The third line of the continuum reveals an additional aspect of environmental change conceptualisations, which is the equating of change with worsening rather than improving physical, environmental conditions. Rapid changes tend to be discussed as shocks and stresses; gradual changes as deteriorations, degradations, and depletions; and factors that pose potentially chronic risks seemingly further into the future as hazards and ‘hot spots’.³ The absence of concepts depicting ‘positive’ changes to the

³ Hugo’s (2010) ‘hot spots’ are ‘areas or regions that may be at relatively high risk of adverse impact from one or more natural hazards [as a] result [of] climate change.’ In ‘hot spot’ areas, climate impacts are likely to be greater in scope and intensity. He states that four types of regions are particularly vulnerable to climate change impacts: densely settled delta areas, low-lying coastal areas, low-lying atolls and coral islands, and semi-arid low-humidity areas.

environment prompts one to ask who are generating concepts of environmental change and why. These questions are considered later in the report.

Additionally, each concept describing changes in the environment seems to position the environment as an external or exogenous factor. The term ‘natural environment’ similarly places the existence of the environment outside of or separate from people and society (Zetter 2012). De Haas (2012) argues that researchers should perceive the environment as actively constructed in their research, ‘both in people’s minds and in the physical reality’. Examination of the environment’s internal and endogenous nature features more strongly in the second category of environmental change concepts, describing changes in ecological services.

Figure 2: Concepts describing shifts in ecological services



Concepts related to shifting ecological services include resource availability and access, food security, and essential biological and hydrological services and outputs (Alverson 2012, Versvoort 2012). Unlike the terms in the first category describing changes in the environment, these concepts appear to overlap and exist on the same level of analysis, as they are all associated with issues of ecological access and availability.

The characterisation of environmental change by shifts in the natural goods and services upon which societies rely is an instrumentalist view of the environment. Such a conception focuses attention on how the environment functions for people and societies and the extent to which people and societies are dependent upon environmental goods and services and can adapt, persevere, migrate, or not survive. It also considers whether people can in turn shape the environment to yield desirable or undesirable ecological outputs. As mentioned previously, this highlights the partly endogenous nature of the environment and suggests the involvement of social, political, and economic factors in shaping environmental change (de Haas 2012). Hence, two congruent environments are likely to experience changes to ecological services very differently if their societies’ respective levels of development, access to social networks, or community and household structures differ, to name a few (Castles 2012).

Representations and significance of meaning

To understand the implications of the various constructions of environmental change, workshop participants examined who were generating environmental change concepts and for what reason. In particular, participants endeavoured to identify what larger ideas or debates different environmental change concepts represented. During discussions, three representations emerged: the environment as a useful lens to study migration, the environment as a call to action on migration policy, and the environment as a strategy to divert governmental responsibility. This section discusses each of these in turn.

Both environment and migration scholars at the workshop argued that environmental change provided a useful lens to study migration. Environmental change, as a complex and multidimensional process linked to social, economic, political, and technological change, parallels the complexity of migration as a process of transformation. Not only are both driven by a range of structural forces, but also migration and environmental change processes take shape and evolve over time and space and on different analytical scales. Kniveton (2012) maintains:

Notwithstanding that the impact of the environment is largely manifest through the other determinants of migration, say through yield loss, or that different drivers combine nonlinearly in their impact on migration, we would argue that environmental change poses a set of questions that while not exclusive to the environment allow a different perspective on understanding of the migration process.

Thus, from the perspective of researchers, environmental change as a concept may be harnessed to further the study of complex migration processes and take additional strides away from push-pull concepts of migration flows.

Turning to consider more politicised representations of environmental change, participants held that migrant-receiving countries often position environmental change as a call to action on migration policy. This occurs at both the governmental level in lobbying for immigration and asylum reform and at the civil society level in advocating for the protection of migrants' human rights. Newland (2012) holds that environmental change as a call to action often draws upon the belief that changes in the environment will necessary lead to new forms of (forced) migration and an overall significant increase in the volume of migration flows. Moreover, she questions whether in playing this role, environmental migration discourse has become a new form of overpopulation discourse, positioning environmental migration as a threat to sustainability.

Castles (2012) and Nicholson (2012) similarly contend that governments perceive environmental change as a new enemy or threat, however, that this represents a larger contemporary political shift taking place from state to perceived non-state enemies and to perceived transnational security challenges. In this way, a war on 'environmental change' has emerged alongside wars on drugs or terror. Representations of threat position migrants either as passive victims or as threats themselves (Witsenburg 2012).

Lastly, workshop participants argued that some migrant-sending countries co-opt environmental change discourse as a strategy to shift responsibility for economic and social crises to the environment. Thus, what would be perceived as economic and social vulnerability transforms into environmental vulnerability, without reference to the fact that people do not experience environmental vulnerability equally and that such vulnerability is often determined by people's capabilities. Verhoeven (2012)

maintains that ‘whilst biophysical changes are undeniably occurring, their impact on livelihoods and ecosystems is mediated by political behaviour, institutions and power struggles.’ He continued that governments are aware of this and ‘exploit the political potency of seemingly a-political discourses’ to keep their domestic coalitions intact and to ensure the survival of their state. Environmental change discourses can therefore obscure the responsibility of institutions and governmental actors underpinning conflict and crisis (Witsenburg 2012, Gemenne 2012).

This section has attempted to identify, compile, and analyse some of the prevailing concepts enlisted to describe environmental change as it relates to migration during workshop discussions and presentations. In doing so it has sought to explore their variations in meaning and context, the larger debates and ideas they represent, their users, as well as the power behind their usage. Through this brief exploration, several insights have emerged regarding how scholars and policymakers conceptualise environmental change. Firstly, concepts appear to fall into one of two categories, those describing changes to the natural environment and those to ecological services. Secondly, the environment is often perceived as an external variable, and should be repositioned as part of interdependent relationships with societies. Thirdly, the dominant conception of ‘negative’ environmental change occurring in the context of migration plays a significant role in shaping the way scholars and policymakers perceive the relationship. Finally, any study of environmental change in the context of human behaviours should include a discussion of the power and politics behind the conceptualisations of environmental change enlisted.

The following section shifts to explore the various concepts called upon when describing migration in the context of environmental change, their meanings and implications for larger migration debates, and who are generating these concepts and why.

Conceptualising migration

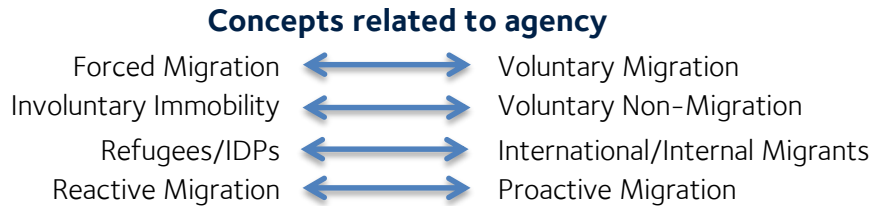
Terms and meanings

Similar to the experience of conceptualising environmental change in the context of migration, the task of conceptualising migration in the context of environmental change revealed a wide range of terms and meanings, and a lack of their systematic application leading to a lack of conceptual clarity. In taking stock of all of the terms that workshop participants employed to describe such movement, two categories of terminology emerged: concepts related to migrant agency (See Figure 3) and concepts related to space and time (See Figure 4). Concepts related to migrant agency refer to whether movements affected by environmental change should be classified as forced migration *versus* voluntary migration. Concepts related to space and time describe the characteristics of migration journeys, for instance if they are internal and short-term. This section explores each of these conceptual categories in turn and what they reveal about migration associated with environmental change.

Conceptualisations of migration falling under the first category appeared to exist as a series of continua each defined by some expression of agency. The left sides of the continua include the concepts of forced migration, involuntary immobility, refugees/internally displaced people (IDP), and reactive migration, which represent migration states of relatively little or no agency. The right sides of the continua include concepts of voluntary migration, voluntary non-migration, international/internal migrants, and proactive migration, which represent migration states of a relatively higher degree of agency. It should be noted that, following Richmond’s (1994) work, workshop participants used the terms ‘reactive’ and ‘proactive’

migration to describe an agency continuum that exists within forced migration itself, emphasising the variation that exists within concepts with respect to agency.

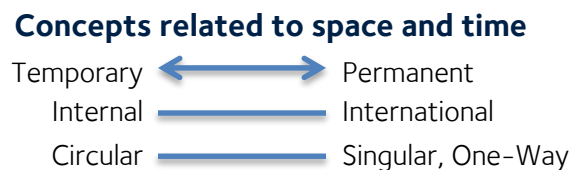
Figure 3: Concepts related to agency



The importance of agency in workshop participants’ conceptions of migration reveals that the classification of such movements as voluntary or forced are central to how they are studied by academics and managed by policymakers. For instance, movements classified as forced migration and having less agency might require international protection or support, while those classified as voluntary and having more agency might be treated as irregular or unauthorised by national migration policies. In this way, the importance of elements of agency to environment-affecting-movement conceptualisations, reflects more generally such elements being fundamental to movement conceptualisations (Zetter 2012, Castles 2012). Realising this prevents movements associated with environmental change from being classified in a single way. Moreover, understanding that concepts in this category have varying degrees of agency shows that it is not enough to identify that some agency is being exerted or lost in movements affected by environmental change; instead, researchers must uncover the factors that migrants are weighing up, migrants’ capacities or strengths, and their constraints.

The second category of conceptualisations of migration in the context of environmental change relates to the space and time dimensions of people’s movement. Here, space refers to international *versus* internal movements, which are often associated with slow *versus* rapid onset environmental disasters, respectively. Space also refers to the migration pathway, which may be a single one-way, stepwise, or circular movement. For instance, an earthquake in Haiti may be a contributing factor to a family’s relocation to the United States or periodic flooding in Bangladesh may contribute to circular mobility patterns. Concepts related to space exist as categorical variables, which may be ordered (e.g. from internal to regional to international), but do not exist on continua.

Figure 4: Concepts related to space and time



Migration concepts associated with time exist on a continuum defined by the duration of movement, ranging from highly temporary movements, such as the movements of traders, to longer term and permanent movements, such as the movements of retired city dwellers to ancestral homes in rural villages. Castles (2012) contends that ‘many families have used the temporary migration of one or more members

to sustain and diversify their livelihoods, while permanent migration (both rural-rural and rural-urban) may be an appropriate response when certain livelihoods and habitats become unviable.’

Similar to agency, space and time are aspects that are fundamental to conceptualising migration outside of environmental change. Skeldon (2011) argues that ‘no full conceptualisation of migration can be reached without creating the spatial and temporal contexts in which it operates.’ Additionally, the great variation within agency, space, and time-migration conceptions speaks to the diversity of migration patterns driven partially and indirectly by different forms of environmental change.

This section has outlined the numerous terms and meanings that workshop participants applied and ascribed to the movement of people in the context of environmental change and has shown that concepts are characterised by and vary along three primary dimensions: agency, space, and time. Conceptualisations of movements effected by environmental change appear to vary much to the same degree as conceptualisations of migration, begging the question: Is movement effected by environmental change in any way different from other forms of movement? Further, does environmental change have any distinctive or added impact on a person’s greater migration calculus?

This report now turns to explore how migration terminology connects to larger debates in the fields of environmental change and migration as well as who generates the dominant terminology and for what purpose.

Representations and Significance of Meaning

Four themes emerged from the range of concepts workshop participants employed to describe movement in the context of environmental change, which point to the varied debates and multiple research and policy implications underpinning and driving these concepts. The themes include the rigidity of migration concepts, migration as a response, determining responsibility for migration, and migration as a political tool. This section describes each of these in turn and considers the actors who have constructed them and their rationales for doing so.

The diversification of migration concepts and their multiple and at times conflicting framings as vulnerability, adaptation, and resilience reveals the challenges in having rigid migration concepts, which encompass not only rigid characteristics but also inflexible policy responses (Zetter 2012, Kniveton 2012).

For instance, researchers and policymakers are increasingly positioning migration as a positive response or adaptation to environmental shifts (Zetter 2012). This repositioning may stem from a significant push from academic circles to acknowledge migrant agency and to start framing migration more positively and as more commonplace and less negatively and exceptionally. At the same time, researchers and policymakers view some forms of non-migration as a sign of resilience or *in situ* adaptation. Both migration and non-migration have also been associated with expressions of vulnerability or sensitivity to environmental hazards and, in this way, have been perceived as a failure to survive in changing conditions (*ibid.*). If movement can be a sign of vulnerability for some while it may represent adaptation and a high level of capabilities for others, then it appears that movement, itself, is an inappropriate and obscuring marker of environmental change impacts or of wellbeing.

This desire of migration researchers to codify migration in the context of environmental change has led to migration concepts and interpretations becoming not only more numerous, but also more expansive to

accommodate an increasing variety of cases. For instance, in the past it was common for researchers to reference environmental change as a driver of forced migration (and sometimes refugee) flows, whereas at present many more researchers are expressing environmental change as a factor among many that is associated with movement (Morrissey 2012). This begs the question: what value do these more ambiguous concepts and relationships have? What do they allow researchers and policymakers to learn?

The second theme, migration as a response, refers to movement being largely conceived as a passive reaction to an (external) environmental event or factor. It conceives migration in a highly deterministic way, following outdated push-pull migration theories, which ignore agency (de Haas 2012). Kniveton (2012) refers to this positioning of migrants as passive actors as their having an ‘external locus of control’, where power over events and outcomes lies outside of individuals and households and in the hands of fate, chance, or more powerful actors. In contrast, migrants as actors with an internal locus of control see outcomes as dependent on their own actions. The migration-as-a-response theme is often promoted by policy makers and in policy debates about migration affected by environmental change as well as about migration more generally.

De Haas (2012) argues that policy debates about migration and environmental change continue to position movement as a response to deprivation. This ignores the fact that (particularly long-distance) migration requires significant resources and that extreme deprivation may actually lead to situations of involuntary immobility (Carling 2002). Policy debates surrounding this issue frame migration as a problem needing to be resolved and stopped. They also link migration to a problem or deficit, rather than an opportunity at home or elsewhere shaping movement decisions. De Haas (2012) contends that policy debates need to acknowledge modern migration theories, which highlight how migration is an intrinsic part of broader development processes (de Haas 2009), rather than a response to poverty.

The third theme, determining who is responsible for migration flows, is tied to the larger and previously mentioned debate about whether movement in the context of environmental change should be categorised as voluntary *versus* forced migration. If migrants directly or indirectly impacted by environment change do not fall under a special status of forced migrant, then, based on the legal categories that exist, they are simply migrants who must encounter the same border regimes as other international migrants and primarily fall under the responsibility of migrant ‘sending’ or ‘receiving’ governments. In contrast, if migrants affected by environmental shifts are deemed as deserving international protection, then migrants may fall within international human rights, refugee, and humanitarian legal systems and may require the protection and assistance of international organisations.

Castles (2012) argues that when the link between environmental change and migration was first introduced, humanitarian institutions purposively labelled migrants as refugees to incorporate such individuals under their mandates. He further contends that environmentalist institutions also played an early role in forging this same link with refugeehood, as a strategy to bring more attention to global changes in climate (see also Nicholson 2012, Newland 2012).

Moreover, in Bangladesh and Vietnam, Zetter (2012) argues that the governments have framed population movements linked to flooding as humanitarian and development concerns, respectively, which has not only impacted institutional responses, but also the movements themselves. In Bangladesh he maintains that the government’s support of humanitarian organisations’ assuming responsibility for the needs of vulnerable peoples during repeated flooding disasters has framed movements as forced migration.

That such periodic crises ‘might be proactively managed [and...] where household migration strategies might be integrated into development and resettlement programmes, are policy tools that are notable by their absence’ (Zetter 2012). On the other hand, in Vietnam, the government frames environmental stresses as development rather than humanitarian concerns. Consequently, ‘the concept of displacement is nonexistent in current policy agendas and frameworks. Instead, the term relocation is used in policy documents’ (*ibid.*). Thus, labelling movers was and may remain an active process on the part of governments, international organisations, and non-government organisations to expand or contract the breadth of the populations within their mandates or to frame large-scale migration patterns in a way that is the most politically beneficial.

The final theme linking the migration terminology employed during the workshop to larger debates in studies of environmental change and migration is migration as a political weapon. This theme maintains that population movements in the context of environmental change may be a part of or may result from practices of ‘exclusionary political economies that benefit outside actors and domestic elites at the expense of local communities against whom the language of adaptation, migration, growth and sustainability is actively deployed as a political weapon’ (Verhoeven 2012). Hence, migration in the context of environmental change needs to be re-politicised to uncover not only structural inequalities, but also more direct discriminatory policies and practices. Verhoeven (2012) contends that these policies and practices are often obscured by discourse on seemingly apolitical environment-driven migration processes and responses, which are based on Malthusian conceptions of the relationships between populations, mobility, ecological scarcity, and violence (*ibid.*).

This section has attempted to identify and critically examine some of the dominant concepts used to describe migration in the context of environmental change during workshop discussions and presentations. As with the section on conceptualising environmental change, it has attempted to explore the variations in meaning and context of migration concepts, the larger debates and ideas they represent, their users, as well as the power behind their usage. Through this brief exploration, several insights have emerged on how researchers and policymakers perceive migration. Firstly, concepts appear to fall into one of two categories, concepts related to agency and to time and space. Secondly, migration concepts and interpretations appear to have become not only more numerous but also more expansive, raising questions about their purpose and value. Thirdly, policy debates continue to frame migration as a response and a problem needing resolution, and should recognise the links between migration and broader development process as well as migrant agency, aspirations, norms, and capabilities. Policy makers should also recognise the impacts that their own framing of and responses to migration have on the processes themselves. Lastly, any study of migration in the context of environmental change should re-politicise movements and interrogate what strategic ends such movements might be achieving and for whom. The following section continues to move forward in exploring environmental change and migration by seeking to understand the reciprocal nature of their relationship.

Understanding the complex and reciprocal relationship

After examining conceptualisations of environmental change and migration, this report now turns to briefly explore how these complex processes relate to one another. As mentioned previously, environmental change has typically been positioned as a driver of migration, while migration has been positioned as a response. Discussions and presentations at the workshop sought to draw out the reciprocal

interactions of these processes, to develop a more nuanced understanding of their relationship. This section tentatively explores some of these reciprocal interactions.

Kniveton (2012) argues that migration and environmental change is a part of a larger complex system rather than separate processes. Complex adaptive systems can ‘describe the nonlinear and emergent properties of migration flows in response to drivers of migration such as climate change impacts and population growth’ (*ibid.*). They do this by integrating nested hierarchies, cross-scale interactions, and feedback loops between different levels of analysis. Kniveton *et al.* (2012) propose an agent-based model that shows how individual migrant agency feeds into larger societal actions, which in turn generate feedback effects on the impacts of environmental variability and change. The model is set within the context of a rain fed agricultural economy in Burkina Faso and accounts for the variation in the personal attributes of individuals, their positions within broader social networks, levels of population growth and other demographic shifts, and rainfall variation. It reveals the feedback effects produced by agents who communicate their mobility strategies to members of their social networks, increasing their likelihood to migrate, as well as the effects of more structural factors such as population growth and increases in particular age cohorts in amplifying the impact of rainfall variation in prompting seasonal migration in settings with rain fed agricultural economies.

Complementary to a complex system view of environmental change and migration, de Haas (2012) emphasises the reciprocal functional relations between population and environmental change by highlighting the socially and politically constructed nature of the ‘environment’. Assuming a political ecology approach, he calls into question the analytical separation between society and environment by citing the anthropogenic dimensions of environmental change processes, particularly with respect to issues of access and control over resources (see also Alverson 2012). For instance, he argues that, rather than sand dunes encroaching on human settlement, forcing inhabitants to move elsewhere, desertification is better described as ‘local, human induced processes of land and water degradation’, highlighting the roles of human agency and changing technology and organisation (de Haas 2012 citing Stott and Sullivan 2000, Thomas and Middleton 1994).

In the case of Moroccan oasis societies, environmental degradation was primarily driven by a *decline* in resource use as a result of out-migration and in a decrease in the reliance on agrarian income. Not least among these changes were the socio-economic emancipation of formerly subordinate ethnic groups, the individualisation (rather than communalisation) of cultivation systems, the breakdown of ancient trade networks, and the integration of the oases into national and international economies over the last century. These trends were not only intimately related with migration processes that impacted land and resource management systems, but also created further migration feedback effects. The case of Moroccan oasis societies highlights the way in which the environment can be falsely constructed as being external to society and involved in a causal relationship with migration. It further demonstrates that migration and environmental change processes are parts of larger complex systems. Lastly, as de Haas (2012) argues, it shows that, ‘depending on the political economic context, environmental stress can lead to more or less migration and that migration has its own impact on resource use and management.’

This section briefly explored the reciprocal and indirect links between migration and environmental change processes within a larger complex system related to processes of socio- economic and political change. Viewing migration and environmental change as part of a larger system allows researchers to

‘explore the role of migration in reducing vulnerability and building resilience to environmental stresses and shocks rather than being focused purely on trying to disentangle the marginal impact of the environment amongst other determinants of migration’ (Kniveton 2012). Further, it allows for a more expansive view of migration processes, as anticipatory *versus* reactive, private *versus* public, or autonomous *versus* planned (*ibid.* citing IPCC 2001).

Conclusion

At the start of the IMI workshop, one of the participants asked, ‘Has the opportunity for a productive conjunction between migration and environmental change been lost?’ This question grows out of the numerous challenges that researchers and policy makers have encountered while attempting to distil a relationship between environmental change and migration with a view towards developing future migration scenarios. Challenges have included the misleading ‘maximalist’ discourse about the significant magnitude of environmental change impacts on migration (Suhrke 1994); the politicisation of the relationship for strategic ends by a variety of actors with differing interests; the desire to codify and simplify the relationship in a causal theory; and the socially, politically, and economically embedded nature of migration and of environmental change processes at every level of analysis, making them difficult to define in any meaningful way. Thus, the challenges have been political as well as conceptual and methodological.

Through the process of sharing their expertise on environmental change processes, migration processes, and their reciprocal interactions from a variety of disciplines and professional sectors, workshop participants began to find answers to the questions, ‘What can be said about the relationship between environmental change and migration?’ and ‘How can the research and policy community move forward on this subject?’ This report has attempted to present and analyse some of these answers.

First and foremost, participants recognised that there are instances, such as rapid onset environmental changes or events, in which the relationship between environmental change and migration is more clearly observable at the macro-level and is characterised by a more direct interaction (Zetter 2012, Castles 2012). However, more often, the environment plays an indirect role and forms part of a larger complex or multidimensional equation describing migration outcomes. The true insight may lie in acknowledging that both of these characterisations hold and are incomplete without one another. It requires that moving forward, the role of the environment must be defined, examined in terms of its endogenous or exogenous relationship with other migration drivers and migration outcomes, and contextualised each time it is considered in relation to migration.

Where the environment’s role is more difficult to define – for instance, in a situation of slow-onset environmental change wherein environmental impacts on migration are mediated through more direct socio-economic drivers as well as individual aspirations – environmental and climate sciences may have the ability to strengthen the efforts of both present and futures-oriented migration and forced migration studies by offering a complex adaptive system framework, as outline by Kniveton (2012) to conceptualise environmental change and migration. This framework would appreciate the functional reciprocal interactions between environmental change and migration, their feedback effects, and their overlapping and embedded positions within larger structural processes of transformation. The field of political ecology also prompts studies in migration to examine the anthropogenic dimensions of environment processes, recognising that the environment is actively constructed and cannot be wholly separated from people and

society. For this reason, researchers should also examine the transformation of ecological goods and services over the period under study.

Taking the notion of construction a step forward to how environmental change and migration are perceived and discussed, future research might include an exploration of the discourses employed in describing the relationship and the function of the language and concepts used as well as the political context of the environmental change and migration processes in question.

Lastly, any discussion of the present or future of the relationship must come to grips with a larger political and academic debate taking place concerning the degree of agency within people's movements and whether the movement under study may be classified as forced or voluntary migration. Whether one is a migration researcher or an environmental or climate scientist, if one is studying the movement of people then this debate will become a part of one's research the moment a concept or label such as 'migrant' or 'displaced' is invoked. This places responsibility on the scientist-researcher, as it is on any researcher of people's movements, to represent the aspirations, capabilities, norms and values, as well as the wider social, economic, and political structural factors at play creating opportunities and constraints in one's examination of movement in the context of environmental change.

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