

# **Multidimensional Mobility – Politics of Place and People**

## **Merging Top-Down and Bottom-Up Approaches to Environmental Migration**

Giovanni Bettini\*, Anna Kaijser, Anne Jerneck

Lund University Centre of Excellence for Integration of Social and Natural Dimensions of Sustainability (LUCID)

at Lund University Centre for Sustainability Studies (LUCSUS)

### **Submitted to:**

2009 Amsterdam Conference on the Human Dimensions of Global Environmental Change

Earth System Governance: People, Places and the Planet

---

## **Abstract**

Deterministic and mechanistic interpretations of the environment-vulnerability-migration chain often result in dramatic images and a dystopic rhetoric on Environmental Migration (EM). By deconstructing the polarized and fragmented theoretical debate on EM, we attempt to provide a more nuanced and multi-dimensional framing of the issue. An intersectional reading of existing empirical studies and migration theories highlights the centrality of context-specific and dynamic social relations that shape vulnerabilities, capabilities, mobility, and their interplay.

In the light of a multi-dimensional framing, we explore practical approaches to EM and identify a polarization between Top-Down and Bottom-Up perspectives. To overcome the polarization, we suggest a no-regrets approach for handling uncertainty and complexity across spatial and temporal scales. No-regrets strategies may also provide tools for achieving a fair allocation of responsibilities and agencies with the ultimate objective to increase freedoms and capabilities of individuals and groups affected by environmental changes. Finally, the paper recognizes the limits of a no-regrets approach.

**Keywords: climate change, environmental justice, environmental migration, intersectionality, no-regrets approach, vulnerability**

E-mail addresses: [Anna.Kaijser@lucid.lu.se](mailto:Anna.Kaijser@lucid.lu.se); [Giovanni.Bettini@lucid.lu.se](mailto:Giovanni.Bettini@lucid.lu.se); [Anne.Jerneck@lucsus.lu.se](mailto:Anne.Jerneck@lucsus.lu.se)

\*Corresponding author.

## Introduction

In the wake of climate change and other major environmental changes, some observers foresee that during the next decades human mobility will rapidly increase to the point where several hundred million people may have to abandon their homes to become environmental refugees. However, this is questioned by others who anticipate a less dramatic scenario. Due to these highly differing views, the issue of Environmental Migration (EM) has become a contested field characterized by both empirical and theoretical polarization.

In this paper we seek to nuance and bring some clarity to the debate by discussing in detail how human mobility may interact with climate and environmental changes as well as how migrants, according to existing theory and empirical cases, relate to their social and ecological settings to make purposeful choices. We proceed from the proposition that human mobility, or migration, is a multifaceted process that involves essential questions on who migrates, in which direction, for what duration and for what reasons. We also propose that EM is shaped by a myriad of dynamics and power relations that differentiate local settings and play fundamental roles for the ways in which different individuals and groups are affected by and respond to environmental changes. EM therefore has to be understood within its particular contexts, which in turn calls for an intersectional theoretical perspective.

The theoretical reflections developed in the first part of the paper are then employed for discussing some elements of existing approaches to EM. We identify a polarization between what we define as Bottom-Up and Top-Down approaches, a polarization that – we argue – may cause incomplete understandings of the phenomenon and block the potential need for decision-making and adaptation policies on several levels. A key element for overcoming the polarization is to spell out the normative components of a suggested approach to EM. We argue that the main (normative) goal for an approach to EM is to increase the freedom and agency of the (vulnerable) people exposed to risks of displacements owing to environmental factors. Such an approach also implies a more nuanced (less negative, mechanistic, simplistic) understanding of migration, regarding it more as a human right to exercise mobility and as a possible, both individual and collective, adaptation strategy.

We contribute to the EM debate by advocating a no-regrets approach that accommodates issues of uncertainty and contextual variation in environmental and climate change impacts while also addressing fair allocation between responsibility and agency. Furthermore, we use EM as an illustrative case for discussing agency, allocation and institutional architecture within Earth System Governance.

## Vulnerability to Global Environmental Change

### *Unprecedented changes*

Global environmental change comprises a variety of processes that are radically modifying ecosystems and risk to undermine several of the ecosystem services that humans rely on. Land, water and air are all affected by ongoing and anticipated changes. Notably, changes in climate caused by human emissions of greenhouse gases is a global phenomenon that has gained increased attention on the international agenda, but several are the environmental processes that play significant roles on both local and global

scales – often referred to as Global Environmental Change (UNEP 2007). Land degradation, sea-level rise, water scarcity and droughts as well as more frequent and unpredictable extreme weather events are some examples of dramatic changes that already have tangible impacts on large populations; such phenomena are expected to increase in the future (ibid.).

Many of these processes have anthropogenic origins (IPCC 2007; UNEP 2007), and much attention has been devoted to ways of mitigating dangerous changes by eliminating or reducing exposure. However, there is growing scientific evidence that some changes are at this point unavoidable, regardless of what will be done in terms of mitigation (Parry, Lowe et al. 2009). This is one of the reasons for increased attention to adaptation, i.e. the ways in which human systems re-arrange their structures and functioning in order to cope with shifts in the environments they are embedded in and rely on (IPCC 2007; Stern 2007; UNEP 2007).

### *Vulnerability*

It is hard both to predict how environmental changes actually affect human systems and to conceptualize the interplay between such impacts and social changes. For dealing with these challenging tasks, the concept of *vulnerability* has become increasingly popular in the academic debate (Adger 2006; IPCC 2007). Several scholars have employed the concept with different meanings that imply different conceptualizations of the issues, rely on the production of distinct bodies of knowledge, and have different policy implications (Kelly and Adger 2000; O'Brien, Eriksen et al. 2007). For instance, O'Brien et al. distinguish between *outcome* and *contextual vulnerability*<sup>1</sup> (ibid.). For the purposes of this paper, we employ the former in order to introduce the issue and briefly touch upon questions like 'where' and 'how'; however, in most of the paper we apply the latter to deepen the analysis.

The extent to which a human system risks to suffer from the adverse impacts of environmental changes, i.e. its 'outcome vulnerability', depends on three variables (IPCC 2007). First, *exposure*, i.e. the extent (character, magnitude and frequency) of the changes to the system. Second, *sensitivity*, i.e. the degree to which elements of the system (e.g. livelihoods, means of support and socio-economic structures) are affected by the changes. Third, *adaptive capacity*, i.e. the extent to which the system is able to respond to the impacts of the variations, moderate adverse effects and re-adjust itself (ibid.). Several regions have been identified as 'hot-spots of vulnerability': such areas are characterized by great exposure to changes (e.g. semi-arid areas or small islands), sensitivity to the impacts (e.g. subsistence agriculture

---

<sup>1</sup> According to O'Brien et al., "[o]utcome vulnerability is [...] a linear result of the projected impacts of climate change on a particular exposure unit (which can be either biophysical or social), offset by adaptation measures" (75). In other words, "the level of [outcome] vulnerability is determined by the adverse consequences that remain after the process of adaptation has taken place and, as such, it provides a convenient means of summarising the net impact of the climate problem" (Kelly and Adger 2000: 327). Contextual vulnerability is to the contrary a starting point for analyzing the effects of environmental changes (ibid.). According to this definition, vulnerability is embedded in the context of social structures and relations, and is a 'measure' of the capacity of such structures to cope with and adapt to varying conditions (O'Brien et al. 2007).

societies), and deficient adaptive capacity due to e.g. lack of resources, knowledge and technology. There is growing concern about the damages that such regions will suffer from environmental changes, and about the consequences (human, social, economic, political) that such impacts might have (Stern 2007; UNEP 2007; WBGU 2008).

At this point, it is useful to consider 'contextual vulnerability' (O'Brien, Eriksen et al. 2007), and discuss the reasons why certain areas (and especially certain social groups within them) are more at risk, unveiling the power and social relations that create such differentiated vulnerabilities.

To begin with, there are great structural imbalances between countries and regions of the world, mirroring historical and present geopolitical relations between the 'Global North' and the 'Global South'<sup>2</sup>: hot-spots of vulnerability are located mainly in developing countries, in areas belonging to the 'Global South'. Developing countries are expected to pay disproportionately high bills for environmental changes: for instance, according to the World Bank, developing countries will bear about 75-80% of the costs caused by climate change induced damages (World Bank 2010).

However, differences in vulnerability have more dimensions than that. The categories of "developed" and "developing" countries are themselves ambiguous, and vulnerability differs not only between, but also within, countries and regions. There are "Souths in the North" and "Norths in the South" (Gaventa 1999, quoted in Newell 2005). Vulnerability is determined by categories such as gender, ethnicity, class, income, age, physical ability and sexual orientation<sup>3</sup>, which represent "key mediating structures in global environmental politics"<sup>4</sup> (Newell 2005: 71).

Looking at these complex patterns of power and vulnerability, some urgent questions arise: How will different groups of people – especially marginalized groups living in vulnerable areas – be able to cope with environmental changes and their impacts, and to what costs? What strategies should be chosen to deal with the future impacts of environmental changes?

## Environmental Migration

Mobility has historically been a way for populations to deal with environmental and resource stresses (Black 2001; McLeman and Smit 2006), and the 'environment-population' linkages have been extensively investigated by several disciplines (de Sherbinin, Carr et al. 2007). Given the unprecedented magnitude and rapidity of environmental changes expected in the coming century, there has been a

---

<sup>2</sup> For discussions of structural inequity between countries in relation to environmental problems and climate change, see e.g. Martinez-Alier (2002), Roberts and Parks (2007)

<sup>3</sup> For recent contributions regarding gender aspects, see e.g. Terry (2009); Johnsson-Latham (2007); Hemmati & Röhr (2009)

<sup>4</sup> This interaction of social categories is the object of study of intersectional theory. For a definition of intersectionality, see McCall (2005).

renewed and growing interest in the ways in which such changes will affect human mobility<sup>5</sup>. The debate about EM revolves around three main themes. First, the ways in which increased pressure from environmental change influence migratory processes. Second, whether migration is a possible and desirable adaptive strategy. Third, whether EM can be regarded as part of existing migratory processes and understood with the same analytical instruments employed for understanding them, or needs radically new theoretical foundations.

An overview of the publications on EM shows that it is intensely discussed. Scholars from various disciplines and with highly differing ontological and epistemological understandings have contributed to the field. In the following sections, we will concentrate on some of the themes that are subject to debate in the EM literature.

### *Projections*

The differing viewpoints in the EM debate emerge very clearly in the discussion about the validity and usefulness of estimates of the size of future EM. Several influential scholars (often with a background in environmental (governance) studies) have built scenarios of future EM that start from expected aggregate-level environmental changes. Regions vulnerable to those changes are then individuated, and the number of inhabitants expected to be likely to out-migrate is estimated. Such projections often foresee tens or hundreds of millions of environmental migrants and refugees in the decades to come (for the two most cited examples, see Myers 2005; Stern 2007). Such orders of magnitude demand international attention because of the potentially enormous social, economic and environmental challenges that such increased migration might cause. EM has also been framed as a security issue (Myers 2005; WBGU 2008), and is sometimes associated with gloomy images foreseeing hordes of environmental refugees knocking on developed countries' doors.

Others (often with a background in migration studies) have questioned the doomsday-like forecasts of EM and argued that mobility should be regarded not only as a problem but also as a constructive strategy for reducing vulnerability (Tacoli 2009; UNDP 2009). These scholars are often skeptical towards the methods for projecting mass migration. They do not deny that environmental factors influence migratory processes, but reject the estimates for being based on too rigid views of the linkage between global environmental processes and migrations (Black 2001; Castles 2002; Hulme 2008).

### *Scales*

When entering the discussion about EM and the interplay between the environment and mobility, a crucial aspect is the choice of an appropriate scale for analysis of EM and for collection of empirical evidence.

EM can be assessed by focusing (primarily) on dynamics, structures and decisions that belong to and operate at the community or household level. An often-cited contribution is made by Richard Black, who

---

<sup>5</sup> For a review of the main themes in the debate, see e.g. Morrissey (2009)

looks for evidence at the local level for assessing the concept of environmental refugees (2001). Black analyzes several empirical studies on the linkage between desertification and migration in African regions, and argues that migration has historically been a component of the population's strategies to cope with environmental factors. Focusing on the household and community level, Black highlights the complexity and diversity of the strategies for dealing with desertification that communities have implemented, and claims that migration (in its different forms) should be seen as "a response to spatio-temporal variations in climatic and other conditions, rather than a new phenomenon resulting from a physical limit having been reached"(Black 2001: 6).

Mortreux and Barnett provide another example of such an approach in a recently published case study on Funafuti, the main island of the Pacific Ocean archipelago of Tuvalu (2009). Most of the islands' territory lies just few meters above the sea level, and Tuvalu has become a canonical example of the areas 'candidate' for being future exporters of environmental migrants or refugees. Drawing on their study about the inhabitants' perceptions of migration as a response to sea-level rise, Mortreux and Barnett argue that "individuals and communities respond to events and information, things do not just happen to people" (ibid.: 111), and that "this has a direct impact on people's decision-making processes and therefore needs to be closely considered in assessments of population movement with regard to climate change. Social responses to climate change will therefore be non-uniform and to some degree unpredictable, and they cannot be determined from afar" (ibid.: 111).

Focusing on the local level highlights important aspects that risk being overlooked by an analysis that focuses on the aggregate level. The ways in which global phenomena translate into local settings are highly context specific and difficult to predict. Even in the presence of factors of global nature (such as climate change, but also urbanization, economical transformations, globalization, etc), the particularity of local drivers, institutions and actors are central for an analysis of migratory processes. It is at this level that the decisions about how to deal with the impact of environmental changes are taken by people, and households choose their adaptive or coping strategies for dealing with stresses.

Moreover, a purely global perspective on EM risks resulting in undifferentiated pictures of the phenomenon. A view from above may not offer the right resolution for spotting the puzzle of contradictions, differences, contrasting needs, aspirations and interests that divide places and sectors of the population. Given that vulnerability, room for agency and access to capital affect whether and how people migrate, migration patterns vary according to gender, ethnicity, age, class and numerous other variables. Even though external factors, such as demand for labor force in certain sectors, influence who migrates and where, analyzing EM on a local scale and taking into account the variety of power structures that steer social relations in specific contexts capture crucial dimensions of the impacts of environmental change on humans and their implications for EM.

At the same time, employing only the local as scale of analysis might have serious weaknesses. The case of islands threatened by sea-level rise is helpful for illustrating that. For instance, Black, focusing on the local level, argues that "calculating population 'at risk' from sea level rise is a long way from predicting mass flight" (2001: 8), and that no evidence has being provided of "any specific populations that have

been forced to relocate from flood-prone areas in the recent past as a result of sea-level rises that have already occurred” (ibid.). Regardless of the correctness of this argument, there might be limitations in some of its logical implications. It may be hard to encounter evidence of the impacts of global phenomena at the micro level. But, even if the evidence of direct causality is not (yet) registered in the local dynamics, it might be advisable to put into one’s analytical toolbox *also* global phenomena like climate change and sea-level rise, that in the near future might influence the local level by limiting the opportunities for local decisions and pathways of development.

The previous paragraphs indicate that assessing an issue like EM segregating drivers, factors and phenomena in airtight local or global containers might lead to unsatisfying understandings. Indeed the employment of dialectically separated scales of analysis is problematic when dealing with issues connected to global environmental changes and their impacts. Given the magnitude, interconnectedness and depth of the impacts that human systems have on the Earth, the interaction between the local and the global is increasing exponentially. The rapidity and extent of changes make evident the inadequacy of purely local or global scales of analysis. This implies striving for an overcoming of a rigid employment of scales. Scales should be treated not as static “containers”, but rather as permeable relationships (Moore 2002: 177). In practical terms, this means for instance not to oppose bodies of evidence from the local and the global levels, but to try to give a picture of EM that comprises both angles and frames them as complementary ways to look at the relations that constitute an integrated socio-ecological system.

### *Environmental drivers of migration*

A substantial part of the EM debate revolves around the importance of environmental factors as drivers of migration, and the (im)possibility to infer unilateral, direct causation between environmental stresses and migratory processes. Migration is a complex theme that can be studied from various perspectives and on levels ranging from international systems and national institutions to social groups, households and individuals. The reasons for people to migrate of course vary greatly. Explaining the drivers and functioning of migration is a task that has occupied a large number of researchers for a very long time, and has led to intense debates and conflicting views (Piore 1979; Massey, Arango et al. 1998; Sassen 1999; Mezzadra 2006; Brettell and Hollifield 2008; Castles and Miller 2009). Such a broad theme is beyond the scope of this short paper. However, the complexity of the migration debate should be kept in mind and function as an exhortation to develop nuanced understandings of the characteristics of EM. For instance, Castles (2002) and Black (2001) both stress the multi-causality of migratory processes and question the isolation of one (environmental or climate change) among the several drivers; what is challenged is the alleged “direct relationship between the level of exposure to climatic risks and the likelihood of migration in response” (McLeman and Smit 2006: 48). A framing of EM that implies a direct and unilateral causality environmental stress–migration risks neglecting several elements of migratory processes, and is not consistent with empirical evidence from a number of studies.

Several voices (especially from traditional migration studies), questioning the idea that global environmental processes can be seen as direct unilateral causes of migratory processes, have claimed that there is a lack of evidence that environmental stresses lead to permanent displacement to foreign

countries (Castles 2002; Black, Kniveton et al. 2008). In this regards, it is useful noting that studies on semi-arid regions have even shown a relationship between rainfall and migration opposite to the one that could be expected, where drought and rainfall decrease has lead to decreased international migration ((Findley 1994; Henry, Schoumaker et al. 2004). This may be explained by the fact that droughts or decreased rainfall might lead to increased food prices, leaving households with fewer resources to be allocated to international migration (ibid).

Empirical studies highlight the '*social selectivity*' in the *destination* and *duration* of movements in response to environmental stresses. Several case studies – conduced in different continents and different settings – all show that the responses to environmental stresses are mediated by a person's gender, caste, class, and geographical location, which determine the decision to migrate, for how long, and to what destination (Henry, Schoumaker et al. 2004; Massey, Axinn et al. 2007; Gray 2009).

A common element is that it is mainly (if not solely) the most vulnerable<sup>6</sup> of a social landscape that, in presence of shocks caused by extreme weather events, resource shortages, land degradation etc., move: in such cases and for such groups temporary and short-distance migration seem to be the most common response to environmental stresses (ibid.).

Long-distance migration is a distinct phenomenon. In general, it is part of a planned strategy, such as "a household decision to 'invest' in the migration of certain household members in order to bring longer-term benefits to other members of the household" (Black, Kniveton et al. 2008: 24). Moreover, there is broad consensus that it is not the 'poorest' that embark on international migration, since a cross-border movement is costly and requires different forms of human, social and economic capital (Massey, Axinn et al. 2007; Castles and Miller 2009; Gray 2009). Those who are most vulnerable to environmental stresses are usually poor and marginalized groups that lack this capital. Summing up, these reflections seem to support the thesis that movements in response to environmental factors can be expected to be mostly regional. This is not to deny the fact that environmental factors are among the (long term) drivers of certain international migratory flows, but, if we isolate (if even possible) the direct influence of environmental stresses on mobility, they tend to spur primarily local or intra regional movements.

Such elements may indicate the shortcomings of scenarios that predict large-scale international migration as immediate consequence of environmental stresses. At the same time, the aspects highlighted indicate the centrality of local social contexts and dynamics. For instance, the most vulnerable often lack the means for responding to slow-onset changes with prolonged or permanent migration. They might therefore end up in a 'lock-in' situation, where the degradation of living conditions and incomes further narrows the spectrum of possible choices and does not allow a decision to move. This calls for raising the reverse question than what many times is asked in discussions about EM. Instead of (or besides) assessing *a priori* how many the environmental migrants are going to be, we might ask how many won't be able to migrate in front of climate change or other environmental

---

<sup>6</sup> To note the fact that 'the most vulnerable' are different groups/individuals (different combinations of gender, class, caste etc) in the different areas.

stresses. This should be understood in light of varying vulnerability between geographic areas and between different groups of people according to social stratifications.

### *Choice, Uncertainty and Time*

The reflections developed in the sections above might help to front a theme crucial in the EM debate (as in migration studies in general), which has not been explicitly treated yet in this paper: the matter of *choice*. Migration may be described to take place along a “continuum” (Barnett and Webber 2009) ranging (in principle) from completely voluntary to completely forced movements. Clearly, decisions to migrate are very seldom entirely voluntary or forced, but include both elements in varying proportions. The degree of voluntariness has been a source of controversies in the EM discussion, as witnessed by the ‘struggle’ on terminology between the supporters of the term ‘environmental refugee’ and those of ‘environmental migrant’ (Bates 2002). Employing the migration continuum, some researchers have concluded that movement in response to large and rapid environmental changes, such as extreme floods, are generally closer to the “forced migration” end, while migration in response to slow-onset environmental changes, such as gradual land degradation, or anticipated environmental impacts, are closer to the “voluntary” end (Bates 2002; Barnett and Webber 2009). However, this assumption might be simplified, since people’s agency varies due to many factors. To allow for the complexity discussed above, the definition of environmental migrants here embraced is very inclusive and neutral, the one proposed by the International Organization for Migration:

“persons or groups of persons who, for compelling reasons of sudden or progressive changes in the environment that adversely affect their lives or living conditions, are obliged to leave their habitual homes, or choose to do so, either temporarily or permanently, and who move either within their country or abroad” (IOM 2007).

The choice of such a neutral and inclusive definition derives also from the idea that the controversy on definitions is not necessary the highest priority in the discussion about EM. And not only because of the complexity of migration processes highlighted above. Another reason for avoiding rigid definitions of different status (migrant/refugee etc) is connected to uncertainty. Indeed, there is still scientific uncertainty regarding the timing and magnitude of future changes, on how global phenomena will manifest on a regional/local level, and on the non-linearities of climate system behavior, as exemplified by the so called tipping points (Lenton, Held et al. 2008) and interactions between them (Kriegler, Hall et al. 2009)<sup>7</sup>. Another source of uncertainty is the fact that, apart from the issue of extreme weather events<sup>8</sup>, many of the environmental changes that concern EM are going to be slow-onset (even if faster

---

<sup>7</sup> When referring to uncertainty, we are not at all questioning the existence of a huge body of evidence that constitute a very solid scientific understanding of climate change (IPCC 2007). The uncertainties we talk about here are connected to the probability ranges that characterize future climate scenarios, and the difficulty in projecting localized impacts.

<sup>8</sup> This is not to say that the response to extreme natural events is independent of the social, technical and institutional arrangements designed to deal with such events.

than most non-anthropogenic changes): land degradation or sea-level rise are not going to occur over one night. Environmental stresses affect humans via the ‘mediation’ of social and economic structures, which are not immutable and static<sup>9</sup>, and are going to evolve alongside with the long-run environmental changes. Human systems are responsive to changes and stresses: they adapt and adjust over time. Such (almost self-evident) elements require high prominence in the discussion of EM, since migration is a phenomenon intertwined with socio-economic structures and dynamics.

It is therefore an almost impossible task to foresee how the (uncertain) local impacts of environmental change will – in 50 or 100 years – affect socio-economic systems in a certain geographical area, and by that influence the patterns of mobility or originate new flows. It thus seems even harder to define the degree of voluntariness within the myriad of different situations in which the decision to migrate will be influenced by environmental factors. It is worth pointing out that such a claim is not due to an underestimation of the adverse impacts of environmental changes on vulnerable groups, but derives from a critical view on the possibility to translate slow-onset global environmental changes into actual and localized social impacts.

To conclude, we argue for a more nuanced theoretical understanding and framing of EM.

## Questioning the Invasion Framing

Before passing on to the discussion about approaches to EM, we address here the question whether EM is a radically new phenomenon (often associated with looming catastrophes) or can be understood and conceptualized within present migratory patterns.

First of all, the unprecedented magnitude and rapidity of environmental changes (still to some extent uncertain, see above) might lead to phenomena with radically novel characteristics. Framings of EM should not be incompatible with this. For instance, if we go back to the example of sea-level rise, it is important not to overlook the upper ends of the probability distributions in the climate scenarios, less likely to occur but still possible (IPCC 2007). It is hard not to convene that a sea-level rise in the order of meters in the coming 100 years would probably imply movements of people that would not fit into existing mobility patterns. These elements call for a flexible understanding of EM.

However, the social selectivity of migration; the fact that movements in direct response to environmental factors can be expected to be mainly intra-regional; the interplay of environmental factors with socio-economic dynamics; the ‘locality’ of the migration decisions; the fact that the majority

---

<sup>9</sup> Consider e.g. the relatively quick transition of many European countries from being areas of emigration to destinations of large flows of migrants: countries like Italy, Greece, Spain and Portugal were sources of huge numbers of emigrants (at least) until the ‘70s, but have become among the main destination countries in Europe (Massey, Arango et al. 1998). The enormous social and economic changes behind this transition are a good example supporting our argument.

of the environmental changes relevant for the EM discussion are slow-onset processes - all indicate that EM will primarily take place within existing patterns of migration, and can to a large extent be understood with already existing analytical tools.

If this is true, it seems important to recall some findings from conventional migration studies, which, together with the peculiar elements of EM exposed above, can contribute to defuse the 'catastrophes/exodus/human flood' dystopic rhetoric/framing that has (unfortunately) characterized some parts of the EM debate.

Indeed, migration studies have shown that framing of migration as a security issue or a looming invasion is a social construction (representing certain agendas and interests), rather than grounded in evidence from actual migratory processes. As Castles and Miller argue, "migration is a constant, not an aberration, in human history" (2009: 299): mobility is not a threatening novelty of the XXI century. Moreover, so to speak, migration is an exception, not the norm. Emigrants are usually a small fraction of a population, and migrants are a minority in the receiving societies (Sassen 1999; UNDP 2009). Behind the rhetoric of invasion lies the idea of receiving (in general developed) countries as passively under the siege of hordes of immigrants. Against this image it is worth noting that, as pointed out by Saskia Sassen, "migrations are patterned in terms of geography and duration" (1999: 134), parts of geopolitical socio-economic systems and "embedded in specific historical phases" (1999:155). Migration is not resulting only from an individual decision to flee poverty, desperation or environmental degradation. As confirmed by a huge body of empirical evidence (see e.g. Piore 1979; GCIM 2005; Castles and Miller 2009; UNDP 2009), "migrations do not simply happen. They are produced" (Sassen 1999: 155), i.e. are to a large extent co-determined by structural dynamics, needs and changes of the receiving countries (or areas), phenomena that are necessary conditions for the perpetuation of migratory flows.

The case of migration to Europe from sub-Saharan Africa is illuminating, not least because that region is often indicated as one of the sources of present and future environmental migrants and refugees (see e.g. Myers 2002; Stern 2007; WBGU 2008). Contrarily to widespread perceptions, Europe is not under the siege of an invasion by 'poor', desperate African victims<sup>10</sup>. A closer look at these migratory processes shows that the flows from sub-Saharan Africa towards Europe are small in relative numbers, that most of migrants are relatively well-educated and that they are in general not (only) the destitute and desperate escaping hunger and desertification (de Haas 2008). It can also be noted that even in the presence of several dimensions of hardship ('push-factors') that still characterize the continent, there is no mass exodus from Africa: only 3 percent of Africans live in a country different from where they were born and fewer than 1 percent of Africans live in Europe (UNDP 2009).

Summing up, these reflections seem to represent an incentive for adopting a nuanced view on EM, a view that does not oversimplify migration (read: it is not only a matter of push factors, whether

---

<sup>10</sup> On the victimization of developing country populations in the UK media, see Doulton and Brown (2009)

economic or environmental), that does not deprive migrants of subjectivity by depicting them as desperate and destitute, but recognizes agency to them, and, as a consequence, does not perceive (environmental) migration as a looming invasion by the desperate.

## Bottom-Up or Top-Down?

In the previous sections we have discussed some elements concerning the definition and theoretical understanding of EM: the framing of migration and the rhetoric with which EM is presented, the relationship between environmental factors and other drivers of migratory processes (causality), the scales of analysis, the 'migration continuum' (different degrees of voluntariness behind the decision to migrate). When moving from definitions to policy approaches and strategies, the several normative elements that EM touches upon (e.g. the politically loaded theme of migratory policies) become even more crucial, and generate – not surprisingly – polarized views.

We argue that the debate about EM is permeated by a polarization between what could be defined the top-down (TD) and the bottom-up (BU) approach. The former stresses the importance of strategies that rely on global mechanisms and international institutions of governance, while the latter focuses on acting at the local or household level.

The meanings of the TD and BU concepts vary greatly in the literature. It is therefore worth clarifying that, in this text, TD and BU are not used as synonyms of macro/micro levels, and not even of 'global' and 'local'. In other words, TD and BU do more than delimiting different levels across geographical scales. Moreover, TD and BU here represent more than methodological approaches to assess the interplay of bodies of governance and institutions at different levels, as they are understood in some governance literature (Urwin and Jordan 2008). Here the focus is on the *normative* rather than methodological content of the terms: this paper employs TD and BU as tools for exploring the normative "question of where policy *should* be made and by whom" (ibid: 184) and how this is mirrored in the procedures and outcomes that different strategies provide for. In other words, TD and BU refer here to actors, institutions and sources of norms; to the different geometries in the allocation of agency, power and responsibility when dealing with EM.

It is undeniable that, when looking at proposed approaches, finding purely TD or BU 'exemplars' is a hard task: even in the most extreme cases, a supporter of the former would probably spice the TD strategy with some local participation, while an advocate of the latter would highlight the need for dialogue and coordination on the national or even global level. However, pointing out the TD-BU dialectic highlights several implications of the different approaches to EM, and may contribute to unveiling the normative grounds on which contrasting 'practical' views reside. What is argued by Adger et al. with regards to climate change can be extended also to the issue of EM: "Understanding adaptation therefore requires consideration not only of different scales of human action, but also of the social construction of appropriate scales by institutions to further their own aims" (Adger, Arnell et al. 2005: 80). In other words, the choice of the agencies/institutions to rely upon is not neutral, and requires a substantial discussion that goes beyond the delineating of optimal/efficient governance

geometries. Therefore, by highlighting the polarization between BU and TD approaches, this paper aims at disclosing the normative and power related aspects that different approaches and strategy proposals depend upon and imply. We will now move on to a closer inspection of TD and BU elements present in some proposals in the EM debate.

### *Top-Down and Bottom-Up in Action*

A proposal for a strategy that contains clear TD elements is presented in a recent contribution by Biermann and Boas. The two researchers argue that “the protection of climate refugees ... requires large-scale, long-term resettlements programs” (Biermann and Boas 2008: 11). For dealing with the issue, Biermann and Boas propose the institution of a Global Protocol for organizing and supervising the individuation of the affected areas and for finding financial resources and practical solutions for the resettlement of those communities that have been spotted as sources of climate migrants or refugees (ibid). This and similar proposals look mostly at dynamics and bodies of international governance: actors, strategies and means belong to the ‘international community’, and take place in the realm of international politics and law, relying on national states and on bodies such as the United Nations as crucial actors for igniting the measures to deal with EM.

BU approaches, in contrast, refer here to viewpoints that focus on local actors and on the reduction of local vulnerability for avoiding the occurrence of displacements caused by environmental factors. Such viewpoints argue for equipping local social and economic systems with tools allowing them to cope and adapt to changes, avoiding that environmental stresses translate into a worsening of livelihoods and general living conditions that might push/force people to forced resettlement (e.g. Brown 2008; Bogardi and Warner 2009). For doing this, a central role is acknowledged to local institutions, which would design and implement measures for the reduction of vulnerability at the household level. For instance, Heltberg et al. recognize the importance of global interventions, but propose a framework that focuses on measures and tools that belong to the local and household level, a set of “community-led adaptation and social protection interventions”(Heltberg, Siegel et al. 2009: 90). The key agencies and institutions, in such a proposal, are local, and bodies of international governance assume the role of ‘facilitators’, since “global efforts are required ... because the risks ... can overwhelm local adaptive capacity” (ibid.: 95).

### *Responsibilities and Fairness*

EM (like global environmental issues in general) raises issues of equity, distribution and justice. As highlighted above, equity and distributional issues manifest themselves across multiple axes. A North-South grouping, however blunt it might be, helps to identify some regions and countries that have the least historical responsibility (e.g. in terms of carbon emission) and the least adaptive capacity and political voice in international decision-making processes (Anand 2004; Roberts and Parks 2007; Okereke and Schroeder 2009).

In this paper we argue for an approach to EM that addresses questions of equality in distribution and that strives for a fairer allocation of responsibilities and costs, in the context of more inclusive political

processes. If such an approach is accepted, forms of sharing (read re-distribution) of costs between developed and developing countries are required. Such a redistributive process, as concisely expressed by Byravan and Rajan, should not be seen as a way “for wealthier countries to be charitable ... [r]ather, it is merely an obvious solution for fulfilling the historically generated obligations of these countries to provide downstream victims of environmental pollution a fair option” (Byravan and Rajan 2006: 249). The (re)distributive aspects of e.g. climate policies has multiple dimensions, which span from the ethical grounds of such policies to the quantification of actual monetary contributions by different States (Dellink, Elzen et al. 2009); such a discussion goes beyond the scope of this paper. The point here is that the translation of environmental changes into adverse impacts goes through vulnerability (of human systems and social groups), and that reducing such vulnerability would have large costs. A fair approach (both consequentialistic and non-consequentialistic)<sup>11</sup> seems to imply that some of those should be reallocated to developed countries. It is hard to think about approaches to EM that provide for such redistributive mechanisms without relying on international governance mechanisms and institutions.

When anticipative strategies of vulnerability reduction and adaptation would not be enough, it might be a task of the international community to provide help to the displaced people and to design policies for welcoming environmental migrants and ensuring the fulfillment of their rights (see e.g. Biermann and Boas 2008; Westra 2009). Byravan and Rajan sketch a possible principle for dealing with people displaced by impacts of climate change, i.e. each industrialized country could take care of a number of environmental migrants proportional to the country’s cumulative historical emissions (Byravan and Rajan 2006).

Such measures to protect actual ‘environmental migrants’ would also require some TD ingredients, and not only because of the mechanisms of resource transfer required to facilitate the welcoming and integration of displaced people by receiving countries. As mentioned above, migratory processes are in many respects best seen as systems (Massey, Arango et al. 1998; Sassen 1999; Castles and Miller 2009) that function in the interplay of multiple relations that link networks of countries and regions; therefore inter-regional migratory processes can seldom be influenced by single national actors, and require international shared policies and approaches (GCIM 2005; UNDP 2009).

Moreover, from an instrumental/efficacy point of view, many argue that, when there are time and resource constraints (and this is surely the case of climate change), a TD approach might be decisive in effectively defining clear lines of action and in focusing attention and resources to an urgent issue. International and state bodies of governance (TD) might be crucial thanks to their ability to mobilize resources in larger amounts and quicker than e.g. regional governments, as well as implement agreements that have impacts on larger scales (Urwin and Jordan 2008).

---

<sup>11</sup> For a synthetic treatment of the concepts of consequentialistic and non-consequentialistic approaches, see Dellink, Elzen et al. (2009)

Summing up, it seems reasonable to argue that any approach to EM striving for redistributive policies would need actions taken at the international level, relying also on bodies of international governance, and therefore 'legitimizing' or explaining the support for the strategies that this paper identifies as a TD. How often international bodies have been able to effectively tackle environmental and social issues and the reasons behind certain failures of TD structures are questions that go beyond the scope of this paper. However, this will partly be dealt with below, in the discussion on systemic injustice in international institutions.

### *Whose Agenda?*

While, as has been argued, certain aspects of EM need to be dealt with by international bodies, the vision of EM that transpires from TD approaches risks neglecting crucial aspects of the issue. The subjectivity and agency of concerned populations and individuals, the adaptive potentiality of local communities, and possible re-adjustments of the economic and social structures at the local level might be overlooked by a TD approach, with regards to outcomes and to procedures as well as to methodological and normative aspects. First, as pointed out by Heltberg, Siegel et al, "most successful adaptive efforts are likely to be local as communities and other subnational actors respond to the localized manifestations of climate risks" (2009: 95). Secondly, there is a component connected also to procedural fairness. As shown above, it is likely that the most vulnerable are going to belong to weak strata of a society. Also at the international level, the countries that are likely to be most vulnerable are not the ones that usually have the strongest voice in international environmental discussion (Anand 2004; Roberts and Parks 2007). The forms of systemic injustice that lie behind uneven distributions of responsibility, burdens and coping capacity for environmental changes tend to bias also the international system of economic and political relations (Okereke and Schroeder 2009). It seems reasonable to fear that such biases would affect also governance bodies designed to target EM.

Furthermore, there are great imbalances also within countries and regions, which add to the problem of representativity in international bodies; the people taking part in the international negotiations may only speak for a certain segment of the population they are supposed to represent. In the context of the present international political system, which presents large forms of unequal distributions of power among and within countries and macro-regions, it seems licit to question the capacity of international governance bodies to address an issue like EM. In more explicit terms, whose agenda would be followed by global governance institutions designed to address the issue of environmental displaced people? An approach to EM striving for equitable solutions should take into account such concerns.

### *A Contradiction? A Deadlock?*

The contradiction in the TD-BU polarization emerges from the arguments presented in the last sections. Indeed, shrinking the last paragraphs into a nutshell, on the one hand elements of TD seem to be required not only by matters of governance efficiency, but also in order to deal with equity issues, i.e. to make possible the redistributive mechanisms that an equitable allocation of responsibility and burdens would require. On the other hand, a TD approach has obvious drawbacks when it comes to certain aspects. This is the case in terms of efficacy (see local adaptive capacity and implementation) but also

with regards to allocation of decisional power and agency, since international governance bodies tend to mirror the unequal power relations that characterize both the 'global' scale and the intraregional level. Even more synthetically, in terms of fair distributions, TD seems to be needed to fairly allocate responsibility, while BU is needed to fairly allocate agency. Does this polarization represent a deadlock? From the arguments above, a strategy that does not include substantial elements of both sides seems unsuited if striving for a fair approach to EM.

We argue that the TD-BU polarization mirrors unsatisfactory/partial views on the issue and on the strategies to be applied. In other words, this polarization is a 'crack' from which substantial lacks in the understanding of EM emerge. The 'polarized' framings fail to grasp the full complexity of the issue and to include relevant aspects. Moreover, the TD-BU dialectics in the EM debate hides unclear and underdeveloped connections between goals and proposed policy approaches. We therefore argue that the TD-BU paradox/contradiction is in fact misleading, and may be overcome by adopting a comprehensive approach that includes more dimensions of EM and thoroughly explores the connections between goals and governance/policy choices.

Before attempting to delineate such an approach, it is worth noting that when referring to an overcoming of the TD-BU polarization, two distinct elements emerge. First, from an *instrumental/procedural/practical* point of view (read e.g. governance), overcoming the polarization means assessing how to integrate the two strategies or methodologies, analyzing the interplay of the institutions and bodies of governance at different levels (international communities, global NGOs, municipalities etc), and finding efficient balances in the distribution of burdens, roles and tasks (Adger, Arnell et al. 2005; Wilbanks 2005; Andersson and Ostrom 2008; Urwin and Jordan 2008). Second, from a *normative* point of view, overcoming the polarization implies highlighting the implications of the different choices in terms of allocation of power, responsibilities and agency. In other words, it implies delineating the different agendas and interests that lie behind different actors and the solutions that they can propose (Castles 2002; Martinez-Alier 2002; Anand 2004). The rest of this paper will focus mainly on the latter.

## No-Regrets Strategies for EM

We will now turn to actual strategies for dealing with the issue of EM, which may serve to overcome the tensions in the EM debate and combine TD and BU elements with a specific aim towards a more equal distribution of agency and responsibility. For these purposes, we would like to highlight the advantages of employing a no-regrets approach. It highlights the different roles of TD and BU, proposes a mixture based on defined 'goals' and theoretical insights, and thereby allows for overcoming the TD-BU polarization.

It should be noted that the term "no-regrets" has been used in varying ways in connection to environmental issues and especially climate change. Some authors have argued e.g. that more efficient energy use, apart from reducing GHG emissions, also has other economic and social benefits, thus generating win-win situations for all stakeholders (Susskind 1994; Adler 2000; Pew Center on Global

Climate Change 2002). Adler defines no-regrets strategies as strategies that “will provide economic and environmental benefits by fostering innovation and economic efficiency *whether or not climate change is a serious threat*” (Adler 2000). Such hopes may seem slightly over-optimistic, and have caused some concern. For instance, Bulkeley (2001) points out that “while following the path of no-regrets may provide short-term compromises, in itself it does not offer an escape route from fundamental conflicts between economic goals and environmental objectives, for, in any case, there will be winners and losers” (Bulkeley 2001:167). In this paper, no-regrets approaches are not regarded as universal, cost-free solutions.

However, while being aware of differing interests and situations in relation to climate change, we want to highlight the advantages of no-regrets-approaches and hope to hint at alternative ways of understanding and employing them. In the following sections, we will explore how no-regrets approaches may help overcoming some of the conflicts in understanding and dealing with EM that we have previously identified. We argue that a no-regrets approach can address three of the theoretical aspects discussed above: uncertainty, agency and scales.

### *Handling Uncertainty, Strengthening Agency and Considering Scales*

To us, employing a no-regrets approach means searching for strategies that will be beneficial regardless of future circumstances by building general and stable capacity to deal with different and changing scenarios. For instance, Heltberg, Siegel et al. define a no-regrets approach to climate change as constituted by “strategies that yield benefits regardless of future trends in greenhouse gas emissions and climate scenarios” (2009: 95). A no-regrets approach might thus allow for dealing with uncertainty, which is of crucial importance; as mentioned above, the combination of scientific uncertainties about environmental changes and the fact that these are mediated by (flexible, adaptable and context-specific) social structures makes it very difficult to predict in detail actual migration flows depending on environmental factors. Therefore a no-regrets approach seems suitable for delineating strategies that do not attempt to design static responses to fluid and unpredictable future dynamics. A no-regrets strategy for EM would imply, quite to the contrary, to focus policy interventions on the manifestations of vulnerability and weaknesses that might, in a near future and in the presence of environmental stresses, contribute to the displacement of people.

Another critical theoretical element discussed above that a no regrets approach could help dealing with is the aspect of voluntariness, visualized in the idea of the migration continuum. A no-regrets approach does not force us to strictly define the degree of voluntariness behind a certain decision to migrate, which would be a very problematic (and unnecessary) effort that might imply more drawbacks than benefits. A no-regrets approach, by focusing mainly on anticipatory measures, might allow designing strategies that do not require setting a controversial environmental refugee/migrant tag on individuals' backs; on the contrary, a no-regrets strategy may include designing and implementing measures aiming to avoid the necessity to qualify the voluntariness of the decision to migrate.

It is important here to devote some attention to the matter of scales introduced above. Environmental change processes undoubtedly have global dimensions and need to be addressed on an international

level. However, given the context-specificity of environmental changes as well as social structures, strategies for adaptation, although made possible and perhaps to some extent coordinated by institutions on higher levels, need to focus primarily on the local/community level. Without an adequate understanding of local circumstances, strategies will fail to provide equitable outcomes. It is crucial to recognize power structures operating within communities and even within households, in order to gain awareness on how adaptation activities will benefit different individuals and groups in different ways, and how benefits for certain individuals and groups may actually increase vulnerability for others. The strategies should be inclusive and recognize differing needs and circumstances among stakeholders and must therefore be rooted in a profound understanding of the actual context. It must also be considered what actions taken today will mean in a longer time perspective, for coming generations.

All of these aspects may have impacts on migration decisions. We argue that a no-regret approach can be suitable for taking these intersectional issues into account and thereby provide flexible strategies for improving people's agency when it comes to migration decisions. The aim is not to prevent migration altogether, but to increase the freedoms for people to decide for themselves rather than being forced to migrate or stay.

### *No-Regrets in Practice*

What should a no-regrets strategy for EM look like? And how can it help overcoming the TD-BU polarization? We would like to address these issues by raising a few questions that, quite surprisingly, are seldom brought forward in the EM debate: When discussing strategies for dealing with EM, what (exactly) are the goals? And how should responsibility and fairness be included in the approaches to EM? In blunt terms, is it a matter for the 'North' – that 'created the problem' – to save the vulnerable 'South' from mass displacements of people? Or, with reference to the more alarmist voices, to avoid a flood of climate refugees inundating developed countries, i.e. to implement/finance measures for "keeping them in place" (Bakewell 2008)?

In this paper we argue that the goal of policies addressing EM should be rather different. Issues of responsibility and fairness should be embodied in strategies that aim at maximizing the agency of people/groups at risk, avoiding that issues like climate change imply a further shrinking of the already limited freedoms enjoyed by marginalized and vulnerable groups. In other words, borrowing the vocabulary of the Senian human development framework (Sen 1999), the proposed approach focuses on the *capabilities* of vulnerable areas and social groups, and aims at avoiding that the adverse impacts of environmental changes would, in the long run, imply a decrease of the capability and freedoms of the concerned people.

What does this mean with regards to overcoming the TD-BU dichotomy? In many ways, from the discussion above, the TD approach appears too drastic and presents serious issues of democratic legitimacy. To what extent can a TD approach incorporate elements of local participation? It is questionable that any global/TD body of governance would have the legitimacy to decide what are the 'areas to empty' – which is a vulgarized version of some components of e.g. Biermann and Boas' proposal (2008). Moreover, looking at the issue with a pragmatic glance (in terms of *realpolitik*), one

could also wonder who, among state governments and international institutions, would embark on such a problematic, costly and potentially dangerous enterprise as managing the massive displacement of an area's inhabitants (who would have been given 'from above' the (unpleasant) status of environmental displaced people).

According to the proposed no-regrets approach, the task of the TD component would be contributing to the definition of the problem and the suggestion of its possible magnitude, as well as efforts for placing it on the 'global' political agenda. Moreover, the TD component would be devoted to coordinating resource (re)allocation, and to foster international dialogue both on measures of mitigation and of adaptation to the coming changes. These (and similar) tasks - and not much more - would be assigned to international and global governance institutions in tackling the issue of EM. Given the complexity of migration, recognizing that EM flows are likely to reinforce existing migratory flows (see sections above), and the myriad of contextual processes that take place at the local level, a TD strategy for managing and controlling EM seems problematic and hard to implement. Problematic because of the legitimacy, democratic and agency-related aspects highlighted above; hard to implement because a glance at the recent history of migratory processes seems to indicate that few have been the cases of successful efforts to steer, limit and control migration (de Haas 2007; Castles and Miller 2009).

The BU approach would be the prominent component of a no-regrets strategy for EM. If the goal is to maximize the agency and freedom of groups vulnerable to adverse impacts of environmental changes, the question around EM should mainly be how to decrease the vulnerability, and how to increase the ability to cope with the impacts of the changes; in a nutshell, how to avoid that impacts of environmental changes further limit the choices vulnerable groups have at their disposal. These tasks, dependent on deep insights into the context-specific circumstances of communities, groups and individuals, are most adequately handled on a local level and through BU strategies.

The focus would therefore be on adaptation and vulnerability reduction as central 'antidotes' to EM. The approach we propose in this paper, by focusing on capabilities, freedom, agency for the vulnerable and responsibility, suggests that, even when dealing with environmental changes, a more nuanced view on migration may be beneficial. Referring again to the migration continuum, among the goals of such a strategy would be to shift the 'axis of voluntariness' in a way that minimizes the cases in which moving is more a forced reaction than a choice. While acting to avoid the occurrence of cases of forced displacement caused by environmental stresses, at the same time the proposed approach would suggest designing policies to maximize the possible beneficial effects of mobility, as suggested e.g. by the latest Human Development Report (UNDP 2009). If seen within the framework of maximizing capabilities, then mobility can be acknowledged both as an intrinsic (a capability to preserve and enhance) and an instrumental value. The latter refers to the fact that migration in many cases represents a household strategy of risk minimization, insurance from shocks and income diversification (Massey, Arango et al. 1998). In the context of increasing environmental stresses, and if accompanied by strategies to mitigate the related impacts, mobility (e.g. in the form of temporary migration) could become one of the possible adaptation strategies available to the vulnerable (see e.g. Barnett and Webber 2009; Tacoli 2009). This point contains a clear recognition of an ulterior task that could be assigned to TD institutions and actors,

i.e. to prepare institutional and legal settings that protect migrants and allow them to get the most benefits out of their choice. But at the same time this also calls (perhaps mainly) for attention to BU aspects. It is crucial to pass the effects of mobility through the 'intersectionality prism', to look at the meaning of approaches for the different individuals and groups situated at different intersections of the network of power relations that constitute social structures.

For instance, the existence of gendered dynamics connected to mobility in response to environmental factors should be translated into gender-sensitive strategies and policies and take into account the different consequences for different household members according to gender roles. For instance, operationalizing the approach we advocate, a strategy for adaptation in a rural area may include a facilitation of temporary migration for income diversification or collection of savings. It is then crucial to assess intra-household changes resulting from EM in the distribution of tasks and burdens, decision power, identities and agency etc.

Age is another interesting axis. Case studies on EM have shown that (in line with what is suggested by traditional migration studies) it is mainly younger people that migrate in response to environmental stresses (Massey, Axinn et al. 2007; Gray 2009). Therefore it would be relevant to take into account such a variable when delineating strategies. For instance, it would be relevant to consider the effects of policies on those (older) who would not be prone to migrate, also looking at the relatively higher costs of various forms (not only monetary, but also of integration in the destination setting, possible unemployment etc) that the older environmental migrants, in certain situations, might have to bear.

These are only two examples of variables that should be taken into account in strategies for addressing EM. Of course, no single variable can in itself give a satisfying picture of the whole situation. We argue that an intersectional perspective is necessary for understanding and addressing the multiple and localized power relations that originate vulnerabilities. Tackling these aspects is a pre-requisite for designing approaches to EM that serve to maximize the capabilities and agency of those concerned.

## Concluding Remarks

In this paper we have attempted to review, question and de-construct understandings of EM that we find partial and unsatisfactory. By bringing together fragmented views, we provide a more nuanced, coherent and comprehensive framing of EM. We challenge widespread discourses that foresee pending catastrophes and invasions by desperate and destitute environmental refugees. By this, we are not downplaying the seriousness of environmental changes and their impacts on human societies, or the potentially severe consequences of mass displacements. We do not deny that EM is an issue that requires major attention and efforts. But we argue that the complexity of the interaction between environment and social structures requires non-deterministic and nuanced understandings of EM, in which mobility is regarded as a possible adaptive strategy rather than as a threat.

We argue that the complexity, multi-dimensionality and uncertainty of EM are not fully tackled by the current approaches to the issue. The TD-BU polarization is a manifestation of this deficiency. In order to

overcome polarized approaches, it is necessary to spell out the normative goals behind different strategies, and to find a balance between allocation of agency and responsibilities. To keep open as many options as possible and maximize the freedom and agency of those concerned, we suggest the adoption of a no-regrets approach.

This paper does not operationalize the 'guidelines' that it proposes. The way such principles are implemented is not simply a practical matter, but has important implications for the concerned, as emerges from the many reflections on 'the local' and on power relations at local levels presented above. In this respect, more research should be devoted to design, functioning and implications of adaptation policies on the local level. For instance, what practical policy instruments could allow mobility to contribute – and with what possible drawbacks – to the reduction of vulnerability and the increase of agency of vulnerable groups?

The no-regrets approach we propose here is not a panacea for dealing with EM. It requires increased efforts by those mainly responsible for and more capable to deal with environmental change. The approach we argue for would require a serious commitment, resource transfers, and the acceptance of a re-allocation of agency (read power) that are way beyond what can be expected in a Business-As-Usual scenario for environmental politics. The transition needed for allowing the 'enforcement' of the strategy we propose cannot be taken for granted. The question of what actors and mechanisms can realize these profound changes deserves further investigation. We find that the actual questioning of unsatisfying aspects of present framings and approaches is in itself a condition for pursuing fairer environmental politics and strategies to EM. Nevertheless, scientific research is not in itself sufficient for achieving improvements and changes in the political structures and patterns of power distribution that hinder the implementation of the no-regrets approach we propose.

Despite the limitations of the suggested no-regrets approach, we argue that with the support of the intersectional perspective it has the capacity to grasp the theoretical and empirical complexity of the EM debate by accommodating spatial and temporal scales, the multi-causality and continuum of migration, uncertainty in climate and environmental changes, and flexibility in social structures. It has the potential to be a strong framework if we wish to make sure that EM is not simplified; the context-specificity of the dynamics involved is not overlooked; and justice and fairness in relation to the politics of responsibility and the agency of people is not violated.

## References

- Adger, N. W., N. W. Arnell, et al. (2005). "Successful adaptation to climate change across scales." *Global Environmental Change* **15**(2): 77-86.
- Adger, W. N. (2006). "Vulnerability." *Global Environmental Change-Human and Policy Dimensions* **16**(3): 268-281.
- Adler, J. (2000). *Greenhouse Policy without Regrets: A Free Market Approach to the Uncertain Risks of Climate Change*. Washington D.C, Competitive Enterprise Institute.

- Anand, R. (2004). *International environmental justice : a North-South dimension*. Aldershot, Ashgate.
- Andersson, K. P. and E. Ostrom (2008). "Analyzing decentralized resource regimes from a polycentric perspective." *Policy Sciences* **41**(1): 71-93.
- Bakewell, O. (2008). "'Keeping Them in Their Place': the ambivalent relationship between development and migration in Africa." *Third World Quarterly* **29**(7): 1341-1358.
- Barnett, J. and M. Webber (2009). *Accommodating Migration to Promote Adaptation to Climate Change*. Melbourne, Commission on Climate Change and Development, University of Melbourne.
- Bates, D. C. (2002). "Environmental refugees? Classifying human migrations caused by environmental change." *Population and Environment* **23**(5): 465-477.
- Biermann, F. and I. Boas (2008). "Protecting Climate Refugees the Case for a Global Protocol." *Environment* **50**(6): 8-16.
- Black, R. (2001). "Environmental refugees: myth or reality ?" *New issues in Refugee Research - UNHCR working paper* 70.
- Black, R., D. Kniveton, et al. (2008). *Demographics and Climate Change: Future Trends And their Policy Implications for Migration. Working Paper 27*. Brighton, University of Sussex, Development Research Centre on Migration, Globalisation and Poverty.
- Bogardi, J. and K. Warner (2009). "Here comes the flood." *Nature Reports Climate Change*: 9-11.
- Brettell, C. and J. F. Hollifield (2008). *Migration theory: talking across disciplines*. London, Routledge.
- Brown, O. (2008). *Migration and climate change*. Geneva, International Organization for Migration.
- Bulkeley, H. (2001). "No regrets? Economy and environment in Australia's domestic climate change policy process." *Global Environmental Change-Human and Policy Dimensions* **11**(2): 155-169.
- Byravan, S. and S. C. Rajan (2006). "Providing new homes for climate change exiles." *Climate Policy* **6**(2): 247-252.
- Castles, S. (2002). "Environmental change and forced migration : making sense of the debate." *New issues in Refugee Research - UNHCR working paper* 70.
- Castles, S. and M. J. Miller (2009). *The age of migration : international population movements in the modern world*. Basingstoke ; New York, Palgrave Macmillan.
- de Haas, H. (2007). "Turning the Tide? Why Development Will Not Stop Migration." *Development and Change* **38**(5): 819-841.
- de Haas, H. (2008). "The Myth of Invasion: the inconvenient realities of African migration to Europe." *Third World Quarterly* **29**(7): 1305-1322.
- de Sherbinin, A., D. Carr, et al. (2007). "Population and Environment." *Annual review of environment and resources* **32**(1): 345-373.
- Dellink, R., M. d. Elzen, et al. (2009). "Sharing the burden of financing adaptation to climate change." *Global Environmental Change* **19**(4): 411-421.
- Doulton, H. and K. Brown (2009). "Ten years to prevent catastrophe?" *Global Environmental Change* **19**(2): 191-202.
- Findley, S. E. (1994). "Does Drought Increase Migration? A Study of Migration from Rural Mali during the 1983-1985 Drought." *International Migration Review* **28**(3): 539-553.
- GCIM (2005). *Migrations in an Interconnected World: New directions for Action: Report of the Global Commission on International Migration*. Geneva, Global Commission on International Migration.
- Gray, C. L. (2009). "Environment, Land, and Rural Out-migration in the Southern Ecuadorian Andes." *World Development* **37**(2): 457-457.
- Heltberg, R., P. B. Siegel, et al. (2009). "Addressing human vulnerability to climate change: Toward a 'no-regrets' approach." *Global Environmental Change* **19**(1): 89-99.
- Hemmati, M. and U. Rohr (2009). "Engendering the climate-change negotiations: experiences, challenges, and steps forward." *Gender & Development* **17**(1): 19-33.

- Henry, S., B. Schoumaker, et al. (2004). "The Impact of Rainfall on the First Out-Migration: A Multi-level Event-History Analysis in Burkina Faso." *Population and Environment* **25**(5): 423-460.
- Hulme, M. (2008). "Climate Refugees: Cause for a New Agreement?" *Environment* **50**(6): 50-51.
- IOM (2007). *Migration and the Environment, Ninety-Fourth Session, Discussion Note*. Geneva, International Organization for Migration.
- IPCC (2007). *Climate change 2007 : Impacts, Adaptation and Vulnerability. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [L. Parry, O.F. Canziani, J.P. Palutikof, P.J. van der Linden and C.E. Hanson, (eds.)]. Cambridge ; New York, Cambridge University Press.
- IPCC (2007). *Climate change 2007 : the physical science basis : contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* [Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.)]. Cambridge ; New York, Cambridge University Press.
- Johnsson-Latham, G. (2007). *A study on gender equality as a prerequisite for sustainable development*. Stockholm, Environment Advisory Council, Ministry of Environment.
- Kelly, P. M. and W. N. Adger (2000). "Theory and Practice in Assessing Vulnerability to Climate Change and Facilitating Adaptation." *Climatic Change* **47**(4): 325-352.
- Kriegler, E., J. W. Hall, et al. (2009). "Imprecise probability assessment of tipping points in the climate system." *Proceedings of the National Academy of Sciences* **106**(13): 5041-5046.
- Lenton, T. M., H. Held, et al. (2008). "Tipping elements in the Earth's climate system." *Proceedings of the National Academy of Sciences of the United States of America* **105**(6): 1786-1793.
- Martinez-Alier, J. (2002). *The environmentalism of the poor : a study of ecological conflicts and valuation*. Cheltenham, Edward Elgar Publishing.
- Massey, D. S., J. Arango, et al. (1998). *Worlds in motion : understanding international migration at the end of the millennium*. Oxford, Clarendon Press.
- Massey, D. S., W. Axinn, et al. (2007). *Environmental change and out-migration: evidence from Nepal*, Report 07-715. Population Study Center. University of Michigan. Institute for social research.
- McCall, L. (2005). "The Complexity of Intersectionality." *Signs: Journal of Women in Culture and Society* **30**(3): 1771-1800.
- McLeman, R. and B. Smit (2006). "Migration as an Adaptation to Climate Change." *Climatic Change* **76**: 31-53.
- Mezzadra, S. (2006). *Diritto di fuga : migrazioni, cittadinanza, globalizzazione*. Verona, Ombre corte.
- Moore, J. W. (2002). "Remaking work, remaking space: Spaces of production and accumulation in the reconstruction of American capitalism, 1865-1920." *Antipode* **34**(2): 176-204.
- Morrissey, J. (2009). *Environmental Change and Forced Migration: A State of the Art Review* Oxford, Refugee Studies Centre, Oxford Department of International Development, Queen Elizabeth House, University of Oxford
- Mortreux, C. and J. Barnett (2009). "Climate change, migration and adaptation in Funafuti, Tuvalu." *Global Environmental Change* **19**(1): 105-112.
- Myers, N. (2002). "Environmental Refugees: A Growing Phenomenon of the 21st Century." *Philosophical Transactions: Biological Sciences* **357**(1420): 609-613.
- Myers, N. (2005). *Environmental Refugees: An Emergent Security Issue*, 13th Economic Forum, Prague, 23-27 May.
- Newell, P. (2005). "Race, Class and the Global Politics of Environmental Inequality." *Global Environmental Politics* **5**(3): 70-94.
- O'Brien, K., S. Eriksen, et al. (2007). "Why different interpretations of vulnerability matter in climate change discourses." *Climate Policy* **7**(1): 73-88.

- Okereke, C. and H. Schroeder (2009). "How can justice, development and climate change mitigation be reconciled for developing countries in a post-Kyoto settlement? ." *Climate and Development* **1**(1): 10-15.
- Parry, M., J. Lowe, et al. (2009). "Overshoot, adapt and recover." *Nature* **458**(7242): 1102-1103.
- Pew Center on Global Climate Change (2002). *The Timing of Climate Change Policy*. Policy Brief. Arlington, VA, Pew Center on Global Climate Change.
- Piore, M. J. (1979). *Birds of passage : migrant labor and industrial societies*. Cambridge, Cambridge U.P.
- Roberts, J. T. and B. C. Parks (2007). *A climate of injustice : global inequality, North-South politics, and climate policy*. Cambridge, MIT Press.
- Sassen, S. (1999). *Guests and aliens*. New York, New Press.
- Sen, A. (1999). *Development as freedom*. Oxford, Oxford University Press.
- Stern, N. (2007). *The Economics of Climate Change: The Stern Review*, Nature Publishing Group.
- Susskind, L. (1994). *Environmental diplomacy: negotiating more effective global agreements*. New York, Oxford University Press.
- Tacoli, C. (2009). "Crisis or adaptation? Migration and climate change in a context of high mobility." *Environment and urbanization*. **21**(2): 513-525.
- Terry, G. (2009). "No climate justice without gender justice: an overview of the issues." *Gender & Development* **17**(1): 5-19.
- UNDP (2009). *Human Development Report 2009: Overcoming barriers: Human mobility and development*. New York, Palgrave Macmillan.
- UNEP (2007). *Global Environment Outlook 4: Environment for Development*. Nairobi, United Nations Environment Programme.
- Urwin, K. and A. Jordan (2008). "Does public policy support or undermine climate change adaptation? Exploring policy interplay across different scales of governance." *Global Environmental Change* **18**(1): 180-191.
- WBGU (2008). *Climate change as a security risk*. London, Earthscan.
- Westra, L. (2009). *Environmental justice and the rights of ecological refugees*. London, Earthscan.
- Wilbanks, T. J. (2005). "Geographic Scaling Issues in Integrated Assessments of Climate Change." *Integrated Assessment* **3**: 100-114.
- World Bank (2010). *World Development Report 2010 : Development and Climate Change*. Washington, DC, World Bank.