

MIGRATION AS ADAPTATION

exploring mobility as a
coping strategy for
climate change



UK CLIMATE CHANGE AND MIGRATION COALITION

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COVER IMAGE

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About the author

Kayly Ober is currently a consultant with the Climate Policy Team at the World Bank. She has previously worked as a consultant with the Overseas Development Institute on various climate finance projects and as a programme assistant at the Environmental Change and Security Program of the Woodrow Wilson International Center for Scholars. While at the Wilson Center, she often wrote on climate change and migration for the award-winning blog *New Security Beat*. Kayly has also worked with the Electricity Governance Initiative at the World Resources Institute and served as an administrative and programme assistant at the International Labor Rights Forum. While studying abroad in Chile, she assisted newly arrived refugees with the Catholic Church of Santiago, La Vicaria de Pastoral Social y de los Trabajadores. Kayly holds an MSc in environment and development (Distinction) from the London School of Economics and a BA in international studies (cum laude) from American University. She is fluent in Spanish.

Introduction

As the world reaches 440 parts per million of carbon dioxide, a tipping point that many scientists agree will raise the world's temperature by more than 2 degrees Celsius (IPCC, 2007), thoughts should turn from not only stemming green house gas emissions (mitigation), but also how to deal with an already altered world (adaptation). As the concept of adaptation gains more traction, it has evolved to mean many different things (Orlove, 2009). One of the many iterations of adaptation has revolved around the idea of 'migration as adaptation'.

Throughout the last few years various scholars (Smit and McLeman, 2006; Adger et al, 2003; Tacoli, 2011a and 2011b; Barnett and O'Neill, 2012); have flagged migration as a traditional coping method (Agrawal and Perrin, 2009), particularly in West Africa (Davies, 1993a), that could be set to increase in the face of climate change. Instead of viewing migration as a last resort, they have begun to see it as way to diversify traditional agricultural-based livelihoods. Additionally, it gives an individual a chance to diversify their income source, allows the spreading of risk for the household, and the sending of remittances back to family members, which would, in turn, increase resilience back home (Tacoli, 2011b). There are also scenarios that could mean the loss of livelihoods and homes due to sea-level rise (Nicholls et al, 1999), which would make the case for an even more active form of migration: resettlement.

Given these circumstances, it is essential that climate change adaptation funders recognise the importance of migration as an adaptation strategy. However, they face obvious pitfalls. The principal obstacle revolves around the definition of adaptation. Often adaptation is executed in a very limited way, with current adaptations favouring 'hard' measures such as irrigation, sea walls, and dykes (Sovacool, 2011); and 'soft' ones that include information sharing, capacity building, and insurance (Kumamoto and Mills,

2012). This is compounded by the theory of ‘sedentary bias’ (Bakewell, 2008). This theory believes that development theory and practice explicitly and implicitly view migration as a negative phenomenon. As development actors become more involved in climate change adaptation activities, through their own programming (Huq and Reid, 2007), and climate change funds, this could mean discounting migration as an adaptation strategy. This would have serious consequences if, indeed, climate changes landscapes to such a degree that agricultural-based livelihoods are no longer tenable.

THE EVOLUTION OF ‘MIGRATION AS ADAPTATION’

The term adaptation itself has a long and storied history. It has been used in various capacities, starting with non-technical meanings, as found in the Oxford English Dictionary in the early seventeenth century (‘the action or process of adapting, fitting, or suiting one thing to another’). But it has also received substantial spotlight in the natural sciences, maintaining a special place in the theory of evolution. In *The Origin of Species*, Charles Darwin (1859) used adaptation to mean the organic modification of a species in order to better fit and flourish in its environment. The term then progressed through the social sciences, marked by contributions by anthropologists and archaeologists, who often suggested that adaptation was a consequence of a tangential ‘natural’ selection of cultural practices, which historically allowed a culture to survive (O’Brien and Holland, 1992). Cultures (or societies) which were able to respond to or cope with changes in socio-economic systems are considered to have high ‘adaptability’ or ‘capacity to adapt’ (Denevan, 1983).

This loose model was quickly co-opted by the climate change community. Academics and institutions have often grappled with the term, coming up with various iterations, for example:

Adaptation involves adjustment to enhance the viability of social and economic activities and to reduce their vulnerability to climate, including its current variability to climate, and extreme weather events as well as longer-term climate changes (Smit, 1993)

Adaptation is the adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities (IPCC, 2007)

Adaptation refers to adjustments in ecological, social, or economic systems in response to actual or expected climatic stimuli and their effects or impacts. It refers to changes in processes, practices, and structures to moderate potential damages or to benefit from opportunities associated with climate change (UNFCCC, 2013)

Although myriad, the definitions all refer to *adjustments* to a system in response to climate change. However, these adjustments are inherently steeped in many variables and characteristics. Accordingly, they are also diverse. Given this, adaptation itself is ambiguous, leaving wide scope for interpretation (Orlove, 2009).

Smit et al (2000) attempt to interpret these adjustments by providing an ‘anatomy’, which distils the complex questions of ‘adaptation to what?’, ‘who or what adapts?’ and ‘how does adaptation occur?’; to, ultimately, answer the overarching question ‘what is adaptation?’

The first in a long line of questions one needs to ask is ‘adaptation to what?’ This means assessing what type of climatic stimuli is inducing change, replete with pursuant risks or opportunities. Sometimes the stimuli might be weather conditions (i.e. annual rainfall) or ecological effects of human impacts of the climatic conditions (i.e. drought). Thus, adaptation revolves around characteristics which are relevant (i.e. temperature, precipitation, etc., over a pertinent time period) *and* their connection to the system which adapts (Smit et al, 2000: 230). It is easiest to look at adaptation arising from a causal chain of climatic stimuli. For instance, an adaptation in agriculture may arise from a sequence of increased temperature/decreased precipitation → drought → decreased crop yield → decrease in income.

‘Who or what adapts?’ relates specifically to circumventing the end part of this causal chain. At a very basic level, this seems to refer to individuals adapting, but it can also pertain to a community, region, nation, or even the globe. This refers to a spatial scale of a system. Accordingly, using the above causal chain, we can ascertain that ‘adaptation at the level of a farmer’s field might involve planting a new hybrid; at the farm level it might involve diversification or taking out insurance; at the regional or national scales, adaptation might relate to changes in the number of farms or modifications to a compensation program; and at a global level, it may involve a shift in patterns of the international food trade’ (Smit et al, 2000: 235-236). ‘How does adaptation occur?’ can be partially based on a temporal scale. Adaptations may be *reactive*, *concurrent*, or *anticipatory*. This can also be thought of as either *autonomous* or *planned* adaptation (Smit et al, 2000). Autonomous adaptation, as defined by Carter et al (1994), are adaptations that occur in a system as a matter of course; while planned adaptations are those that require or result from deliberate policy decisions. Most decision-makers give more weight to anticipatory and planned adaptation (Smit et al, 2000: 40).

According to Adger et al (2006: 6) policymakers can view the route to adaptation through three subsets: 1) public policies or institutional arrangements; 2) public and private investments in infrastructure and technologies; or 3) behaviour, 'such as changes in agricultural practices or *migration* so as to better cope with climate change impacts' (emphasis added).

Given this, migration is predominantly seen as an *individual's behavioural* decision that is largely *reactive* and *autonomous* (Adger et al, 2006: 8), and thus, is often excluded from the realm of public policy intervention. Indeed, policymakers see autonomous migration to be a hands-off (Nordhaus, 1990), economically efficient process (Mendelsohn, 1997).

Migration has always been intimately linked with traditional coping strategies in the face of environmental crises. Many case studies bear this out. Although, case studies of the recent past can serve as analogues to adapting in the face of environmental crisis, they cannot accurately predict with one hundred per cent accuracy how climate change will fundamentally change landscapes and livelihoods. Nevertheless, it is informative to a degree. A majority of the case studies focus on the Sahel region. Given this area's high reliance on pastoralism and agriculture for livelihoods in precarious dry lands, migration has always been a part of life. In Burkina Faso, studies have reported one million people, mostly men, participating in circular migration to urban centres or across borders in order to diversify income sources in the face of recurring droughts in the 1970s (Hampshire, 2002; Leighton, 2006). In one case, in Nigeria, 44 per cent of rural-urban migrants cited food insecurity as a reason for migration (Rain, 1999). Davies (1993b), found that migration was one response in a basket of coping mechanisms in Mali.

Recently, a transition has taken place where migration is seen as more than a coping strategy: it is also adaptation (Smit and McLeman, 2006; Adger et al, 2003; Tacoli, 2011a and 2011b; Barnett and O'Neill, 2012). Tacoli (2011b) found that migration has become an increasingly important aspect of rural livelihood strategies in the face of slow-onset climate change impacts such as desertification, soil degradation, variable rainfall patterns, and temperature changes in case studies in Bolivia, Senegal, and Tanzania. Alternative income sources increased the ability for migrants to survive, while also increasing the resilience of their family back home through remittances. Tacoli observed that, 'in all study locations the most vulnerable households are unanimously identified as those who do not receive remittances from migrant relatives' (Tacoli,

2011b: v). O'Neill and Barnett (2012) agree: successful adaptation can take the form of labour mobility which, through remittances, helps origin communities sustain consumption of basic needs such as food in times of livelihood shocks and finance the acquisition of human, social, physical and natural capital.

Although, migration has been autonomous in many of these situations, it should be noted, it has its limitations. Migration is often only an available option for the privileged (Van Hear, 2004) and those populations which do not have the social or financial capital to move can be left in unsustainable, and even risky, situations *in situ*. These populations are 'trapped' (Black et al, 2011), and thus will require interventions that do not rely on individual autonomous adaptations.

Fankhauser et al (1999) understand that autonomous adaptations do not happen in a vacuum. Individuals that make autonomous adaptation decisions are often faced with informational and socio-economic barriers. 'For autonomous adaptation to be effective, and to avoid maladaptation, certain preconditions therefore have to be met. Individuals have to have the right incentives, resources, knowledge and skills to adapt efficiently' (Fankhauser et al, 1999: 74). They argue that in order for autonomous adaptation to be truly successful, the policymakers will have to intervene to produce the right legal, regulatory, and socio-economic environment. Having the ability to adapt requires that there is 'room to manoeuvre' (Thomas and Twyman, 2005) to change behaviour, which may be hampered by law, politics, morality, or customs. Morality and customs are particularly resistant to change. However, Fankhauser et al (1999: 75) believe this could be overcome by 'educating people about the risks that current behaviour and customs may pose under climate change and how they can modify their behaviour to better prepare for climate change.'

As Adger et al (2006: 7) argue:

[I]naction at higher levels of collective action effectively transfers responsibility for adaptive responses to lower levels of collective action or to individual actors such as firms or households, with attendant consequences for the range of available alternatives and burden sharing. This underlines that *individual or private adaptation is not autonomous—it always takes place within constraints and opportunities engendered by antecedent collective action and collective inaction* (emphasis added)

Policymakers need to be aware that migration as adaptation will only be successful if they, first, acknowledge it as an option and then support measures to facilitate it.

Now that it has been established there is a longstanding tradition of migrating in the face of crisis, and that migration is a likely form of adaptation in the face of climate change, it is important that it is given its due respect. Migration is a highly contested subject, as discussed above, which arouses patriotic and xenophobic feelings in many cases (Zetter, 2007; Hartmann, 2010). These negative connotations transcend border politics, also pervading development thought. However well meaning or altruistic development programming has sought to be throughout the years, migration has had a normatively non-positive role. Oliver Bakewell captured this viewpoint in his 2008 seminal work on 'sedentary bias'.

WHAT IS 'SEIDENTARY BIAS'

Bakewell (2008) first coined the term 'sedentary bias' to explain the deep historical and colonial ties to the framing of migration as a negative phenomenon, which has hitherto been perpetuated by the development community. He believes that sedentary bias permeates both the *theory* and *practice* of development.

From a historical perspective, he argues, colonialism sought to exploit natural resources by relying on migrant labour in mines, plantations, and colonial administration, while at the same encouraging the return 'home'. Indeed:

[T]hey were also keen to encourage them to maintain their 'traditional' way of life in the villages; to preserve the 'homes' to which labour migrants could return. In many areas this was assumed to be a largely sedentary existence based around stable villages in fixed locations populated by particular (static) 'tribes'. The colonial systems for the collection of taxes, the imposition of colonial law, and the provision of government services all relied on a good understanding of who was where (Bakewell, 2008: 1344).

According to Bakewell, classic 'interventionist' development programming also revolves around encouraging or enabling people to stay at 'home' while also framing migration as negative. Indeed, in general, within the development literature, migration has been seen as a response to crisis rather than a normal part of people's lives. To stem this so-called crisis, development programming sought to develop rural amenities to allow people to stay home, and then measured their success specifically by the reduction of migration into urban areas (Bakewell, 2008: 1345). In tandem, the out-migration of often highly educated and skilled people was looked upon as a 'brain drain', thus reinforcing migration as a negative phenomenon for the all-important 'home'.

Why is 'sedentary bias' relevant?

It is important to recognize the parallels between adaptation work and traditional development programming. Certainly, adaptation can be distinguished by its inherent aim to reduce vulnerability and increase resilience in the face of a changing environment; while development seeks to nominally change a person's circumstance for the 'better', according to 'interventionist' development thought, which is loaded

with preconceived notions. However, many adaptation interventions dovetail nicely with traditional development work. Indeed, adaptation interventions are often quite similar and cannot be separated from many existing sustainable development interventions (Keane et al, 2009). Bapna and McGray (2008) argue that traditional development interventions and climate change adaptation fall on a continuum that often overlaps.

Given this, as Gupta (2009: 209) rightly figures, ‘the governments of the leading [donors of the multilateral banks (MDBs)] are seeing the need to converge the two debates [of climate change adaptation and development] as a way to make their meagre resources go a longer way’. Aside from advocating ‘mainstreaming’ climate change adaptation into development programming (Huq and Reid, 2007), MDBs have a unique place in the climate finance architecture. The WB, along with the United Nations Development Program (UNDP) and United Nations Environment Program (UNEP), is an implementing agency of the Global Environment Facility (GEF), helping developing countries implement research and write adaptation project proposals. The World Bank (WB) even tried to position itself as a major adaptation finance mechanism with the establishment of the Pilot Program for Climate Resilience (PPCR), which many saw as a bold move in opposition to less donor-driven mechanisms, such as the Adaptation Fund (Sebellos and Kreft, 2011). To date, the PPCR currently has received the most voluntary funding from donors (Hamerling and Kaloga, 2011).

If traditional development actors are holding the reins, so to speak, of most climate change funding research and decisions, it is important that they not discount migration as an adaptation strategy, in line with old sedentary bias, and with the excuse of operational expediency.

However, several studies have found that sedentary bias is *already occurring* in some spheres. Although migration as a coping mechanism has been established, it has gotten short shrift in policy circles. According to Agrawal and Perrin (2009), coping strategies for rural households often fall within into four subsets: storage, diversification, communal pooling, and *mobility*. ‘Mobility is perhaps the most common and seemingly natural responses to environmental risks. It pools or avoids risks across space, and is especially successful in combination with clear information about potential precipitation failures’ (Agrawal and Perrin, 2009: 354). However, upon analysing the UNFCCC database on coping strategies they find ample evidence of diversification, communal pooling, and diversification and exchange, but mobility is

never mentioned. The authors note that ‘The limited representation of mobility in the data seems an artefact of *reporting bias* – [because] agro-pastoral and wage labour groups have used mobility as an adaptation to environmental variability for generations – indeed, mobility often also occurs in conjunction with other adaptation strategies such as diversification’ (emphasis added) (Agrawal and Perrin, 2009: 359).

Additionally, a study by Sward and Codjoe (2012) assessed existing National Adaptation Programmes of Actions’ (NAPAs) conceptions of migration and found that of the 45 NAPAs reviewed, only 13 refer to rural exodus, nine to transhumance, and 14 to the need for new policies to address resettlement and displacement. The majority conclude that policy interventions should seek to reduce the need for movement. A number of proposed NAPA priority projects emphasise the perceived *negative* impacts of migration: ‘three NAPAs view migration as barrier to proposed priority projects; two NAPAs attempt to resolve migration’s detrimental impact on the provision of services in their priority projects; and one refers to conflict-driven migration. Tellingly, 13 NAPAs do not discuss migration issues in their proposed adaptation projects at all’ (Sward and Codjoe, 2012: 5-6).

Conclusion

With current adaptation funding reaching more than US\$2.34 billion (Climate Funds Update) and with a possible US\$100 billion per year to be funnelled into the newly minted Green Climate Fund, adaptation is in the spotlight. It is generally acknowledged that adaptation will require complex and innovative thinking in order to be fully successful (Inderberg and Eikeland, 2009). This thinking should include migration as adaptation (Smit and McLeman, 2006; Adger et al, 2003; Tacoli, 2011a and 2011b; Barnett and O’Neill, 2012). However, as discussed above, this faces inherent obstacles, such as ‘sedentary bias’ (Bakewell, 2008).

It should also be noted that migration is not a silver bullet, and can be maladaptive (McLeman, 2009). Indeed, migration to pursue alternative livelihoods does not always result in a more stable way of life. Thus, autonomous adaptation as illustrated through migration cannot be a singular solution. Policymakers should be more proactive and perhaps have a hand in helping movement, particularly for ‘trapped’ populations (Black et al, 2011), to avoid maladaptive measures. Just how these policies will look like, however, remains uncertain. Alternative and additional support could be funnelled into programmes such as education and information to allow the choice for migration as well as infrastructure for peri-urban and informal settlements, which inevitably will grow. However, in sum, by not addressing migration, development organisations could be devaluing a prominent and important adaptation strategy. They can also serve to further entrench power imbalances (Kates, 2000) and miss out on helping the most vulnerable.

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