

Land and water scarcity as drivers of migration and conflicts?

The Millennium Ecosystem Assessment projects that the intensification of freshwater scarcity in combination with continuous water extraction from delicate dryland ecosystems is likely to exacerbate desertification, thus leading to a downward spiral of ecological deterioration and a precarious depreciation of livelihoods in many developing regions. This in turn can push people to migrate, which can have far reaching implications affecting local, regional, and even global political and economic stability.

Zippo, a professional circus clown in Surrey, England, must no longer indulge in water fights with his colleagues or else face fines of up to GBP 5 000 (EUR 7 300) and disconnection from the standpipe of the local Water Board. What sounds like another peculiar twist of British humour turns out to be a much more serious matter. As even the notoriously rain-prone United Kingdom had to experience a drought of sorts, the Department for the Environment, Food and Rural Affairs has issued an order to restrict water consumption in Southern England's Sutton and East Surrey districts, thereby affecting the lives of hundreds of thousands of citizens. In the event, the authorities deprive some sad clowns of what they might rightfully claim a quintessential requirement of their everyday work and livelihood. For a clown, as Zippo insists, «chucking water around is as important as wearing a red nose» (Daily Mail, 27 May 2006).

Consider now the dryland regions of the world where water matters all the more. Indeed, access to water is both a vital and limiting factor in deserts and drylands. Ecosystem services for basic human needs, crop and dairy production as well as livestock herding are crucially dependent on the availability of freshwater, which not only is scarce in dryland regions per se, but restricted further by over-exploitation and the mutually reinforcing impacts of climate change and desertification. Indeed, the Millennium Ecosystem Assessment (MA) underscores that reductions in the provision of ecosystem services are a much greater threat in dryland regions

than in the more humid parts of the world. To make matters worse, the intensification of freshwater scarcity projected by the MA in combination with continuous water extraction from delicate dryland ecosystems is likely to exacerbate desertification, thus leading to a downward spiral of ecological deterioration and a precarious depreciation of livelihoods in many developing regions. This in turn can push people to migrate, which can have far reaching political implications wherever people compete for arable soil and freshwater. In combination with socio-economic crisis or cultural and ethnic tensions, desertification and migration may thus even lead to violent conflicts, exacerbate ongoing ones and further the displacement of affected peoples.

Against this background, it is easily conceivable that the societal impacts of desertification can extend beyond immediate dryland regions. With migration serving as a transmission belt, political repercussions can indeed be felt in regions that are actually remote from the world's great deserts. In the following, I will sketch the role of desertification as a driver of migration and discuss potential interlinkages between desertification, migration and political instability in dryland regions and elsewhere.

The drastic decrease in food production in the Sahelian countries forces people to leave their home countries to make a living in the Western countries.



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Desertification prompts migration

Some forty per cent of the world's land mass can be classified as dryland. These are terrestrial regions where water scarcity is a limiting factor for the production of crops, forage, wood, and other ecosystem provisioning services. In contrast to deserts as such, which have little to lose in terms of natural productivity, dryland regions are particularly at risk of desertification. For the same reasons, the impact of desertification on human livelihoods is much more severe in densely populated semi-arid regions compared to scarcely inhabited deserts. According to the Millennium Ecosystem Assessment the total population of the world's drylands amounts to roughly two billion. Among those, the livelihoods that need to be considered as severely affected by dryland degradation amount to at least 250 million and probably up to 1.2 billion people, depending on the choice of criteria. Many more are threatened by the prospect of desertification. In particular, they face losses in biological and economic productivity of land as a result of gradual soil degradation.

Given the intricate linkages of soil degradation, agricultural production, food security and poverty, many household members may as a consequence of desertification leave their homes and seek to supplement the income of their families through cash remittances. Others may even be uprooted with their whole families and decide to migrate in order to survive. In fact, it is one of the key findings of the Millennium Assessment that recurring droughts and land degradation are predominant factors in the movement of people from drylands to other areas. Rather unsurprisingly, recent studies also confirm that poor households in ecologically frag-

The Millennium Ecosystem Assessment and migration

«The societal and political impacts of desertification also extend to non-dryland areas. ... An influx of migrants may reduce the ability of the population to use ecosystem services in a sustainable way. Such migration may exacerbate urban sprawl and by competing for scarce natural resources bring about internal and cross-boundary social, ethnic, and political strife. Desertification-induced movement of people also has the potential of adversely affecting local, regional, and even global political and economic stability, which may encourage foreign intervention.» (*Millennium Ecosystem Assessment: Ecosystems and Human Well-Being. Desertification Synthesis*. World Resources Institute: Washington, DC 2005).

ile communities are much more likely to give up their homes and migrate than families who are comparatively better off and living in communities that are less vulnerable to ecological stress. Moreover, the likelihood for these migrants to return decreases as droughts recur more often and become more severe. Although robust figures on the displacement of peoples that is primarily caused by desertification are hardly available and render current efforts for quantification largely speculative, these general dynamics have been well documented for many dryland regions in Africa, Asia and the Middle East as well as the Americas (see Michelle Leighton, *Desertification and Migration*, in: *Governing Global Desertification*, by P.M. Johnson et al., Ashgate: Aldershot 2006). The perennial stream of impoverished Mexicans seeking to cross the «tortilla curtain» (T.C. Boyle) into the United States and the dubious fate of Africans trying to make their way to the shores of Italy and Spain have recently attracted considerable attention in the Western media and at the highest levels of government. Although these migrants are usually classified as economic refugees and not necessarily running away from desertification in a narrow sense, it can reasonably be assumed that shortages of arable land, water scarcity and general ecological deterioration are among the key factors that drive them to leave their homes.

While Western governments readily cater to the nebulous fears attached to South-North migration, the correlations between degrading agricultural lands and migration of poor farmers are all the more apparent with a view to internally displaced people within the affected regions. In fact, desertification-induced migration occurs at a considerably larger scale within the global South, but largely out of sight of the Western public.

This relates in particular to Africa, which is the region most acutely affected by desertification. At the Horn of Africa, for instance, rural migration out of Ethiopia's drought-prone Amhara and Tigray regions is found to result largely from environmental degradation and poverty. In the Western Sahel, studies from Senegal, Mali and Northern Nigeria also demonstrate rural-out migration and urban sprawl in response to soil erosion and declining agricultural yields in the country. Similar patterns are now also studied in Central Asia and Latin America. For instance, migration is identified as a coping strategy for farming households in Argentina's rural regions which are confronted with dryland degradation; in Kazakhstan and Uzbekistan severe soil erosion through salinization and windstorms, in combination with water pollution, is a main push factor for



Photo: UNCCD

internal displacement (see Leighton, as above, with further references).

Politically, of course, both the South-North trespassers and the internally displaced sufferers of desertification could be captured under one flag. Even two decades ago, the United Nations Environment Programme (UNEP) suggested that those migrants who are effectively fleeing from hostile environmental conditions, could reasonably be classified as «environmental refugees» (see Hassan el-Hinnawi, *Environmental Refugees*, UNEP: Nairobi 1985). Today it is all the more evident that global climate change and desertification are indeed significant root causes for both seasonal and permanent migration, internally as well as across borders. The label «environmental refugee» remains controversial, however, owing to the complexity of migration. Drawing distinct lines between political, economic and environmental refugees is hardly feasible. Still, the International Panel on Climate Change expects some 150 million environmental refugees by 2050, owing to global warming and an ensuing acceleration in soil erosion and water pollution. However, to acknowledge environmental refugees would entail potentially far-reaching implications regarding the status of migrants and refugees in international law. As of now, environmental refugees are not recognized as such and thus not entitled to request protection or asylum. Accordingly, both the UN High Commissioner for Refugees and the International Organization for Migration avoid the term «environmental refugee» and refer to «environmentally displaced persons» instead. This notwithstanding, the United Nations Convention to Combat Desertification (UNCCD) explicitly acknowledges the link between environmental degradation and migration and requests governments to take into account «the relationship between poverty, migration caused by environmental factors, and desertification» (UNCCD, article 17.1 (e)). Yet, this provision has not translated into tangible political action so far. Given the multitude of issues covered by the convention and other, more pressing priorities on the agenda of the



Up to 1.2 billion people worldwide are threatened by the impacts of desertification.

parties this does not come as a big surprise. It is quite intriguing though, that the UN Secretary-General's recent report on international migration and development even fails to mention either the issue of desertification or the UNCCD. In fairness to the UN Secretary-General it should be acknowledged, however, that the mandate to assess inter-national migration basically precludes the issue of internally displaced people, which constitute the bulk of environmental refugees.

Desertification + Migration = Conflict?

In the context of recent debates about weak and failing states (for an overview see e&lr, no 6/2005), the nexus between desertification and migration is also considered as a security issue. For instance, the German Advisory Council on Global Change (WBGU) was prompted to explore the linkages between continuous environmental degradation and global security in the medium and long-term. To this end it investigates, among a set of related questions, whether migratory movements provide a trigger for conflicts in dryland regions.

Thus far, conflict research indicates that ecological degradation is unlikely to trigger an escalation of violent conflicts in its own right (for an overview see Nils Petter Gleditsch, *Armed conflict and the environment: a critique of the literature*, Journal of Peace Research 35 (3) 1998). Quite to the contrary, environmental problems have often lead to cooperation, sometimes even between neighbours with otherwise tense relations such as Egypt and Israel. However, growing demands on limited resources will bring about more conflicts of interest. Fierce competition for scarce resources of land and water is not only a cause for migration, but can also be intensified if incoming migrants or refugees increase the pressure on fragile environments and rural communities that are already under stress. With a view to the past and present, no straightforward link between migration and conflict has been proven. In most

cases of environmentally induced migration nowadays, ecological deterioration is seen to intensify a complex set of mechanisms, which ultimately lead to migration. In regions already affected by political or socio-economic instability, an influx of migrants or refugees is likely to exacerbate instability and may thus also increase the potential for conflict. Although conflict will not necessarily follow from desertification-induced migration, it does not help that many dryland regions are located in developing countries with weak governance structures and a propensity for internal strife. To the contrary, the societal impacts of desertification and simmering conflicts are likely to mutually intensify and may thus fuel ongoing conflicts and – in extreme cases – even further the failure of fragile states.

Again, it is Africa that provides for the most dramatic examples how vicious circles of conflict, drought, migration and the overstraining of ecosystem services may thrive. Reports of violent clashes between pastoral peoples and farming communities abound. Yet, the escalation of conflicts between these groups is hardly triggered by either desertification or migration alone. In fact, conflicts over the use of grazing land versus farmland are often charged with ethnic tensions or other pretexts as currently observed in Western Sudan's complex Darfur crisis. In a somewhat less intricate example, sporadic outbursts of violence between nomadic tribes and peasant farmers in the Kenyan Rift Valley were skilfully geared by cronies of President Daniel arap Moi throughout the 1990s. In the case of the Rwandan genocide, the scarcity of land has rightfully been highlighted as a core problem. Yet, the excessive and systematic violence is hardly conceivable without the violent context of the region's colonial and post-colonial history and politics.

The point thus remains that the likelihood for latent conflicts to escalate will naturally increase wherever an influx of displaced people intensifies the exploitation of delicate dryland ecosystems and the competition over access to the latter.

Outlook

Hardly a suspect of green alarmism, former US president Bill Clinton recently prompted that global change is «more remote than terrorism, but a more profound threat», thereby reflecting a growing concern for the interlinkages between ongoing patterns of environmental change and global security. The relationship between desertification, migration and instability in the world's dryland regions, vaguely understood as it may be

so far, is a constitutive component of that overarching discourse.

Given the increasingly apparent impact of global warming, doubts are burgeoning as to whether the relatively comforting assessment of environmental conflict research may hold for the future. Notably weak states, which are already struggling to maintain the most basic functions of governance and statehood, will almost necessarily overstrain – and may eventually collapse – once their task to protect their citizens will be compounded by societal and economic needs to adapt to the consequences of climate change.

Even today, growing populations and the influx of migrants into drylands bring with them considerable ecological footprints, notably with a view to freshwater extraction and food security. Improved management of water supplies hence is a key challenge for the future of sustainable dryland development. However, easy solutions are hardly in sight. Irrigation schemes, for instance, have been proven a viable instrument to increase food production as well as decreasing poverty in many rural development projects. Yet, they bear considerable long-term risks. Because of their propensity to exploit surface and groundwater resources, they can easily magnify the problems related to desertification and thereby come to undermine the positive effects attributed to them in the short run.

Moreover, the challenges of desertification and water scarcity will increasingly transpire to the lives of peoples who were thus far only marginally affected by the impacts of desertification. To name but one example, even conservative climate change scenarios predict substantial losses in freshwater available for domestic consumption and farmland irrigation in the dry, but highly developed region of California and Arizona. The riverine systems on which these climatically dry states thrive originate from glaciers and snow-covered mountain ranges. In this sense, the worries of Zippo the clown merely represent the tip of the proverbial iceberg that is the global meltdown of glaciers, changing precipitation patterns and ensuing water scarcity.

Environmentally Displaced Persons ...

... according to the International Organization for Migration are «persons who are displaced within their own country of habitual residence or who have crossed an international border and for whom environmental degradation, deterioration or destruction is a major cause of their displacement, although not necessarily the sole one» (see IOM, *Environmentally-Induced Population Displacements and Environmental Impacts Resulting from Mass Migrations*. Geneva: UNHCR and IOM, 1996).