



Semi-nomadic pastoralists grazing their animals on the fields after the crop at Guédé Chantier. © 2013/Irene SCHÖFBERGER

Environmental change and translocal vulnerability in Senegal

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Introduction

Mobility has constituted a key element of livelihood strategies in the West African Sahel region and in Senegal for a long time. It has allowed households to diversify the places and sources of revenue accessible to them, and in this way, adapt to a resource-poor environment. In the last decades, however, natural and man-made

factors have accelerated environmental degradation and exacerbated the vulnerability of local households. Simultaneously, coping strategies based on mobility have been increasingly hindered by factors such as changes in migration and land policies.

Against this background, this brief presents findings and recommendations based on empirical research conducted in four villages in Senegal and at two migration destinations in Italy and Spain. It provides an analysis of the links between household vulnerability, exposure to environmental degradation and migration. Firstly, it investigates how vulnerability influences the exposure of households to environmental degradation. Secondly, it analyses migration as an adaptation strategy to environmental change. Thirdly, it examines the impact of vulnerability on the households' ability to adopt translocal livelihood strategies.

Migration can be an effective strategy of adaptation to environmental change. However, vulnerability has an impact not only on the households' exposure to environmental degradation, but also on their ability to migrate. If not addressed, vulnerability can furthermore be transmitted from the places of origin to the places of destination of migrants. Consequently, this brief advocates that policy action is required to tackle the influence of vulnerability factors on the ability of households to cope with environmental degradation through migration. This could strengthen the potential of mobility for resilience.

Concepts

As defined by the International Organization for Migration (IOM, 2011), “**environmental migrants** are persons or groups of persons who, predominantly for reasons of sudden or progressive change in the environment that adversely affects 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”. Attention to climate change has recently led policymakers to focus on environmental migration; however, the links between climate, environmental changes and migration are complex (Black et al., 2011). Based on layered and interlinked economic, social and political factors (e.g. governance, policies and access to resources), environmental migration is a multicausal and multidimensional phenomenon (IOM, 2014) that needs to be analysed through a holistic approach.

Environmental change can occur suddenly through rapid-onset climate-related hazards or progressively through slow-onset environmental degradation. In both cases, it can lead to consequences for living conditions and livelihoods. In coherence with its objectives and the case study, this policy brief focuses on slow-

onset environmental changes affecting the livelihood strategies of households of the examined villages. These households are largely dependent on agricultural, fishing or breeding activities and therefore particularly exposed to changes, such as soil erosion, water scarcity and scarcity of fishery resources.

The propensity of individuals and households to be adversely affected by environmental changes varies according to their degree of **vulnerability**, i.e. their exposure to situations of harm, such as livelihood risks and crises and their inability to adopt adequate coping and adaptation strategies (Intergovernmental Panel on Climate Change (IPCC), 2014). Vulnerability is the result of multilayered processes and entails different interrelated environmental, social and economic components (UNISDR, 2017).

Migration and other forms of mobility have played a long-standing role in Senegal, allowing households to extend their livelihood strategies beyond their resource-poor home places. Through the consequent diversification of locations and sources of revenue, households strengthen their resilience to risks such as crop failure, while maintaining or enhancing their household assets (Scoones, 1998). Allowing the adoption of **translocal livelihood strategies** (Schöffberger, 2017), stretched between multiple places, migration can improve the resilience of households. In this way and as recognized under the United Nations Framework Convention on Climate Change (also known as the Cancun Adaptation Framework) (2010), it can be a strategy of **adaptation**, i.e. of “adjustment to actual or expected” environmental changes (IPCC, 2014:5). However, the ownership of an initial capital can be a prerequisite for emigration, rendering this adaptation strategy difficult to access for the most vulnerable persons. In other cases, migration can amplify existing vulnerabilities (IOM, 2014).

This policy brief focuses on voluntary migration from Senegalese communities to internal and international migration destinations. It analyses migration as part of livelihood strategies adopted at the household level. **Forms of migration** adopted by different household members include temporary migration between two places (i.e. pendulum migration) or more places (i.e. circular migration), and long-term migration. Temporary migration has been identified as an adaptation strategy to early stages of progressive environmental degradation, and it has been suggested that more permanent movements may follow rapid-onset or more advanced environmental degradation (IOM, 2014).

Data and facts

Environmental vulnerability is not a new phenomenon in Senegal, located in the arid Sahel region. Local households have adapted to a resource-poor environment through **long-standing practices based on mobility and diversification of resources**, such as nomadic pastoralism and shifting cultivation. However, during the last decades, these practices have been progressively hindered by changes in the administration of space, such as measures favouring the sedentarization of pastoralists, the shift from extensive to intensive agriculture and a land reform introducing land tenure. This has led to increasing pressure on farming land and a rapid increase in **environmental degradation**. Climate variations, such as recurrent droughts, and a consistent population growth rate (estimated at 3.0% for 2017; UN DESA, 2017) have further intensified it. One third of Senegalese soils are now highly degraded, and consequences are estimated to be affecting the livelihoods of half of the population (ISRIC, 2014). Agricultural households account for 74 per cent of rural households, and 91 per cent of them practice subsistence agriculture (ANSD, 2014). Due to their dependence on natural resources, these households are particularly affected by environmental degradation.

Senegal is ranked 170th in the Human Development Index ranking of UNDP (2015), and the poverty rate is 46.7 per cent (World Bank, 2011). Indicators, such as employment and alphabetization, further suggest that women, young people and persons living in rural regions are particularly affected by social and economic vulnerability (ANSD, 2014). Since 60.5 per cent of all Senegalese children live in rural regions (ibid.), these indicators are likely to have a considerable influence on long-term trends in the country.

Contemporary forms of internal and international migration reproduce traditional forms of mobility. Of all Senegalese people, 14.6 per cent are internal migrants, and only 1.2 per cent are international migrants. Europe (hosting 44.5% of international migrants), West Africa (27.5%) and Central Africa (11.5%) are the main destinations for external migration. Most of the emigrants moving to the Americas (2.3%) have moved to North America; however, migration to South America is increasing, as well as migration to the Middle East (currently accounting for 0.8% of Senegalese emigrants) and Asia (0.2%) (ANSD, 2014). Furthermore, the most recent population census (ibid.) found that most

international migration departures occur from urban areas; 30.3 per cent are from Dakar. Instead, migrants from rural regions mostly choose internal migration destinations: Dakar and Diourbel attracted 43.2 per cent and 15.5 per cent of them respectively. This is in line with further research findings evidencing that globally, rural households that are the most exposed to environmental degradation tend to choose adaptation strategies based on internal migration, rather than international migration (Geddes and Somerville, 2013; Ionesco, Mokhnacheva and Gemenne, 2016). In addition, international migrants from rural areas are likely to spend some time as internal migrants prior to departure to be able to cover the related costs.

Internal migration often takes place through **temporary movements** (Touré Thiam and Crowley, 2014), allowing households to adapt flexibly to a changing availability of resources (e.g. agricultural productivity) in the places of origin and destination. In particular, pendulum and circular migration movements allow individuals to carry out diversified income-generating activities in multiple places within a short period of time. Examples vary and include farmers searching for employment opportunities (e.g. in construction or in commerce) in urban areas during the dry season, and persons alternating periods in town and in their home village, e.g. selling agricultural products in the first and manufactured products in the second. Depending on ownership of an initial capital, circular migration can also be practiced internationally, e.g. by migrants working as street and beach sellers in Southern Europe in summer and returning to Senegal in winter (Tall and Tandian, 2011).

Remittances constitute a significant source of financial inflow to Senegal, reflected in the creation of the Investment Support Fund for Senegalese Abroad in 2008. With an inward remittance flow from international migration destinations of USD 1.6 billion, Senegal was one of the top 10 remittance recipients in 2015 (World Bank, 2016); for comparison, the net foreign direct investment inflow was USD 0.4 billion (World Bank, 2017a) and the overseas development aid received was USD 0.9 billion (OECD, 2017). According to World Bank estimates, remittances were sent mainly from the three European Union countries France (USD 0.457 billion), Italy (USD 0.297 billion) and Spain (USD 0.211 billion). Remittances from the two neighbouring countries, the Gambia and Mauritania were estimated to be significant as well, reaching USD 0.183 billion and USD 0.092 billion respectively (World Bank, 2017b).

Methodology

Objective of the study

The objective of the study presented in this brief was to assess the link between household vulnerability, exposure to environmental degradation and migration. Firstly, the study investigated how vulnerability impacts the exposure of households to environmental degradation. Secondly, it analysed migration as an adaptation strategy to environmental change. Thirdly, it examined the impact of vulnerability on the households' ability to adopt translocal livelihood strategies.

Research sites

This brief draws upon field research conducted in four villages in Senegal and in two towns in Italy and Spain. The four Senegalese villages – (a) Yoff, in the Dakar region; (b) Guédé Chantier, in the Saint-Louis region; (c) Sambé, in the Diourbel region; and (d) Dindéfelo, in the Kédougou region – were selected as they represent different challenges with regards to the environment and its governance. These challenges include, in particular, land scarcity, soil erosion, worsening farming conditions, urbanization and discrepancies between formal and informal land tenure rights. Two additional research phases were conducted at (e) Piacenza, in the Emilia Romagna region, Italy, and (f) A Coruña, in the Galicia region, Spain, which are the main migration destinations

from Yoff, in order to investigate translocal livelihood strategies both at the places of origin and destination of migrants. Tracking migrants in their places of destination allowed to investigate how vulnerability is transmitted and strategies of adaptation constructed between places of origin and destination.

Findings

Farming households' vulnerability and exposure to environmental degradation

Exposure to environmental degradation is influenced by vulnerability factors, such as a scarce ownership of economic, social and cultural capital. In particular, in the four villages, worsening agricultural conditions have had different impacts on the livelihood strategies of households with different degrees of vulnerability. Due to a decreasing productivity and the simultaneous reduction of public subsidies introduced in 1984 and only partially amended afterwards (IPAR, 2015), the farmers' ability to finance agricultural expenses (e.g. the purchase of seeds and fertilizers) has depended on their access to alternative sources of income. This access has been linked to their: (a) ownership of professional qualifications, allowing for alternative income-generating activities (e.g. formal employment); (b) ownership of saleable assets (e.g. livestock); and (c) access to remittances from migrant household members. Farmers having access to alternative sources of income reported being able to



Rice fields cultivated intensively with the support of bank credits (right) and through agroecology with the support of remittances (left) at Guédé Chantier. © 2013/Irene SCHÖFBERGER

adapt their agricultural strategies to changing conditions of production and sale, such as fluctuating prices. Furthermore, they reported being able to strengthen their resilience through further diversification strategies, such as commerce and migration. On the contrary, farmers lacking access to alternative sources of income appeared to be less resilient. Some of them contracted bank credits, which are however linked to specific production and sale conditions, exposing farmers to the risk of indebtedness and loss of land ownership. As a consequence, their households are exposed to livelihood crises, i.e. the inability to secure the necessities of life and risk of displacement.

Emigration as an adaptation strategy to environmental degradation

In this context, emigration does not constitute an escape strategy from home, but rather a way to allow other household members to remain in the place of origin. Through the relocation of single-household members to one or more migration destinations, livelihood strategies are expanded translocally, and sources of revenue are diversified. This allows households to strengthen their resilience towards worsening agricultural conditions (e.g. fluctuating prices) and environmental risks and stresses (e.g. droughts and bad crops). In the four villages, migration destinations of individual household members are often differentiated to maximize access to resources and minimize the impact of possible risks in these destinations. However, in some cases, consistent remittance flows may lead household members who remained in the village to abandon local income-generating activities and become dependent on remittances. The consequent loss of livelihood diversification increases the households' vulnerability in both places of origin and destination.

Impact of vulnerability on translocal livelihood strategies

Vulnerability has an impact on the ability of households to migrate. Highly vulnerable households, unable to cover the costs of emigration, may find themselves trapped in immobility. In other cases, different degrees of vulnerability influence the access of household members to internal or international migration possibilities. For instance, visa requirements linked to the ownership of economic, social and cultural capital (e.g. financial guarantees, academic/professional qualifications and contacts in countries of destination) limit the access to regular migration to most northern countries. However, rural households have less opportunities to acquire such capital than urban households. As a consequence,

this study found that migration destinations from Yoff (located in the region of Dakar) were different from the destinations from the other three villages located in rural regions. Indeed, most migrants from Guédé Chantier, Sambé and Dindéfelo have engaged in internal migration and/or in South–South migration mainly towards African countries. Most of the few migrants from the three villages living in northern countries have arrived there through irregular channels. Instead, migration destinations from Yoff have been much more diversified and included both regular and irregular South–South and South–North migration. Furthermore, different migration possibilities appear to have an impact on broader household livelihood strategies: interviewees reported that remittances from both internal and international migrants have supported local livelihood strategies; however, remittances from northern countries have allowed greater investments (e.g. houses made of bricks and migration of additional household members). A worsening trend has however been observed due to the economic downturn in traditional countries of destination, such as Italy and Spain.

Translocal vulnerability and resilience

The study furthermore found that vulnerability can be transmitted between the places where household members are located: it is, therefore, translocal (Schöfberger, 2017). In particular, the interviews conducted with migrants in Piacenza and A Coruña allowed to observe that factors, such as the ownership of a residence permit and academic/professional qualifications, and previous social contacts in the country of destination, have an impact on the migrants' access to formal or informal employment opportunities. Regular migrants employed in the formal sector are not only less vulnerable than irregular migrants trying to make a living in the informal sector, but also in a better position to support the resilience of their households of origin. Vulnerability factors – such as scarce ownership of economic, social and cultural capital – are likely to reduce the households' access to legal migration opportunities and sources of income in the places of destination. In this way, they have an impact on the effectiveness of migration as an adaptation strategy. If not addressed, e.g. through a supported access to education and professional qualification opportunities and to diversified sources of income, household vulnerability is therefore likely to be perpetuated from one place to the other. However, strengthened resilience levels can be transmitted translocally, as well as observed e.g. when migrants gain a legal status and their ability to support their households improves.

Recommendations

(a) Incorporating the potential of mobility for resilience into development policies.

Mobility allows many Senegalese households to cope with environmental vulnerability. Through migration, households prevent the insurgence of acute livelihood crises and avoid future displacement. Revising national and international migration policies in order to recognize the contribution of migration in adapting to environmental change and its essential role for livelihood strategies could therefore be beneficial both in terms of local development and long-term management of migratory flows.

(b) Mainstreaming translocal vulnerability into development policies.

Vulnerability has an impact on the ability of households in adopting translocal livelihood strategies. In this regard, incorporating measures addressing the impact of vulnerability on migration possibilities into development policies would allow to support endemic strategies for adaptation to environmental change. Development programmes tackling economic and social vulnerability (e.g. through improved education services and diversification of the local economy) could further support these strategies.

(c) Mainstreaming translocal vulnerability into migration policies.

Vulnerability has an impact on access to regular and irregular migration possibilities. In this way, particularly vulnerable individuals and households who have less means to migrate experience difficulties in migrating as an adaptation strategy to environmental change. By recognizing inequalities in access to migration and including measures to facilitate migration, migration policies could reduce vulnerability in both places of origin and destination.

(d) Empowering small-scale and family farming.

Intensive land use has exacerbated environmental degradation and led to an increase in the vulnerability of local farmers. Development programmes supporting long-standing small-scale farming practices adequate to the resource-poor environment, such as agroecology, could therefore contribute to strengthening the resilience of farming households.

(e) Expanding research on the role of new patterns of South–South circular migration for adaptation to environmental change.

Increasingly selective northern migration policies are leading to the emergence of new patterns of circular South–South migration in Africa, Asia, Latin America and the Middle East. Expanding research on their role in enabling households to cope with environmental change would allow for the adoption of timely and evidence-based migration policy measures.



Building financed through migration at Dindéfelo (right). © 2014/Irene SCHÖFBERGER

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