



doi:10.1111/j.1468-2435.2010.00644.x

Economic or Environmental Migration? The Push Factors in Niger

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ABSTRACT

This paper identifies the main environmental problems in Niger and detects their impact on migration at the national and international level. It mainly focuses on droughts, soil degradation, the shrinking of Lake Chad, the Niger River problems, deforestation, and sand intrusion, as important push factors that might influence the migration decision of the people of Niger. The paper addresses the question of whether their decision to migrate is influenced by purely economic or environmental problems and concludes that the economic factor represents the mechanism through which the environmental damage influences migration, introducing hereby the term “environmentally induced economic migration”.

INTRODUCTION

Situated in the heart of the West African Sahel, the Republic of Niger covers an area of 1.267.000 kilometers². It is bordered by Mali and Burkina Faso in the West, by Nigeria and Benin in the South, by Chad in the East, and by Libya and Algeria in the North (UNDP, 2006). Although it is the fourth-largest country in Africa, 65 per cent of its territory lies within the Sahara Desert and is largely uninhabited. From the North to the South, the arid desert changes to semi-arid savannah and then to a narrow tropical zone. Niger used to share the Lake Chad in

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the Southeast with Nigeria and Chad (Grote and Warner, 2009). However, the lake completely dried out in the territory of Niger. The country consists of eight main regions: Agadez, Diffa, Dosso, Maradi, Niamey (including the capital of Niger, Niamey), Tahoua, Tillabéri, and Zinder. The most food insecure areas are the agro-pastoral regions of Maradi and Tillabéri and the pastoral regions of Agadez, Tahoua and Zinder (USAID, 2005).

The population of Niger is estimated to be 14 million (CIA, 2008). The most densely populated regions are Maradi and Dosso that correspond to the narrow band of arable land in the South. The less densely populated areas correspond to the two largest regions, Agadez (mostly desert) and Diffa. 86 per cent of the population live in rural areas. Urbanisation has increased from 13 per cent in 1977 to 16.3 per cent in 2001, mainly due to demographic growth and rural exodus. According to future projections, an increase of 30 per cent is expected by the year 2020 (UNDP, 2006). In May 2004, a National Urban Development Strategy was prepared to reduce regional disparities and enhance the urban structure (IMF, 2005). People in Niger rely on the environment on daily basis, since 90 per cent of the labour force is engaged in farming, cattle herding and fishing (CIA, 2008).

With respect to the Human Development Index, Niger ranks the last out of 182 countries with an average life expectancy of 50.8 years at birth (UNDP, 2009). Forty per cent of children suffer from malnutrition and growth deficiency. Furthermore, less than one child out of four completes her/his primary studies (UNICEF, 2007).

Economically, Niger is one of the poorest countries in the world; its economy relies on subsistence crops, livestock, and some of the world's largest uranium deposits, which not everyone of its inhabitants has access to, since they are mainly concentrated in the Agadez region in the North. Nearly half of the government's budget is derived from foreign donor resources. In December 2000, Niger qualified for enhanced debt relief under the International Monetary Fund (IMF) programme for Highly Indebted Poor Countries (HIPC) and concluded an agreement with the Fund on a Poverty Reduction and Growth Facility (PRGF). In December 2005, Niger received 100 per cent multilateral debt relief from IMF, where approximately US\$ 86 million in debts to the IMF were written off. The Gross Domestic Product (GDP) per capita of Niger is US\$ 700 and the real growth rate 5.9 per cent (CIA, 2008).

Unfavourable climatic conditions, lack of resources, a poor economic growth, a high level of malnutrition, insufficient basic structures, weak industrial performance, demographic growth and weak performance of social sectors make Niger one of the Heavily Indebted Poor Countries (HIPC); half of the government's budget is covered by external aid (UN and Government of Niger, 2005).

Niger has been suffering from numerous environmental problems, such as droughts, soil degradation, the shrinking of Lake Chad, the Niger River problems (including water pollution, the spreading of the *water hyacinth*, an invasive alien species), siltation and drying out), deforestation, and sand intrusion.

This paper examines the impact of environmental problems on migration within and outside Niger, relying mainly on expert interviews¹ in Niger and migrant and non-migrant questionnaires. The main research question that the paper addresses is: How does environmental deterioration in Niger contribute to the migration decision of the people migrating within and emigrating from the country elsewhere? The research was conducted as part of the Environmental Change and Forced Migration Scenarios (EACH-FOR) research project, co-financed by the European Commission – Sixth Framework Programme. The paper traces the economic mechanism through which environmental factors in Niger have an impact on migration. It highlights the outcomes of the field visit in Niger, showing the extent to which the environmental damage in Niger influences the economic situation of people, and in turn makes them migrate. In section 2, the topic "Environmental Migration" is discussed, referring to the various estimations of current and potential environmental migrants worldwide. In section 3, a general comparison is run between environmental and economic migration. Section 4 sheds light on the deteriorating environmental conditions in the Sub-Saharan African Region and section 5 narrows down the analysis, focusing particularly on the main environmental problems in the Republic of Niger. Section 6 gives an overview of migration processes in Niger, followed by section 7 that summarizes the field visit run in the country. In section 8, the detailed fieldwork findings on environmental migration in Niger are demonstrated and broken down into the outcomes of the expert interviews and the filled out questionnaires with migrants and non-migrants. Finally, section 9 concludes, provides policy recommendations and lessons learned and suggestions for future research on the topic "environmental migration".

ENVIRONMENTAL MIGRATION AS A RESEARCH TOPIC

In the migration context, environmental change is a relatively new research area. Recently, there have been growing concerns that environmental changes will play an important role in the decision to migrate, since environmental degradation is a threat to many people, at least those who rely on environmental services in their livelihoods, food security, employment, such as farmers and cattle herders.

The estimates of the number of people who have been and will be displaced or forced to migrate this century have varied among publications of different academics, international organizations and advocacy groups (Afifi and Warner, 2008). According to the International Federation of the Red Cross and Red Crescent Societies (IFRC, 2003), environmental refugees exceeded those displaced by war. The Office of the United Nations High Commissioner for Refugees (UNHCR, 2002) estimated people around the world who have fled because of floods, famine and other environmental factors, at 24 million, exceeding hereby the number of all other refugees; and Klaus Toepfer from the United Nations Environment Programme (UNEP) expected the number of environmental migrants to reach 50 million by the end of the year 2010 (Boano, et al., 2008). While the Intergovernmental Panel for Climate Change (IPCC, 2007) expects the number to reach 150 million by the year 2050, the *Almeria Statement* (1994) estimates 135 million people to be negatively affected by desertification and droughts. Norman Meyers (2005) states that there are already 200 million environmental migrants and the *Stern Review on the Economics of Climate Change* (Stern, 2008) mentions that there will likely be 200 million environmental displaced people by 2050. Nicholls (2004) expects 200 million environmental migrants by 2080, whereas the Friends of Earth (2007) expects the same number by 2050 already, including 1 million in Small Island States. On the regional level, UNEP expects in Africa alone 50 million environmental migrants by 2060 (Boano et al., 2008). Christian Aid (2007) classifies the expected environmental migrants by breaking down its predicted number of approx. 0.9 billion people by 2050 to 250 million people affected by droughts, floods and hurricanes and 645 million by dams and other development projects. Steiner (2008) does not provide a concrete figure or number but states that "many experts argue that large numbers of people are already on the move, with millions more expected to follow as evidence of climate change mounts".

Most of these estimates are highly speculative and have been criticized by various authors (Black et al., 2008), especially when considering the lack of field work on environmental migration. Most of the studies have assumed that migration reflects a failure to cope with the environmental problems, whereas in reality, migration responses are the result of much more complex behavioral decisions, and migration itself ranges from seasonal to temporary and permanent, and varies from local to national and international moves (Leighton, 2009).

ENVIRONMENTAL VERSUS ECONOMIC MIGRATION

There has been a huge controversy among scientists and scholars on the extent to which the environmental migrants can be distinguished from economic migrants whose decision to migrate is somehow affected by environmental degradation. One of the first advanced classifications was that of “environmental refugees” defined as “those forced to flee environmental danger and in need for international protection”, just as political refugees (El-Hinnawi, 1985; Myers, 1997). Nevertheless, since the global 1951 Convention on the Status of Refugees which took place 1951 in Geneva and which binds governments to protect refugees is not legally applicable to those people affected by environmental problems or natural disasters, the term “environmental refugees” remains controversial (Castles, 2002; Leighton, 2006). Moreover, using this term could be at the expenses of political refugees who might be subject to death or torture.

As an alternative, numerous terms have been used in different publications to shed light on the category of people affected by and fleeing environmental problems, such as environmental migrants, environmentally displaced persons, environmentally-induced population movements, environmental induced migrants, environmental emergency migrants, environmentally forced migrants, environmentally motivated migrants, eco-migrants, ecological refugees, envirogees, climate migrants, climate refugees and climigrants. (for example, see IOM, 1992; UNHCR, 2002; Black et al., 2008; Renaud et al., 2007; Renaud et al., 2008; Leighton, 2006; Wood, 2001; and Bronen, 2008).

The International Organization for Migration (IOM, 2007) defines the “environmental migrants” as “those 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".

In most of the definitions, the economic factor can act as the mechanism through which environmental degradation leads to migration. When talking about livelihood, one cannot exclude food security, income, employment, which are all economic factors that the existence of the affected populations depends on. Nevertheless, it remains very tricky to find out the extent to which pure environmental problems contribute to the migration decision as compared to other factors, including the social and economic ones, especially when it is not the case of natural disasters, where people usually – as a quick reaction – flee to survive, without having much time to think about their livelihood in the long run.

This brings us to the definition tree that was introduced by Renaud et al., (2008) and that distinguishes between environmental emergency migrants (those fleeing the worst of an environmental impact permanently or temporarily, usually in the case of rapid onset hazards, including earthquakes, floods and tsunamis); environmental forced migrants (those who must leave to avoid the worst of environmental deterioration, usually in the case of slow-onset hazards, including water and land degradation); and environmentally motivated migrants (those who may leave a progressively worsening environment as a means of preempting the most severe impacts, usually in the case of progressive loss of ecosystem services, including sea level rise and desertification). This definition tree complies with the intervention of Hugo (1996:107), suggesting that "the contribution of environmental change to migration can best be viewed along a continuum of voluntary towards more forced migration, with intervening aspects and most migrants falling somewhere in the middle."

THE DETERIORATING ENVIRONMENTAL CONDITIONS IN SUB-SAHARAN AFRICA

The nature in the Sub-Saharan African region is generous, since it provides a wide variety of ecosystems and a huge diversity in plant and animal wildlife. Nevertheless, the region's land resources are highly degraded due to various human activities, such as overgrazing, deforestation, agricultural mismanagement, fuel wood consumption, and urbanization (UNEP, 2002).

It is estimated that the annual loss of agriculture's contribution to the Gross Domestic Product (GDP) amounts to 3 per cent due to land degradation in the region (Grote and Warner, 2009). The most common forms of land degradation are desertification; soil compaction, salinization and pollution; water and wind erosion. The continuous and intensive cultivation of the land has led to land degradation (UNEP, 2008).

The change of forest area in the Sub-Saharan African region is the highest among the world regions; the annual net loss is estimated at 5.3 million hectares, which represents 0.8 per cent of the original area. The global average deforestation rate is only 0.2 per cent (FAO, 2001). Original forests have mainly been replaced by secondary forests and grasslands. The forest area lost in the region between 1990 and 2000 was about 52 million hectares (ADB/EC/FAO, 2003).

Irregular and unpredictable weather patterns have hit the region with severe droughts recorded in 1967–73, 1981–83, 1986/87, 1991/92 and 1993/94. The drought of 1991/92 alone led to a 54 per cent decrease in cereal harvest and exposed more than 17 million people to risk starving (Callahan et al., 1994). In the Sahelian zone of Western Africa, the period from 1972–84 was one of the worst on record with regard to droughts; more than 100,000 people died during this period, and more than 750,000 people in Mali, Niger and Mauritania were totally dependent on food aid in 1974 (Wijkman and Timberlake, 1984).

A severe drought hit the Sahel zone and extended up the Eastern coast in 2004 and 2005. It had serious impacts including total crop failure which has led to increasing food prices and dependency on food relief. Moreover, severe water shortages and rationing, continued reductions in water quantity and quality, increased conflicts over water resources, and the drying up of some rivers and small reservoirs contributed to death of livestock from hunger, thirst and disease, and increased conflicts over grazing belts (Grote and Warner, 2009).

THE MAIN ENVIRONMENTAL PROBLEMS IN NIGER

This section provides an overview of the main environmental problems in Niger, in order to give a base to the analysis that attempts to link these stressors on the migration in the country. Droughts, soil degradation, the shrinking of Lake Chad, the Niger River problems, deforestation and

sand intrusion are problems that the Nigeriens² suffer from on daily basis, especially that the majority of the population works in farming, cattle herding and fishing, activities that are highly related to the environment.

DROUGHTS

One of the earliest droughts in Niger was in 1930; it was called *Genda-beri* ("big stomach") and was a general drought that covered the whole country and was followed by a famine period. There are also localised droughts that affect particular areas, where the rainfall is patchy and does not affect all the regions. These localised droughts are currently occurring with increasing frequency. The strongest droughts that affected the entire country were in the years 1973 and 1984. Afterwards, several droughts occurred in the country; according to EM-DAT (2009), the total population affected by the droughts from 1988-1990 was around 2.6 millions. In 2001 and 2005, two strong droughts hit the country, where the total population affected was around 3.6 millions and 3 millions, respectively. Nowadays, farmers and cattle herders are still suffering from the consequences of these droughts. At the same time, there is a steady degradation of the soil and a continuous increase in the population and its needs (Afifi, 2009).

SOIL DEGRADATION

Every year, thousands of acres of arable land are taken from pastoral and agricultural activities due to erosion all over the country. The agricultural areas of Maradi and Zinder, cereal-growing areas by definition, are experiencing a drastic decrease in fertility due to a very weak return of organic substances, impoverishment of soil and high demographic pressure (UN and Government of Niger, 2005). Due to soil degradation, the productivity of the "natural resources capital" is decreasing and accessibility becomes more and more difficult. Even under the exploitation of greater areas, the increase of cereals production (2.5% per year) is largely below the growth of the population (3.1%) (Uppsala University, 2006). The strong human and animal pressures determine the intense exploitation of resources (American University, 1997). The increase of agricultural exploitation leads to the degradation of the forest-pastoral area, which in turn leads to the reduction and disappearance of important species (UN and Government of Niger, 2005).

THE SHRINKING OF LAKE CHAD

Lake Chad lies within the northern African Sahel region and used to be shared by four countries: Cameroon, Chad, Niger and Nigeria. Situated on the edge of the Sahara Desert, it provides a vital source of water to human, livestock and wildlife communities. It was one of the most productive regions for freshwater fish in Africa. The annual fish catch in the early 1970s was up to 141,000 tons but dropped by 50 per cent since then. Droughts in the last three decades and patchy rain led to severe problems with water and food security in the Sahel region. Due to the frequent droughts, the lake's area decreased from approximately 25,000 km² in 1963 to about 1350 km² today (NASA Goddard Space Flight Center, 2008). It no longer exists in Niger and is extremely shallow with maximum depths of just 7 m (even in the 1960s), highly depending on rainfall with seasonal and inter-annual fluctuations (Obada et al., 2006). According to *Coe and Foley* (2001), the lake decreased by 30 per cent between 1966 and 1975, but irrigation accounted only for 5 per cent of the loss. As water demand increased between 1983 and 1994, the anthropogenic contribution to the loss increased to 50 per cent (*Coe and Foley*, 2001).

With the shrinking of the lake in the early 1960s, people living there started moving with the shoreline, crossing hereby national borders, especially that the lake has no boundary markers. In 1983, territorial disputes over emerging islands in the lake occurred. These disputes were settled by the Lake Chad Basin Commission (LCBC) and a joint patrol system in the region. Nevertheless, conflicts over resources have remained due to the lack of integrated water and environmental policies. The main disputes are over water, agricultural land around the lake (farmers invading pasture land) and fishing regulations. This has also provoked tensions between various ethnic groups; for example, in 1997, fights between Fulani herders and Djerma farmers were reported in Téra and Birni N'Gaouré (Obada et al., 2006).

THE NIGER RIVER PROBLEMS

There are different environmental problems associated with the Niger River: The wastes of the factories flow into the river and lead to water pollution that in turn harms the fish reproduction and even survival, threatening hereby the livelihoods of fishermen. The water hyacinth has spread over large areas of the water surface and harms the fish

production as well, since it deprives the bottom of the river of sunlight. Sand siltation is another reason why the fishermen suffer; the sand creeps into the river which – in turn – becomes shallower and, hence, the fish can no longer hide and reproduce. During the droughts in the early 1980s, the river almost dried out completely. This had a negative impact on the farmers and also the herders.

DEFORESTATION

Forests and protected areas are subject to threats, not only due to recurrent droughts but also – and especially – due to agricultural use and abusive exploitation with the use of fire. This phenomenon is particularly widespread in the Tahoua, Maradi and Zinder regions. Apparently 210 vegetal species contribute directly to human nourishment, especially during famine periods; 235 species are eaten by domestic animals; 270 are used in traditional cures; 127 species in handicraft work and shelter etc. (UN and Government of Niger, 2005). The lack of vegetation cover causes the soil and essential nutrients to be washed away by wind, sand and rain water (especially during the rainy season from July to October), contributing significantly to the process of soil degradation.

SAND INTRUSION

The sand threatens roads and other development infrastructures all over the country. In the northern-Saharan part of the country, the sand invasion of lands and cereal cultivations compromises the growth of seeds and makes the production areas sterile (UN and Government of Niger, 2005). Moreover, the sand dunes have a very negative impact on land cultivation. The sand intrusion problem – similar to the siltation problem – is largely caused by deforestation and lack of vegetation cover, since usually trees can help block the massive movements of sand.

From the information above, it is obvious that climate change largely contributes to environmental degradation in Niger; climate change leads to droughts that in turn have a negative cumulative impact on the soil. This in turn has its negative implications for the livelihoods of farmers who consequently search for new sources of income by chopping down the trees for firewood or overgrazing the land, creating hereby the vicious circle of land exposure, sand intrusion and siltation and further

environmental problems. On the other hand, the shrinking of Lake Chad is also a clear consequence of climate change; the patchy rainfall and frequent severe droughts caused by a warmer climate have negatively affected the water volume of the Lake.

OVERVIEW OF MIGRATION PROCESSES IN NIGER

Migration is a widespread phenomenon in Niger. Rural poverty and food insecurity have accelerated population migration from the rural areas to the cities in the southern part of the country (UNDP, 2006).

In the mid-1970s, severe droughts forced thousands of young Touareg men to emigrate to neighbouring Libya and Algeria. In the 1980s, many returned with their governments promising them resettlement assistance, but the assistance never materialised. This and other grievances led to increased tensions between returning Touaregs and the government (Uppsala University, 2006).

Temporary migration of part or the whole household is a coping strategy during periods of drought and seasonal migration. Eighty per cent of working age males migrate seasonally from interior areas of South Sahara to coastal cities (Rural Migration News Agency, 2007). Remittances are a major source of income for many poor Nigerien farmers. They are used for taxes and marriage dowries and are invested in cattle and luxury goods (World Bank, 1996).

Niger and especially the region of Agadez, is the Central Sahara key route for migrants coming from Ghana, Cameroon, Chad, Nigeria, Mali and directed towards Libya and Tunisia with destination Canary Islands, Spain and Italy.

In 2005, the stock of Nigerien emigrants was of 437,844 or 3.1 per cent of the total population. The top 10 destination countries are the Ivory Coast, Burkina Faso, Nigeria, Chad, Benin, Togo, France, Italy, Germany, and United States (World Bank, 2006).

In the same year, the stock of immigrants was of 123,687 or 0.9 per cent of the population. The percentage of female immigrants was 52 per cent and the percentage of immigrants as refugees was 0.3 per cent. The top 10 source countries were: Nigeria, Mali, Burkina Faso, Benin, Côte d'Ivoire, Ghana, Togo, Senegal, Chad, and Sudan (World Bank, 2005).

Inward remittance flows were US\$ 14 million in the year 2000. In the year 2004, they reached US\$ 60 million. Outward remittance flows were US\$ 12 million in the year 2000, while in the year 2004, they amounted to US\$ 25 million (World Bank, 2006).

THE FIELD VISIT

The field visit that took place in February 2008 covered Niamey and Tillabéri. However, interviews were run with migrants from all other regions who left for these two regions. The field work was based on making interviews with 25 experts from local authorities, university, non-governmental organisations (NGOs) and international organisations (see section 12). As for the questionnaires, in total, 60 migrant (25 of which were returned migrants from Libya) and 20 non-migrant questionnaires were filled out. The second category is made up of people who suffer from environmental problems but resisted and stayed in their towns/regions.

The questionnaires mainly targeted migrants who left their home for the two regions of research (Niamey and Tillabéri) within Niger, in an attempt to find out whether environmental problems influenced their migration decision. These questionnaires also included questions about relatives and friends of the interviewees who had left the region/country due to environmental problems.

Part of the questionnaires were filled out in the International Organization for Migration (IOM) office with some permanent migrants to Nigeria and Chad who were paying short visits to Niamey at the time the field work was carried out. Moreover, the IOM office facilitated meetings with returned migrants from Libya, in the frame of a re-integration programme that the office organises, helping this category of Nigeriens to start new lives in Niger, after having been deported from Libya or after returning back voluntarily, as is discussed in detail in the following sections. The research relied additionally on questionnaires that were filled out with the support of the head of the Filingue department in Tillabéri who facilitated the contacts with migrants. In addition to the filled out questionnaires, there were also phone calls with people who live close to Lake Chad in the East of the country (Diffa).

Other than people interviewed in the IOM office, the interviewees themselves were chosen based on the environmental hotspots in Niger

that are listed in section 5. Therefore, the areas visited were mainly villages where farmers and cattle herders lived and might have suffered from droughts and soil degradation, slums of Niamey, as well as the shore of the Niger River. In many cases, one interviewee led to the other.

Before demonstrating the results of the expert interviews and migrant and non-migrant questionnaires in detail, it is useful to give an overview of the migration patterns that are said to be influenced by environmental degradation in the most important villages of the Tillabéri region, a main research area of this paper. The information is based on the Niger Ministry of Environment (2006).

DEYTEGUI VILLAGE

Due to unreliable harvest caused by droughts and leading in turn to food shortage, men aged from 20–30 years leave the village on seasonal basis. Their destinations within Niger are Niamey, but they also leave for Ghana, Togo and Benin.

BANIZOUMBOU VILLAGE

Men aged from 20–30 years leave the village seasonally due to droughts and unreliable harvest, leading to declining revenues and unemployment. The main destinations are Ghana and the Ivory Coast.

DAREY OU KARBANGA VILLAGE

Due to the numerous droughts and population pressures partly caused by people who had immigrated from other villages and departments also affected by droughts, young men aged from 25–35 years leave the village for Ghana and the Ivory Coast.

KORGOM ZARMA VILLAGE

The droughts that hit the village led to severe food shortages. Therefore, young men aged from 20–30 years leave for Ghana, Benin and Nigeria. A community of this village is living in the Northern part of Nigeria, particularly in the village Argougoun. Young girls of Korgom Zarma

even leave seasonally (during the dry season) for Niamey, seeking irregular jobs, in order to fill the income gap caused by droughts.

FIELDWORK FINDINGS ON ENVIRONMENTAL MIGRATION IN NIGER

In this section, a separation between the outcomes of the expert interviews on one hand, and the migrants and non-migrants questionnaires on the other, is necessary, since the perspective, mind set and experience could vary among the two groups.

Outcomes of expert interviews

This section starts with a brief historical background that shows how different factors, including environmental degradation, contributed to the migration patterns in Niger, and answering the questions: Who are the people who migrate/d? From where to where do/did they migrate? What are the coping mechanisms for environmental problems in Niger?

A historical overview of environmental migration in Niger

When the colonial era started in the year 1906, the new forces were in need of supplies for their soldiers and missions towards Chad. Therefore, the trees were cut, chopped and used in the construction of new buildings. The environmental problems started in the Ouallem area that became the most degraded; it had been covered by palm trees (*Dom palms*) which were all cut down to serve for the construction of the buildings. Moreover, the workers were expected to construct the infrastructure of the new forces. This took labour away from the field, and thus, agriculture was neglected. Furthermore, since no one was available to bring the crops to the storage, they became spoiled. People who used to work in the granaries were no longer available there, working instead for the colonies.

In the year 1906, the complete monetisation of the economy took place; the people were expected to pay the taxes in coins, the supply of which was controlled by the new forces. As a result, people had to sell their crops in order to assemble enough coins for paying taxes. Before the monetisation in Niger, it was common to rely on the use values (barter deals) rather than exchange values (using coins). Since the supply of coins was very low, people started competing over obtaining them, and

thus, no food reserves were left to cover the drought periods. This led to the great famine of the year 1913, and accordingly, the beginning of the famine cycle in Niger. As a consequence, and up to present, each time a drought hits the country, people get further and accumulatively behind.

In order for the people to increase their crop production, they overplanted the lands with cash crops, such as peanuts, especially in the East of the country. The fields of these crops were called *tax fields* or *Gona Limpô* (originally *L'impôt*). When the land got overused, large migration episodes to neighbouring countries started. However, there are no records on how many left, how many stayed, and how many died on their way to other countries or on their way back to Niger. Many left for the *Gold Coast*, today's Ghana, where mining was their main employment. It was a dangerous but therefore highly paid job. Those who did not want to risk their lives in such activities went to the coast close to the ports and worked as "dockers" who offloaded cargo ships, also in Ghana.

After the independence in Niger and Ghana in the years 1960 and 1957, respectively, political problems developed, which led to economic problems in Ghana, and people from the western parts of Niger switched to the Ivory Coast for cocoa production, since it was an economy that would provide them with the necessary income. People from the eastern parts then went to Nigeria for petroleum production.

Since the mid-1990s, Nigeriens no longer go to the Ivory Coast due to the civil war which also targeted migrant labour. Migration to Nigeria stopped as well due to problems in the petroleum economy. Furthermore, there were political and religious problems between the North and the South of Nigeria.

Nowadays, most of the migrants – whether environmental or traditional – go to Libya, particularly, since the mid 1990s. The Libyan president contributed to making it a habit for Nigeriens to leave for his country; when the international embargo against Libya took place in the 1990s, the president invited African labour to build the economy of Libya to construct infrastructure and contribute to the economic activities. When the embargo was lifted, the African labour was no longer as welcome as before.

Who are the people who migrate/d?

Usually, people who migrate within and outside Niger are young men; women, elderly and children are left behind. It is also common that

young men leave and return back after a while and support their families financially. Nevertheless, the trend rather moves towards “one way” migration. The lack of records does not allow determining the number of people who left and who did not return. Moreover, it is hard to link – or not link – all the migrants to the environment due to the overlap between the factors (Rural Migration News Agency, 2007). This point of view was shared by most of the experts interviewed in Niger.

From where to where do/did the Nigeriens migrate?

Local migration

Before the severe drought cycle, cattle herders (mostly Fulani ethnic group) used to move from the North (dry lands) to the South (fertile lands) to follow the rainfalls (mainly in the Tillabéri region) and further feed their animals, but today, most of the South is occupied by farmers (mostly Djerma ethnic group) who use the land for agriculture. The people who have farmed there would not easily leave their lands for others, since they cannot afford that. In the Tahoua region (partly in the South), farmers are even moving to the North, since they need more land due to soil degradation, rapid population growth, and consequent declining absolute and average yields. They move to pastoral areas and begin to cultivate marginal lands with lower productivity, especially in places where the herders are absent, wandering with their animals somewhere else to search for food. When the herders return back, the conflicts between them and the farmers who “intruded” on their lands start; the farmers claim that the land was empty and use their plants as a proof of ownership. Hence, current migration due to environmental problems in Niger is a general phenomenon with no specific directions, since deforestation and droughts are spread all over the country, and the ownership relations are not defined or documented. In addition to the conflicts caused by migration to marginal lands, the pressure on the limited natural resources increases, and hence, the soil quality keeps deteriorating. The problem would enhance over time, given the rapid population growth, likely leading to larger migration flows, and thus, increasing the pressure on these natural resources. A logical consequence is the creation of further economic and social problems in the areas of destination, especially that the immigrants are usually perceived and treated as “foreigners” by the original inhabitants of these areas.

International migration

In the case of Libya, most of the migrants plan to go back to Niger after having achieved their main goal there, which is improving their earning level. The shortest time spent in Libya for interviewees of this paper was six months and the longest eight years. Nigeriens rarely travel to Europe through Libya, since the latter is their destination. This is because they are still attached to their families and profound links; geographically, Libya is closer and lies on the same continent. They would always return, as long as they can. An important evidence for their emotional attachment is that they rarely leave for the Maghreb countries (Algeria, Morocco and Tunisia), although the latter are francophone – as Niger is – in comparison with Libya, and logically it is easier to move from Morocco – though Gibraltar – to Europe. Nevertheless, they prefer to “keep an eye” on their country.

In this respect, it is important to make a distinction between the ethnic groups with their various mind sets. For example, the Tuaregs who live in the arid North (Agadez region), many of which work in activities of mineral extraction, are better off compared to the people in the semi-arid South who mainly rely on farming – which means that their livelihoods mainly depend on the environmental services. People in the North usually travel to Europe as a matter of prestige. An interviewee mentions: “An average Tuareg bride would prefer to get married to a man who used to live in – or at least visited – Europe, since this is an indicator for wealth and better education”. However, when people in the fertile South migrate, they do it as a matter of survival, as a consequence of the deteriorating conditions of the land they plant on. Therefore, rather than travelling to Europe, they travel to other African countries – if they leave Niger in first place – where there are similar agricultural activities to theirs and the culture and language are similar as well. These countries are mainly Benin, Cameron, Chad, Ghana, Ivory Coast, Mali, Nigeria, and Togo. The same applies to fishermen who are suffering from the Niger River problems. Noteworthy is the fact that people in Niger working in mineral extraction – and who would rather move to Europe – are a minority, and therefore, they do not really represent the overall migration patterns in the country. As mentioned above, most of the population relies on farming, cattle herding and fishing activities.

What are the coping mechanisms for environmental problems?

There are people who resist the environmental problems in Niger, but these are mostly located in the extreme South of Tillabéri particularly

in the South of Niamey, where nature is richer and the areas are environmentally protected. Also in Gaya (Dosso region), on the border with Benin, there are stronger and more frequent rainfalls, where there is a protected national park called Park W. In these areas, fertility of land is easier to maintain, and there are more trees and higher rainfall.

In the regions that are deserted by young males due to the environmental problems, especially in the dry seasons, only women, elderly and children stay, a fact that has a negative impact on environmental restoration or any other kind of environmental work. Women undertake this work indeed, such as re-planting trees, fixing sand dunes, digging half moon depressions (*demi lunes*) that help save the rain water in the soil, and placing heavy stones that prevent siltation, but they miss the physical support of the young men who leave. In some cases, teams of women are doing all the work to restore environment, which is not sufficient, especially since they have other priorities, such as taking care of the children and the elderly. Furthermore, if the husbands do not send sufficient money, the women have to work to get food instead. And in the villages and rural areas, there are only very few opportunities to work, especially for women.

The following are actions taken by the women in order to survive the deteriorating environment:

1. They organise saving circles/cooperatives, which helps them purchase goods and resell them in the market.
2. Women might also work as hired labourers in other people's fields, which is very unusual and a real sign of extreme desperation. When doing that, in most cases, they do not obtain cash money but grain.
3. In the worst cases where no grain is available, women rely on their encyclopaedic knowledge about edible wild plants to survive and feed their children.

The state started 2006 a – so-called – President's Programme that helps the people stay and restore the environment instead of leaving it behind. It even offers financial means for these people as an incentive to them not to leave and for those who left to return back. In the process of implementing the Programme, it has been decided that 60,000 young men in total who would show willingness to restore the environment would be recruited throughout the eight regions of the country for some

amounts of money. According to one of the programme coordinators in the Ministry of Environment, this operation “shall help bring back many young men back to their regions to take part in the restoration of the environment.” Thanks to the programme, 35,000 temporary jobs were created in 2006. They include fixing sand dunes, controlling tree chopping, digging half moons, and digging out sand from the river. To the date of the field visit, some 6,950 acres of degraded land were restored, some 1,200 acres of dunes were fixed, and 2,400 km of fire-breaks have been cleared.

Outcomes of questionnaires

Most of the interviewees referred to economic factors, such as poverty and unemployment, as reasons for moving from one village/region to the other, or even moving abroad. However, when tracing the root causes for migration, results indicated that almost all of them have been influenced by environmental problems in their decision to migrate. For example, the questionnaire started with general questions on the reasons why the interviewees and their families migrated, but gradually moved to the nature of their work/activity, most of which were farming and cattle herding. When asking the farmers and cattle herders why they became unemployed or poorer, the main reasons were the declining crop yield or death of animals due to the droughts and water shortage. Moreover, when asking the fishermen the same question, most of them mentioned that the main reason was their deteriorating livelihood due to droughts and/or lack of fish production caused by various problems occurring in the Niger River. The examples were more obvious and more striking in the case of Lake Chad, since in this case people directly linked their migration decision to the shrinking of the Lake.

The fishermen mainly complain about the siltation problems. A fisherman in the village Sirba, Téra (Tillabéri) said: “I have been suffering from the rain water shortage which made the river very shallow and decreased my fish production. This had negative implications for my income. I might leave for another country, if the situation does not improve, like some of my friends and relatives did; they left for Benin, Nigeria and Burkina Faso and settled there”.

There were other fishermen who live in the village Goudel (Niamey) and who complained about the same problems. For example, a fisherman there said: “Some of my friends have completely left the country, and some others leave seasonally for Mali and Benin, where they can obtain

better fish production". The same applies to some fishermen interviewed in the villages Gamkale Sorkaydo and Kombo in Niamey.

The majority of the migrants who left for Libya and returned back were suffering from droughts and their negative impact on their crops, cattle, and hence, income generation. They left there from different villages and regions in Niamey. The reasons why they returned back differ from one case to the other. For most of them, life in Libya did not meet their expectations. Some were deported and the rest saved the money they need and were willing to start new projects in Niger. A returned migrant from the village Talcho, Filingue (Tillabéri) mentioned in this interview: "I lost hope in producing crops, since the soil got too poor due to the droughts. I used to be a farmer in my home town. Therefore, I first went to Lomé (Congo) and then Libya. Now I have decided to return back to Niger where I will start a new business with the money I managed to save in Libya." Another interviewed returned migrant from the village Badeguichiri in the region Tahoua told his story as follows: "My family and I were farmers. Then the famine of 2005 took place. I used to have five cars for transportation, and I made my living from this. Due to the famine, I had to sell one car after the other till only one was left. I gave it to my son to work on it and left for Libya to earn money."

The inhabitants of the Caré village in the Filingue Department within the Tillabéri region are all migrants of the Farka village in the Ouallem Department of the same region. After the soil has degraded and sand dunes completely hit Farka, farming became impossible and the people left the village for Caré. An interviewee said in this context:

We were farmers in Farka, but the production level worsened tremendously and the harvest became completely unreliable due to the rain fall shortage and soil degradation. We hence had no alternative revenues. The sand dunes made our life impossible there. Therefore, we had to flee this village in the year 1987. There is no other reason why we left the original village; if this deterioration in the soil quality had not happened, we would have stayed. Currently, in Caré we are suffering from similar problems and might therefore leave the village for another as well. We have never planned to leave, but we just 'crept' after our livelihood. It is not only us; there are complete villages that have disappeared due to the sand dunes and whose inhabitants had to move to other villages.

In an interview with a lady who used to live in the Lake Chad Region (Diffa) and is currently in Niamey acquiring sewing skills, she

mentioned: "The lake completely dried out in the year 1989 and so many people left for Nigeria and Chad. My activities were not really related to the lake, and therefore, I stayed in the region. I heard from others that the lake appeared again in the year 2005, but I am not sure of this information. The lake was very shallow anyway". Another interviewee who was coincidentally visiting Niger during the period of the field research said: "I used to live in the Lake Chad region where my activities were not directly related to the lake. I used to be a merchant. However, when the lake dried out, people depending on it left for other countries, and therefore, my business was negatively affected and I had to leave for Nigeria".

Lake Chad did not only shrink because of droughts but also due to overexploitation; people used to plant their crops "inside" the shallow parts of the lake. What remained were only the deepest parts of the lake in Cameroon, Chad and Nigeria, but no longer in Niger. As a result, some of the Toubou ethnic group left the Diffa region, where the lake used to be. The Canouri ethnic group also left the region, since with the shrinking of the lake, they lost their income resources. The same applies to the Bhodouma ethnic group who rely in their livelihood on a cow species called "Vache Kouri" that almost died out with the shrinking of the lake. This ethnic group is losing its identity and becoming scattered in other regions and countries, such as Nigeria.

Overall, answering the question whether at any point of time environmental problems affected one's decision to move, 90 per cent of the interviewed migrants had a positive answer. Around 70 per cent of the migrants expect environmental problems in the future to make them and their families migrate to different places, more than 50 per cent of which are planning indeed to leave due to environmental problems. Eighty per cent of the interviewees mentioned that they would return back to their villages/regions, if the environmental conditions there would improve. Interviewees who are not willing to leave as well as people who did not leave in first place are either attached to their regions or have adapted to the environmental problems they are facing.

CONCLUSIONS, POLICY RECOMMENDATIONS AND FUTURE RESEARCH

From the analysis above, it is obvious that environmental degradation does have a considerable impact on migration patterns in Niger.

Although seasonal migration is part of the Nigerien culture, permanent migration – mainly within the country but also to other African countries in the South – is becoming a norm. This indicates that environment is a core reason why people leave, especially since most of the population relies on environmental services on a daily basis, due to the nature of their activities as farmers, cattle herders and fishermen. Niger has always been one of the poorest countries of the world, reflected in its low per capita income and economic growth. Seasonal migration has always existed as well, due to the nature of its climate. Nevertheless, migration becoming a long-term and even permanent phenomenon highlights the importance of the more and more deteriorating environment and its impact on changing the migration patterns in the country, especially when tracing the root causes of the decision to migrate by considering the questionnaires.

Obviously, the trends of migration within Niger changed over time; after people were used to moving from the North to the South, searching for fertile lands, rapid population growth made people from the South search for marginal lands in the North. Currently, the movements have no particular direction; people ‘creep’ after their livelihoods, in order to survive the environmental damage.

In Niger, there are hardly any sudden natural disasters, such as earthquakes or volcanoes which force people to leave immediately and on the spot. Nevertheless, the slow-onset environmental phenomena in Niger make the living conditions of the Nigeriens difficult, and due to economic problems – mainly caused by these environmental phenomena – they migrate. Therefore, the paper suggests the term ‘Environmentally induced economic migration’ for application on the case of Niger, since on the surface, people leave their villages/regions due to purely economic problems, but these are in turn highly linked to the environmental degradation in the country, regardless of the historical tradition of seasonal migration.

Migrating to Europe is not a typical “Nigerien dream”. Nigerien people prefer to stay on their land. If the environmental conditions worsen, they move to the next possible place to live. Therefore, the pull factors in the capital, Niamey, rather play a smaller role as compared to the push factors in the home villages/regions, especially that farmers and cattle herders are attached to the land and to their activities on one hand, and the alternative activities that the capital offers to them are simple irregular jobs and sometimes even begging activities, on the

other. Hence, moving to the capital in this case is rather a matter of survival.

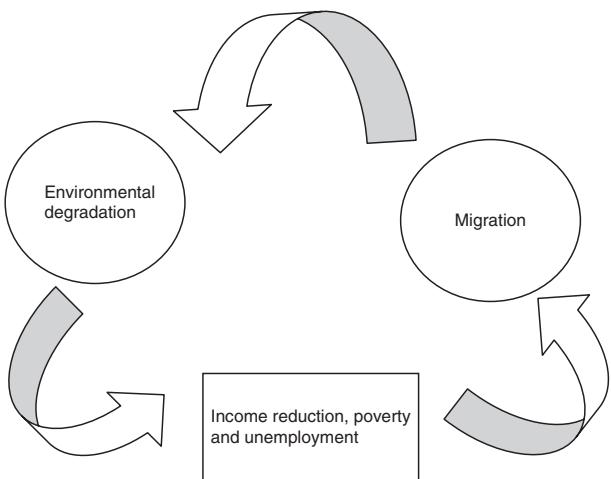
In general, the “creeping” environmental migration process is very gradual and rarely ends up in Europe but rather in other African neighbouring countries where the migrants find new means of survival. Since it is the farmers and cattle herders who mostly suffer from the environmental problems and – at the same time – it is them who are mostly vulnerable to poverty due to the nature of their work, they usually cannot afford leaving for Europe. In addition, many other cultural aspects might hinder them from leaving the African continent. For example, people in the rural areas of the South use certain dialects/languages, such as Hausa and Folani that might as well be spoken in other African neighbouring countries. Unfortunately, there are no official figures or estimates about the number of people migrating within and out of Niger.

There is no doubt that environmentally induced economic migration in Niger is a matter of a vicious circle, especially that the environmental problems are interrelated; droughts lead to poverty; which makes people cut the trees to sell the wood and survive. As a result, sand creeps, intrudes and silts, harming the farmers, herders and fishermen, who in turn have to migrate and leave their families and the damaged environment behind. At the same time, the lack of vegetation cover – due to deforestation – causes the soil to lose useful nutrients, which also negatively affects the livelihoods of the farmers and makes them leave. Finally, the environmental conditions worsen, as the people left behind are not capable of restoring it sufficiently (Figure 1).

The main policy recommendations in the case of Niger are the following:

- Development policies that prevent further environmental degradation, such as protecting natural resources (e.g., tree wood, water) and controlling the non-sustainable overexploitation of the land, should be implemented.
- Local and foreign investments that create new jobs in the country and that are environment friendly should be encouraged.
- Education campaigns should be provided to farmers, cattle herders, fishermen and people working in the industry sector, in order to offer them knowledge about considering the environment when

FIGURE 1
THE VICIOUS CIRCLE OF ENVIRONMENTALLY INDUCED ECONOMIC
MIGRATION IN NIGER



doing their activities. Educating children at school would also be an important and useful measure that raises awareness about the surrounding environment.

- The capacity to adapt among the people affected by environmental degradation should be enhanced. In this context, the wealth of traditional or indigenous knowledge accumulated by the local population in dealing with environmental problems should be made use of.
- People who are left behind should be provided with humanitarian aid and financial support to be able to restore the environment in parallel to their daily activities in the villages.
- The President's Programme should be intensified and broadened. There should also be effective follow up on the people who returned back to restore the environment, in order to guarantee the usefulness and sustainability of the Programme in the long run.
- The re-integration programme that was initiated by IOM Niamey should not only be applied on returned migrants from Libya but from other countries and also in the case of local migration.

In the future research, it would be advisable to run longer field trips with more observations. Furthermore, it would be interesting to visit the countries where Lake Chad has not completely dried out (Chad and

Cameron) and run interviews with the Nigeriens who left their country following their livelihoods and ask them about their experience with the lake, how they coped with the situation, and the circumstances that made them leave Niger and move to the other countries.

In addition, it would be recommendable to involve the time factor in the research by tracing the Nigeriens who left their regions/country due to environmental problems, following up with them and running a comparison between their situations before and after their migration process. Last but not least, the poor statistics and lack of concrete numbers and figures is an obstacle for solid research. Therefore, assisting the local partners in Niger – and the developing countries in general – in gathering information about environment and migration and creating reliable data bases corresponding to the two issues are enormously necessary for future research in the area of environmental migration.

ACKNOWLEDGEMENTS

The author would like to thank the European Commission (EC), Mr. Sani Malam Moussa, Ms. Deborah Taylor, and Ms. Yagana Tanja, all at the Niamey Office of the International Organization for Migration (IOM), Ms Tanja Dedovich at the Geneva Office of IOM, the Grants Programme of the German Academic Exchange Service (DAAD), the Netherlands Fellowships Programme (NFP), the Heinrich-Böll Foundation, Prof. Dr. Ulrike Grote, Leibniz University Hannover, Germany, Dr. Hans Guenter Brauch, AFES-PRESS, Mosbach, Germany, Dr. Jill Jäger at the Sustainable Europe Research Institute, Vienna, Austria, Dr. Koko Warner, Ms. Francesca Burchi, Ms. Sophia Bildhaeuser and Ms. Aleksandra Koluvija, all at the United Nations University – Institute for Environment and Human Security (UNU-EHS), Bonn, Germany, and Mr. András Vag at ATLAS Innoglobe Ltd., Hungary, for the kind support.

NOTES

1. Details on interviews are available upon request to the author.
2. In order to distinguish them from people coming from Nigeria (Nigerians), people from Niger are called “Nigeriens”.

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