



CIEA7 #4:

THE SUFFERING OF MIGRANTS AND REFUGEES OF/IN AFRICA AND THEIR
CAREGIVERS: NEW MODELS, NEW PRACTICES, NEW ACTORS.

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Environmental migrants from Africa to Europe

State of the Art and research clues

The environment-migration relationship implies questions like environmental changes, human vulnerability and conflicts. Despite not recognized at the constitutive level, the environmental migrant is a new figure at the international scene, which should matter both to the sending as to the receiving contexts. What are the harassments, courses and strategies of those environmentally pushed in Africa? When is migration needed or forced? What's the European attributed role in a context of African environmental change? The first answers come from the empirical data collected and made available by the IPCC and the EACH-FOR project, which will be summed up in this paper, in order to enlighten the research clues that led to the construction of a Ph.D. project.

Environmental migrants, Africa (environmental changes),
Europe (migrant destination), Human vulnerability.

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INTRODUCTION

This paper aims to explore the new figure of the environmental migrant, which constitutes one of the presently more complex signs of the migration reality, namely in Africa. This contribution will begin presenting the debate around the conceptual and statistical questions embraced by the environmental migration. Then, empirical data (collected and made available by the IPCC and the EACH-FOR Project) will be used to characterize and clarify the dimensions of environmental change in Africa and its connection with the migratory option or constraint. The paper will end with approach to Europe as a destination context of African migrants, but also to the environmental migrants' vulnerability dimensions, while designing possible research pathways to address the environmental migrants from Africa to Europe.

ENVIRONMENTAL MIGRANTS: CONCEPTS AND NUMBERS WORLDWIDE

In this paper we adopt the definition of environmental migrants by IOM:

Environmental migrants are persons or groups of persons who, for compelling 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. (IOM in Laczko & Aghazarm, 2009:19).

Under this view, both individual and collective migration routes are included, assuming the burden of negative environmental changes with not only a sudden temporality (by the example of some extreme weather events and natural disasters or with human-induced interference) as well as a progressive one (as the processes of desertification and gradual scarcity of natural resources, for example). Migration may be forced (from the extreme position of the sea water submersion of some places, cities and even States, to situations of being unable to maintain the means of livelihood due to profound ecosystem disruption) or voluntary. In this case, we recall the contribution of authors such as Castles, Lonergan and Lee on the multiple causality underlying migration (Boano et al., 2008), understood as an association of natural and environmental factors with economic, social, political and/or military factors, among others, in the extent that they constitute structural aspects of the situation of human vulnerability on each context. Such interactions lead to the need to adapt differently by

each individual, which can start from the environmental motivation, associated with other motivational dimensions, and choose the adaptive strategy of migration. This definition also covers both temporary and permanent migration typologies, conglobating courses with multiple migratory destinations, either nationally or internationally.

The movement for environmental reasons has been equated by various authors. Nonetheless, Lester Brown was the first conceptualizing it, in the 1970's, as an emerging phenomenon of environmental refugees. This definition was confirmed by El-Hinnawi at UNEP in 1985, considering

who have been forced to leave their traditional habitat, temporarily or permanently, because of a marked environmental disruption (natural and/or triggered by people) that jeopardized their existence and/or seriously affected the quality of their life. By «environmental disruption» is meant any physical, chemical and/or biological changes in ecosystem (or the resources base) that render it temporarily or permanently unsuitable to support human life" (El-Hinnawi in Stojanov, 2004:1).

It is necessary to consider the fact that these definitions are not univocal, and the reason for adapting the IOM definition rises from the assessment of its consensus on the central issues that require consideration when we talk about environmental migrants. The main conceptual debate is around the concepts of environmental migrants or refugees, involving the consideration of legal, political and scientific issues (Table 1).

Three sub-categories that underlie the environmental displacement can clarify the typologies of migrants who suffered the pressure of environmental degradation: (1) the environmental migrants, "people who choose to move voluntarily from their usual place of residence primarily due to environmental concerns or reasons"; (2) the environmental displaces, "people who are forced to live their usual place of residence, because their lives, livelihoods and welfare have been placed at serious risk as a result of adverse environmental processes and events (natural and/or triggered by people)"; and (3) the development displaces, "people who are intentionally relocated or resettled due to a planned land use change" (Vag et al., 2009: 8-9).

References	Concept	Typologies	Consensual points	Critics
<p>Lester Brown (1976) in Brown, L., Mcgrath, P., & Stokes, B., <i>Twenty two dimensions of the population problem</i>, Worldwatch Paper 5, Washington DC: Worldwatch Institute</p> <p>El-Hinnawi (1985) <i>Environment Refugees</i>, Nairobi: UNEP</p> <p>Myers (2001, 2005)</p>	Environmental refugees	<p>Forced migrants, either temporarily or permanently displaced</p> <p>Displaced populations at the national and international levels</p>	<p>Effect of environmental disruption</p> <p>Vulnerability requires mobility</p> <p>Emergency situation</p>	<p>Legally inadequate concept</p> <p>Methodological variability and different estimates</p> <p>Questions about the timing dimension</p> <p>Lack of association with other factors that motivate migration</p>
<p>Black, R. (2001) <i>Environmental Refugees: myth or reality?</i> Brighton: University of Sussex</p> <p>Castles, S. (2001) <i>Environmental Change and Forced Migration</i>, Oxford: Refugee Studies Centre, University of Oxford</p> <p>Boano et al. (2008)</p> <p>Renaud et al. (2007)</p> <p>UN University</p> <p>EACH-FOR Project</p>	Environmental migrants (and displaces)	<p>Migrants motivated by environmental causes</p> <p>Forced migrants due to environmental reasons, with time</p> <p>Environmental refugees in emergency situations</p> <p>→ Environmental migrants and displaces, development displaces</p>	<p>Environmental degradation involved on migration</p> <p>Integration of natural factors with economic, social and political factors (multiple causality)</p> <p>Exposure, vulnerability and resilience</p>	<p>Difficult legal recognition of vulnerable populations, though distinguishable</p> <p>Insufficiently operational debate to address the growing phenomenon</p>

Table 1: Matrix for conceptual clarification on environmental refugees and migrants

Despite their growing importance, the vulnerability of environmental migrants is reinforced by a lack of visibility or targeted official response. The absence of legal recognition of the environmental migrants or refugees, a situation that is not specified in the Treaty of Geneva of 1951, and especially the people who travel due to the gradual degradation of the environment (often included in the group of economic and voluntary migrants), leads to the consideration that the international response is sparse and poorly adapted to the effective circumstances that led to their displacement

(Kolmannskog, 2008; Stojanov, 2004). Given the rise of environmental disasters and the likely impacts of climate change, the worsening of the problem is anticipated, already considered one of the largest humanitarian crises of our time (Myers, 2005; Stojanov, 2004), with a global extension, but whose answers have been insufficient. Developed countries (Southern European countries may be highlighted, given the migratory pressure to which they are subject) can not continue to ignore the situation of developing countries, given the volume of migrants and refugees (environmental, among other reasons of motivation or constraint) that keep the direction to OECD countries (Myers, 2001). Furthermore, despite the phenomenon may not be recent (Black in Stojanov, 2004), today it assumes proportions beyond the sum of all the environmental disasters in the past, both in population flows caused as in the speed of degradation of resources (Myers in Stojanov, 2004).

Developing countries, given the scarce economic infrastructural and technological resources, as also the level of social safety networks available, associated with low coastal protection, little preparation for early warning systems, disaster response, aid to victims and recovery assistance, are identified as the potentially more vulnerable sites. Vulnerability can be defined as

the characteristics of a person or group and their situation that influence their capacity to anticipate, cope with, resist and recover from the impact of (...) [an] hazard (...). It involves a combination of factors that determine the degree to which someone's life, livelihood, property and other assets are put at risk by a discrete and identifiable event (or series or 'cascade' of such events) in nature and in society. (Wisner, Blaikie, Cannon & Davis, 2005: 11)¹

The resilience capacity (defined as the ability to anticipate, cooperate, resist and recover from the impact of environmental hazards, connecting to the availability and access to resources and individual, group and institutional responsiveness) of the developing contexts is weaker and leads to the disproportionate impact of natural disasters at these regions and populations, worsening its human vulnerability (The World Bank, 2010). It is also important to refer the paradox within responsibilities and impacts of the environmental changes, especially when related to climate issues. The developed countries' responsibility on climate change, due to past and present CO₂ emissions, is widely known; nonetheless, the countries with lower emissions' history –

¹ The textual differentiation (*italic*) is equal to the authors' option in the original reference. Although these authors defined vulnerability in relation to natural hazards and disasters, in our reference are included the human-induced and social dimensions of the hazards and disasters, leading to the concept of human vulnerability.

the less developed countries – are those with a bigger vulnerability to its consequent impact on the environment.

At the level of awareness on issues concerning climate change and sea level rise, the pioneering figure of Tuvalu must be emphasized. This Pacific island, located 5 meters above sea-level, has suffered frequent floods and is presently facing a potential devastating impact if the sea-level rise occurs – this would be a case of complete disappearance of a State, generating a new type of stateless people (stateless due to the environment, with no legal protection – Kolmannskog, 2008). In addition to seeking to establish protocols of refuge with neighbouring countries (mainly Australia and New Zealand), who only tend to recruit labour migrants, Tuvalu has also played a key role in raising awareness to these issues and taking position at the UN, organization in which Tuvalu is included since the year 2000 (Renaud et al., 2007).

The estimates and future projections on environmental migrants are, according to the different options of naming these populations, very different and even controversial; and the truth is that it is very difficult to determine present and future numbers of the environmental pushed and migrants. One of the main obstacles to this calculation is the association of environmental factors with other social, economical and political factors in each context of origin (Boano et al., 2008): how far can we argue that these millions of migrants are environmental and not economical migrants, for example? But, at the same time, how can we minimize the importance of knowing who are these (new?) population groups, where are they under greater pressure, where shall they go to and how many are they on a more or less emergency situation?

The first estimates were made by El-Hinnawi (1985) under the definition of environmental refugees, and these estimates pointed that in the 1980's there were about 30 million people, expecting an increase due to environmental degradation, mainly in developing countries. Under the same definition, latter on, Myers (2001, 2005) estimated that in 1995 there were at least 25 million environmental refugees, expecting it to double until 2010. Myers also expected that, when the effects of global warming would be more visible, about 200 million people would be “overtaken by disruptions of monsoon systems and other rainfall regimes, by droughts of unprecedented severity and duration, and by sea-level rise and coastal flooding” (Myers, 2005: 1). For the African continent, Myers expected that, from those 25 million environmental refugees, 5 million would come from the African Sahel (mainly due to droughts) and 4 million from the Horn of Africa (including Sudan). To these should be added more 80 million people from Sub-Saharan Africa, who could be almost starving due to environmental problems, namely for food and water security reasons. Throughout the developing world, Myers also considered that 135 million people could

be affected by severe desertification and 550 million would suffer from chronic water scarcity.

The website Forced Migration Online added that, during the 1990's, 90 to 100 million people were displaced due to developmental projects, and the construction of dams alone could be responsible for the displacement of 10 million people per year (Vag et al., 2009). Nonetheless, the more feasible hypothesis do not actually contain specific numbers, and we can recall, for example, to the IPCC studies (Parry et al., 2007) or the Stern Report (2006), where we can find the information that millions of people in the future will probably be moving due to sea-level rise, desertification, droughts, multiple resources scarcity, floods and the greater frequency and devastation of natural events like storms and cyclones. Instead of looking for specific numbers, a more applied research is important, in order to figure how impacted will be each region of our common world.

ENVIRONMENTAL CHANGE AND MIGRATION IN AFRICA

At this point we shall try to draw a picture of Africa with the focus on its environmental vulnerability. This will be developed initially by addressing the impact of climate change on regional modelling of vulnerabilities. The bibliographical support is a set of regional studies conducted by the second working group of the IPCC² in its fourth report, published in 2007. We shall then add other dimensions of environmental pressure that could not be contemplated solely on the context of climate change, including the present situation and projections for future migrations and displacements, either motivated or forced by environmental change. To do so, the information collected and made available by the EACH-FOR project³ will be used.

Climate change in Africa: empirical data on present and future scenarios

Africa is identified by the IPCC (Boko et al., 2007) as one of the most vulnerable continents to climate change and climate variability, a situation that is aggravated by

² The Intergovernmental Panel on Climate Change (IPCC) is the leading body for the assessment of climate change, established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO). This panel aims to provide a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences, while never forgetting its nature as an intergovernmental body, and thus open to all member countries of UN and WMO. Its reports are available online at www.ipcc.ch.

³ EACH-FOR (Environmental Change & Forced Migration Scenarios) is an international project, which results are available online at www.each-for.eu, developed under the joint supervision of institutions such as Universidad del País Vasco; Sustainable Europe Research Institute; United Nations University – Institute for Environment and Human Security; ERCOMER; Innoglobe Kft; and the Center on Migration, Citizenship and Environment. This project, developed between 2007 and 2009, aimed to explore and describe the causes of forced migration in relation to environmental change, and to provide plausible future scenarios of environmentally-induced forced migration.

the interaction of multiple stress factors that occur at various levels, and a weak ability to adaptation. The situation stems from the fact that the main economic sectors in Africa are vulnerable to this type of change, namely on agrarian societies, and its vulnerability is exacerbated by the developmental challenges that the continent faces. The examples come from the situations of endemic poverty, government and institutional complexity, limited access to capital (including markets, infrastructure and technologies), the degradation of ecosystems and the complexity of disasters and conflicts. All these factors contribute to weakening the African ability to adapt, increasing this continent's vulnerability to the projected climate change.

The human and societal adaptation capacity in Africa, although some records of positive developments (in particular concerning the adaptation strategies in agriculture), is probably insufficient to meet future changes in climate. Moreover, it is predicted that agricultural production in many African countries will be severely affected by climate change, with an expected reduction in farm income up to 50% in a decade, and net revenue of agricultural crops can decrease 90% by 2100. The most affected part of the population will be the small-scale farmers, in a context of reduction of the cultivation period and lack of production in large regions of marginal agriculture. This situation, in turn, will constitute a major threat to food security.

Another situation worsened by climate change will be the water stress, both in countries where it is already faced and in contexts where the phenomenon was not known. In 2007, about 25% of Africans (about 200 million people) already experienced the stress of the water resource, with particular focus on the northern mainland. The present and future changes will tend to impose additional pressures on the availability, accessibility and the need for water in Africa, and the projection of population under this risk is from 75 million to 250 million in 2020, and from 350 million to 600 million in 2050. Changes in various African ecosystems were detected, with the forecast of a gradual acceleration, particularly in southern Africa. The interaction of climate change with human inducers, such as deforestation and fires, threaten the forest ecosystems, a fact that is added to a number of changes in grassland ecosystems and marine ecosystems. The arid and semi-arid regions are expected to increase from 5 to 8% by 2080, with the possible extinction of 25 to 40% of mammals in national parks in sub-Saharan Africa (Boko et al., 2007).

There is a high probability of flooding at the lowlands, with strong impacts on coastal settlements. The association between climate change and human induced changes may affect ecosystems such as mangroves and coral reefs, with consequences on fisheries and tourism. The projected sea-level rise will tend to increase the occurrence of floods, particularly in the east African coast, with

implications for public health. This increase should intensify the levels of socio-ecological and physical vulnerability of the coastal urban centers. The cost of adapting to the sea-level rise can reach 5 to 10% of the Gross Domestic Product (GDP).

Human health in Africa, already compromised by a wide range of factors, is likely to suffer the impact of climate variability and climate change, with particular incidence of malaria in southern and eastern Africa, especially in the highlands. This situation stems from the ecological alteration of some disease vectors due to climate change, with consequences on its time and space transmission. Other diseases, as are the cases of dengue fever, meningitis and cholera, may be subject to similar processes, but further studies are needed in order to assess the vulnerabilities and impacts of the diseases under the interaction with climate change (Boko et al., 2007).

Environmental change and migration in Africa: enlightening the connections

In order to enlighten the connections between environmental change and migration in Africa, while introducing a range of environmental changes that cannot be exclusively comprised on climate change and variability, we will approach the EACH-FOR project' study cases developed in this continent.

The main conclusions reflected in this project relate primarily to the fact that the migration processes forced by environmental changes are not only a product of climate change, as they also contemplate a number of other situations of environmental change. A special attention must be paid to processes of land and soil usages, as also to the resources exploration, in the history of each context. The study reveals that the main environmental threats faced by migrants, potential migrants and nonmigrants in the study areas worldwide relate to: soil degradation and erosion; deforestation; water, soil and air pollution; water-logging and salinisation of irrigated lands; landslides and mudslides; radiation from nuclear waste; saltwater intrusion and accelerated coastal erosion; flooding and riverbank erosion; tropical cyclones; extreme aridity and irregular rainfall; and sea-level rise (Vag et al., 2009:70). It is important to consider the magnitude and frequency of many environmental hazards, as well as the future occurrence of environmental degradation due to global warming, which tend to generate increased pressures for migration.

On the Middle East and Northern Africa, the observed contexts were Egypt, Morocco and Western Sahara. The Arab Republic of Egypt can be identified by a strong vulnerability, due to its dependency on the Nile River (a primary water source, but also the basis for country's agriculture, along its coastline), which is facing intense human intervention with the subsequent erosion process. Egypt is 96% desert, with an arid and hyper-arid climate, its occupied land is no more than 5% of the total area, and

only 4% of the land is suitable for agriculture; as a consequence, there is a high population density on the liveable areas. This country also faces other environmental problems, namely water, air and soil pollution, soil salinity and desertification. Nonetheless, a direct impact of the environmental problems on migration was not clearly identified by the interviewees, who would rather identify poverty and unemployment as major reasons to migrate – reasons that are totally or partially caused by environmental degradation (Afifi, 2009a).

The key findings point out that the pull factors that support the migration decision of people affected by environmental degradation are relevant, and they include the higher living standards and incomes in other countries. The truth is that people would only leave their root context if the means of livelihood became unsustainable, in situations like urbanization (in which the land owners may order their removal) and mega-infrastructure construction (as the example of the many displaced people with the construction of the Aswan dam). Due to the paucity of financial means, as the environmental degradation has a negative impact on income, it is usually difficult to leave the home context; when migration is possible, the majority of the routes are internal. The question of owning the land is central in this decision: in fact, the mobility of the farmers who hire the lands opposes to the inflexibility of land owners, who would only leave if officially displaced by the government. Despite this highly vulnerable situation, the Egyptian government did not yet consider environmental migration as a serious problem, not taking this as an issue of great priority (Afifi, 2009a).

Morocco is located on the North Africa's arid and water-stressed region, which is also a major migrant origin, transit and sending region for Europe (with strong established networks). In this country, the geographic and climate zones (coastal plains and plateaus, highland areas and the pre-Saharan and Saharan desert areas) correspond to socio-economic zones, as the main and healthier cities are concentrated in the north. The main environmental problems of Morocco concern to land degradation and desertification, salinisation of groundwater reservoirs and soils, oil pollution of coastal waters and water and air pollution (Fermin, 2009: 50). Water deficit is being felt for the last 20 years, caused both by climate change, demographic increase, urban, industrial and tourist pressure (Fermin, 2009).

This study has revealed that one of the major reasons for migration derives from the negative impact of environmental degradation on agriculture and livestock farming, a situation that Morocco faces for decades. This degradation is attributed to dam construction and drought, mainly in the 1980's; migration, under these circumstances, was a survival strategy. Despite this evidence, it has been proved that

the connection between environment and migration is not deterministic. The truth is that the migration mechanisms vary between the different occupational groups, socio-ethnic groups, with the family members intervention and temporary/seasonal migration (although there is a bigger occurrence of permanent migration of entire families), and these strategies are also suffering the effects of the sedentary shift of nomadic cattle breeders and other changing dimensions in traditional rural societies (Fermin, 2009).

Western Sahara is a former Spanish colony and its sovereignty is fought between Morocco and the Polisario Front since the 1970's; its consequence is a territory divided into two zones, under two different powers (the Moroccan rule and the Sahrawi Arab Democratic Republic) and a straight connection with the Tindouf refugee camps in Algeria. This divided country is located on the western edge of the Sahara desert and is characterized by extreme climate conditions; so, in addition to a permanent conflict situation, this is a context of dryness, variable and sparse rainfalls, dust storms and lack of available water. Three migratory processes have been identified, the first being an incoming migration backed from the Moroccan government, the second the out-migratory flows mainly to Europe, and the third through North Africa in order to reach the Mediterranean area. As there is no prediction for the end of the conflict in Western Sahara, and expecting the increase of environmental and economic problems, migratory flows towards Europe will probably be raised (Alvarez Gila et al., 2009).

The Sahrawi societies used to migrate temporarily to the south of Morocco as a response to environmental conditions; however, some changes derived from colonialism, as the end of nomadism, the urbanization and fragmentation of the political space, shaped under new borders, have obliged to the modification of previous migration patterns. The internal migration is distinguishable between regions, as the one under the Moroccan government is much more economically attractive, and this situation even surpasses the negative consequences of its extreme environmental conditions. On the refugee camps, although, these negative environmental factors are originating deep problems for public health, while also limiting the capacity to implement productive agriculture. For the older generations, the fight for the independence; for the younger generations, the search for better living conditions; the Sahrawi keep on their migratory flows, mainly through Spain, Italy, Algeria and, until the 1990's, Cuba. This situation also comprises the fact that these countries are the ones who are seen as helpful, both from their formal institutions as from NGO's, and as a consequence, it is probable that these countries will be the option of destination for future migratory flows (Alvarez Gila et al., 2009).

This project also studied the Republic of Ghana, located on the West Africa's Gulf of Guinea, a context that, despite its medium human development index (HDI), hosts strong regional disparities, which can be seen through the fast development of the southern area and the slower progress on the northern area. During the 20th century, this disparity originated a strong internal migration path to the centre and south of Ghana, regions with better labour and farming opportunities. The tropical climate of this country is different among its regions, with two rainy seasons in the centre and south and a dryer reality on the north; and the most attractive places surround the coastal districts, where the majority of the population and industries are concentrated. The most significant environmental problems observed in Ghana are water shortages, desertification, droughts (northern area), soil degradation and erosion, deep deforestation, fragile coastal and marine ecosystems (under the pressure of urbanization and industrialization), and the water and industrial high pollution levels (van der Geest, 2009).

The key findings of this case study point that the great majority of Ghanaian migrants, who live an internal north-south migratory course, experienced the environment as a push factor for migration. In fact, many have mentioned environmental reasons for leaving their home contexts (lack of fertile land, uncertain rainfall, low crop yields and food security problems). Migration has been generally identified as a strategy to improve food security and means of livelihood, both to the migrants as to the family members that stay on the original places; nonetheless, in some cases migration was a survival measure, due to hunger and high food insecurity, which leads to the consideration of Ghanaian motivated but also forced migrants. The data on the availability of natural resources has shown there is a greater propensity to migrate in districts with natural resources scarcity; the exception has been a specific period of strong droughts in the Sahel zone, from the 1970's to the 1980's, when an increased return migration to the north has been observed. At that time, Ghana was under a widespread economic and political crisis, and it is important to observe how "under certain conditions stronger political and economical forces may override an existent or even increasing environmental push on migration flows" (van der Geest, 2009: 47).

On the Sub-Saharan Africa, the case studies were developed in Mozambique, Niger and Senegal. We shall begin with Mozambique which is identified as the least developed south-eastern African country, and its main environmental problems refer to the reoccurring flooding events along the Zambezi River valley in the central area of the country, as also the droughts along the fertile banks of the Zambezi River. Since the year 2000, Mozambique has been experiencing different environmental threats:

floods (the worst in 150 years), the tropical cyclone Eline (year 2000), the tropical cyclone Favio following the flooding of the Zambezi River (year 2007), droughts, but also coastal soil erosion and sea-level rising (along 2700 km of coastline). These events have already displaced thousands of people, particularly at the delta regions, and at times hazards like wildfires and earthquakes are also threatening, due to the social and infrastructural vulnerability of this country (Stal, 2009).

The key findings of this study revealed different adaptation strategies in each environmental hazard. For example, after the 2000 and 2007 tropical cyclones, people stayed in the same places, reconstructing their houses with storm resistance techniques. Nonetheless, after the floods of the Zambezi River, thousands of people have been displaced because they lost their houses and means of livelihood, as the great majority were utilizing those very fertile low-lying river areas for agriculture. This displacement is more often taken on a temporary basis, although mass and permanent displacement has already been observed. The migratory pattern is not yet defined; there are no specific evidences that this pull factor is giving origin to international migration or internal migration in the direction of huge urban centres. Despite the effort of the Government of Mozambique in the adaptation of rural areas to the needed resettlements, these processes are causing further problems. The resettled people remain very vulnerable to flooding events and very dependent on external aid. It is expected that, "If extreme weather events continue to impact Mozambique in the future, the environment will have an increasing role as a push factor for people's decision to leave their places of origin" (Stal, 2009: 41).

The case of Niger presented a different situation to this study. The main environmental push factors for migration in this country are related to droughts, the drying out of the Lake Chad, deforestation and problems with the Niger River. Niger is identified as one of the Highest Poor Indebted Countries, with an average life expectancy of 44 years, bad climatic conditions, lack of resources, insufficient economic growth, inadequate food production, high levels of malnutrition, insufficient basic structures, poor industrial performance, high demographic growth and weak performance of social sectors (Afifi, 2009b).

In this highly vulnerable context, it has been proven that historical factors contributed significantly to the present environmental problems. The lands were neglected to locals during the colonization period, and with the later monetizing of the economy, it was necessary to find cash in neighbouring countries. This process had a negative impact on the lands, which got worst with the droughts and led to famines. The financial problems arrive in these times, and people attempt to increase their

income by cutting trees and overgrazing, generating a situation of soil exposition to further degradation. Despite the root causes being environmental, most of the people who migrate due to these problems usually complain more about their low income and bad living conditions. Most of this people are willing to return to their places of origin, as Nigerians are very attached to their land and migration is seen as the last solution. They depart mainly to francophone and geographically close countries, especially to Nigeria, Mali, Chad, Cameroon and Benin. In what concerns to transcontinental migration, “There is some evidence that people who leave for Europe mainly do that for prestige (rich people in the northern Agadez region) and also mostly come back” (Afifi, 2009b: 43), in contradiction with the southern tendency of migrating for other African countries with similar cultures and traditional work activities, mainly farming and shepherding.

Senegal, for its turn, has been experiencing a persistent decline on rainfall since the late 1960’s, which effects are more notorious in the northern and central areas. This situation is aggravated by erosion, over-usage of fertilizers, the salinity levels on the soil, as also its poor fertility due to monoculture (of peanut, which obligates farmers to live with a maximum of one agricultural season per year). The main socio-economic problems are faced by farmers: high costs of seeds and fertilizers, lack of storage, information and infrastructures. This country has a strong history on international and intercontinental emigration (to African countries like Guinea, Ivory Coast, Ghana and South Africa; and European countries like Spain, Italy and France), while also being a context of immigration for neighbouring West African countries (like Guinea, Mali and Mauritania) (Bleibaum, 2009).

In this study case, the interviewees from the central region affirmed they would leave, either for the urban centres or abroad, if the life on the village, dependent on agriculture, would not be possible. Nonetheless, almost all the migrants revealed they would return to their home villages if the situation in the agricultural sector improved. On the other hand, the interviewees living near the river said they wanted to remain in those places, as they had the possibility of irrigation for agriculture. Except from the people coming from the relatively fertile regions in the south, all the other Senegalese can be regarded as forced migrants: “forced by the environmental conditions, poverty and the lack of (State) support” (Bleibaum, 2009: 45).

ADDRESSING THE ENVIRONMENTAL MIGRANTS FROM AFRICA TO EUROPE

Aiming to enlighten the development of this data into further research, we will try to highlight how the European context is seen as a destination for environmental migrants, among other types of African migrants, and which are their main dimensions of human vulnerability (considered here while promoting the assessment of the key sectors to research the presence of environmental migrants in the European context). A last section will comprise the final considerations of this paper towards the intentional research advance.

Europe as a destination context

The EACH-FOR Project has demonstrated, through the case study of Niger, that migration towards Europe depends on the financial means available, as this is a very expensive course for an environmentally damaged and consequently impoverished person, while it also means a certain distance, both geographically and culturally, and this situation brings new obstacles on employment and cultural adaptation (Afifi, 2009b). On the other hand, the case study developed in Morocco made visible the image of the European dream, especially alive in the Mediterranean area, where, particularly in this country, the role of migration nets to facilitate the migratory path and integration in the destination context must be considered (Afifi, 2009a).

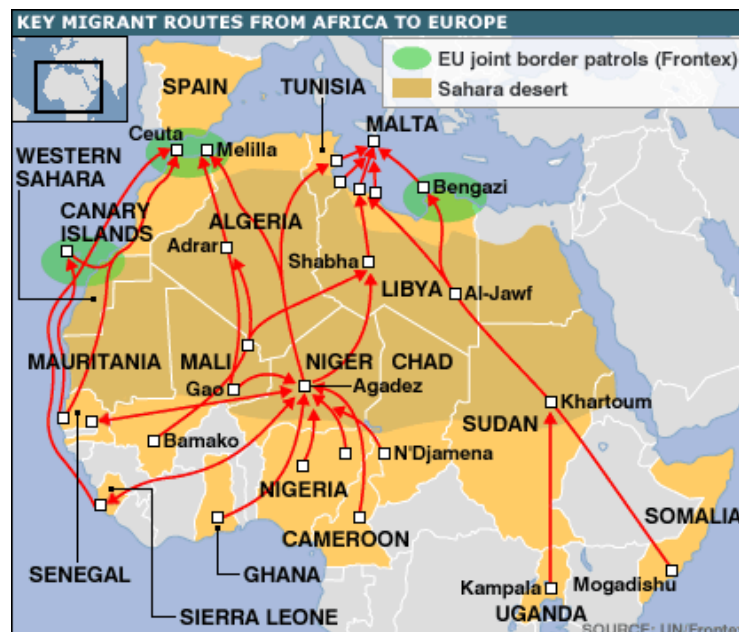


Figure 1: Key migrant routes from Africa to Europe ⁴

⁴ The data for map is from U.N. Frontex, and is available online at the BBC NEWS article "Key facts: Africa to Europe migration" (<http://news.bbc.co.uk/2/hi/europe/6228236.stm>), from the 2nd of July 2007.

Nonetheless, the focus point on the key migrant routes from Africa to Europe is Northern Africa, as a strategic region to reach the European area, bearing in mind the importance of the Sahara desert, mainly to irregular pathways towards the north (Figure 1). Effectively, the main concerns on the migration policies level are related to the Northern Africa region. Schatzer (2009) refers that the three African countries with largest migrant stocks in Europe are Algeria, Morocco and Tunisia. The first two countries are also characterized by being very important transit contexts: the majority of irregular migrants from Sub-Saharan Africa, due to strict controls in the Mediterranean, got stuck in Algeria, but Morocco also receives between 10 000 and 20 000 irregular migrants from countries like Senegal, Nigeria, Mali, Cameroon, Ivory Coast and Congo.

The main destination countries in Europe are France, Italy, Germany, Spain and Belgium, but many migrants aim to arrive to Canada, the United States of America and also the Arab Gulf Region (the last come mainly from Egypt, Sudan and Morocco – Schatzer, 2009). It is possible to understand, with this data, that Europe is not only a destination context; African migrants also attribute to Europe a role as a migratory step or platform.

It is also important to notice that the sea flows of irregular migrants are compounded by many vulnerable groups, in which are included, for example, environmental migrants, victims of trafficking and unaccompanied minors. There is a big difficulty on determining which would be the main reason for each migrant, as these people often have two to three intersecting reasons that led to their migration course. However, Schatzer supports the idea that the main reason for migration is still the economic one, and the underlying evidence is that the recent financial crisis did not generate a significant returning migration, but it conducted to a decrease on the number of people trying to reach Europe (Schatzer, 2009).

Environmental migrants' human vulnerability

In what concerns to the environmental migrants' human vulnerability dimensions, both origin and destination contexts share the feature of risk, and also the fragile position in which the environmentally pushed person finds herself. The main vulnerability dimensions to point out about migrants, notwithstanding the possible environmental root, refer to the possibility of falling into criminal and smuggling situations, of lacking labour, housing and other dimensions of integration, and of multiple situations that can threaten their health.

Referring to immigrants in the European Union, the most vulnerable groups identified under the public health dimension are pregnant women (which pregnancy tends to be more difficult, mainly if the women live and visit non advantaged contexts),

irregular migrants (that tend to avoid health services), people with mental disorders (as the stress from the migratory journey easily damages mental health) and bigger epidemiological vulnerabilities (depending on the context of origin, as also on the possible bad conditions in which the migrant might live, reinforced by exclusion patterns in the context of destination) (Fernandes et al., 2007). The health dimension, the regularity situation and the social protection under the migratory circumstances are identified, consequently, as the key sectors for our intervention and research about the African environmental migrants in Europe, namely through the Non Governmental Organizations (NGO's) that give support to these people and processes.

The empirical data has shown that unemployment, poverty, food insecurity, water scarcity, conflicts for land and resources and its consequences on the loss of means of livelihood, are factors that strengthen this populations' vulnerability. In some circumstances, these situations generate the dependency on the external aid, reinforcing or even forcing the displacement, while causing an even bigger vulnerability when natural disasters and hazards occur. Therefore, it is important to consider the human vulnerability signs and symptoms that are generated by the environmental changes in the African contexts (Table 2).

Environmental changes in Africa	
<p style="text-align: center;"><u>General environmental changes</u></p> <p style="text-align: center;">Land degradation, erosion and soil salinity levels</p> <p style="text-align: center;">Desertification and drought</p> <p style="text-align: center;">Deforestation and overgrazing</p> <p style="text-align: center;">Lack of fertile land</p> <p style="text-align: center;">Water scarcity</p> <p style="text-align: center;">Floods</p> <p style="text-align: center;">Development projects</p> <p style="text-align: center;">Fragile ecosystems</p>	<p style="text-align: center;"><u>Climate change and variability</u></p> <p style="text-align: center;">will aggravate:</p> <p style="text-align: center;">Degradation of ecosystems</p> <p style="text-align: center;">Lack of natural resources</p> <p style="text-align: center;">Reduction on agricultural and livestock production</p> <p style="text-align: center;">Water stress</p> <p style="text-align: center;">Sea-level rise and flooding</p> <p style="text-align: center;">Changes in disease vectors</p>
<p><i>+ Lack of governmental and international action</i></p> <p><i>+ Insufficiency of basic infrastructures and weak performance of social sectors</i></p> <p><i>+ Interaction of multiple stress factors</i></p>	
Human vulnerability signs and symptoms	

Implications on public health Unemployment and poverty Disasters and conflicts on resources and land Food security problems and water scarcity	Forced displacement Lost of means of livelihood Dependency on external aid Bigger vulnerability on the association with natural disasters and hazards (cyclones, wildfires, earthquakes)
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Table 2: Human vulnerability due to environmental changes in Africa

The complex consideration of environmental migrants and displaces, but also targeted action to promote better resilience in Africa, can only be accomplished and reconverted into policies if these specific features are taken into account. This would require the transposition of the vulnerability concept into action, a concept that is applied to describe the situation that frames the suffering and precarious feature of an environmental migrant's life.

Final considerations *en route* for the research advancement

Likewise to what has already been mentioned, there is a certain complexity on determining the main reason for each migration process. But even if the main reason for migration is the economic one (Schatzer, 2009), how could this economic dimension not be connected to the environment, particularly in the mostly agrarian African societies? In other words, this economic deficit resulting from the environmental degradation is the basis for most of the environmental migrant's vulnerability dimensions.

The networks available to migrants' international movement and integration do also need to be considered, both in cases of former colonial relationships (as is the example of the migrants from Angola, Cape Verde and Mozambique towards Portugal) and of other types of proximity patterns (like the example of the Sahrawi towards Spain and Italy). These networks will probably conduct most of the African migrant flows towards Europe, so this will be a necessary route to go through in the research project (both for regular and irregular migrants).

Aiming to contribute to the clarification and characterization of the environmental migrant's life course, the European destination context must be considered, while keeping the notion that it will not probably be attained by those most environmentally damaged in the African continent (the majority of these people get too much impoverished to take such an expensive course towards the Northern/ Western world). The study of the human vulnerability to environmental changes is important as it allows us to identify the factors that put sustainability and human security at risk, as also the social, economical and political factors that might interact with environmental

issues and increase the incidence of human migration (both voluntary and forced migration). This study might also contribute to fathom the population mobility' dynamics with European destination, while presenting this renewed topic of migrating due to environmental concerns at the origin context.

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