

MIGRADAPT

Making Migration Work for Adaptation to Environmental Changes – A Belgian Appraisal

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NETWORK PROJECT

MIGRADAPT

Making Migration Work for Adaptation to Environmental Changes

– A Belgian Appraisal

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FINAL REPORT

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ABSTRACT

Context

Environmental changes are increasingly part of migration journeys, and count amongst the factors that call into question the distinction made between migrants and refugees. Additionally, in the international negotiations on climate change, migration is increasingly perceived as a possible adaptation strategy to the impacts of climate change. But only few studies exist on how migration could actually work for adaptation, and none of them address migration in Belgium.

Objectives

MIGRADAPT aims to fill this gap by analysing how migration can support the adaptation and resilience of communities, building on its appraisal of the migration-environment nexus in Belgium. To achieve this goal, the project is divided into two parts. First, MIGRADAPT seeks to understand the role of environmental disruptions as drivers for migration to Belgium. The guiding research questions include: How do migrants perceive the environment to have influenced their migration journey? To what extent has the environment impacted upon the other drivers of migration? How do they perceive current environmental disruption in their countries of origin? Second, MIGRADAPT seeks to understand the effects and perceived effects of migration on the adaptation of the communities of origin. This is a key innovation of the project as it will consider the outcomes of migration for the communities of origin rather than just for the migrants themselves. The key research question guiding this analysis is: How (under which conditions) can migration to Belgium support the adaptation of communities affected by environmental changes?

Conclusions

Through qualitative fieldwork conducted in a selection of sites in Senegal, Morocco, the Democratic Republic of the Congo, and Belgium, this research demonstrates that although environmental changes are rarely identified as a primary driver of human mobility, migrants and non-migrants often perceive them to affect their migration aspirations, decisions, trajectories and transnational practices (including with regards to adaptation to environmental changes and related socio-economic impacts), albeit in a localized, context-specific and non-linear manner. This study further advocates for the increased mainstreaming of the environmental component of migration into development and adaptation policies and programmes through a series of country-specific and more general evidence-based recommendations.

Keywords

Migration; Adaptation; Environmental Changes ; Transnational practices ; Morocco ; Senegal ; Democratic Republic of the Congo ; Belgium.

1. INTRODUCTION

Environmental changes are increasingly part of migration journeys, and count amongst the factors that call into question the distinction made between migrants and refugees. Additionally, in the international negotiations on climate change, migration is increasingly perceived as a possible adaptation strategy to the impacts of climate change. But only few studies exist on how migration could actually work for adaptation, and none of them address migration in Belgium. MIGRADAPT aims to fill this gap by analysing how migration can support the adaptation and resilience of communities, building on its appraisal of the migration-environment nexus in Belgium. To achieve this goal, the project is divided into two parts. First, MIGRADAPT seeks to understand the role of environmental disruptions as drivers for migration to Belgium. The guiding research questions include: How do migrants perceive the environment to have influenced their migration journey? To what extent has the environment impacted upon the other drivers of migration? How do they perceive current environmental disruption in their countries of origin? Second, MIGRADAPT seeks to understand the effects and perceived effects of migration on the adaptation of the communities of origin. This is a key innovation of the project as it will consider the outcomes of migration for the communities of origin rather than just for the migrants themselves. The key research question guiding this analysis is: How (under which conditions) can migration to Belgium support the adaptation of communities affected by environmental changes?

This report seeks to present the main outcomes of MIGRADAPT, a four-year research project funded by BELSPO's BRAIN-be programme which brings together four Belgian partners – the University of Liège, the University of Antwerp, the Université Libre de Bruxelles, and the Royal Museum for Central Africa. This project ran between 2017 and 2021, and explored the perceptions and transnational practices of both migrants and non-migrants in three countries of origin (Morocco, Senegal, the Democratic Republic of the Congo) and one country of destination (Belgium).

After providing a brief state-of-the art and reminder of the project's key objectives, this report presents the project's overall methodology and approach. It then turns to presenting the main findings and policy recommendations arising from the research. The final sections of the report provide an overview of the dissemination and valorisation activities in which the team took part, such as publications, events, and other multimedia appearances.

2. STATE OF THE ART AND OBJECTIVES

Over the past twenty years, scholars, researchers, policy makers and the media have increasingly turned their sights towards the impact of climate change on human migration. What's more, the last decade has generated unprecedented political and public interest worldwide. Despite the veritable boom in concern, much of this discourse in Europe remains at the hypothetical level – a future world in which millions of 'climate refugees' flee their homes and flood European shores. What is almost entirely overlooked is the role of the environment in contributing to/exacerbating current migration flows to the European Union. The so-called 'migration crisis', for example, is sometimes depicted as a test-run for future migration crises caused by climate change, with conflict and climate change seemingly mutually exclusive drivers of human movement. The environmental drivers that lead

current migrants to Europe are often downplayed and ignored, somewhat unsurprisingly since they do not offer any entitlement to legal status in the destination countries. Few have even attempted to assess the actual role of the environment in generating or influencing these migrations – or the lack thereof.

Of course, migration issues do not end upon arrival: when associated with environmental disruptions, the impacts of migration are usually cast in a negative light in the public eye, filled with gloom-and-doom prognoses of millions of people forced to flee their homes, giving rise to tension and conflict in both countries of origin and destination. Certainly, migration – no matter the driver – can lead to and/or expose social issues in the host country, place stress on urban infrastructure and resources, disrupt family ties (often for indeterminate periods), and exacerbate ethnic tensions. There is also the possibility that migration can bring detrimental effects for the communities of origin, with a deprivation of assets and workforce, the exodus of the highly skilled and potential community leaders (the so-called 'brain drain', exacerbated when others follow), as well as a feeling of abandonment among those 'left behind', and result in remittance dependency (Julca, 2011;¹ Bakewell, 2009).²

Nonetheless, we must also consider the growing body of literature that acknowledges the positive role that migration can play as an adaptation strategy to climate change: migration can help households diversify their sources of income, shielding them from financial dependence on their fragile environments, alleviate pressure on dwindling natural resources, and/or provide remittances for mitigation and adaptation efforts, disaster relief or reconstruction projects (Foresight, 2011;³ Gemenne and Blocher, 2016).⁴ At the moment, migration is increasingly recognised as a possible adaptation strategy for the migrants themselves if certain conditions are met (Warner et al., 2012;⁵ Van der Land and Hummel, 2013),⁶ but its impacts on the adaptation of the communities of origin are little understood. More research on the potential positive effects of migration on adaptation to climate change is needed (European Commission, 2013: 13).⁷

Considering the relative dearth of empirical information and analysis on both migration flows and impacts related to environmental disruption, this project is organized around two complementary components. First, the project investigates the role of the environment as a driver for recent migration to Belgium. While the influence of climate change on migration cannot be isolated, the project rather attempts to provide an assessment on how migrants perceive the environment to

¹ Julca, A. (2011), "Multidimensional Re-creation of Vulnerabilities and Potential for Resilience in International Migration", *International Migration*, Vol. 49, N° 30, 30-49.

² Bakewell, O. (2009), "Which Diaspora for Whose Development? Some Critical Questions about the Role of Africa Diaspora Organizations as Development Actors". DIIS Policy Brief, 28 p.

³ Foresight (2011), "Migration and Global Environmental Change: Future Challenges and Opportunities", Final Project Report. The Government Office for Science, London.

⁴ Gemenne, F. and Blocher, J. (2016), "How can migration support adaptation? Different options to test the migration–adaptation nexus", *Migration, Environment and Climate Change: Working Paper Series*, IOM, N°1/2016.

⁵ Warner, K. et al. (2012), "Where the Rain Falls: Climate Change, Food and Livelihood Security, and Migration". Global Policy Report of the Where the Rain Falls Project, CARE France and United Nations University Institute for Environment and Human Security, Bonn.

⁶ Van der Land, V. and Hummel, D. (2013), "Vulnerability and the role of education in environmentally induced migration in Mali and Senegal", *Ecology and Society*, 18.

⁷ European Commission (2013), *Climate change, environmental degradation, and migration*, Commission Staff Working Document, Accompanying the document Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, An EU Strategy on adaptation to climate change, Brussels, 138p.

have influenced their migration journey as well as how they perceive current environmental disruption in their countries of origin. Second, MIGRADAPT seeks to understand the effects of international migration on the vulnerability of the migrants' communities of origin. How and under which conditions is migration supporting the adaptation and resilience of communities affected by environmental changes? (See Fig. 1 below).

3. METHODOLOGY

In order to achieve the research objectives, MIGRADAPT relies on innovative methods that connect communities of origin and destination. Rather than focusing solely on the experiences of recent migrants to Belgium, the project incorporates the assessment of the drivers of migration and the many impacts that these flows have on sending areas affected by environmental degradation. The two chronological components, outlined below, thus complement each other theoretically and geographically, leading to more holistic empirical evidence and policy inputs (see Fig. 1 below).

3.1. How environmental disruptions influence migration journeys to Belgium

3.1.1. Identification of the role of environmental disruption amongst migration drivers to Belgium

The **first component of MIGRADAPT is the analysis of migration drivers amongst recent migrants to Belgium**. While we know that the brunt of migration attributable at least in part to slow or sudden-onset climate change will occur within national boundaries and at the regional level in the Global South, the role of the environment in driving recent international and intercontinental migration flows to Europe has been largely ignored. Therefore, the project asks: to what extent was migration influenced by environmental motives? And to what extent has the environment impacted upon the other drivers of migration? The project does not seek to isolate the environment or climate change as the sole driving force behind migration, but rather to see its place among the motivations articulated by the migrants themselves, both in terms of their original reasons for departure and in terms of its influence throughout their 'fragmented journeys' to Belgium.

In an innovative approach, MIGRADAPT goes a step further in conceptualizing the role of environmental factors in migration to Belgium by also **considering how the environment shaped the migration journey itself**. In recent years, the term "fragmented journeys" (Collyer 2010)⁸ has been used to describe the multi-stage and prolonged migration pathways facing migrants from the Global South who seek to enter Europe, amongst others. Indeed, far from being a straightforward itinerary, migrants' journeys are often punctuated by many obstacles and deviations. The environment may intervene at any point along this journey, becoming an obstacle itself, such as when a disaster strikes a migration transit country – such as Morocco or Senegal, for example. Therefore, MIGRADAPT assesses the environment throughout the entire migration experience to Belgium, not just as a driver for people's emigration from their communities of origin. While we focus on recent migration, the respondents' sample includes both non-recent migrants (residing more than 5 years in Belgium) in addition to recent migrants (residing less than 5 years in Belgium), in order to assess to what extent perceptions and practices vary across migration cohorts.

⁸ Collyer, M. (2010). Stranded Migrants and the Fragmented Journey, *Journal of Refugee Studies*, Volume 23, Issue 3, 273–293

3.1.2. Evaluating migrants' perceptions in Belgium

Alongside determining the role of the environment throughout migration journeys, MIGRADAPT sheds light on **migrants' perceptions of environmental disruptions in their home country and on how the transnational practices in which they engage may support the adaptive capacity and resilience in their community of origin**. MIGRADAPT posits that all migrants, regardless of the arrival period or migration drivers (i.e. even if the environment is determined not to have played a role in the migration decision and/or journey), have the potential to contribute to increasing the adaptive capacity and resilience of households and communities in the country of origin.

The team investigated if and how migrants perceive environmental challenges as affecting their countries of origin, and then assessed their transnational practices in terms of content and motivation. The team further teased out whether the environment in any way motivates (or demotivates) transnational practices. These also included social, economic and/or political transnational practices, such as transnational social aid, remittances and political advocacy. For example, does the frequent occurrence of disasters in a country of origin increase remittances to this country? As individual transnational practices are usually socially embedded in migrant community networks, the question arises to what extent environmental issues act as a mobilizing factor on the group level. Furthermore, migrants' perceptions of the outcomes and impacts of these practices were incorporated. Specifically, the intention was to evaluate migrants' perceptions (and expectations) of their capacity to strengthen the resilience of their households in home countries.

3.2. Effects and perceived effects of migration on the adaptation of communities of origin

A key innovation of MIGRADAPT is that it **considers the outcomes of migration for the communities of origin rather than just for the migrants themselves**. It therefore paid particular attention to those who could not move, or were unwilling to move, when confronted with environmental changes.

Its key research question seeks to understand *to which extent and how (under which conditions) can migration to Belgium support the adaptation of communities affected by environmental changes?* This question was complemented by a sub-question: *how do communities of origin perceive and use the Belgian migrants' remittances as 'help' (social, economical, and material transfers) to increase their resilience of the migrant-sending households?* In order to address this question, the project studied the different ways migration can influence the vulnerability and resilience of communities confronted with environmental changes, and to the impacts of global warming in particular. In particular, the project studied how the socio-economic remittances of migrants can contribute to reducing the vulnerability to environmental change of the community of origin. Beyond addressing economic remittances we integrated social remittances (belief systems, cultural practices, skills, information, knowledge etc.) that migrants acquire in destination areas and that could support the adaptive capacity and resilience of origin communities. This was done by taking stock of the different means that are perceived to increase resilience by the migrants in Belgium and verify with the perceptions of and effective use by the beneficiaries in the countries of origin. Some places are so-called 'climate change hotspots', which are regions that are particularly vulnerable to current or

future climate impacts, and where human security may be at risk (de Sherbinin, 2014),⁹ while others will be less affected.

Much evidence shows that remittances are mainly used for basic consumption needs rather than investment on adaptation, agricultural technology, etc. So rather than just assess how the remittances are used, MIGRADAPT goes one step further in assessing **under what circumstances and how remittances best be channeled towards adaptation**. These findings from 3 case-studies of non-EU countries (RD Congo, Senegal, Morocco) were used to design policy recommendations. All these climate-impacted migrant-sending countries are also Belgian ‘partner countries’, which facilitated the fieldwork research. The final aim was to identify whether those who stayed used the (financial or social) remittances in ways the migrants in Belgium had expected and to which extent it helped to increase the resilience of the beneficiaries. The perception of help (and expectations) of the beneficiaries towards the migrants in Belgium were evaluated in the light of what these latter had in mind when attempting to support the resilience of their households in home countries.

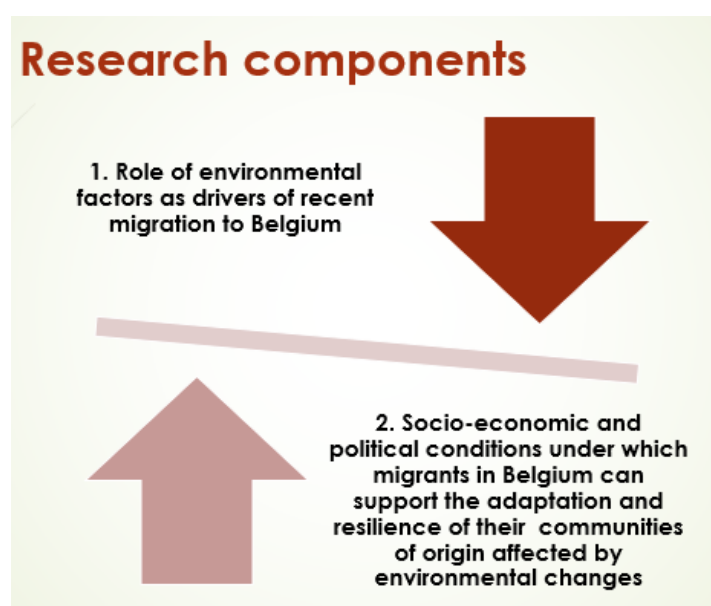


Figure 1: MIGRADAPT research components

3.3 Providing information to decision-makers

With the insights from this project, the research team aims to inform decision makers on the formulation and implementation of **development, disaster risk reduction, adaptation, development and migration policies**. These will help to implement measures that could protect migrants and non-migrants through all stages of the migration process as well as to allow persons who wish to remain in communities affected by environmental change to do so. Indeed, the project seeks to contribute actively to the development of **migration policies** that better account for the role of environmental drivers in migration journeys, but also for the role that migration can play in the reduction of the vulnerability of the communities of origin. The project also contributed to recommendations for the

⁹ De Sherbinin, et al. (2014), “Climate change hotspots mapping: What have we learned?”, *Climatic Change*, 123(1):23–27

formulation of **development and adaptation policies** that make better use of the transnational ties between migrants and their communities of origin to support adaptation.¹⁰

3.4 Approach and methods

MIGRADAPT engages in a **transnational, multi-sited primary data collection process** through **qualitative in-depth interviews**.

Three countries of origin have been selected for this study: **Morocco, Senegal and the Democratic Republic of the Congo**. This choice is based on **existing migration flows between these countries and Belgium, their environmental profile, and their development partnerships with Belgium**. *Figure 2* below provides an overview of the different fieldwork locations in Morocco (Tangiers and Tinghir), Senegal (Dakar and several villages in the Futa Toro region) and DRC (Kinshasa and Goma).



¹⁰ See policy recommendations in section 4.3.



Figure 2: Fieldwork locations in Morocco, Senegal and DRC

3.4.1. Data collection and analysis in Morocco

Theoretical sampling criteria for the selected respondents in Morocco by the UA team were 1) access to migrant networks or migration experience (both those who have and those who do not), 2) age (+18 years old), 3) gender (balance between females and males), and 4) socio-economic status (variation). In total, 13 formal interviews, 3 informal interviews and 2 expert interviews were conducted in Tangier (18 in total), and 24 formal interviews and 6 informal interviews in Tinghir (30 in total). In total, **48 interviews** were conducted of which **21 were female respondents and 27 male respondents**. Age variation ranged from **21 years to 70 years old**. All interviews were transcribed *ad verbatim*. Interviews were conducted in French, Dutch, Spanish and English. All names were replaced by pseudonyms to guarantee anonymity. Fieldwork and interviews were sometimes slightly complicated due to gender issues, translation biases and fear of political repercussions. All interviews were coded, using the qualitative analysis software NVivo.

3.4.2. Data collection and analysis in Senegal

Fieldwork was undertaken by the ULB team in twelve villages in the Northern Senegalese Mid-valley (between 2018 and 2020) and selected suburban neighbourhoods of **Dakar** (Pikine, Guédiawaye, Thiaroye) located in the low-lying urban area and agroecological zone called Niayes (January 2019). **256 semi-structured interviews were conducted in the twelve villages** (194 male respondents, 62 female respondents; age variation ranging from 14 to 90 years old). The vast majority of respondents belonged to the Halpulaar ethnic group, and a slight majority (n=147) worked mainly in the agricultural sector. Interviews were conducted with individuals coming from both migrant households and non-migrant households. The sample also included 83 international returnees (including 10 from Belgium), 99 local representatives of organisations and institutions, 32 internal migrants from outside the village, and 74 internal returnees. **41 focus group discussions** were also conducted (30 with men, 10 with women, and 1 mixed; 14 with youth under 30, including 5 with young women). Additionally, **94 semi-structured interviews were conducted in Dakar** (53 male respondents, 41 female respondents) with respondents from various socio-economic and demographic profiles, but who largely came from 7 villages surveyed during the first and second

fieldwork in the Fouta-Toro region (Thiemping, Thially, Odobere, Garly, Dabia Odeji, Orefonde, Doumga Lao). **9 focus group discussions were also conducted** (6 with young migrants under 30 and 3 with migrants aged between 30-60). We also conducted **9 key informant interviews** with resource persons in the surveyed neighbourhoods and **9 group interviews**. Interviews were conducted in French and in Pulaar. They were digitally recorded and transcribed *ad verbatim*. All names were replaced by pseudonyms to guarantee anonymity. All interviews are coded, using systematic manual coding, which combines Word and Excel (Ose, 2016).

3.4.3. Data collection and analysis in DRC

Field work was undertaken successively in Kinshasa and in Goma by the RMCA team. A total of **31 in-depth individual semi-structured interviews** were carried out in total, with members of migrant households. From mid-March to mid-April 2019, 15 people related to migrants in Belgium were interviewed in Kinshasa (ten male respondents, five female respondents; age variation ranged from 27 to 65 years old). From end-October to December 2019, 16 interviews were conducted with Goma residents; as in Kinshasa, interviews were conducted with family members of Congolese migrants living in Belgium (ten male respondents, six female respondents; age variation ranged from 19 to 67 years old).

3.4.4. Data collection and analysis in Belgium

In the three countries of origin, communities affected by both environmental change and migration were selected. Interviews were conducted in each country with migrant-sending households. Non-migrant interviewees were selected - when possible - by following up with the families of migrants interviewed in Belgium. **In Belgium**, the study targeted individuals from each selected country of origin. All legal migration categories such as family, economic, studies and training, and humanitarian (including asylum seekers) were considered alongside irregular migrants.

Moroccan migrants: A total of **24 semi-structured in-depth interviews** were conducted with Moroccan migrants between December 2017 and January 2021 by the ULG team. These interviews were conducted both in-person (n=17) and online (n=7), in French and Arabic. All in-person interviews were conducted in Brussels, apart from one, which took place in Liège. Respondents were recruited following both purposive and snowball sampling strategies. Criteria for selection included: 1) being from Tangier or Tinghir (or having migrated and lived there), 2) being over 18 years old and 3) having been in Belgium for a period not exceeding 10 years. The final sample was composed of 14 male respondents and 10 female respondents. Age variation ranged from 20 and 70 years old. Half of respondents (n=12) came from Tangier, while the rest came from the wider Rif region (n=7) as well as from Tinghir and the nearby city of Errachidia (n=3). Two respondents also came from Casablanca and Sidi Slimane, but had both lived in Tangier. All interviews were transcribed *ad verbatim* and pseudonymized to guarantee the anonymity of respondents. Due to practical challenges associated with finding respondents from Tinghir and who had been in Belgium for less than 10 years, the research team decided to extend the initial sampling criteria. All interviews were coded manually.

Senegalese migrants: A total of **61 semi-structured in-depth interviews** were conducted by the ULB team with Senegalese migrants in 5 Belgian cities, between 2017 and 2019. Although the majority of interviews were conducted in Brussels (n=46), some also took place in Antwerp, Charleroi, Tournai and Liège. The sample included 51 people from the Mid-valley/Fouta-Toro region (38 male

respondents and 13 female respondents), whose length of stay in Belgium varied across the following categories: less than one year (n=3); between 1 and 5 years (n=17); between 5 and 10 years (n=9), between 10 and 20 years (n=15) and over 20 years (n=11). Among the 51 Haalpulaar respondents, 5 people had a 'leadership role' and 5 people were in an irregular legal situation. Almost half were or had been 'undocumented' or in difficult legal situations. About half of Haalpulaar interviewees had stayed in Dakar for more than three years, mainly in the suburbs of Pikine and Guédiawaye. 9 respondents (7 male, 2 female) came from outside the Mid-valley region (e.g. Vélingara in southern Senegal, Saint-Louis and Dakar). 6 of them had leadership roles in organisations or associations of various types (cultural, village, etc.) and 3 were either undocumented or seeking asylum. All interviews were transcribed *ad verbatim*, coded manually and pseudonymized to guarantee the anonymity of respondents.

Congolese migrants: A total of **25 semi-structured in-depth interviews** were conducted with Congolese migrants between December 2018 and January 2021 by the ULG team. These interviews were conducted both in-person (n=22) and online (n=4), in French. Most in-person interviews were conducted in Brussels, although some also took part in other cities in Wallonia (Liège, Ath, Braine-le-Comte, Louvain-la-Neuve) and Flanders (Vilvoorde). Respondents were recruited following both purposive and snowball sampling strategies. Criteria for selection included: 1) being from Kinshasa or Goma (or having migrated and lived there), 2) being over 18 years old and 3) having been in Belgium for a period not exceeding 10 years. The final sample was composed of 14 male respondents and 11 female respondents. Age variation ranged from 29 to 62 years old. The vast majority of respondents either came from Kinshasa or had spent an important part of their lives there prior to moving to Belgium. All interviews were transcribed *ad verbatim* and pseudonymized to guarantee the anonymity of respondents. Due to practical challenges associated with finding respondents from Goma and who had been in Belgium for less than 10 years, the research team decided to extend the initial sampling criteria to include respondents who had been in Belgium for a period exceeding ten years. All interviews were coded manually and pseudonymized to guarantee the anonymity of respondents.

Figure 3 below provides an overview of how data collection was allocated amongst the different partners of the project.

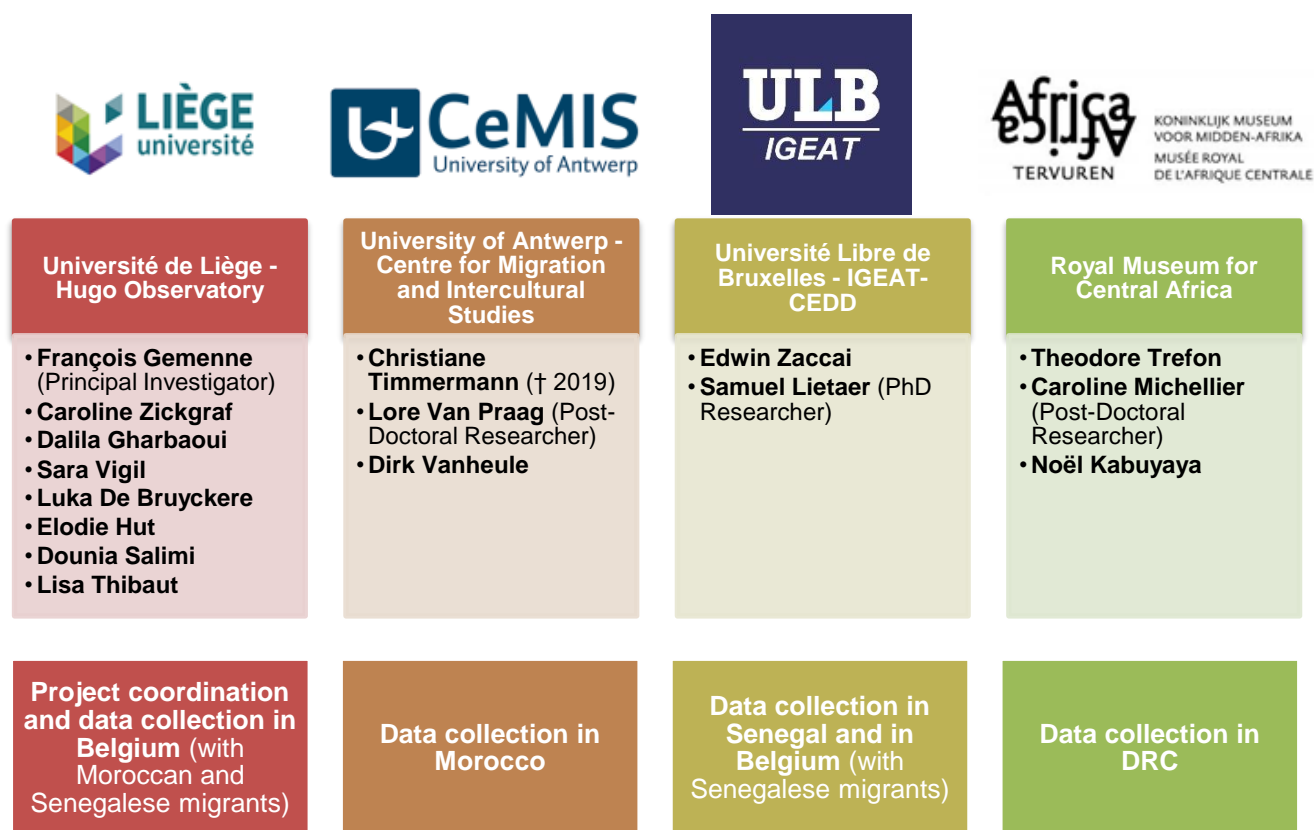


Figure 3: Team composition and work division¹¹

¹¹ Hugo Observatory: <https://www.hugo.uliege.be>

Centre for Migration and Intercultural Studies: <https://www.uantwerpen.be/en/research-groups/cemis/>

Institut de Gestion de l'Environnement et d'Aménagement du Territoire : <https://igateat.ulb.ac.be/>

Africa Museum: <https://www.africamuseum.be/en>

Figure 4 below provides an overview of the key activities and milestones of the project

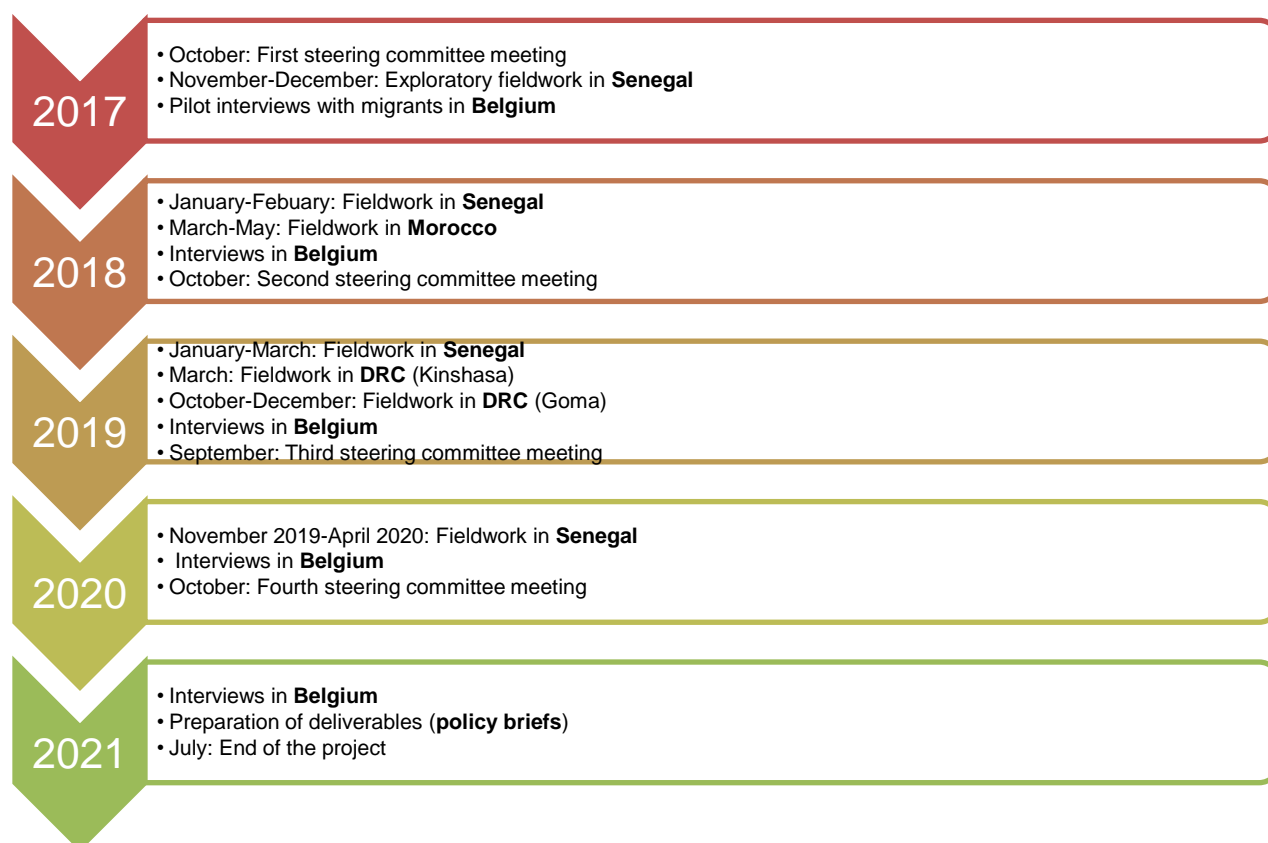


Figure 4: Overview of key activities and milestones of the project

3.5. Impact of COVID-19 on fieldwork

The COVID-19 pandemic, which broke out in early 2020, impacted some of the researchers' fieldwork, leading to some adjustments in how the research was eventually conducted. Although fieldwork in Morocco had been completed before the start of the health crisis, the pandemic did impact some of the fieldwork conducted in Senegal, DRC and Belgium. For instance, ULB Researcher Samuel Lietaer had to be repatriated from Senegal in March 2020, while undertaking his third field mission. Noël Kabuyaya, a DRC-based researcher (affiliated with the RMCA) was meant to spend a month in Belgium in April 2020 to collaborate with ULG and bring together the results arising from interviews with non-migrants in the DRC and Congolese migrants in Belgium: due to the pandemic, his trip was canceled, and any further collaboration prevented. Interviews with Senegalese migrants in Belgium were postponed (in order to be conducted face-to-face), whereas eleven interviews with Moroccan and Congolese migrants in Belgium were eventually conducted online given the uncertainty related to physical distancing regulations.

3.6. Advisory stakeholder committee

The Advisory stakeholder committee is made up of potential users of the research results such as representatives of national or regional, European or international public bodies, civil society actors, scientists, representatives of the industrial sector, etc. The purpose of this committee is to actively

monitor the project and promote the valuation of research by exchanging and making available data and information, by providing various opinions, by suggesting improvements and possibilities of dissemination, etc.

The follow-up committee of the MIGRADAPT project was composed of the following organisations:

- IOM Belgium and Luxemburg
- Ciré
- 11.11.11.
- FPS Foreign Affairs (DGD) – Migration and Asylum Division
- Myria
- Enabel/BTC
- FPS Health, Food Chain Safety and Environment (DG Environment, Climate Change section)
- Caritas

Throughout the course of the project, the follow-up committee met four times, on an annual basis. Below is a short overview of the outcomes of each meeting.

Meeting 1: 23 October 2017	The purpose of this first meeting was to introduce the MIGRADAPT project to the committee members and the work to be carried out under the project. Committee members praised the fact that such studies were very rare, and inexistent for Belgium, acknowledging that this study would be useful for their policy and advocacy work as they lacked evidence from the field. The meeting allowed participants to explore synergies between the MIGRADAPT project and initiatives implemented by the follow-up committee members.
Meeting 2: 25 October 2018	The meeting served to update the committee on the progress made by the MIGRADAPT team regarding the implementation of the project and to obtain their feedback on these latest developments. The research team requested that the participants share any useful contacts of organisations that may facilitate the identification of migrant respondents in Belgium.
Meeting 3: 10 September 2019	During this third meeting, the MIGRADAPT team updated the committee on the progress made by the research team, discussed potential publications, and presented a draft policy brief. They obtained committee members' initial feedback on this draft. All partners were also invited to brainstorm on future platforms for a round of dissemination events in 2020.
Meeting 4: 14 October 2020	Due to the COVID-19 pandemic, this final meeting took place online. It served as an occasion for the MIGRADAPT team to present the draft outline of an upcoming joint publication and initial recommendations formulated in country policy briefs (for Morocco, Senegal and DRC), as well as to obtain feedback on these different documents. Lastly, the participants brainstormed ideas for the project's closing strategy.

4. SCIENTIFIC RESULTS AND RECOMMENDATIONS

4.1. Results from Morocco, Senegal, and the Democratic Republic of the Congo

The main two research questions that guided the research were:

1. To which extent do inhabitants of selected areas in Morocco, Senegal and DRC perceive to be affected by environmental changes and does this influence their migration aspirations?
2. How does the diaspora in Belgium and other European countries impact people's ability and decisions to deal with the effects of environmental change they and their communities are confronted with?

To answer these questions, the MIGRADAPT research team conducted fieldwork in the above-mentioned countries and in Belgium (See fig. 2).

4.1.1. Morocco Case Study

Two areas were selected in Morocco: **Tinghir** (approx. 42 000 inhabitants), located in the Todgha Valley in the High Atlas, and **Tangier** (approx. 948 000 inhabitants), located in the Rif region. The combination of high immigration and emigration and environmental changes in both regions (surrounding this city) makes both cities and regions particularly suitable for further study and comparison. Whereas Tangier is often seen as the gate to Europe – due to its attraction for local migrations coming from across Morocco to work and/or migrate to Europe, Tinghir is the gateway to the desert, characterized by its oases.

Perceptions of environmental changes and their consequences:

Due to the gradually changing environment, a lack of sensitization about climate change discourses and impacts, and the distinct living environments, perceptions about climate change felt by inhabitants are very diverse and localized. Interestingly, with regards to perceived changes in the local environment, higher educated persons, as well as non-educated older females, were particularly aware of environmental changes over time. Higher educated persons had read and heard about it in their professional and educational contexts, as well as in their migration networks. Non-educated older females had seen and experienced it over the course of their lifetime, as they were the ones who had been working on the field and continued to do so. Parallel worlds seemed to emerge when looking at the distinct ways in which climate change effects and migration networks coincide. In Tangier, only elderly people with relatives living in rural areas were aware of the changing climate in Morocco, while young people were knowledgeable about the general climate change discourses but did not necessarily apply this to Morocco, to other regions of the country or to their personal living environment. In Tinghir, people with migration networks were more often higher educated, and due to the personal use they made of their remittances, did not express the need to develop specific adaptation strategies to deal with climate change effects. They did not experience difficulties, nor had the wish to put effort in the subsistence economy that was common in the oasis in Tinghir. Some were – in theory – better aware of climate change discourses compared

to their neighbours, due to their education and knowledge transfers within their migration networks.¹²

Adaptation and solidarity to deal with environmental changes and ongoing migration dynamics:

Knowledge about climate change discourses was often used as an inspiration to set up associations, to collectively use remittances, and to facilitate that (young) people can build up a life and career in Tinghir¹³. This was for instance the case for a project implemented by *Association Afanour pour le Développement*,¹⁴ where solar panels were used to pump up water and keep it in a water reservoir, in order to irrigate dry fields and grow a particular type of palm trees, that enabled people to sell high quality dates. Another group of people in Tinghir, highly impacted by climate change effects, did not have any resourceful migration networks. Due to their lack of (transnational) networks or individual/collective remittances in this high emigration area, this particular group of inhabitants more often had to rely on a degraded subsistence economy, for which they used outdated technological methods and land ownership. As this type of fieldwork is mainly a female matter, women were particularly aware of the changing environment. This changing environment also led to the fact that these women who used to rely on agriculture, could not contribute as much to the household income as they did some decades ago.

Gender:

Additionally, since gender plays a role in each process, outcome and driver of migration, but is hardly examined with regards to environmental migration in Morocco, more in-depth analyses focused on gender. In follow-up analyses¹⁵, the main aim was to understand how gendered divisions of work impacted or limited migrant imaginaries. Based on the 48 semi-structured interviews that were conducted with people living in Tangier and Tinghir, these analyses aim to understand how abilities and imaginaries to migrate were intertwined with social, financial, economic resources, structured by gender. Results indicated that the combination of increasing land degradation and gendered divisions of labour revealed that elderly women were affected the most by environmental changes. Indeed, while facing decreasing revenues from the land, they had to continue working and were taken away from the resources to be able to migrate. These analyses shed a light on the changed significance of working on the land as well as the desire, ability and need to move in a gradually degrading natural environmental context such as that of Morocco. The inclusion of gender is particularly relevant since in these environmentally degrading areas that are based on a self-subsistence economy, mainly elderly women continue to work the land.

¹² Van Praag, L. (2021). Can I move or can I stay? Applying a life course perspective on immobility when facing gradual environmental changes in Morocco. *Climate Risk Management*, 31 (online), DOI: <https://doi.org/10.1016/j.crm.2021.100274> ; Van Praag, L., Ou-Salah, L., Hut, E., Zickgraf, C. (2021). *Migration and Environmental Change in Morocco: In Search for Linkages between Migration Aspirations and (Perceived) Environmental Changes*. London: Springer. DOI: <https://doi.org/10.1007/978-3-030-61390-7> (see chapters 5 & 8);

¹³ Van Praag, L. (2021). A qualitative study of the migration-adaptation nexus to deal with environmental change in Tinghir and Tangier (Morocco). *Journal of Integrative Environmental Sciences*, 18(1), 1-17. DOI: <https://doi.org/10.1080/1943815X.2020.1869784>; Van Praag, L., Ou-Salah, L., Hut, E., Zickgraf, C. (2021). *Migration and Environmental Change in Morocco: In Search for Linkages between Migration Aspirations and (Perceived) Environmental Changes*. London: Springer. DOI: <https://doi.org/10.1007/978-3-030-61390-7> (see chapter 6); Van Praag, L. (forthcoming 2021). 'Transnational society in light of environmental change'. In: Silke Meyer & Claudius Ströhle (Eds.) *Remittances as Social Practices and Agents of Change - The Future of Transnational*, Cham: Springer Nature

¹⁴ <https://www.facebook.com/groups/244102799081897/>

¹⁵ Van Praag, L. (under revision). Gender, environmental change and migration aspirations and abilities in Tangier and Tinghir (Morocco). *Human Ecology*

4.1.2. Senegal Case study

Perceptions of environmental changes and their consequences:

Perceptions that environmental changes and hazards negatively impact daily living conditions and livelihoods are widespread, both in the villages of origin and in Dakar. Such changes affect, on the one hand, requests for remittances (individual, household, and collective; material or immaterial), as well as investments, and, on the other hand, migration motives and aspirations. We first summarize the findings in the communities of origin, followed by those for the internal migrants' perceptions in Dakar.

- **Environmental factors worsen hostile socio-economic conditions in the community of origin:** In the selected villages of the Senegalese Mid-valley, household members of all ages (except young children) practiced agriculture to complement the various resources otherwise available to the household. Environmental change was identified by our respondents as one many causes of agricultural decline in the Fouta-Toro region. Villagers almost systematically complained first about their social, political and economic conditions. Villagers and politicians considered that the potential for development in the Mid-valley was still under-exploited. Inconsistent governance as well as agricultural/pastoral land planning issues were often accused of preventing farmers from living decently. When prompted, respondents put forward numerous environmental reasons – sometimes explicitly linked to climate change – to explain the abandonment or under-utilization of agriculture in most of the studied localities. Negative perceptions about the environment were often owed to the naturally adverse Sahelian climate, but also due to man-made, environmental degradation. Most respondents were conscious of this, citing clear differences with the period preceding the major droughts of the 1970s-80s. Yet, they did not necessarily always conceive any "change" in the shorter term (in the last ten years). Desertification resulting from overgrazing and deforestation as well as the depletion of fish stocks associated with the installation of hydroelectric dams¹⁶ at the end of 1980s and overfishing were identified by our respondents as the most preoccupying phenomena. Respondents alleged to experience and appeared to be aware of the physical consequences of global warming (e.g., droughts, disruption of seasons, weather uncertainty and unpredictability). They generally perceived these adverse impacts on their daily livelihoods and living conditions, notably through insufficient agricultural yields (due to rainfall variability, or irrigation and dam management issues) and collapsing mud/banco houses (due to heavy rainfall and strong winds). Drought periods were perceived differently whether populations were able to irrigate their fields or not. However, their level of educational attainment and their interactions with donors and other development actors mostly determined whether they acknowledged and referred to "human-induced climate change". Climate hazards were largely considered as an act of God.
- **Environmental factors contribute to a rural exodus from the Senegalese Mid-Valley to Dakar:** Given the absence or scarcity of job opportunities (also due to environmental issues affecting agriculture, cattle herding and fishing), of higher education options and of advanced health care services in the selected home villages, Dakar was often considered and chosen as a primary

¹⁶ The dams aim to better manage irrigated agriculture, as well as providing electricity in the region (ironically, the dams are framed as macro adaptation projects by climate and development institutions, such as the GCF, AFD and the World Bank)

destination. Even though interviewees did not use the term “adaptation” as such, many indicated that moving from their village to Dakar constituted a livelihood strategy that could, in the longer term, and when the necessary resources were gathered, serve to adapt to adverse environmental impacts. Indeed, Dakar centralizes most of the country’s economic activities. Thus, most young villagers chose to leave school early to contribute to the family’s income, as they found it challenging to survive merely on agropastoral activities. This was the case in many households, even when agricultural production was not affected by any environmental hazards. These internal migrants tended to work in Dakar’s informal sector, which is not (or less) dependent on climate shocks. They were usually hosted within their home community’s family house in Dakar’s suburbs (Pikine, Guédiawaye, Thiaroye). Indeed, most villages own houses which serve to host those newly arrived in the capital. Many of these houses are owned by international migrants/returnees, thus showing concrete solidarity amongst migrants. Young villagers who moved to Dakar for study reasons often tend to stay in such family houses or communal rooms rented by the (inter-)village association. Heat waves (May-June) and sandstorms (especially before the rainy ‘hivernage’ season and in April) also caused health issues to the most vulnerable villagers, particularly the ill, the elderly and young children. This frequently constituted a reason to move, usually temporarily, to Dakar. These population categories therefore reported spending this challenging period in Dakar due to its more favorable climate and the availability of better health care services. However, many villagers, especially those from villages with less internal and international migrants, cannot afford to stay throughout this harsh period. Only elderly people with sufficient networks and savings can afford the travel to and the stay in Dakar.

- **Insufficient prospects (even in Dakar), paving the way for a European journey:** Most interviewed students from the villages who were enrolled at the university or in professional training centers reported lacking confidence about their employment prospects. They usually perceived the cost of studying as very high. The relative financial success of lower-skilled migrants also undermined their motivation to study, although obtaining a student visa in a Northern country (via *Campus France* for instance) often appeared as a clear incentive. Another sought-after option was to obtain a job in public administration or politics, which was deemed more realistic with a previous migration experience in Europe. Several categories of ‘travelers’ were identified, depending on the different journeys’ purposes: students and apprentices; low-skilled job seekers (shoe cleaners, car washers, dress makers, or street vendors), international travelers using Dakar as a first stop to gather enough money to fund their international trip. In the latter case, the travel ideally takes place through a visa obtained in Dakar, but usually implying a transit through other countries of the sub-region, particularly Gabon. These international travelers found it hard to obtain a visa through the regular procedure, or alluded to expensive or “corrupt administration services”. Besides family reunification, work contracts and scarce international study agreements, they felt that the stay permit in Europe was too short (max. 3 months). Thus, most admitted that they considered overstaying should their visa not be extended. Aspiring to a fuller life, they referred to friends or relatives who worked informally in Europe and who had been able to concentrate on their job abroad, while helping their family and building their own house back home.
- In any case, living in Dakar and/or getting an education was considered a first step towards social mobility and improved living conditions for the migrant's family and community of origin. For instance, villages with higher education rates counted more teachers or civil servants among

them. Political influence appeared crucial to improve the village's infrastructural resilience conditions. International migrants' political involvement – mostly through the village's development association and its various development projects – contributed to building their political credibility and to create a political push for several political leaders in the studied villages. Consequently, this allowed their village to be better represented when deciding at national and regional levels about the distribution of machines and infrastructural projects, particularly in the agricultural sector (e.g. tractors, irrigation channels, motor pumps). In relation to this, many farmers, particularly those from politically underrepresented villages – criticized the 'discriminatory' policies of the National Company for Land Exploitation and Planning of the Senegal River Delta (SAED) in the Walo and the *Système d'Intensification de la Production Agricole* (SIPA) in the Diéri.

Adaptation to environmental changes, ongoing migration dynamics and solidarity:

- While most migrant and non-migrant respondents perceived various negative effects (whether entirely or partially induced by environmental changes) on their living conditions and livelihoods, they were often unable to anticipate properly these environmental changes and stressors. Whether and to which extent they could anticipate and cope with environmentally-induced shocks depended on individual and collective livelihood assets. Of particular importance was the reliance of households and communities on both internal and international migrants' remittances, as well as the extent to which household and community members developed and maintained social relations with other actors (public authorities, NGOs, and various local and external donors). Migrants and return migrants tended to have privileged access to such relations. Hence, they often played an important social role in their home community beyond sending financial and material remittances, acting as advocates and mediators with these public and external partners. This appeared crucial for both short-term coping strategies and longer-term adaptation and resilience.
- **In the Mid-Valley:** Our research in the 12 studied villages confirmed that most villagers considered the diaspora as a catalyst for development and social resilience, as promoted by Senegalese policy makers.¹⁷ However, migrants' contribution to environmental change adaptation efforts was less evident. Respondents in the villages generally perceived transnational and transiting migrants to have a very positive impact on living conditions in their villages of origin through individual and collective remittances. At the individual or household level, migrants were perceived to have a positive impact by boosting the disposable income of households through remittances - allowing to cover for daily expenses. Although to a lesser extent, respondents also acknowledged that some diaspora members could import useful skills and knowledge for innovation and entrepreneurship. At the collective level, solidarity projects led by the diaspora focused mainly on health and education and had a positive impact on the quality of life and the income of households. With their strong political influence, migrants can

¹⁷ Over the last two decades, Senegalese authorities have been heavily relying on the diaspora to drive development (e.g. *Plan Sénégal Emergent*, *Plan d'Urgence de Développement Communautaire*, *Politique Nationale de Migration du Sénégal*). Several structures such as FAISE (*Fonds d'Appui à l'Investissement des Sénégalais de l'Extérieur*), FONGIP (with its new FONGARISE), BASE (*Bureau d'Appui aux Sénégalais de l'Extérieur*-not yet functional in Belgium) and BAOS (*Bureaux d'Accueil et d'Orientation des Sénégalais de l'Extérieur*) were put in place to mobilize the diaspora towards sectors with high-growth prospects

also create political momentum. Expectations towards both governmental policies and the diaspora were high but their actions were often deemed disappointing in practice. Yet, the villagers generally considered that the diaspora replaced the failing or fairly absent government in the Mid-Valley. As traditional coping mechanisms (including seasonal migration) were often said to insufficiently prevent negative livelihoods impacts, more structural interventions were called upon.

- **In Dakar:** Our fieldwork in the low-lying suburbs of Dakar showed that environmental hazards also affect the living conditions of internal migrants from the Mid-valley. Migrants often settle in at-risk urban areas where land/accommodation is more affordable (peripheral areas subject to landslides and/or flooding). In Pikine, Guédiawaye and Thiaroye, rainwater management, air and groundwater pollution, temperature rise, and the destruction of infrastructure following extreme storms were perceived to cause considerable damage and losses. Direct and indirect damages linked to adverse environmental effects affect the quality of life and livelihoods of many internal migrants from the Mid-valley in Dakar. Some of the most frequent disasters they referred to included seasonal floods and tidal waves in the coastal urban areas of Pikine and Guédiawaye. During the winter period, these phenomena affect thousands of households, who often lose their habitats, part of their belongings and animals. Some interviewees mentioned disease-related costs (mainly malaria). High levels of humidity indeed encourage the spread of mosquitoes, flies and other transmitters of diseases. The different types of pollution also cause significant additional health costs. Flooding is the main environmental impact that affects their living conditions in terms of health and material/financial costs. Indeed, most affected people live in extremely unsanitary and overcrowded conditions. Although this is a temporary problem (attributed to the annual rainy season), it can occur with varying levels of severity every year, depending on sanitation work, rainfall and local residents' behavior. Major infrastructure works (scheduled to end in 2022) have taken place since 2012 and were completed in some areas, but in 2019, new floods hit due to sewer mouths clogged with waste. According to the interviewees, even if the rains are perceived to be heavier than before, there is an important political responsibility – which is currently lacking – to prepare the neighbourhoods to better adapt to absorb them. As part of the response strategies in the face of significant damage caused by floods, the diaspora is often called upon to intervene. In addition, in recent years, the diaspora has sometimes been targeted by calls for help on social networks. This coincides with environmentally related needs at village-level. At the same time, internal migrants in Dakar usually aimed to prioritize their home community/village of origin, and did not want environmental issues in Dakar to divert the international diaspora's attention from the collective action that is required in the home village. As such, internal migrants in Dakar addressed fewer collective demands and requests to the diaspora than residents of the home village.

4.1.3. DRC Case Study

The DRC case study has focused on two major cities of the country: Kinshasa and Goma. Kinshasa, the capital city of DRC, is among the largest cities in Africa (+13.7 million inhabitants). It is threatened by erosion, which creates large gullies, and flooding, which regularly affects several districts during the annual rainy season. The poorest populations live close to these exposed areas. Goma is a smaller city (+1 million inhabitants), located in eastern DRC, on the shore of Lake Kivu, at the border with Rwanda. It is a regional trading hub that witnesses intense movements of population and goods. The 1994 Rwandan genocide turned Goma and its hinterland into a highly insecure area,

where several armed groups are very active, living off mineral resources trafficking. Goma is threatened by several environmental issues, from forest overexploitation to the Nyiragongo volcanic eruption. Half of the 15 interviews conducted in Kinshasa was organised with the help of Congolese immigrants met in Belgium: they gave us the contact of a close family member still living in Kinshasa. The rest of the interviewees were selected using snowball sampling method. In Goma, all the 30 interviews were based on the snowball sampling method.

Living in Kinshasa and living in Goma:

People living in Kinshasa had the feeling that it was a real challenge for them to survive in this city. One of the reported reasons was because their neighborhoods had changed a lot, and had turned into a hostile environment. They were however not willing to leave Kinshasa to go back to their village of origin, and some of them saw international migration (of themselves or of a family member) as a solution to alleviate their economic situation. People living in Goma liked their city; most of them qualified Goma as a pleasant city to live in, despite the security problems; they were not willing to leave the city, neither to go back to their village (where they could face insecurity), nor to migrate to Europe or other part of the World; they preferred to concentrate on the better living conditions they could develop in Goma.

From the village to the city:

In both cities, people recognized that nature had changed a lot in DR Congo, especially (but not only) in rural areas: deforestation, drying up of rivers, erosion, seasonal changes. These changes were negatively perceived because they increase the food insecurity of the population. In Goma, this perception was less deeply rooted, as people did not have the feeling that environmental changes were affecting their community. In Goma, people preferred to advocate for improved living conditions through the construction of adequate roads and the supply of water and electricity.

Migratory routes:

People born outside Kinshasa came to the city mainly for study reasons; some were attracted by the city's mirage and access to modern infrastructure; many still dreamed of living in western countries, usually indicating a clear preference for North America. In Kinshasa, the main reason for international migration was economic. In Goma, people born outside the city came there mainly due to insecurity in their village of origin, and also to take advantage of the opportunities to earn a better living; almost none of them declared to be tempted by the "mirage of the West". The majority of migrants leaving Goma travel for study or work reasons and wished to return at the end of their assignments. Although they had travelled to earn money and/or expertise, they aspired to return to Goma as quickly as possible, in order to contribute to the development of their community. The recurring security problems they faced may encourage some of them to stay abroad, but attachment to their land and families remained a strong motivation to return home.

Environmental changes:

In both cities, people unanimously noticed environmental changes in DR Congo, but they considered it with indifference. In Goma, they did not feel impacted by any environmental changes, but were aware that other regions of their country was regularly affected by floods, droughts, or erosion, for instance. After ensuring their daily survival, people living in Goma were more concerned about the volcanic risk associated with the active Nyiragongo volcano, than about environmental changes. In

Kinshasa, people seemed to be very worried about such an issue, but at the same time, they did not feel concerned because other issues were much more prevailing in their daily life than environmental changes. Moreover, the idea of helping those who were negatively impacted did not reach them. There was no real interest to adapt or to help others adapt to environmental changes. Everyone was living with the sole aim to improve their daily lives. As such, environmental changes was found to have no impact on migrants' motivations.

Solidarity/dependency:

Solidarity was identified as a great value, common to African societies; everyone recognized the responsibility to be supportive; when a family member is in difficulty, assets and money are shared. However, people in Kinshasa underlined that such a solidarity could have the perverse effect of perpetuating dependency, especially of those who receive help from migrants abroad. At the same time, people recognized that they were ready to make enormous financial contribution to finance the migration of a family member; and in return, the migrant would have the responsibility to financially support the family who has stayed behind, as well as, once stabilized in the host country, bringing in other family members to increase the resources to be sent to the family. In Goma, most of the interviewees declared that no one should expect anything from migrants and that self-help was the way to go; one of the respondents even mentioned that people avoided at all costs being called “beggars”.

4.2. Findings from Belgium

4.2.1. Moroccan migrants in Belgium

Perceptions of environmental change:

- Our sample demonstrated varying perceptions of environmental changes and stress in Morocco, either prior to their migration or after arrival in Belgium. The primary environmental hazard cited was **erratic precipitation, together with flooding, deforestation, and pollution**. These disruptions were generally perceived to have significant impacts on rural and poor households. For the majority of our sample, urban non-agricultural households, the effects were primarily felt through food prices rather than direct impacts on their livelihoods. Other associated impacts included diseases and water shortages (impacting drinking water).
- The majority of our respondents and their families had not been directly affected by these disruptions prior to their migration. Several respondents saw such drought-related impacts as a thing of the past, owing primarily to state-led efforts towards ensuring the sustainability of the agricultural sector (e.g. Plan Maroc Vert). Positive perceptions about the environment could be owed to naturally favourable climate, but also thanks to man-made, public efforts, such as the construction of infrastructure that aimed to better manage natural resources, as well as technological innovations and increased means.
- Respondents with higher educational attainment (particularly those with tertiary education) exhibited more awareness, particularly around the impacts of climate change. Some respondents drew attention to the consequences of certain populations being isolated from the public eye and their ensuing limited capacity to cope with disasters, while some drew a connection between drought, water scarcity and social unrest.

In conclusion: Perceptions of environmental changes in Morocco, including climate change, varied greatly amongst our sample. Although some respondents were confident that environmental issues like erratic rainfall had been resolved by the Moroccan state, others noted the considerable differences from one city, or rural area, to another, citing the variation between environmental hazards (floods, drought, deforestation), livelihood dependence, government responses, and behaviors of local populations.

Environmental changes and the migration decision:

- While our sample was generally aware of environmental changes affecting their areas of origin and Morocco in general, none of the respondents identified adverse weather shocks or gradual changes as a major reason for their own migration. They did acknowledge however that insufficient agricultural revenue (linked to drought and other weather shocks) could affect the livelihoods of agriculture-dependent households and lead to - mainly internal - migration patterns. This categorisation of environmental-related migration was often perceived to be a relatively new phenomenon which contrasted with previous labour migration trends.
- The majority of the sample reported having not been personally impacted by the effects of environmental changes and did not consider them to have affected their own migration aspirations and trajectories. Households that are less dependent on natural resources to secure their livelihoods were less likely to suffer from the impacts of environmental change due to lower sensitivity and a stronger coping capacity.
- Instead of suggesting the existence of direct linkages between environmental changes and migration between Morocco and Belgium, the composition of our sample aligned with previous findings demonstrating that Moroccan migrants are still mainly migrating to Europe through family reunification, especially through marriage migration, in addition to emerging forms of migration which include students or undocumented migrants. Furthermore, given that multi-causality is a fundamental characteristic of human mobility, a mix of migration drivers, evolving over time and space, could be observed within our sample, although environmental disruptions were never explicitly identified by the respondents as a direct cause for their (internal and international) migration.

In conclusion: The Moroccan diaspora's comprehension of environmental disruptions in their home country does not imply that these changes will have had a decisive impact on their decision to migrate. In the case of our sample, other elements, such as pre-existing migration networks, historical migration trends and cultures of migration, appeared to play a more salient role in respondents' move to Belgium. On the one hand, this supports empirical studies that suggest the majority of migration induced by environmental changes remains within national boundaries. On the other hand, this demonstrates that when climate change occurs in 'cultures of migration', where long histories of migration exist, its impacts on international outflows are not always readily apparent. This lack of perceived relevance of environmental factors in the migration decision may in turn suggest that transnational practices of diaspora members will not be directly aimed at or linked to environmental resilience efforts.

Transnational practices and environmental resilience:

- In line with other research, three broad categories of transnational practices apply to the Moroccan diaspora in Belgium, namely: mobility (regular visits between Belgium and Morocco), communication activities, and material transfers. Regardless of the heterogeneity of their (perceived) levels of socio-economic integration into Belgian society and of satisfaction with

their current lives, the overwhelming majority of respondents had maintained strong ties with their community of origin.

- The vast majority of respondents in our sample did (or used to) send back financial remittances, which they justified by family solidarity or religious reasons. Financial and gifts in-kind were therefore grounded into philosophical, moral and religious principles. Financial remittances were mainly seen as self-evident and expected to cover the daily expenses of the household back home (e.g. food, housing, clothing, electricity, health, education), or made occasionally, in the case of health issues or life events (births, deaths), for instance. Another key moment of solidarity appeared to be religious holidays.
- Yet, although financial remittances could be perceived as a risk mitigation strategy and as a way to remain close to one's community of origin, respondents never identified them specifically as a way to contribute to the environmental resilience of their households and communities of origin. This can partly be explained by the fact that they did not perceive environmental changes to have affected them (or their household) directly, but also that respondents did not interfere with how the money was spent. As such, it appears that remittances sent by and for those unaffected by environmental changes will only be peripherally linked to adaptation to environmental changes and resilience.

In conclusion: There is little evidence so far to suggest that Moroccans in Belgium prioritize the environment as a key challenge and, therefore, as a potential object of their transnational practices. They may, however, have a direct impact on the income structure of the household, and improve their capacity to cope with surges in commodity prices that are linked to drought phenomena. Moreover, it is possible to recognize the potential spillover effect of financial remittances on environmental resilience through improving the socio-economic conditions at the household level and therefore increasing coping and adaptive capacities in response to potential environmental shocks and stressors.

4.2.2. Senegalese migrants from the Haalpulaar community in Belgium

Environmental changes and the migration decision:

- International migration to Belgium was not directly or primarily attributed to environmental stressors, but rather to socio-economic ones. Many considered their emigration firstly as a search for resources as many were unable to support their family and meet their own needs and aspirations. In other words, they aspired to fulfil certain social roles: building a house, getting married, supporting their family, enhancing their life perspectives. Yet, these were put under increased pressure by adverse environmental effects. For example, decreasing agricultural yields led to reduced income and livelihoods. Many migrants in Belgium explained that their parents, often farmers or working partially in the agricultural sector, were affected by various environmental factors (mainly rainfall variability, unexpected water releases from the dam, larva plagues, wandering grazers, etc.) combined with a lack of 'adapted' agricultural production means, often due to issues with the SAED State company resulting in debt and financial barriers. Also, low prices for their products, discriminatory public policy, and distorted markets were deemed to increase precarity and thus vulnerability. This resulted in aspirations for life projects away from the vulnerable rural villages and their agricultural sector. Hence, respondents in Dakar and Belgium recognized similar indirect pathways for environmental factors as underlying

reasons for moving out of their village of origin. International migrants in Belgium, usually first move to nearby cities in the country (typically Dakar) or in neighbouring countries to study and/or gather the money needed to acquire a visa or pay for their journey to Belgium. These mobile households were usually less vulnerable in the first place than immobile ones and became more resilient by adopting translocal livelihood strategies.

Transnational practices and socio-environmental resilience :

- Migrants in Belgium were generally aware of the environmental stressors affecting their community members in the Senegalese Mid-valley and in Dakar, though their familiarity with these issues varied according to their level of educational attainment, previous exposure to environmental change and religious beliefs. They had often been personally impacted by them before deciding to initiate their migration journey to Belgium. However, migrants in Belgium did not know how to address these issues financially, technically and politically. Most believed that these could best be solved at collective level, through partnerships and political action. Of concern to them were both the poor understanding of the root causes of environmental hazards and degradation, as well as how to cope technically with their effects. Although they acknowledged the existence of limits to adaptation, most believed that their family members could stay in their home village should they have the necessary financial and technical means and knowledge to reduce socio-environmental impacts.
- Haalpulaar migrants in Belgium usually did not explicitly identify their contributions (sending funds, whether individually or collectively through their hometown association, sending material and goods; informing villagers and finding development partners) as a means to specifically contribute to the environmental adaptation and resilience of their households and communities of origin. Instead of adaptation, they often referred to “development”. Nonetheless, they sometimes more or less explicitly acknowledged their transnational contribution to adaptation strategies further along the interview via specific and concrete examples.
- These efforts translated into individual, family and collective remittances, which generally responded to requests from villagers, at the individual, household, family or village-level (via the hometown association). While an increasing part of migrants’ remittances appeared in practice linked to an increase in environmental hazards, this is not always a conscious and intentional strategy. In some exceptional cases, the environmental hazard was clearly the main reason behind the formulation of requests by family members in the impacted area. Most respondents told us that they increased the frequency and intensity of contacts with their kin or family in Dakar and/or their home village (mostly through WhatsApp) when the latter were directly affected by floods and droughts.
- At individual, household or family level, for example, more money is sent as requests increase for cattle feed and animal husbandry during the dry season. The same applies to health-related expenses due to sandstorms and heat waves for vulnerable relatives and animals. In the short-term and at household-or family-level, in reaction to drought, heavy rains and/or strong winds at the start of the rainy season, financial remittances serve as coping strategy to deal with losses in a household’s livelihoods (e.g., cattle and/or agricultural yields) and/or income. Sometimes, funds were also gathered collectively from the diaspora and sent to villages to complement humanitarian aid, buy food and basic products, or rebuild damaged houses. In the longer term, besides sending regular financial remittances to their relatives in Senegal, migrants sought – via

hometown associations – to contribute to public infrastructure and to collective development projects oriented towards their home village. For instance, public water boreholes connected to private water taps were built allowing irrigated collective and private farming and gardening.

- At collective level, when specific needs are expressed by the villagers, migrants mainly contribute financially to collective actions through their hometown association (*"association villageoise de développement"*), which is organised in multi-sited sections (in Dakar, Paris, Brussels/Antwerp, Abidjan, etc.). Most of these collective actions target social infrastructure and few target the natural environment directly (examples include initiatives focused on reforestation and on removing plastic waste in the villages). Although environmental and climate change feature in transnational discussions (notably on social media), relevant projects and actions specifically targeting environmental impacts (water boreholes, clean cookstoves, greening, structural waste collection, etc.) are rarely implemented without the support of external partners. Most projects nevertheless respond to wider development needs, which may also reduce adverse environmental impacts in the longer term (building schools, health dispensaries, etc.).
- Our data suggests that migrants from the Matam region would increasingly like to move away from collective projects that focus on strengthening basic social services (health centres, schools, etc.) as some villages are already equipped with them, towards projects that aim to generate income and secure livelihoods and are therefore considered more "productive" and "structural" than regular individual and collective financial remittances. However, despite undertaking some actions, migrants in Belgium clearly do not feel capable of addressing the root causes of these environmental changes, neither to effectively mitigate them. Addressing slow-onset environmental changes and land degradation appeared beyond their individual and collective reach without external partners. Some migrants also engaged with regional (e.g., NANN-K) and/or national civil society organizations (e.g., Senebel), diaspora investment clubs (e.g., FONGAD-Invest), or policy initiatives (FAISE). Many of these projects, particularly those that were not focused on agriculture, were not directly perceived as being related to environmental adaptation. Projects perceived as such generally sought to transform agricultural and water management practices. Although they had lost crops and/or livestock as a result of disasters or larva pests, many respondents echoed the governmental rhetoric about the importance of investing in agriculture as a high-growth sector. However, as agriculture is still seen as a very risky and costly business, most preferred to invest in non-agricultural projects. Senegalese diaspora members seemed to prefer investing in real estate, small businesses and the transport sector, which do not meet the eligibility criteria of the public support structures for diaspora members.
- The new generation of emigrants were generally perceived to "invest better" than the older generations from the 70s-80s, meaning they were investing more in 'constructive and/or productive' projects and relatively less in socio-economic or religious status symbols (e.g., luxury cars, mosques). While this could strengthen migrants' return possibilities, it also serves to diversify the income and increase the resources of those who remain. However, most respondents, amongst which active members of such diaspora associations, did not know "on which doors to knock" to find partners, obtain adequate funding, or improve their technical know-how to support their projects and pursue goals effectively. Moreover, respondents explained that they would be better able to contribute to adaptation strategies in their home community through enhanced socio-economic integration in Belgium. Migrants with precarious

low-skilled jobs, and/or with an uncertain legal status did not have enough savings to donate or invest in Senegal. Moreover, transfer costs for individual/family remittances constituted an additional hindrance (with transfer fees ranging between 4 % and 8 %). As for collective remittances, irregular migrants can hardly afford the membership fee and related monthly contributions, nor can they engage fully in the association and build partnerships, fearing that they will be turned away because of their status.

- Remarkably, entering the political arena appeared as one way to improve living conditions in the context of environmental changes (and promoting significant reforestation and waste management programmes, or reforming the management of the Manantali dam, for instance). Respondents were aware that political leaders in their region of origin relied heavily on development cooperation partners, including co-development partners in which the diaspora plays a major role. Hence, home village development and/or adaptation challenges carry important political stakes. Therefore, the political dimensions of remittances appeared extremely relevant when studying migrants' capacity to contribute to adaptation strategies.¹⁸ Remittances are indeed politicized and political in nature and can be mobilized to serve adaptation purposes. This latter is a political process to structurally enhance living conditions in the community of origin.

4.2.3. Congolese migrants in Belgium

Perceptions of environmental disruptions in Kinshasa:

- All respondents were aware and concerned about specific environmental issues affecting the capital – **particularly floods, soil erosion, waste and sanitation issues, as well as air pollution** – which they had either directly observed prior to their migration or during a recent visit or had been made aware of indirectly through friends or relatives. It was widely acknowledged amongst our sample that these issues had recently gained in intensity and severity and that they were linked to human activity: Floods, erosions and landslides were attributed to poor urban planning, risky construction projects and deforestation. The latter was deemed to be caused by development and commercial projects with foreign countries and accused to lead to more environmental disruptions (e.g. landslides and floods). Waste and sanitation issues were linked to human behaviour and a lack of sanitation services and often associated with the proliferation of pests and diseases.
- All in all, **the degradation of the capital's (natural) environment was considered by most respondents as one of the factors reinforcing overall perceptions of a degraded living environment in Kinshasa**. Although participants never explicitly cited environmental changes as a reason for their migration to Belgium (as expected prior to starting this research), many respondents perceived that such changes had contributed to the overall degradation of their living environment. Such factors could have therefore – to varying extents – weighed into the decision to migrate, along with social, economic, political and demographic factors. When asked about the reasons behind their decision to migrate to Belgium, most respondents referred to

¹⁸ A further in-depth study of how political remittances contribute to adaptation strategies has become the subject of Samuel Lietaer's PhD thesis (ULB).

political, study or family reasons (i.e. family reunification). Additionally, historical and linguistic ties between DRC and Belgium often further supported the choice of the destination.

Keeping transnational ties alive between Belgium and Kinshasa: Remittances and development projects:

- **All interviewees had maintained strong links with their relatives back home, notably through social media.** The majority sent back remittances, except for those who were facing economic and administrative hardships due to ongoing efforts to regularize their stay.¹⁹ Many brought up the **pressure they felt on part of their community regarding remittances**, highlighting the **contrast between the life that their relatives back home think they are living and the complex realities of their daily life in Belgium**. Yet, most found it normal – and even compulsory – to assist their family members financially because of the socioeconomic context in DRC, even though this resulted in sacrifices on their part. Cash transfers were sent with different levels of frequency (occasional to regular) with the aim of helping the receiver fulfill their basic needs or for punctual occasions (funerals, weddings, illnesses).
- Most respondents acknowledged that they would like to go back to DRC should the political and socio-economic situation improve, although this was not the case for respondents with longer lasting (family) ties in Belgium, who considered both countries as their own. Student-migrants mostly reflected on their move as a way to gain useful skills and to fulfil their ambition to eventually return to DRC and give back to their community of origin. **Most respondents reported acting from abroad through projects focused on DRC.** Some had engaged in or created associations, mainly oriented towards health and education. Others were still active with their political parties from Belgium (through social media). Several respondents stated that their migration experience had enabled them to develop new knowledge that could be used in DRC should they return. Some had very specific projects or project ideas in mind to improve the Congolese society (e.g. creating more efficient security services, developing opportunities for Belgium-based businesses in DRC, introducing concepts of health care and social services).

4.3. Conclusions and recommendations

4.3.1. General policy recommendations

The following findings and associated policy recommendations were first presented on the occasion of the third steering committee meeting in September 2019, and are articulated around three themes.

¹⁹ Many participants had faced important (administrative) difficulties upon arrival in Belgium, with about half either undergoing or having undergone a period of undocumented stay - having had to rely on the black market or on their personal networks to secure their livelihoods. Respondents generally acknowledged that their situation in Belgium had improved from the moment they were able to regularize their stay, secure a regular income, feel included in the Belgian society, and/or provide for their family.

Theme 1: Perceptions of environmental changes in the area of origin

Finding	Recommendation
The most preoccupying environmental phenomena identified by respondents were human-induced	Decision-makers must actively support measures to address desertification, overfishing, poor urban governance, waste management, disaster risk reduction measures (Climate change/development policies)
Perceptions of climate change are very diverse and localized	Decision-makers must take measures to raise awareness of local populations on the adverse and diverse effects of climate change (e.g. sensitization activities, integration of climate change considerations into school curricula) while integrating local/indigenous knowledge (Climate change, education policies)
Migration was not primarily attributed to environmental factors/changes, but indirect pathways were recognized (Climate change seen as a multiplier threat)	Policies that seek to address the causes of migration need to recognize the indirect impacts of environmental changes (multi causality, etc.) (Migration policies)

Theme 2: Situation of migrants in Belgium

Finding	Recommendation
Migrants' organisations in Belgium are important partners for resilience-building projects	Policy makers to initiate partnerships with diaspora/migrant organisations in order to co-develop projects that contribute to increased resilience in the communities of origin (Migration policies)
"Integration" serves as a prerequisite for engaging in transnational activities	Belgian policy makers to improve the inclusion of migrant populations in order to increase their potential to engage in transnational activities. Ex: reducing discrimination in employment, accommodation, education and training opportunities (Social policies)
Gender is an important factor that needs to be considered when studying environmental change, the development of migration aspirations, and immobility	Policies should be aware that gender impacts and limits the development of migration imaginaries, and therefore, the ability and aspiration to migrate. (Migration policies and adaptation strategies for immobile groups)

Theme 3: Transnational relations between the diaspora and the community of origin

Finding	Recommendation
Diaspora members are perceived to have a very positive impact in the development/economic resilience of their villages of origin through individual and collective (financial and social) remittances (but their contributions to climate change adaptation are less evident)	Decision/policy makers to create a conducive environment to maximize the impact of remittances on economic resilience (e.g. reducing transfer costs); to incentivize investments in agricultural resilience/climate change adaptation in areas affected by environmental changes (without imposing the migrants' burden) (Diaspora engagement policies)
Migrants and non-migrants in the villages of origin do not have the capacity to initiate large infrastructure projects (more feasible for them to invest in smaller-scale projects)	Decision/policy makers to support local, small-scale initiatives and encourage governmental agencies/donors to invest in larger infrastructure and adaptation projects (Climate change policies)
Migration and its benefits can exacerbate pre-existing inequalities	Need to bridge the gap between populations and address social exclusion of those who do not have the same advantages (Development policies)

4.3.2. Country-specific policy recommendations

Country-specific policy briefs were also produced as a result of the project (see annexes 2, 3 & 4). Below is a summary of the key recommendations contained therein:

4.3.2.1 Recommendations based on the Moroccan case study

Our findings yield important policy implications and recommendations related to: 1) the ways in which **migration can serve as an adaptation strategy** in response to environmental changes, 2) the need to **reduce the vulnerabilities** of Moroccans living in or migrating from gradually degrading areas, and 3) the importance of **sharing knowledge and scientific discourses** regarding environmental changes and their impacts.

Priority Area 1: Enabling adaptation strategies (including migration) to cope with environmental change

Migration, as a means to deal with increased demographic pressure and diversify a household's income through new job opportunities, can be perceived as an adaptation strategy to environmental changes in natural resource-dependent communities. At the same time, our findings indicate that migration can also reinforce inequalities among Moroccan communities. People and communities without transnational migration networks are, for instance, less likely to benefit directly from migrants' financial and social remittances and may therefore be more vulnerable to the adverse impacts that environmental change may have on their livelihoods.

It is recommended:

- That policy makers and academics approach **migration as a (potential) adaptation strategy and as a long-term and complex process, possibly spanning over several generations**, rather than as a strategy that automatically and inevitably yields benefits for migrants, communities of origin and of destination.

- That local and national policy makers support and promote the **development of community-based and country-wide adaptation strategies, including migration**. Given the individual and fragmented nature of the sending of remittances and their unequal distribution across regions of origin, **diaspora initiatives should not be considered as the sole or main source of adaptation support** in the face of environmental change. Diaspora communities could however be involved in the development of adaptation strategies and their actions could supplement existing governmental initiatives.
- That policy makers actively **integrate international and local migration and environmental policies by considering policies developed at the local, regional, national, and international level**.

Priority Area 2: Reducing migrant and non-migrant populations' vulnerabilities to environmental change

Environmental migration challenges the traditional dichotomy between *forced* and *voluntary* forms of human mobility, introducing debates around the protection that should be afforded to people who move (or stay put) in the context of climate change. Since both gradual and sudden environmental changes interact with other migration drivers, in practice, the creation of a distinct protection category for 'environmental migrants' is far from being a straightforward matter. Political will, international cooperation and integrated regional adaptation policies are needed to craft more efficient and inclusive migration policies that address the vulnerabilities of migrants and non-migrants in a changing climate.

It is recommended:

- That international, regional and national policy makers invest more effort in developing **differentiated and regional approaches to deal with environmental change and migration**. Such a regional approach would be justified by the local/regional specificities of environmental change and of how they relate to migration dynamics. At the same time, regional approaches within countries should better consider the broader social, political and economic context.
- That international policy makers develop a **clearer legal framework regarding migration**. This revision of existing migrant categorizations would enable policy makers to better consider the nature of environmental factors in migration dynamics.
- That policy makers **include affected populations to co-create and co-produce policies on environmental change and migration**.
- That policy makers at all levels give attention to **differential vulnerabilities and adjust their policies accordingly**. Such an approach could reduce vulnerabilities to environmental change and better protect specific target groups, such as migrant workers or women. Importantly, such vulnerabilities may also evolve over time, depending on a person's life phase (e.g., student; single; married with children; elderly).

Priority Area 3: Disseminating knowledge about environmental changes and their impacts

Given that knowledge about environmental changes and their impacts is often disseminated in very abstract and general terms, people often do not apply these discourses to their own living environment. By contrast, policy makers often fail to incorporate affected populations' views about environmental changes in their policies, which eventually jeopardizes their implementation.

It is recommended:

- That policy makers **communicate better about environmental changes applied to local contexts**. This could include providing specific examples that consider how environmental changes interact with other changing socio-economic and political factors in a given context.

- That policy makers **consider existing ideas and knowledge concerning environmental change, adaptation strategies and risk perceptions of the affected populations** when establishing migration policies and environmental adaptation strategies. They should involve affected populations to ensure that their policies and initiatives are supported by the target group.

4.3.2.2 Recommendations based on the Senegalese case study

Senegalese migrants in Belgium are concerned about adverse environmental changes that affect daily living conditions in their communities of origin. Yet, they possess limited financial and technical capacity to effectively enhance those through individual and collective remittances. Most respondents believed that such issues could only be solved collectively through partnerships and political action focused on understanding the causes of environmental degradation and learning how to cope with its adverse effects. In this regard, Belgian and Senegalese policymakers could further engage the diaspora and strengthen existing transnational practices by supporting and enabling adaptation-focused actions and projects.

Priority Area 1: Enabling adaptation actions that include the diaspora and help non-migrants respond to environmental change

It is recommended:

- that Belgian development actors **support Senegalese policymakers in developing local and national development and adaptation plans, as well as more targeted programs and projects**, that:
 - **include local communities and diaspora members in decision-making processes**, paying special attention to addressing gender disparities as women are much less represented in decision-making;
 - **strengthen access to land and provide technical support to farmers and migrants**, including for maintaining various types of ‘adapted’ communal infrastructure (e.g., dripping irrigation systems and solar-powered water pumps; greening by reforestation and agroforestry), integrating both local and external knowledge;
 - **facilitate migrants and non-migrants’ access to adaptation finance** by:
 - supporting local micro-credit²⁰ and public financial institutions to develop tools to mobilize savings (diaspora bonds) towards sustainable, climate-compatible projects.
 - supporting Senegalese development programs led by various Senegalese institutions²¹ which already target the Senegalese abroad, to effectively orient them towards sustainable investments.

Priority Area 2: Overcoming gaps in terms of information, networks, as well as financial and technical capacities, to effectively address adverse environmental impacts

It is recommended:

- that Belgian and Senegalese policymakers at local and regional levels **co-develop projects with migrants’ organizations**. By supporting migrants’ organizations in Belgium, these could become important partners for resilience-building projects in communities of origin.²² Environmental adaptation should be mainstreamed in these projects.

²⁰ Partnerships with PAMECAS Senegal (Partenariat pour la Mobilisation de l’Epargne et le Crédit Au Sénégal), a well-established micro-finance institution, could be explored.

²¹ Such as : FAISE (Fonds d’Appui à l’Investissement des Sénégalais de l’Extérieur), BAOS (Bureau d’Appui, d’Orientation et de Suivi des Sénégalais de l’Extérieur), ARD (Agences Régionales de Développement) and BEL (Bureau Economique Local).

²² See IOM’s “Summits of the Diasporas”

- that Belgian and Senegalese policymakers at local and regional levels **build strong partnerships between municipalities in Belgium and Senegal,²³ migrants and their organizations**, as part of wider international development and solidarity initiatives. These could support migrants when seeking funds and partners to develop projects. Belgian policymakers could for instance develop **match-fund schemes** for migrant associations when socio-environmental criteria are met. They could encourage the creation of **places of exchange** (e.g., an easily accessible online and physical platform) between state actors, NGOs and diaspora organizations in Belgium to improve the flow of information, know-how and experiences;
- that Belgian and Senegalese policymakers at the national level **initiate bilateral agreements supporting financial and material remittances** through:
 - subsidies that reduce the cost of sending money online and/or through mobile phones, and reduce the remittance fees of money transfers (thus supporting SDG 10);²⁴
 - reducing or releasing from customs all transferred materials with a social not-for-profit and collective purpose (e.g., health, education, water management).
 - remittance tax relief schemes for ecologically ‘adapted’ and sustainable, productive, inclusive projects
- that Belgian and Senegalese policymakers at the national level **cooperate through bilateral agreements to facilitate international mobility** by:
 - **using certain forms of circular and temporary migration, such as labor-related migration schemes,²⁵** to improve professional skills through work experience gained in Belgium, for both high-skilled and low-skilled migrants. Besides providing a decent salary to internationally mobile Senegalese, such experience could be used to pursue activities in more environmentally resilient sectors upon return to Senegal (e.g., in non-agricultural sectors).

4.3.2.3 Recommendations based on the Congolese case study

Based on the above-mentioned findings and on a broader picture of the environmental and demographic situation in DRC, several policy recommendations can be formulated. The first two focus on environmental protection measures, while the next two highlight actions towards preventing forced migration. Some could be handled at the national level; others by external partners:

- 1) **Strengthening environmental and natural hazards risk management institutions and programmes:** Although institutions in charge of environmental and natural hazards risk management have been established in several provinces (including Kinshasa and North Kivu), the weakness of these still very-young institutions, the lack of data on environmental risks and natural hazards, and the absence of long term environmental and disaster risk reduction policies are major pitfalls for environmental and natural hazards risk management.²⁶ Strengthening the role of these institutions by providing them with the necessary financial and technical resources to fulfil their mandate could improve environmental and natural hazards risk management in the long term and increase the population's awareness of such issues, fostering joint action for environmental conservation.

²³ Local development agencies in Senegal are considered politically more neutral than the local government (due to ethnic class and statutory group tensions) and seem adequate ‘consensus partners’ for implementing co-development initiatives.

²⁴ “Reduce to less than 3 % the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%”.

²⁵ See Enabel’s PALIM project

²⁶ Michellier, C., Pigeon, P., Paillet, A., Trefon, T., Dewitte, O. & Kervyn, F. (2020). The Challenging Place of Natural Hazards in Disaster Risk Reduction Conceptual Models: Insights from Central Africa and the European Alps, *International Journal of Disaster Risk Science*, 11, p.316–332. Retrieved from: <https://doi.org/10.1007/s13753-020-00273-y>

- 2) **Improving urban development planning in areas overwhelmed by rural-urban migration:** Different population growth rates across provinces, uneven development and regional patterns of insecurity have driven large-scale migration towards urban centers, which are experiencing rapid population growth: Kinshasa's population is expected to grow to 35 million by 2050.²⁷ Better addressing the planning and development of urban settlements could contribute to a better management of space and of natural resources available in these areas. Such policies could have positive environmental consequences and reduce current threats faced by the environment and urban residents.
- 3) **Enhancing regional security to reduce internal and international forced migration:** Ongoing insecurity in eastern DRC continues to be a driver of population displacement. There are currently 5 million internally displaced persons in the DRC, mainly due to conflict and insecurity,²⁸ which plays a significant role in rural-urban migration trends, but also in terms of international migration (more than 940,000 Congolese refugees currently live abroad).²⁹ The political stabilization of the eastern region has long posed a challenge for DRC's internal politics. This led to the establishment of peace agreements by foreign, regional and international powers, which remain, to this day, not respected by all parties.
- 4) **Supporting ongoing efforts to accompany the demographic transition:** International migration needs to be addressed holistically in the light of population dynamics in general, and the demographic transition in particular, balancing the costs and benefits of development in both DRC and destination countries. Emigration from DRC to European countries is partly due to rapid population growth in the DRC and the inability of the Congolese labor market to absorb the excess labour force.³⁰ It is partly absorbed by the advanced state of demographic transition (low birth rates) in most European countries which implies a demand for labour force in specific sectors (e.g. health care). Although international migration options are increasingly restrictive, families invest in setting up someone abroad for prestige and remittances. From the development perspective of these families and of DRC, migration entails advantages in terms of remittances, diaspora investment flows, and the improvement of migrants' education and skills. Driving DRC towards demographic transition could alleviate the need for some families to send one of their members abroad for financial support in return.

5. DISSEMINATION AND VALORISATION

Throughout the duration of the project, the MIGRADAPT team took part in over 70 dissemination events. For the purpose of this report, we will first present communications that are specifically related to the project and events that featured more than one MIGRADAPT partner. We then present a selection of events which MIGRADAPT partners took part in and that are relevant to the theme of the MIGRADAPT project (namely, environmental migration) and thus contribute to building and disseminating knowledge on this issue.

²⁷ United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019: Highlights (ST/ESA/SER.A/423)

²⁸ <https://reporting.unhcr.org/drc>, 2020

²⁹ <https://data2.unhcr.org/en/situations/drc>, 2021

³⁰ IOM (2010) Migration en République démocratique du Congo : Profil national 2009. 134 pages.

5.1 Webpage and social media

A permanent web page was set up for the MIGRADAPT project on the Hugo Observatory's main website, available via this link: <https://bit.ly/37AZTEs>. Any update or publication directly related to the project was added on the page and was also disseminated via the Hugo Observatory's social networks³¹.

5.2 MIGRADAPT-specific communications and events (in chronological order)

- **30 April 2018 (Ouarzazate, Morocco):** During her fieldwork in Morocco, Lore Van Praag (UA) presented her work on *"Climate change-induced migration aspirations of people living in Tinghir (Morocco)"* at an international conference focused on human capital, territorial marketing and sustainable development in oases and mountainous areas.
- **12 June 2018 (Brussels, Belgium):** S. Lietaer (ULB) presented on *«Impact du changement climatique en Afrique: la migration vers l'Europe comme stratégie d'adaptation»* at Cinéma Galleries for «Plan Climat Bruxelles»
- **14 June 2018 (Rotterdam, The Netherlands):** Lore Van Praag (UA) participated in the 2018 edition of 'Dag Van de Sociologie' where she presented on *"Climate change impacts on migration aspirations: The role of a culture of migration for people living in a gradually degrading region in Morocco"*.
- **3 July 2018 (Barcelona, Spain):** Members of the consortium took part in a joint MIGRADAPT panel titled: *"New perspectives on migration as an adaptation strategy to climate change"* at the 15th annual IMISCOE conference. François Gemenne (PI, ULiège) started by presenting *"What governments say about environmental migration: a first analysis of the negotiations of the UN Global Compact on Migration"*. Elodie Hut (ULiège) then presented the MIGRADAPT project through a presentation titled *"Making migration work for adaptation. A Belgian appraisal"*. Lore Van Praag (UA) and Samuel Lietaer



³¹ Twitter page: <https://bit.ly/3AfVTVV> (4,539 followers as of late June 2021, 2,347 followers as of late July 2021)

(ULB) respectively presented results from their field work with presentations respectively titled: *“Climate change impacts on migration aspirations: The role of a culture of migration for people living in a gradually degrading region in Morocco”* and *“Impacts of diaspora on climate adaptation (strategies) of communities of origin: policies, experts and community perceptions in Senegal”*.

- **4-8 September 2018 (Liège, Belgium):** François Gemenne, Caroline Zickgraf and Elodie Hut (ULiège) organized a Summer School on “Environmental Changes and Migration” to which Samuel Lietaer (ULB) presented results of his MIGRADAPT fieldwork (More information: <https://bit.ly/3wGpd6K>)



- **22-23 October 2018 (Paris, France):** Samuel Lietaer (ULB), Caroline Zickgraf (ULiège) and François Gemenne (ULiège) were invited to present their work at the conference « Migration, Environment and Climate: What risk inequalities?» organized by the Institut national des Etudes démographiques (INED). Their presentations respectively touched upon: *“La contribution de la diaspora à la résilience aux changements environnementaux au Sénégal”* (poster), *“Climate change, inequalities and (im)mobility in developing countries: evidence from the Immobile Project”* and *“Disaster evacuations in democracies: a comparative assessment of inequalities following Katrina, Fukushima and Irma evacuations”*. More information: <https://bit.ly/3gGnyIT>

- **14-15 November 2018 (Bratislava, Slovakia):** Elodie Hut (ULiège) took part in the panel on “Current frontiers in environmental migration” during the final EDGE Annual Conference and presented the MIGRADAPT project through a presentation *“Making migration work for adaptation. A Belgian appraisal”*. Caroline Zickgraf (ULiège) also presented an ongoing paper on *“Migrants and the threat of resources shortages: Demystifying perceptions”*.



- **25 April 2019 (Brussels, Belgium):** F. Gemenne (ULiège) and S. Lietaer (ULB) took part in a panel for the Conference on Climate and Migration. Recordings available at the following link: <http://bit.ly/3ageJ2y>

- **6-7 June 2019 (Wageningen, The Netherlands):** Representatives of the MIGRADAPT team attended the research symposium “A mobilities lens to the human mobility-environmental change nexus”.



Presentations by Elodie Hut (ULiège) and S. Lietaer (ULB) both drew from the MIGRADAPT project and were respectively titled: *“Appraising the role of the environment as a shaping element of migrants’ fragmented journeys”* and *“The impacts of mobilities on transformative resilience and adaptation to environmental changes in North-Eastern Senegal”*. Caroline Zickgraf (ULiège) also presented on *“(Im)mobilities and climate change: Locating environmental immobility in theory and in practice”*. More information: <https://bit.ly/3vEbMTC>

- **26 September 2019, Brussels, Belgium):** F. Gemenne (ULiège) and S. Lietaer (ULB) both took part in the 2019 “Collège Belgique” lectures organized by the Académie royale de Belgique. Both their presentations were grouped in a series of lectures « Les migrations environnementales: enjeux, défis et opportunités ». F. Gemenne’s presentation focused on « *Les réfugiés de l’anthropocène* » (Recording : <http://bit.ly/2Qpx5q2>) , while Samuel Lietaer’s drew from his MIGRADAPT fieldwork and explored *“La migration comme stratégie d’adaptation ? »*. <https://bit.ly/3i3cwOs>
- **7 December 2020 (Online):** The MIGRADAPT team led a joint event with the Horizon 2020 project HABITABLE (www.thehabitableproject.org). The purpose of this event was to identify synergies between the two projects, share useful lessons learned from one project that was due to end (MIGRADAPT) with one that had just started (HABITABLE), as well as to start a conversation between the researchers of the two projects. Elodie Hut (ULiège) started with a short introduction of both projects, highlighting the synergies between them (focus on migration as a potential adaptation strategy to environmental change as well as on perceptions of environmental changes (including the impact of these perceptions on migration aspirations/decisions, and adaptation), the selection of Senegal as a case site, and the objective to formulate policy recommendations.). This was followed by a roundtable on lessons learned from the MIGRADAPT project, chaired by Elodie Hut (ULiège) and Harald Sterly (University of Vienna, HABITABLE project) and featuring MIGRADAPT researchers Lore Van Praag (UA), Samuel Lietaer (ULB) and Caroline Michellier (RMCA). Besides the MIGRADAPT consortium, participants include members from the HABITABLE project (IRD, CSIR, PIK, adelphi, Raks Thai Foundation, University of Vienna, University of Neuchâtel, University of Roma, University of Twente) and members of the MIGRADAPT steering committee (IOM Belgium & Luxembourg, Belgian Office of the Special Envoy for Migration and Asylum/Federal Foreign Affairs Department). Recording available: <https://bit.ly/3iRD9oI>
- **25 March 2021 (digital):** Climate Walk, Climate Change Research across Disciplines (“We Listen”), Environmental migration. Recording available: <https://bit.ly/2UNUO8U>
- **4 April 2021 (Mechelen, Belgium, digital):** ‘t Vrije Brein, ‘Klimaatmigratie’, Lore Van Praag (UA) presented her work and discussed the nature of environmental migration, based on the Moroccan case study in detail. Recording available: <https://bit.ly/2WaRTr5>
- **15 June 2021 (Antwerp, Online):** Lore Van Praag (UA) presented her work ‘A Qualitative Study of the Migration-Adaptation Nexus to Deal with Environmental Change in Tinghir and Tangier (Morocco)’ on the occasion of the **UCSIA Webinar ‘Environmental mobility and solidarity’**. Recording available: <https://bit.ly/3i5GdOZ>

- **1 July 2021 (Luxemburg, Online):** IMISCOE Conference, Lore Van Praag (UA) presented her work ‘Perceptions and explanations of environmental change in Morocco’.
- **9 July 2021 (Luxemburg, Online):** IMISCOE Conference, Lore Van Praag (UA) presented her work ‘Can I move or can I stay? Applying a life course perspective on immobility when facing gradual environmental changes in Morocco’.

5.3 Other MIGRADAPT-relevant events (selection)

Between January, 2017 and July, 2021, the MIGRADAPT team took part in the following events of particular relevance to the project (listed in chronological order).

DATE AND PLACE	TITLE	MIGRADAPT member
February 2017 - ULB - IGEAT, Brussels (Belgium)	Seminar on controversies related to environmental migration	Samuel Lietaer (ULB)
March 2017 - ULB- Anthropology, Brussels (Belgium)	Workshop “Toward a methodological and theoretical concept for understanding the links between migration and education choices in Northern Senegal”	S. Lietaer (ULB)
8 March 2017 - Paris (France)	Lecture on Environmental Migration entitled “L’Europe et les migrations environnementales” on the occasion of the 15th anniversary of the Euro, the 30th of the Erasmus Exchange programme and the 60th anniversary of the Treaty of Rome). https://bit.ly/3qezwMP	François Gemenne (ULiège)
17 March 2017 - Virton and Arlon (Belgium)	Presentation on Climate Change https://bit.ly/3gKcx8a	S. Lietaer (ULB)
23 May 2017 - New York (USA)	An address during the 2nd thematic consultative session of the UN Global Compact on Safe, Orderly and Regular Migration https://bit.ly/3gJzmdU	F. Gemenne (ULiège)
6-17 November 2017 - Bonn (Germany)	Participation of Hugo Observatory members in several side events of the 23rd UNFCCC Conference of Parties (COP) https://bit.ly/3vJJlna	F. Gemenne, C. Zickgraf, D. Gharbaoui, Sara Vigil
20-24 November 2017 - Liège (Belgium)	Hugo Film Festival organized by the Hugo Observatory featuring 14 movies focused on climate change and migration. https://bit.ly/35DfySL	F. Gemenne, C. Zickgraf (ULiège)
7-9 February 2018 - Ouagadougou (Burkina Faso)	Conference “Environmental Migration: The state of the Research in West Africa	F. Gemenne, C. Zickgraf (ULiège)

11-12 April 2018 - New Orleans (USA)	AAG Annual Meeting: ULG chaired a panel on “Politics of environmental changes: mapping the interactions between migration, territories and natural resources” . https://bit.ly/3qfoJ5l	F. Gemenne, C. Zickgraf (ULiège)
24 May 2018 - Brussels (Belgium)	Conference “Climate/environmental refugees: towards a possible international definition” . Panel on “Climate Change, its role on displacement of population and humanitarian crises”	C. Zickgraf (ULiège)
11 June 2018 - Brussels (Belgium)	Roundtable on Climate-Induced Displacement with K. Warner (UNFCCC), N. Birkeland (NRC) and Ambassador J.-L. Bodson (Belgium Special Envoy on Asylum and Migration)	F. Gemenne (ULiège)
11 June 2018 - Hannut (Belgium)	Conference «Migrations et Climat» organised by Centre culturel de Hannut	S. Lietaer (ULB)
12 June 2018 - Brussels (Belgium)	Presentation «Impact du changement climatique en Afrique: la migration vers l’Europe comme stratégie d’adaptation» at Cinéma Galleries for «Plan Climat Bruxelles»	S. Lietaer (ULB)
18-20 July 2018 - London (UK)	Refugee Law Initiative Annual Conference: “Refugee protection in a hostile world?”.	F. Gemenne and C. Zickgraf (ULiège)
16 October 2018 - Antwerp (Belgium)	Debate on environmental migrations organised by the Institute of Development Policy of the University of Antwerp	S. Lietaer (ULB), C. Zickgraf (ULG)
17-19 October 2018 - Durban (South Africa)	Presentation: “Reducing disaster displacement risk in Southern Africa: Opportunities and challenges” at the 4 th biennial conference of the Southern Africa Society on Disaster Risk Reduction “Stop disaster risk creation in SADC”	E. Hut (ULiège)
22 October 2018 - Antwerp (Belgium)	Guest lecture on environmental migration and displacement in the course ‘Interdisciplinary approaches to migration’	L. Van Praag (UA)
8 November 2018 - Louvain-la-Neuve (Belgium)	Debate-Conference «Refugiés climatiques»	S. Lietaer (ULB)
8-9 November 2018	Organisation by the Hugo Observatory of a series of lectures on Environmental Migration by Prof. Emeritus Roger Zetter (University of Oxford, Refugee Studies Centre) https://bit.ly/3wK3sCZ	F. Gemenne, C. Zickgraf, E. Hut (ULiège)
22 November 2018 - Pont-à-Celles (Belgium)	Outreach conference on environmental migration	S. Lietaer (ULB)
24 November 2018 - Brussels (Belgium)	Forum citoyen “Pour une migration solidaire” - presentation of the Migradapt research and policy implications	S. Lietaer (ULB)

25 November 2018 - Antwerp (Belgium)	“Dag van de Wetenschap/The Day of Science”, organised by UAntwerpen. Organisation of activities on environmental migration https://bit.ly/2TT3dXD	Lore Van Praag (UA)
26 November 2018	Guest lecture on environmental migration and displacement in the course ‘Introduction of Migration’, Prof. C. Van Mol	Lore Van Praag (UA)
3-14 December 2018 - Katowice (Poland)	Participation in COP 24 https://bit.ly/3zljzD6	ULG
5 March 2019 - Nairobi (Kenya)	UNEP Workshop on Environmental Migration and Displacement	C. Zickgraf (ULiège)
26 February 2019 - Liège (Belgium)	Guest lecture during the course “Global Environmental Change” (taught by C. Zickgraf) aimed at presenting the MIGRADAPT project to ULg Master students	E. Hut (ULiège)
21 March 2019 - Liège (Belgium)	Conference “Migrant-e-s: Quel accueil?” . Presentation in the context of the <i>Campus Plein Sud</i> campaign. https://bit.ly/3qcl0oQ	E. Hut (ULiège)
25 April 2019 - Brussels (Belgium)	Bernheim Conference on Climate & Migration «Comment concevoir la migration dans l’Anthropocène?» .	S. Lietaer (ULB)
2 May 2019 - Brussels (Belgium)	Roundtable «Le réchauffement climatique : Quel impact pour les droits humains?» organized by Cercle Amnesty International/Université Saint Louis.	E. Hut (ULiège)
9 July 2019 - Ghent (Belgium)	Lecture at the Migration and Health Summer School on the links between Climate change and Poverty	S. Lietaer (ULB)
8 October 2019 - Brussels (Belgium)	Roundtable “Human rights and displacement: The adverse effects of climate change”	C. Zickgraf (ULiège)
19 October 2019 - Rabat (Morocco)	Carrefour Euro-Africain de la Migration et du Développement. Keynote presentation: “Climate change and migration in Africa”. https://bit.ly/3wOB17c	C. Zickgraf (ULiège)
29 October 2019 - Strasbourg (France)	Conference of the INGOs of the Council of Europe “Changement climatique, migrations et droits humains”. Presentation on “Climate change and human mobility	C. Zickgraf (ULiège)
15 November 2019 - Lyon (France)	Roundtable “La Géopolitique du changement climatique” Festival des Solidarités Internationales.	E. Hut (ULiège)
25 and 26 November 2019 - Dakar (Senegal)	Workshop: « Journées des jeunes chercheurs sur la migration » organised by Laboratoire de Géographie Humaine de l’Université Cheikh Anta Diop, with OIM support	S. Lietaer (ULB)
27 November 2019 - Brussels (Belgium)	High-level event on “Climate and security: Beyond the threat multiplier” organised by the Young Diplomats in Belgium	F. Gemenne (ULiège)

10 December 2019 - Madrid (Spain)	COP 25 roundtable on “Climate change, migration and displacement” organized by the Spanish Secretary of State for Migration Affairs	F. Gemenne (ULiège)
12 December 2019 - Madrid (Spain)	COP 25 Side event “Displacement, human mobility and climate change” https://bit.ly/3xHR9r7	F. Gemenne and C. Zickgraf (ULiège)
20 January 2020 - Brussels (Belgium)	Green Salon: “A green vision for human mobility in a climate change world”	C. Zickgraf (ULiège)
11 March 2020 - London (UK)	Intervention at the UK House of Lords (EU Committee) http://bit.ly/2WrMaeR	C. Zickgraf (ULiège)
11 March 2020 Brussels (Belgium)	EESC event on “Climate refugees” https://bit.ly/2IR15Hk	F. Gemenne (ULiège)
17 April 2020 - Online	Hearing “Climate refugees account for more than a half of all migrants but enjoy little protection”. organised by the European Economic and Social Committee. https://bit.ly/2SvBcFC	F. Gemenne (ULiège)
30 April 2020 - Online	“Café Climat “Crise sanitaire, crise climatique:quelle convergence?”, reflexion proposed by the Parisian Climate Agency.	F. Gemenne (ULiège)
30 April 2020 - Online	“Environmental Migrations” organised by Sciences Po Environnement student association	F. Gemenne (ULiège)
7 May 2020 - Online	Webinar “Le monde d'après sera-t-il meilleur?” organised by the Green Management School https://bit.ly/3gG2rFe	F. Gemenne (ULiège)
16 September 2020 - Online	Webinar: “Is climate change migration a self-fulfilling prophecy? Interdisciplinary dialogues on the migration-environment nexus”	C. Zickgraf (ULiège)
6 November 2020 - Online	Virtual debate “Migration and Climate Change: What Can European Cooperation Achieve?” hosted by ECFR https://bit.ly/3cLgmZu	F. Gemenne and C. Zickgraf (ULiège)
11 November 2020 - Online	Webinar “Data and Knowledge on Human Mobility in the Context of Natural Hazards” hosted by Platform on Disaster Displacement. https://bit.ly/3gITi6D	C. Zickgraf (ULiège)
24 November 2020 - Online	Virtual marketplace event “Assessing the State of Data and Research on Human Mobility in the Context of Disaster, Climate Change, and Environmental Degradation” hosted by the Data Knowledge Working Group of the Platform on Disaster Displacement	C. Zickgraf (ULiège)
8 December 2020 - Online	Virtual dialogue “Evidence vs Myth: Understanding Displacement in a Changing Climate” hosted by IDMC https://bit.ly/3vK01uS	F. Gemenne (ULiège)
4 November 2020	University of Antwerp, guest lecture on “Environmental	L. Van Praag (UA)

Online	migration' in the course 'Klimaatverandering (korfvak)	
2 December 2020 Online	University of Antwerp, guest lecture on "Environmental migration' in the Postgraduate: Energy & Climate Change	L. Van Praag (UA)
4 February 2021 - Online	Third technical panel on the occasion of the Commemoration of the 5th Anniversary of the Endorsement of the Nansen Initiative Protection Agenda, the Adoption of the Sendai Framework for Disaster Risk Reduction, and the Paris Agreement under the UNFCCC"	F. Gemenne (ULiège)
27 February 2021 - Online	Webinar "L'Anthropocène, l'autre bombe H?" organised by the Wallonia-Brussels National Theater on the Anthropocene https://bit.ly/3gJrlz8	F. Gemenne (ULiège)
17 March 2021 - Online	Webinar, "Les migrations climatiques face aux murs" organised by UQAM's Geopolitics Observatory. Roundtable on climate-induced migration and frontiers https://bit.ly/3gOEVWJ	C. Zickgraf (ULiège)

6. PUBLICATIONS

The results of the project are further presented in articles published in peer-reviewed journals as well as in other scientific and non-scientific publications. Moreover, policy briefs were produced for each of the countries researched to formulate policy recommendations that can help migration and development policies make better use of the transnational connections between migrants and their communities of origin in order to strengthen their adaptive capacities to environmental changes.

6.1. Peer-reviewed articles

Van Praag, L. (2021). A qualitative study of the migration-adaptation nexus to deal with environmental change in Tinghir and Tangier (Morocco). *Journal of Integrative Environmental Sciences*, 18(1), 1-17. DOI: <https://doi.org/10.1080/1943815X.2020.1869784>

Van Praag, L. (2021). Can I move or can I stay? Applying a life course perspective on immobility when facing gradual environmental changes in Morocco. *Climate Risk Management*, 31 (online), DOI: <https://doi.org/10.1016/j.crm.2021.100274>

McLeman, R., Wrathall, D., Gilmore, E., Thornton, P., Adams, H., **Gemenne, F.** (2021). Conceptual framing to link climate risk assessments and climate-migration scholarship. *Climatic Change*. 165: 24. <https://bit.ly/2TFAmG8>

Lietaeer, S., Brüning, L., Ndoeffe Faye, C. (2020). Ne pas revenir pour mieux soutenir? *Emulation – Revue de sciences sociales*, 34, 97-113. DOI: <https://doi.org/10.14428/emulations.034.05>

De Longueville, F., Ozer, P., **Gemenne, F.**, Henry, S., Mertz, O., Nielsen, J. Ø. (2020). Comparing climate change perceptions and meteorological data in rural West Africa to improve the

understanding of household decisions to migrate. *Climatic Change*, 160, 123-141. DOI : <https://doi.org/10.1007/s10584-020-02704-7>

Gemenne, F., Zickgraf, C., Depoux, A., Pettinotti, L., Cavicchioli, A., Rosengaertner, S. (2020). Transformative climate action in cities. *Forced Migration Review*, 63. <http://bit.ly/32CmMnn>

Boas, I., (...) **Hut, E., Lietaer, S., Zickgraf, C.** (...). (2019) Climate Migration Myths. *Nature Climate Change*, 9, 901-903. <https://go.nature.com/3xug2q2>

Van Praag, L., Timmerman, C. (2019). Environmental migration and displacement: A new theoretical framework for the study of migration aspirations in response to environmental changes. *Environmental Sociology*, 5(4), 352-361. DOI: <https://doi.org/10.1080/23251042.2019.1613030>

Zickgraf, C. (2019). Keeping people in place: Political factors of (im)mobility and climate change. *Social Sciences*, 8(8), 28. DOI: <https://doi.org/10.3390/socsci8080228>

Zickgraf, C. (2018). “The fish migrate and so must we”: The relationship between international and internal environmental mobility in a Senegalese fishing community. *Medzinarodne vzťahy (Journal of International Relations), Ekonomická univerzita, Fakulta medzinárodných vzťahov*, 16(1), 5-21. Link: <https://bit.ly/2SBPJ2A>

Tomety, Y. D., Puskarova, P. **Gemenne, F.,** and Ozer, P. (2018). The complexity of environmental migration: Case of the returned Burkinabé Fulani breeders from Bouna Department in Ivory Coast to Noumbiel Province in Burkina Faso. *Medzinarodne vzťahy (Journal of International Relations), Ekonomická univerzita, Fakulta medzinárodných vzťahov*. 16(1), 22-38. Link: <https://bit.ly/3wDfy0F>

Gemenne, F., Blocher, J. (2017). How can migration serve adaptation to climate change? Challenges to fleshing out a policy ideal. *The Geographical Journal*, 183(4), 336-347. DOI: <https://doi.org/10.1111/geoj.12205>

Gemenne, F. et al. (2017). Consequences of rapid ice sheet melting on the Sahelian population vulnerability. *Proceedings of the National Academy of Sciences of the US*, 114(25), 6533-6538. DOI: <https://doi.org/10.1073/pnas.1619358114>

6.2. Peer-reviewed books, book chapters and book reviews

Van Praag, L., Ou-Salah, L., Hut, E., Zickgraf, C. (2021). *Migration and Environmental Change in Morocco: In Search for Linkages between Migration Aspirations and (Perceived) Environmental Changes*. London: Springer. DOI: <https://doi.org/10.1007/978-3-030-61390-7>

Ou-Salah, L. & **L. Van Praag** (2021). Klimaatveranderingen en migratie. In Vicca, S. & A. Crabbé (Eds.). *Van klimaatverandering naar systeemverandering. Inzichten uit diverse wetenschappelijke disciplines*. Brussel: ASP editions.

Van Praag, Lore (forthcoming 2021). 'Transnational society in light of environmental change'. In: Silke Meyer & Claudius Ströhle (Eds.) *Remittances as Social Practices and Agents of Change - The Future of Transnational*, Cham: Springer Nature

Zickgraf, C., Castillo Betancourt, T., Hut, E. (Eds.) (2021). *The State of Environmental Migration 2020: A review of 2019*. Presses Universitaires de Liège <https://bit.ly/3gld36B>

Zickgraf, C., Castillo Betancourt, T., Hut, E. (Eds.) (2020). *The State of Environmental Migration 2019: A review of 2018*. Presses Universitaires de Liège <https://bit.ly/3qceogJ>

Van Praag, L. (2019) Op de vlucht voor orkanen, waterschaarste en maladaptatie: De (h)erkenning en bescherming van klimaatmigranten. In Sacha Dierckx (ed.). *Klimaat & sociale rechtvaardigheid*. Oud-Turnhout: Gompel & Svacina

Zickgraf, C. (2019). Climate change and migration crisis in Africa. In: Menjívar, Cecilia, Cecilia; Ruiz, Marie; Ness, Immanuel (Eds.), *The Oxford Handbook of Migration Crises*. Oxford Handbooks. <http://bit.ly/3acbvgf>

Zickgraf, C., Hut, E., Gemenne, F. (Eds.) (2019). *The State of Environmental Migration 2018: A review of 2017*. Presses Universitaires de Liège. <https://bit.ly/3cT7wZP>

McLeman, R., **Gemenne, F.** (Eds.) (2018). *The Routledge Handbook of Environmental Displacement and Migration*. Routledge: Oxfordshire. 464 p. <https://bit.ly/3iQiQJX>

Zickgraf, C. (2018). Immobility. In: R. McLeman, F. Gemenne (Eds.). *The Routledge Handbook of Environmental Displacement and Migration*. Edited by F. Gemenne & R. McLeman. Routledge.

Liettaer, S. (2018). Stephen Smith, La Ruée vers l'Europe. La jeune Afrique en route pour le Vieux Continent. *Belgeo*, 1. DOI : <https://doi.org/10.4000/belgeo.29709>

6.3. Non-scientific articles (selection)

Hut, E., Castillo Betancourt, T., Le Flour, C. (2021). La migration comme stratégie d'adaptation aux changements environnementaux : réalités empiriques et enjeux politiques, *Science Connection*, n°64. Belspo. <https://bit.ly/3y69A9s>

Nash, S., **Zickgraf, C.** (2020). Stop peddling fear of climate migrants. *Open Democracy*. <https://bit.ly/3f5s8PE>

Walker, K., **Zickgraf, C.** (2020). Immobility: The neglected flipside of the climate displacement crisis. *The New Humanitarian*. <https://bit.ly/3f3S12I>

Hut, E., Zickgraf, C., Gemenne, F., Castillo Betancourt, T., Ozer, P., Le Flour, C. (2020). COVID-19, Climate Change and Migration: Constructing Crises, Reinforcing Borders. *IOM Blog Series on the COVID-19 Pandemic, Migration and the Environment*. <https://bit.ly/3goooHi>

Tempus, A., **Gemenne, F., Zickgraf, C., Ozer, P., Hut, E.** (2020). Are We Thinking About Climate Migration All Wrong? *Rolling Stone*. <https://bit.ly/3y9TfQV>

Lietaer, S. (2020). De Senegalese diaspora als motor voor klimaat -en milieu-adaptatie: gemeente Europese hoop? *Klimaatling, Masereelfonds* <http://bit.ly/2Whar7f>

Zickgraf, C. (2020). Climate Change and Migration: Myths and Realities. *Green European Journal*. <http://bit.ly/399Ru9V>.

Hut, E. (2019). Sans coopération, pas de gestion des migrations. Espace de Libertés n°478, Centre d'Action Laïque. <http://bit.ly/2Zt1049>

Swinnen, W., **Van Praag, L.** (2019). Noem deze migranten geen klimaatvluchtelingen. *EOS Wetenschap*. <https://bit.ly/3lj35N9>

Gemenne, F., Zickgraf, C. (2019). Refugees shouldn't be used as props to alert to the dangers of climate change (Op-Ed). ECRE. <http://bit.ly/2l6ruka>

Zickgraf, C. (2019). Human Mobility and Climate Change: Migration and Displacement in a Warming World. *Great Insights, Vol. 8 (Issue 4)*. <http://bit.ly/397jrPH>

Perry World House, **Gemenne F.** (2019). How climate-related tipping points can trigger mass migration and social chaos. *The Bulletin*. <https://bit.ly/377B0Qg>

Van Praag, L. (2018). Is climate change a leading cause of migration? Caritas International. <https://bit.ly/3iW8K8P>

Hut, E. (2018). Migrations environnementales : Un phénomène structurel à intégrer dans l'agenda global du développement. *L'Asile en France et en Europe : État des lieux 2018*, Forum Réfugiés-Cosi. <http://bit.ly/2ONep2V>

Lietaer, S. (2018). Mobilising the Senegalese Diaspora: What are the Origins and Reasons behind? (Briefing Paper). Link: <https://bit.ly/37ith1Q>

Lietaer, S. (2018). Mobilising the Senegalese Diaspora: What are the Institutional Mechanisms behind? (Briefing paper). Link: <https://bit.ly/3luoXF7>

Vigil, S. (2018). Green grabbing induced displacement. Istituto per gli studi di politica internazionale (ISPI); <https://bit.ly/3cMy3YP>

Gemenne, F., Zickgraf, C., De Bruyckere, L. (Eds.) (2017). *The State of Environmental Migration 2017. A review of 2016*. Presses Universitaires de Liège. <https://bit.ly/3zL2xo3>

6.4. Other volumes (selection)

Gemenne, F. (2020). *On a tous un ami noir: Pour en finir avec les polémiques stériles sur les migrations*. Fayard : Paris. <https://bit.ly/3q0uV0X>

Gemenne, F. (2020). *Dis, c'est quoi l'immigration?* Renaissance Du Livre. <https://bit.ly/3gzLbBK>

Gemenne, F. (2019). *Atlas de l'Anthropocène*. Presses de Sciences Po : Paris.
<http://bit.ly/211oh55>

Gemenne, F., Verbeeren, P. (2018). *Au-delà des frontières. Pour une justice migratoire*. Centre d'Action Laïque. <https://bit.ly/2SMDDDz>

6.5. PhD and Master theses

PhD theses

- **Lietaer, S.** (2021/2022). *Les migrants Haalpulaaren du Sénégal en Belgique: Des « agents adaptatifs » pour la communauté d'origine ? Analyse translocale des transferts politiques dans un contexte de changements socio-environnementaux*. (Université Libre de Bruxelles). Promoteurs : Jean-Michel Decroly et François Gemenne.

Master theses

- **Le Flour, Céline** (2020). *Migration, développement et adaptation aux changements environnementaux. Les cas du Sénégal et de l'Equateur* (Université de Strasbourg / Sciences Po Strasbourg). Promotrice: Birte Wassenberg
- **Belloiseau, Maeva** (2019). *La migration comme stratégie d'adaptation aux changements environnementaux. Étude en Belgique à partir du projet MIGRADAPT* (Université Paris Descartes). Promotrice: Véronique Petit
- **Cozette, Jane** (2019). *Le rôle de l'environnement dans les migrations internationales: étude du parcours migratoire des migrants congolais à Bruxelles et leur implication dans leur communauté d'origine* (Université Libre de Bruxelles). Promoteur: François Gemenne. Co-promoteur: Samuel Lietaer.
- **Mompont-Jeune, David** (2019). *Le rôle de l'environnement dans les migrations internationales : étude du cas marocain, et de la place des transferts de fonds diasporiques dans l'adaptation aux risques environnementaux pesant sur la communauté d'origine* (Université Libre de Bruxelles). Promoteur: François Gemenne. Co-promoteur: Samuel Lietaer.
- **Lefebvre, Maïté** (2018). *Le rôle de l'environnement dans les migrations internationales: Etude et description du parcours migratoire des migrants sénégalais en situation irrégulière à Bruxelles*. (Université Libre de Bruxelles). Promoteur : François Gemenne.

6.6. Policy briefs

Policy Brief #1 - August 2021	Environmental migration in Morocco: The case of Tangier and Tinghir See Annex 1
Policy Brief #2 - August 2021	Environmental migration: The connections between northern Senegal and Belgium - See Annex 2
Policy Brief #3 - August 2021	Environment and migration in DRC: The case of Kinshasa and Goma See Annex 3

6.7. Project Newsletters

Newsletter #1 - April 2018 (Sent to 146 recipients)	This first issue of the project newsletter focuses specifically on the field work that was conducted in Senegal by Samuel Lietaer (ULB). It explores some of the preliminary trends arising from the research regarding respondents' perceptions of environmental hazards and the involvement of the diaspora in development efforts. <i>English version:</i> https://bit.ly/3iNQkqN <i>French version:</i> https://bit.ly/3y831TF
Newsletter #2 - September 2018 (Sent to 267 recipients)	The second project newsletter focuses on field work conducted in Morocco by Lore Van Praag (UA). It dives into the reasons for choosing Morocco as a MIGRADAPT study site, the research questions, trends and perceptions, and an update on dissemination activities. <i>English version:</i> https://bit.ly/2Tz5G9Y
Newsletter #3 - July 2019 (Sent to 350 recipients)	This third issue focuses on interviews conducted in Belgium by the ULG team with migrants from Kinshasa (DRC). The newsletter explores the objectives and methodology, as well as the preliminary findings about the perceptions of environmental disruptions in Kinshasa, the life of migrants in Belgium and the transnational links between them and their country of origin <i>English version:</i> https://bit.ly/3rAMvZV <i>French version:</i> https://bit.ly/2UGFXxb
Newsletter #4 - February 2020 (Sent to 368 recipients)	This edition presents insights from the field work conducted in Senegal by Samuel Lietaer (ULB), focusing more particularly on perceptions of environmental change and their consequences on Internal migration decisions from Fouta-Toro villages to Dakar. <i>English version:</i> https://bit.ly/3j4Qzhx <i>French version:</i> https://bit.ly/3yillIE
Newsletter #5 - July 2020 (Sent to 416 recipients)	This 5 th issue of the newsletter focuses on the field work conducted in DRC by RMCA researchers in collaboration with Noel Kabuyaya, a Congolese geographer, in Kinshasa and Goma. <i>English version:</i> https://bit.ly/2Tz1KpK <i>French version:</i> https://bit.ly/3x6y0hy
Newsletter #6 - October 2020 (Sent to 429 recipients)	This last issue of the MIGRADAPT project newsletter focuses on interviews conducted in Belgium with Senegalese migrants. It summarises findings on the links between environmental-related issues and the degradation of living conditions, the hardships of life in Belgium and return aspirations, and on transnational engagements. <i>English version:</i> https://bit.ly/3ryCT23 <i>French version:</i> https://bit.ly/3zBFfQy

6.8. Multimedia dissemination activities (selection)

Between January 01, 2017 and July 15, 2021, the MIGRADAPT team took part in the following multimedia dissemination activities, of particular relevance to the project.

DATE	MEDIA & TITLE	MIGRADAPT member
20 June 2021	France info radio - Journée mondiale des réfugiés : "Le terme de réfugié climatique n'a pas de valeur juridique", rappelle une chercheuse https://bit.ly/3x5UXS4	E. Hut (ULiège)
27 April 2021	Migrations en Questions - Qui sont les réfugiés climatiques ? https://bit.ly/3BOFepc	F. Gemenne (ULiège)
19 March 2021	Migrations en Questions - Quelle protection pour les réfugiés climatiques https://bit.ly/377qb0A	F. Gemenne (ULiège)
1 October 2020	France Culture - A l'horizon des migrations https://bit.ly/3zJckFr	F. Gemenne (ULiège)
14 September 2020	Youtube - Migration Matters series "The Big Climate Movement: Migration and displacement in times of climate change" <ul style="list-style-type: none"> - How will climate change impact migration? - Is there a link between climate change and migration? - Will millions of people migrate because of climate change? - What should we call people who migrate because of climate-related reasons? - What would you do if your home got flooded? - What can we learn from fishermen in Senegal? - What does Typhoon Haiyan show us about disaster displacement? - How can migration be part of the solution to climate change impacts? - Who is responsible for climate migrants? - What can cities do to protect climate migrants? - How can young people get involved with climate activism? - What can COVID-19 restrictions teach us about climate migration? https://bit.ly/3zz4ymc	F. Gemenne C. Zickgraf (ULiège)
21 May 2020	Sismique Podcast - Climat, migration et géopolitique https://bit.ly/3zKRU3s	F. Gemenne (ULiège)
27 August 2018	Caritas International - Is climate change a leading cause of migration? https://bit.ly/3iW8K8P	L. Van Praag (UAntwerpen)
17 April 2017	Australian Broadcasting Corporation - The links between climate change and migration https://ab.co/2Vefl0L	F. Gemenne (ULiège)

7. ACKNOWLEDGEMENTS

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Second, we would like to thank all the **members of the project's steering committee** for the invaluable advice and technical support provided throughout the course of this project.

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We also wish to thank **all research participants in Belgium, Senegal, Morocco and DRC** whose participation and enthusiasm were essential for the success of the project.

Lastly, the consortium would like to acknowledge the memory of **Prof. Christiane Timmerman**, Director of the CeMIS (UAntwerpen) and key member of the MIGRADAPT consortium, who passed away on the 10th of February 2019. Since the creation of CeMIS, Prof. Timmerman has led (inter)national research on migration and interculturality into new directions and contributed to a better understanding of some of our society's contemporary fundamental questions. The MIGRADAPT team would like to dedicate this report to her.

ANNEXES

Annex 1 : BELSPO/BRAIN-be Project Description³²

BRAIN-be
 Belgian Research Action through Interdisciplinary Networks

MIGRADAPT

Making Migration Work for Adaptation to Environmental Changes. A Belgian Appraisal

DURATION 01/01/2017 – 15/04/2021	BUDGET 634.442 €
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PROJECT DESCRIPTION

Introduction and context

Environmental changes are increasingly part of migration journeys, and count amongst the factors that call into question the distinction made between migrants and refugees. Additionally, in the international negotiations on climate change, migration is increasingly perceived as a possible adaptation strategy to the impacts of climate change. But only few studies exist on how migration could actually work for adaptation, and none of them address migration in Belgium. **MIGRADAPT aims to fill this gap by analysing how migration can support the adaptation and resilience of communities, building on its appraisal of the migration-environment nexus in Belgium.** To achieve this goal, the project is divided into two parts.

Objectives and research questions


First, MIGRADAPT seeks to understand the **role of environmental disruptions as drivers for migration to Belgium.** The guiding research questions include: *How do migrants perceive the environment to have influenced their migration journey? To what extent has the environment impacted upon the other drivers of migration? How do they perceive current environmental disruption in their countries of origin?* Second, MIGRADAPT seeks to understand the **effects and perceived effects of migration on the adaptation of the communities of origin.** This is a key innovation of the project as it will consider the outcomes of migration for the communities of origin rather than just for the migrants themselves. The key research question guiding this analysis is: *How (under which conditions) can migration to Belgium support the adaptation of communities affected by environmental changes?*

Methodology

MIGRADAPT engages in a **transnational, multi-sited primary data collection process through qualitative in-depth interviews.** Three countries of origin have been selected for this study: **Democratic Republic of the Congo, Senegal and Morocco.** This choice is based on existing migration flows between these countries and Belgium, their environmental profile, and their development partnerships with **Belgium.** In Belgium, the study targets individuals from each selected country of origin. All legal migration categories such as family, economic, studies and training, and humanitarian (including asylum seekers) will be considered alongside irregular migrants. In the three countries of origin, communities affected by both environmental change and migration will be selected. Interviews will be conducted in each country with migrant-sending households. Non-migrant interviewees will be selected when possible by following up with the families of migrants interviewed in Belgium.

Expected results

The evidence provided by MIGRADAPT should allow society at large to reconsider the often non-linear representations around environmental migration drivers and impacts whilst providing an understanding of the importance that the environment has in shaping migration and adaptation patterns. Also, it should allow policy makers to tailor and mainstream the environmental component of migration into legally recognised categories of migration whilst consistently considering this crucial aspect in new and pre-existing migration policies, asylum applications and bilateral migration agreements as well as to inform climate policies in Belgium in how to best incorporate migration. Moreover, an understanding of how perceived or actual environmental shocks in origin communities affect migrants' decisions in terms of socio-economic remittance sharing should allow to better channel investment in adaptation and resilience through conducive policies and economic incentives.



AXIS 4 – FEDERAL PUBLIC STRATEGIES

³² English version: http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_en.pdf;

French version: http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_fr.pdf ;

Flemish version: http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_nl.pdf

MIGRADAPT

Publication and dissemination activities

The results of the project will be presented in **articles in peer-reviewed journals and other scientific and non-scientific publications** (e.g. newsletters). Topics could include: analysing the perceptions of migration by the communities of origin, the determinants of immobility, and the mobilisation of migrants' networks and remittances. Moreover, **policy briefs** shall be produced for each of the countries researched (including an additional **comparative policy brief**), including policy recommendations that can help migration policies and development policies make better use of the transnational connections between migrants and their communities of origin in order to strengthen their adaptive capacities to environmental changes. Whenever possible, **panels and presentations will be organised in academic conferences and policy forums**. A final conference will be organised at the end of the project. Lastly, a **booklet** will be produced, including some of the migrants' stories and testimonies and a map of their journeys to make the broader public more aware of migrants' fragmented journeys.

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LINKS

https://www.hugo.uliege.be/cms/c_4866216/en/hugo-migradapt



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BR/175/A4/MIGRADAPT

Annex 2: Policy Brief no. 1: Morocco



Policy Brief n° 1

Environmental migration in Morocco: The case of Tangier and Tinghir

This policy brief and its recommendations are based on 48 interviews conducted in Morocco for the MIGRADAPT project.¹ Gradual, slow-onset, environmental changes were found to interact with various migration factors in the selected study locations (Tangier and Tinghir). Our findings help to understand the complexity of the migration-environment nexus and the constant interactions between wider social, political, economic, environmental and demographic phenomena in Morocco. Communities' and individuals' vulnerability towards environmental change influences how environmental changes are perceived, how migration aspirations are formed, as well as how local adaptation strategies (including migration) are developed, contributing to the expansion and the evolution of existing 'cultures of migration'.²

Context and research objectives

This policy brief presents findings from two case studies in Morocco: Tinghir (High Atlas region) and Tangier (industrial port city), in the framework of the MIGRADAPT project. Morocco is a kingdom that relies heavily on agriculture and tourism, and which has gained some economic stability over the last years. The fieldwork conducted in Morocco sought to answer three distinct research questions. First, it aimed to understand how **migration aspirations** are developed by people living in these regions, and how they are connected to perceived changes in the natural environment. Second, it aimed to understand how environmental and societal factors are interlinked and contribute to **migration decisions**. Third, it aimed to grasp how migration networks contribute to the development of **adaptation strategies** in response to environmental changes.

BRAIN-be

The research is funded under the [BRAIN-be](http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_en.pdf) program of the Federal Science Policy (BELSPO).

BRAIN-BE is a multiannual research framework program launched by BELSPO in 2012 which strengthens the scientific base for policy making and reinforces the strategy and potential of the Federal Scientific Institutions (FSI).

BRAIN-be supports single partner and network projects with a duration of 2 or 4 years. Project selection is based on scientific excellence and the fulfillment of national and international research priorities as well as Federal policy needs.

BRAIN-be covers a wide spectrum of thematics going from sciences systems over cultural heritage, through a number of societal challenges.

¹ http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_en.pdf

² A 'culture of migration' can be defined as shared ideas and beliefs on migration in a particular region. Cultures of migration are established through the information sent by emigrants that have left these regions. These migrants provide feedback on their migration experiences and experiences in the immigrant country to their migrant networks living in their region of origin (Timmerman et al., 2014).

Main findings

Perceptions of environmental change in the study locations

Perceptions of climate change in Morocco are **very diverse and localized**. Our data indicates that respondents with a higher educational level tended to display a better understanding of dominant (e.g. scientific, global) climate change discourses – be it due to their occupation, education and/or migration networks – without necessarily relating them to their own living situation or local context. Conversely, respondents with little or no formal education, who had experience working in the agricultural sector – whether as an individual and/or as a household, and usually elderly – were generally aware of environmental changes through having experienced them first-hand. In such cases, these changes were often attributed to the existence of the natural seasonal cycle and/or explained through their perceived divine origins. Importantly, this group of respondents did not fall into the category of ‘immobile persons’ (those who were *willing* but *not able* to migrate) as they acknowledged that they would not be able to migrate and adjusted their aspirations accordingly. These findings demonstrate a rather **widespread awareness of climate/environmental changes amongst our sample, albeit not necessarily framed from a scientific perspective**.

Environmental change and the development of migration aspirations and decisions

Very few respondents in our sample specifically referred to environmental *risks* affecting them. The gradual degradation of the natural environment in Morocco has indeed led to continuous interactions between environmental and societal stressors, making it difficult to distinguish environment-related risks from socio-economic ones impacting livelihoods. Therefore, **environmental changes were not necessarily perceived as warranting adaptation strategies, and certainly did not constitute a sufficient factor on which to base an aspiration or decision to migrate (whether internally or internationally)**. Rather, respondents cited a wide range of alternative reasons, mainly stressing economic, lifestyle, family or political motivations.

The **availability of (financial and social) resources and the awareness of existing climate change discourses played a role in how people perceived and framed adaptation strategies**, at a local and global level, and at an individual and community level. For the group of respondents who did not frame environmental changes from a scientific perspective, changes in the natural environment coincided with everyday hardship and did not necessarily inspire any individual action to counteract this change. For the group of respondents who displayed a more scientific understanding of climate change, the action required to deal with such change (e.g., large-scale community projects) was often deemed beyond the capacity of an individual or a household.

Environmental change, ‘cultures of migration’, and migration aspirations

Perceived impacts of environmental changes varied according to one’s **social class, gender, and location**. For instance, people living in Tinghir were more frequently confronted with environmental changes than those living in Tangier. Such **differential effects of environmental change** are further strengthened by people’s **access to migrant networks** (and diffusion of dominant discourses about climate change) and **level of educational attainment**.

Morocco’s migration history and patterns have led to the advent of **different ‘cultures of migration’** and distinct **migration aspirations**, which take shape

differently in both study locations and **contribute to deepening existing social inequalities**. Socially advantaged respondents were often part of a culture of migration in which information received through transnational networks had resulted in less explicit aspirations to migrate, whereas those who were socially disadvantaged would perceive migration as something to aspire to, being further influenced by the visible positive impact of financial remittances sent back by migrants (e.g. building of concrete houses in migrant-sending households). Cultures of migration impact both migration aspirations and the realization of such aspirations: respondents who were conscious of their inability to migrate (because of a lack of social or financial capital) projected their migration aspirations onto future generations (e.g. their children or grandchildren).

Conclusion and recommendations

Our findings yield important policy implications and recommendations related to: 1) the ways in which **migration can serve as an adaptation strategy** in response to environmental changes, 2) the need to **reduce the vulnerabilities** of Moroccans living in or migrating from gradually degrading areas, and 3) the importance of **sharing knowledge and scientific discourses** regarding environmental changes and their impacts.

Priority Area 1: Enabling adaptation strategies (including migration) to cope with environmental change

Migration, as a means to deal with increased demographic pressure and diversify a household's income through new job opportunities, can be perceived as an adaptation strategy to environmental changes in natural resource-dependent communities. At the same time, our findings indicate that migration can also reinforce inequalities among Moroccan communities. People and communities without transnational migration networks are, for instance, less likely to benefit directly from migrants' financial and social remittances and may therefore be more vulnerable to the adverse impacts that environmental change may have on their livelihoods.

It is recommended:

- That *policy makers and academics* approach **migration as a (potential) adaptation strategy and as a long-term and complex process, possibly spanning over several generations**, rather than as a strategy that automatically and inevitably yields benefits for migrants, communities of origin and of destination.
- That *local and national policy makers* support and promote the **development of community-based and country-wide adaptation strategies, including migration**. Given the individual and fragmented nature of the sending of remittances and their unequal distribution across regions of origin, **diaspora initiatives should not be considered as the sole or main source of adaptation support** in the face of environmental change. Diaspora communities could however be involved in the development of adaptation strategies and their actions could supplement existing governmental initiatives.
- That *policy makers* actively **integrate international and local migration and environmental policies by considering policies developed at the local, regional, national, and international level**.

Priority Area 2: Reducing migrant and non-migrant populations' vulnerabilities to environmental change

Environmental migration challenges the traditional dichotomy between *forced* and *voluntary* forms of human mobility, introducing debates around the protection that should be afforded to people who move (or stay put) in the context of climate change. Since both gradual and sudden environmental changes interact with other migration drivers, in practice, the creation of a distinct protection category for 'environmental migrants' is far from being a straightforward matter. Political will, international cooperation and integrated regional adaptation policies are needed to craft more efficient and inclusive migration policies that address the vulnerabilities of migrants and non-migrants in a changing climate.

It is recommended:

- That *international, regional and national policy makers* invest more effort in developing **differentiated and regional approaches to deal with environmental change and migration**. Such a regional approach would be justified by the local/regional specificities of environmental change and of how they relate to migration

dynamics. At the same time, regional approaches within countries should better consider the broader social, political and economic context.

- That *international policy makers* develop a **clearer legal framework regarding migration**. This revision of existing migrant categorizations would enable policy makers to better consider the nature of environmental factors in migration dynamics.
- That *policy makers* include **affected populations to co-create and co-produce policies on environmental change and migration**.
- That *policy makers at all levels* give attention to **differential vulnerabilities and adjust their policies accordingly**. Such an approach could reduce vulnerabilities to environmental change and better protect specific target groups, such as migrant workers or women. Importantly, such vulnerabilities may also evolve over time, depending on a person's life phase (e.g., student; single; married with children; elderly).

Priority Area 3: Disseminating knowledge about environmental changes and their impacts

Given that knowledge about environmental changes and their impacts is often disseminated in very abstract and general terms, people often do not apply these discourses to their own living environment. By contrast, policy makers often fail to incorporate affected populations' views about environmental changes in their policies, which eventually jeopardizes their implementation.

It is recommended:

- That *policy makers* **communicate better about environmental changes applied to local contexts**. This could include providing specific examples that consider how environmental changes interact with other changing socio-economic and political factors in a given context.
- That *policy makers* consider **existing ideas and knowledge concerning environmental change, adaptation strategies and risk perceptions of the affected populations** when establishing migration policies and environmental adaptation strategies. They should involve affected populations to ensure that their policies and initiatives are supported by the target group.

Read more

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Annex 3: Policy Brief no. 2: Senegal



Policy Brief n° 2

Environmental migration: The connections between northern Senegal and Belgium

Migrants are increasingly recognized as crucial partners to address environmental adaptation challenges. Yet, few studies have analyzed how international migrants perceive environmental changes affecting their home communities, and how migrants' transnational practices may help communities of origin to cope with socio-environmental changes. Our findings suggest that Senegalese migrants in Belgium perceive both slow-onset and rapid-onset environmental changes to have, for the most part, indirectly affected their livelihoods and those of their families and communities. We also found that adverse environmental changes affect their remittances from Belgium to Senegal. This is also the case for internal migrants, sending remittances from Dakar to their home village. Thus, Belgian and Senegalese policymakers could further include migrants in their efforts to strengthen adaptation and resilience strategies in developing countries affected by environmental change. This policy brief is based on 38 focus group discussions and more than 300 semi-structured interviews conducted in Senegal and Belgium for the MIGRADAPT project.¹

Context and research objectives

Migration is increasingly presented as a possible adaptation strategy in international negotiations on climate change and in migration agreements, thanks in large part to the efforts of the scientific community. Following such scholarship, this research explicitly suggests concrete ways in which migration responds to the impacts of environmental and climate change. This policy brief presents findings from an ethnographic and translocal research conducted in villages in the Northern Senegalese Mid-valley, the suburbs of Dakar and five Belgian cities.² The goal of this multi-sited study was to analyze how environmental factors impact migration to Belgium, and to assess how, and under which conditions, Senegalese migrants in Belgium contribute to adaptation and resilience building in their communities of origin. Senegal was selected for this research as it is a key emigration and transit country with "climate hotspots" affected by severe environmental changes, as well as a partner of the Belgian Development Cooperation, and because of Belgium's growing Senegalese community.³

BRAIN-be

The research is funded under the [BRAIN-be](#) program of the Federal Science Policy (BELSPO).

BRAIN-BE is a multiannual research framework program launched by BELSPO in 2012 which strengthens the scientific base for policy making and reinforces the strategy and potential of the Federal Scientific Institutions (FSI).

BRAIN-be supports single partner and network projects with a duration of 2 or 4 years. Project selection is based on scientific excellence and the fulfillment of national and international research priorities as well as Federal policy needs.

BRAIN-be covers a wide spectrum of thematics going from sciences systems over cultural heritage, through a number of societal challenges.

¹ http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_en.pdf

² Mainly in Brussels, but also in Antwerp, Charleroi, Tournai and Liège.

³ According to one of our key informants from the Senegalese Embassy in Belgium, between 10,000 and 20,000 Senegalese diaspora members currently live in Belgium.

Main findings

Environmental factors indirectly impact migration to Belgium

At the household level, **pre-existing vulnerability and adaptive capacity was found to affect which local adaptation strategies – including migration – were undertaken to respond to various environmental risks.** Such risks include both rapid-onset (floods, heatwaves) and slow-onset (drought, desertification) events, as well as environmental degradation and pollution (air, water and soil). These were not solely attributed to climate change but also, or mainly, to poor rural land and urban management and to hydro-infrastructure projects⁴. **International migration to Belgium was not directly or primarily attributed to environmental stressors, but rather to socio-economic ones.** Many respondents considered their emigration firstly as a search for resources as they were unable to support their family and/or fulfil their own needs and aspirations. Yet, such factors were put under increased pressure by **adverse environmental effects.** For example, many migrants in Belgium explained that their parents (often farmers), or themselves (as part-time farmers), were affected by various environmental factors (e.g. rainfall variability, unexpected dam releases, larval plagues, wandering grazers). This, combined with a lack of “adapted” agricultural production, resulted in debt, and barriers to finance and land access. Low selling prices, discriminatory public policies, and distorted markets were also deemed to cause unbearable levels of precarity and vulnerability.

Environmental change impact relations between migrants and non-migrants

Although the impact of environmental factors on respondents’ migration to Belgium was limited, environmental changes were found to impact the relationships between migrants and non-migrants, and the practices that connect them. First, environmental impacts in Senegal led to internal migrants in Dakar and non-migrants requesting **more financial and material remittances** from diaspora members in Europe. Second, the latter were expected to **find development partners and cooperate with migrant/hometown associations.** Third, migrants were asked to contribute to “**productive**” investments in their community of origin. In Belgium, most respondents reported that they wished to contribute to enhancing living conditions in their community of origin, including through initiatives seeking to address adverse environmental impacts. Yet, migrants’ incapacity to deliver on these requests was an important source of frustration for them.

➤ Increased financial and material remittance requests

Such requests were either addressed to individuals or formulated through neighborhood associations in Dakar or Hometown Associations’ (HTAs) sections abroad. In the short-term and at the household-level, financial remittances served as coping strategy to deal with losses in livelihoods (e.g., cattle and/or agricultural yields) and/or income, following drought, heavy rains and/or strong winds at the start of the rainy season. Sometimes, funds were also gathered collectively from the diaspora and sent to villages to complement humanitarian aid, buy food and basic products, or rebuild damaged houses. In the longer term, besides sending regular financial remittances to their relatives in Senegal, migrants sought to contribute to public infrastructure via HTAs and to set up collective development projects oriented towards their home village (e.g. the building of public water boreholes connected to private water taps to irrigate collective and private vegetable gardens).

➤ The expectation to find development partners for longer-term adaptation

Addressing slow-onset environmental changes and land degradation was perceived as being beyond migrants’ reach without the help of external partners. Most believed that their family members could choose to stay in their home village if they

⁴ Ironically, these had sometimes been labeled as ‘adaptation’ projects (e.g. Manantali hydro-electric dam in the Mid-valley).

had the necessary financial and technical means and knowledge to react to socio-environmental impacts. Therefore, besides engaging with their HTA, some migrants also engaged with regional (e.g., NANN-K) and/or national civil society organizations (e.g., Senebel), diaspora investment clubs (e.g., FONGAD-Invest), or policy initiatives (FAISE). However, most respondents **did not know “on which doors to knock”** to find partners, obtain adequate funding, or improve their technical know-how to support their projects and pursue their goals effectively.

➤ *The expectation to support economic investments that build resilience*

Migrants' investments in housing, land, and/or small businesses contribute to the diversification of economic activities and increases in income. However, migrants' contributions to climate change adaptation were less evident. Farmers who had access to alternative income sources reported being able to adapt their agricultural strategies to changes in production and sales conditions (e.g. fluctuating prices). Yet, the size of financial remittances often appeared too limited to allow villagers to invest in agricultural means of production (e.g. motor pumps, tractors, protection fences, nets). Moreover, some villagers in Senegal sometimes believed that diaspora members were disconnected from local realities and thus failed to grasp ecological fragility. Migrants usually agreed to lack knowledge and know-how in this regard. The establishment of non-agricultural businesses (e.g. welding and hardware stores, hair salons) was often perceived to improve rural households' resilience.

Current barriers to action

However, some migrants do not have enough relatives or hometown/village members in Belgium, nor can they rely on a **social network** to organize structural collective action. They also often encounter **administrative barriers**, mostly in Belgium, to find co-development partners (NGOs, municipalities, cities, etc.). **Trust issues** often hinder collaboration with local government institutions in Senegal. Migrants in Belgium, together with diaspora members from other European countries, constitute a powerful emerging interest group. Finding synergies between the diaspora and local authorities is therefore key. Moreover, respondents recognized that they would be better able to contribute to adaptation strategies in their home community through enhanced **socio-economic integration in Belgium**. Migrants with precarious low-skilled jobs, and/or with an uncertain legal status had few savings to donate or invest in Senegal. Individual remittances' transfer costs constituted an additional hindrance. As for collective remittances, irregular migrants could hardly afford membership costs and monthly contributions, nor could they engage fully in the association, fearing that they will be turned away because of their status. In light of this, social and economic integration policies in Belgium could further leverage the diaspora's potential to engage in transnational activities.

Conclusion and recommendations

Senegalese migrants in Belgium are concerned about adverse environmental changes that affect daily living conditions in their communities of origin. Yet, they possess limited financial and technical capacity to effectively enhance those through individual and collective remittances. Most respondents believed that such issues could only be solved collectively through partnerships and political action focused on understanding the causes of environmental degradation and learning how to cope with its adverse effects. In this regard, **Belgian and Senegalese policymakers could further engage the diaspora and strengthen existing transnational practices by supporting and enabling adaptation-focused actions and projects.**

Priority Area 1: Enabling adaptation actions that include the diaspora and help non-migrants respond to environmental change

It is recommended:

- that Belgian development actors support Senegalese policymakers in developing local and national development and adaptation plans, as well as more targeted programs and projects, that:
 - include local communities and diaspora members in decision-making processes, paying special attention to addressing gender disparities as women are much less represented in decision-making;
 - strengthen access to land and provide technical support to farmers and migrants, including for maintaining various types of 'adapted' communal infrastructure (e.g., dripping irrigation systems and solar-powered water pumps; regreening by reforestation and agroforestry), integrating both local and external knowledge;
 - facilitate migrants and non-migrants' access to adaptation finance by:
 - supporting local micro-credit⁵ and public financial institutions to develop tools to mobilize savings (diaspora bonds) towards sustainable, climate-compatible projects.
 - supporting Senegalese development programs led by various Senegalese institutions⁶ which already target the Senegalese abroad, to effectively orient them towards sustainable investments.

Priority Area 2: Overcoming gaps in terms of information, networks, as well as financial and technical capacities, to effectively address adverse environmental impacts

It is recommended:

- that Belgian and Senegalese policymakers at local and regional levels co-develop projects with migrants' organizations. By supporting migrants' organizations in Belgium, these could become important partners for resilience-building projects in communities of origin.⁷ Environmental adaptation should be mainstreamed in these projects.
- that Belgian and Senegalese policymakers at local and regional levels build strong partnerships between municipalities in Belgium and Senegal,⁸ migrants and their organizations, as part of wider international development and solidarity initiatives. These could support migrants when seeking funds and partners to develop projects. Belgian policymakers could for instance develop match-fund schemes for migrant associations when socio-environmental criteria are met. They could encourage the creation of places of exchange (e.g., an easily accessible online and physical platform) between state actors, NGOs and diaspora organizations in Belgium to improve the flow of information, know-how and experiences;
- that Belgian and Senegalese policymakers at the national level initiate bilateral agreements supporting financial and material remittances through:
 - subsidies that reduce the cost of sending money online and/or through mobile phones, and reduce the remittance fees of money transfers (thus supporting SDG 10);⁹
 - reducing or releasing from customs all transferred materials with a social not-for-profit and collective purpose (e.g., health, education, water management).
 - remittance tax relief schemes for ecologically 'adapted' and sustainable, productive, inclusive projects
- that Belgian and Senegalese policymakers at the national level cooperate through bilateral agreements to facilitate international mobility by:
 - using certain forms of circular and temporary migration, such as labor-related migration schemes,¹⁰ to improve professional skills through work experience gained in Belgium, for both high-skilled and low-skilled migrants. Besides providing a decent salary to internationally mobile Senegalese, such experience could be used to pursue activities in more environmentally resilient sectors upon return to Senegal (e.g., in non-agricultural sectors).

⁵ Partnerships with PAMECAS Senegal (Partenariat pour la Mobilisation de l'Épargne et le Crédit Au Sénégal), a well-established micro-finance institution, could be explored.

⁶ Such as : FAISE (Fonds d'Appui à l'Investissement des Sénégalais de l'Extérieur), BAOS (Bureau d'Appui, d'Orientation et de Suivi des Sénégalais de l'Extérieur), ARD (Agences Régionales de Développement) and BEL (Bureau Economique Local).

⁷ See IOM's "Summits of the Diasporas"

⁸ Local development agencies in Senegal are considered politically more neutral than the local government (due to ethnic class and statutory group tensions) and seem adequate 'consensus partners' for implementing co-development initiatives.

⁹ "Reduce to less than 3 % the transaction costs of migrant remittances and eliminate remittance corridors with costs higher than 5%".

¹⁰ See Enabel's PALIM project

Read more

- Lietaer, S., Bruening, L. & Faye, C.N. (2020), « Ne pas revenir pour mieux soutenir », *Emulations*, Presses Universitaires de Louvain, Numéro 34, DOI: <https://doi.org/10.14428/emulations.034.05>
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Annex 4: Policy Brief no. 3: Democratic Republic of the Congo



Policy Brief n° 3

Environment and migration in DRC: The case of Kinshasa and Goma

Like many natural resource-dependent developing countries, the Democratic Republic of the Congo (DRC) is highly vulnerable to the effects of climate change, extreme disasters and environmental degradation. But what is the relationship between environmental degradation and migration? In the framework of the MIGRADAPT project,¹ qualitative research was conducted in Kinshasa and Goma, two major cities of the DRC. Based on more than 30 in-depth individual interviews with members of migrant households, this research points to the complex relationship between migration and environmental factors.

Context and research questions

In the context of the MIGRADAPT project, we sought to answer the following research questions: (1) How do people perceive current environmental disruptions in their country and city of origin? (2) How do people perceive the environment to have influenced family members' migration? (3) How, and under which conditions, does migration support the adaptation and resilience of communities affected by environmental changes?

This policy brief is based on findings from two case studies in Kinshasa and Goma. Kinshasa, the capital city of DRC, is among the largest cities in Africa (±13.7 million inhabitants). It is threatened by erosion, which creates large gullies, and flooding, which regularly affects several districts during the annual rainy season. The poorest segments of the population live close to these exposed areas. Goma is a smaller city (±1 million inhabitants), located in eastern DRC, on the shore of Lake Kivu, at the border with Rwanda. It is a regional trading hub that witnesses intense movements of population and goods. The 1994 Rwandan genocide turned Goma and its hinterland into a highly insecure area, where several armed groups are very active, living off mineral resources trafficking. Goma is threatened by several environmental issues, from forest overexploitation to the Nyiragongo volcanic eruption.

Climate change is projected to have different effects across regions of the DRC given its size, ecological characteristics, and geographic diversity. There is evidence that climate change and its effects on rainfall trends and temperatures will eventually exacerbate the vulnerability of rural populations in the DRC. Climate change, which increasingly affects seasonal cycles and other agro-climatic parameters, directly threatens the production of basic food for rural communities and, by extension, has potential implications for the already precarious food security of the entire Congolese population. Congolese are amongst the world's most food insecure populations.² Besides, environmental degradation often intensifies disasters. For example, unsustainable agricultural practices (e.g. slash-and-burn agriculture) accelerate soil erosion and runoff during heavy rains. In addition, deforestation and farming on steep slopes, without applying soil conservation techniques, increase the risk of landslides and flash floods. This problem is frequent in the Kivu region (eastern

BRAIN-be

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BRAIN-BE is a multiannual research framework program launched by BELSPO in 2012 which strengthens the scientific base for policy making and reinforces the strategy and potential of the Federal Scientific Institutions (FSI).

BRAIN-be supports single partner and network projects with a duration of 2 or 4 years. Project selection is based on scientific excellence and the fulfillment of national and international research priorities as well as Federal policy needs.

BRAIN-be covers a wide spectrum of thematics going from sciences systems over cultural heritage, through a number of societal challenges.

¹ http://www.belspo.be/belspo/brain-be/projects/MIGRADAPT_en.pdf

² Trefon, T. (2016). *Congo's Environmental Paradox: Potential and Predation in a Land of Plenty*. London: Zed Books, 208 p.

DRC) due to high population density. Rapid and sustained population growth also leads to a growing demand for fuelwood, food and building materials, which exacerbates forest degradation (Trefon, 2016). Extreme environmental phenomena can also spark conflicts over land and resources and pose increasingly serious problems, which could lead to rural-urban, intra-urban and international population movements. By 2050, DRC will be among the world's top ten most populated countries, a trend that could have a significant impact on population movements.³

Yet, it is complex to disaggregate the specific role of climate change or environmental degradation on migration patterns. The decision to migrate is rarely due to one single cause, except in the most extreme cases. On the contrary, social, political, economic, environmental and demographic factors are regularly interlinked with each other.⁴ An unknown proportion of migration flows from DRC results from poor environmental management, including uncontrolled exploitation of forests, the setting up of protected areas with its associated human rights violations, or the allocation of mining concessions without any measures to support displaced populations. Disasters can also lead to migration and leave populations destitute.

Main findings

Diverging perceptions of environmental changes in Kinshasa and Goma

In both cities, research participants recognize that the environment in Congo has changed significantly, especially in rural areas: deforestation, drying up of rivers, erosion, as well as seasonal changes were commonly referred to. Living in Kinshasa is depicted as a real challenge by its inhabitants, because of the degradation of their district and the changing climate, which create a hostile environment. In this megacity, environmental changes are a reality experienced by a large part of the population. Although people feel that what they experience in Kinshasa is similar to what is experienced by others around the world, the prevailing feeling amongst respondents relates to helplessness and a lack of knowledge in the face of such phenomena. While authorities are blamed for not playing their role properly, the population's behavior (e.g. through poor waste management) is also perceived to contribute to amplifying the dramatic consequences of environmental changes, such as drought, erosion and flooding. Yet, leaving Kinshasa to go back to the village of origin does not emerge as an option for internal migrants, and international migration is not necessarily identified as a solution to alleviate a precarious economic situation. Conversely, in Goma, environmental changes are not perceived as strongly as in Kinshasa despite related events, such as flooding or drought, that regularly impact it. If some consciousness of environmental changes exists among the respondents, they are mainly identified as affecting other parts of the country and of the world. Goma residents like their city despite recurrent security problems. Respondents do not aspire to leave the city, nor to go back to their village of origin (where insecurity is still prevalent), nor to migrate outside of DRC. Improved living conditions through the construction of quality roads and a reliable water and electricity supply is considered as a greater concern.

Migration and environmental changes: A complex relationship

While city life and access to modern infrastructure still strongly attract some respondents, internal migration to Kinshasa is often reportedly motivated by educational reasons. As for international migration aspirations, they tend to focus on Western countries (with a preference for North America) and appear mainly linked to economic reasons. In the Goma region, insecurity in villages is at the origin of most respondents' internal migrations. Some also migrate to the city to access more

³ United Nations, Department of Economic and Social Affairs, Population Division (2019). World Population Prospects 2019: Highlights (ST/ESA/SER.A/423)

⁴ Gemenne F., Peyraut M., Kassongo Kalonji E., Mayer B. & Lassailly-Jacob V. (2013) "Seul Dieu nous protège" - Migration et environnement en République démocratique du Congo. Rapport de recherche. Observatoire ACP sur les migrations. ACPOBS/2013/PUB18

opportunities and earn a better living. But surprisingly, almost none of the Goma respondents seemed tempted by the “mirage of the West”. The majority of migrants leaving Goma travel for study or work reasons. After earning money and/or expertise, it appears crucial to quickly return to Goma to contribute to the development of the community; several respondents have indeed mentioned that attachment to land and family is greater than the recurring problems of insecurity. Goma is moreover widely perceived as a city of opportunity. Finally, whether internal or international, migration frequently appears to be due to a multitude of social, political or economic factors (Gemenne et al., 2013) and the latter may be at the root of environmental degradation, such as uncontrolled deforestation, mineral extraction leading to industrial pollution or overexploitation of agricultural land resulting in soil erosion (Trefon, 2016). Such environmental phenomena do not alone determine migratory behaviors and decisions. As a result, migration is rarely used as a strategy to deal solely with environmental degradation and climate change, but it is nevertheless an effective way to reduce vulnerability to environmental change.

A limited prioritization of environmental protection and adaptation

For a large part of our sample, daily issues (e.g. the need to cover food expenses and school fees) are much more prevailing than environmental changes, although in Goma, the risk associated with the active Nyiragongo volcano regularly appears as a concern. Therefore, assisting those negatively impacted by environmental changes is not a priority for the respondents. Interest in adapting or in helping others adapt to environmental changes also remains limited. Local institutions in charge of environmental protection and disaster risk reduction have a limited intervention capacity since such issues are not prioritized by the authorities, who, instead of addressing medium to long-term concerns, are trapped in weak governance capacity and short-term policy vision.⁵ Teams are untrained, understaffed and underfunded. Such a system prevents the implementation of effective disaster risk and land degradation reduction actions, such as prevention and awareness raising programs.

The multiple roles of remittances

In Kinshasa, respondents explain that being supportive is a responsibility for family members living abroad. Indeed, international migration appears as a risk minimization strategy involving the whole family. Having a family member abroad is also depicted as a source of prestige. While family members make an enormous contribution to fund the international migration of one of their members, migrants then become responsible for financially supporting the family left behind, and, once settled in the host country, bringing in other family members to increase the resources to be sent to the family.⁶ Such “solidarity” has the perverse effect of perpetuating dependency. In Goma, it is more frequently admitted that nothing should be expected from migrants; self-help is seen as necessary to avoid being called “beggars”. According to our respondents, most of the financial flows sent by the diaspora are devoted to meeting the current food needs of the family. Remittances also guarantee access to essential services such as healthcare and education. Finally, transfers enable families to honor their commitments during specific events, such as baptisms, weddings or funerals (Sumata et al., 2004). This means that remittances are mostly intended to cover the daily needs of households. Indeed, several respondents mentioned that investments based on migrants’ remittances are rare, although remittances are sometimes invested in the informal tertiary sector (informal trade, store opening) or in private projects (real estate). Remittances therefore do not appear primarily dedicated to boosting the economy or development, nor to protecting the environment.

⁵ Michellier, C., Pigeon, P., Paillet, A., Trefon, T., Dewitte, O. & Kervyn, F. (2020). The Challenging Place of Natural Hazards in Disaster Risk Reduction Conceptual Models: Insights from Central Africa and the European Alps, *International Journal of Disaster Risk Science*, 11, p.316–332. Retrieved from: <https://doi.org/10.1007/s13753-020-00273-y>

⁶ Sumata, C., Trefon T. & Cogels, S. (2004). *Images et usages de l'argent de la diaspora congolaise : les transferts comme vecteur d'entretien du quotidien à Kinshasa*. In *Ordre et désordre à Kinshasa: réponses populaires à la faillite de l'Etat*, ed. Theodore Trefon. Tervuren, Belgium and Paris: Institut Africain and L'Harmattan.

Conclusion and recommendations

Based on the above-mentioned findings and on a broader picture of the environmental and demographic situation in DRC, several policy recommendations can be formulated. The first two focus on environmental protection measures, while the next two highlight actions towards preventing forced migration. Some could be handled at the national level; others by external partners:

- 1) ***Strengthening environmental and natural hazards risk management institutions and programmes***: Although institutions in charge of environmental and natural hazards risk management have been established in several provinces (including Kinshasa and North Kivu), the weakness of these still very-young institutions, the lack of data on environmental risks and natural hazards, and the absence of long term environmental and disaster risk reduction policies are major pitfalls for environmental and natural hazards risk management (Michellier et al., 2020). Strengthening the role of these institutions by providing them with the necessary financial and technical resources to fulfil their mandate could improve environmental and natural hazards risk management in the long term and increase the population's awareness of such issues, fostering joint action for environmental conservation.
- 2) ***Improving urban development planning in areas overwhelmed by rural-urban migration***: Different population growth rates across provinces, uneven development and regional patterns of insecurity have driven large-scale migration towards urban centers, which are experiencing rapid population growth: Kinshasa's population is expected to grow to 35 million by 2050 (UN, 2019). Better addressing the planning and development of urban settlements could contribute to a better management of space and of natural resources available in these areas. Such policies could have positive environmental consequences and reduce current threats faced by the environment and urban residents.
- 3) ***Enhancing regional security to reduce internal and international forced migration***: Ongoing insecurity in eastern DRC continues to be a driver of population displacement. There are currently 5 million internally displaced persons in the DRC, mainly due to conflict and insecurity,⁷ which plays a significant role in rural-urban migration trends, but also in terms of international migration (more than 940,000 Congolese refugees currently live abroad).⁸ The political stabilization of the eastern region has long posed a challenge for DRC's internal politics. This led to the establishment of peace agreements by foreign, regional and international powers, which remain, to this day, not respected by all parties.
- 4) ***Supporting ongoing efforts to accompany the demographic transition***: International migration needs to be addressed holistically in the light of population dynamics in general, and the demographic transition in particular, balancing the costs and benefits of development in both DRC and destination countries. Emigration from DRC to European countries is partly due to rapid population growth in the DRC and the inability of the Congolese labor market to absorb the excess labour force.⁹ It is partly absorbed by the advanced state of demographic transition (low birth rates) in most European countries which implies a demand for labour force in specific sectors (e.g. health care). Although international migration options are increasingly restrictive, families invest in setting up someone abroad for prestige and remittances. From the development perspective of these families and of DRC, migration entails advantages in terms of remittances, diaspora investment flows, and the improvement of migrants' education and skills. Driving DRC towards demographic transition could alleviate the need for some families to send one of their members abroad for financial support in return.

Read more

- MIGRADAPT newsletter no. 5 on fieldwork in DRC. English version: <https://mailchi.mp/20d56820222b/migradapt-newsletter-5-en>; French version: <https://mailchi.mp/5d5569fec1d6/migradapt-newsletter-5-fr>
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⁷ <https://reporting.unhcr.org/drc>, 2020

⁸ <https://data2.unhcr.org/en/situations/drc>, 2021

⁹ IOM (2010) Migration en République démocratique du Congo : Profil national 2009. 134 pages.