



FREE TO LEAVE AND FREE TO STAY:

PROTECTING HUMAN RIGHTS IN THE CONTEXT OF ENVIRONMENTAL MOBILITIES

CASE STUDIES IN BANGLADESH,
HONDURAS AND SENEGAL



**ENSEMBLE,
CONSTRUIRE
UN MONDE JUSTE
ET FRATERNEL**

Equipo de Reflexión,
Investigación y Comunicación



Compañía de Jesús



AVEC LE SOUTIEN DE



FOREWORD

As this report goes to press, the year 2023 is already breaking all records for climate change. Among other events, Europe is registering high temperatures, unprecedented forest fires in Canada have destroyed areas three times the size of Switzerland, the longest cyclone ever measured has hit several African countries bordering the Indian Ocean, and our compatriots in Mayotte are facing a cruel lack of water due to an exceptional drought. If we do not act, it is certain that more and more women, men and children will be forced to leave their homes, or even their home country, due to environmental disasters or extreme weather conditions.

It is currently difficult to estimate who amongst the 281 million international migrants recorded by the International Organisation for Migration (IOM) for 2020 has left their country for environmental reasons. This is all the more true given that this type of mobility is most often internal. It mainly affects the most disadvantaged people, who are the most vulnerable. Yet, the risks are set to intensify in the coming years, as predicted by the World Bank's Groundswell report (2021), which estimates that 216 million people will be forced to migrate within their own country by 2050 in six regions of the world, if nothing is done to address the root causes of climate change. France, with its overseas territories, is also affected.

Secours Catholique - Caritas France (SCCF) has a long-standing commitment to helping migrants and their access to fundamental rights. Inspired by the premonitory words of Pope Francis in his encyclical *Laudato Si'*, the SCCF has been paying particular attention to all those who flee their homes because of the degradation of their environment for several years. As such, in tandem with its international partners on three different continents, SCCF has undertaken this study on the mobility of local communities in Bangladesh, Honduras and Senegal. The study gathers first-hand accounts from 1,400 people impacted by climate change and often forced to move. It highlights the protection needs (notably legal) of these persons subjected to violence and exploitation. It gives a voice to the poorest people whose human rights have been undermined. Finally, it draws recommendations based on their experiences and the work of the SCCF's partners.

These observations and proposals are timely. Faced with the rise in xenophobic attitudes around the world, the rejection of migrants, and the temptation to close borders, the SCCF study tells us that other paths are possible, based on respect for human rights. It is a renewed call to urgently combat the causes of environmental migration as a matter of urgency, especially as a global assessment of the Paris Agreement on reducing greenhouse gases and achieving climate neutrality is scheduled for the next United Nations Climate Change Conference (COP 28) in December 2023. The study further justifies and supports the full application of the principles set out in the 2018 Global Compact for Safe, Orderly and Regular Migration, calling for the protection of migrants' fundamental rights throughout their journeys and their freedom of movement. Its conclusions also serve as an encouragement to implement development projects designed, with the help of populations at risk, to anticipate and prevent climate-related hazards, strengthening their resilience and enabling them to choose to stay on their land.

This thought-provoking report invites us not to remain mere spectators but to take action. Political leaders, specialised organisations and interested civil society members need to take up its recommendations and work together to promote the protection and welcoming of the most vulnerable, who bear the most intense consequences of the climate crisis.

Emmanuelle d'Achon,
Member of the Board of Trustees
of Secours Catholique - Caritas France
Former diplomat

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Research team: Boubakar Seck, Reine Marie Elisabeth Fulberta Dasylyva, Emile Kamou Ndiaye, César Mame Bassène Diedhiou (Caritas Senegal) ; Mercy Ayala Claros, Yolanda González, Gustavo Cardoza, Orlando Posadas, Elvin Hernández, José Mario López, Rita Santamaría, Jerónimo Carranza (ERIC) ; Shakirul Islam, Shakhawat Hossain, Urmi Jahan Tonny (OKUP); Kahina Le Louvier, Marie Lobjoy, Rediet Abebe Kabeta, Patricia Spadaro, Mathilde Girardot, Laura Morel, Ismael Flores-Rosado, Luis Fernando Urrego Clavijo, Simon Abdoul (SCCF).

Report writing: Kahina Le Louvier, Marie Lobjoy, Rediet Abebe Kabeta.

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PRESENTATION OF THE ORGANISATIONS INVOLVED IN THE STUDY

CARITAS SENEGAL

Caritas Senegal provides services to the country's poor and vulnerable communities, integrating emergency responses into the dynamics of resilience, poverty reduction and inclusive sustainable development. Its work focuses on water-hygiene-sanitation, sustainable agriculture, food and nutritional security, health security, migration and human rights, climate, youth employment, gender and social inclusion. In terms of human mobility, Caritas Senegal is carrying out a pilot project that aims to articulate different initiatives with a focus on promoting a narrative that does not stigmatise Sub-Saharan people in a situation of mobility in the countries of the North, while also improving the implementation of instruments for the protection of migrants and refugees. As part of this work, Caritas Senegal trains journalists and provides advocacy and support in partnership with lawyers and social workers.

EQUIPO DE REFLEXIÓN, INVESTIGACIÓN Y COMUNICACIÓN (ERIC)

Based in the city of El Progreso, Honduras, ERIC's mission is to help build a just and equitable society through research, reflection and communication in proximity to vulnerable populations. ERIC studies the links between environmental phenomena and the movement of people. In addition, ERIC accompanies migrants, notably through legal support. With its partners, the organisation contributes to training on issues such as the protection of populations and the respect of human rights.

OVIBASHI KARMI UNNAYAN PROGRAM (OKUP)

OKUP is a community-based migrant workers' organisation in Bangladesh with a vision of creating an enabling environment for migrant workers across borders, irrespective of gender and legal status. OKUP works to promote informed migration by choice, ending labour trafficking, forced labour and slavery. It does so by promoting migration through legal pathways, fair and ethical recruitment, migrants' access to basic services, access to justice, climate migration, and sustainable reintegration and livelihoods of the migrants and families left behind, as well as protection of migrants' children.

SECOURS CATHOLIQUE - CARITAS FRANCE (SCCF)

Secours Catholique - Caritas France is an association that has been active in France and around the world since 1946. Based on the social doctrine of the Church, the SCCF tackles all the causes of poverty, inequality and exclusion. The SCCF places at the heart of its actions the participation of the people it supports, partnership, networking and co-construction. SCCF supports international partners in the fields such as environmental disaster preparedness and response, environmental preservation and access to rights for migrants. SCCF also provides international advocacy for the protection of migrant persons, particularly in the context of climate change and environmental degradation, and for a fair ecological transition.

EXECUTIVE SUMMARY

The effects of climate change and environmental degradation seriously impair the fundamental right to an adequate standard of living for all individuals,¹ whether they stay in the affected area or move to other places. Yet, legal gaps and operational issues surrounding the protection of the rights of people affected by climate change and environmental degradation endanger them and perpetuate, or even reinforce, their vulnerabilities. To ensure that affected persons can live with dignity, States should guarantee their right to both safely move from and stay in the places where they live. The development of safe and legal mobility pathways must be implemented in parallel with measures to preserve the environment and protect people's right to stay in their communities as well as their right to land.

CONTEXT

Human activities are causing global surface temperatures to rise. Temperatures in 2011-2020 rose 1.1°C higher than 1850-1900 and are projected to reach between 1.4°C and 4.4°C by 2100 depending on the greenhouse gases emission scenario.² Global warming is leading to climate change, with extreme weather events such as storms, heavy precipitation, heat waves and droughts becoming more frequent and more intense.³ Combined with the effects of environmental degradation (e.g., deforestation, depletion of natural resources, biodiversity loss, soil, air and water pollution), climate change has already resulted in dramatic effects that are bound to intensify.⁴

Despite being the least responsible for climate change and environmental degradation, the populations of the poorest countries – and the most vulnerable populations within them – are the ones suffering the most from their effects.⁵ Water scarcity, food insecurity, along with loss of homes, land, livelihoods and cultures, are disproportionately impacting the most vulnerable populations due to the interrelation of poverty, lack of adequate infrastructures and the lack of anticipation.⁶

These issues often lead affected persons to leave their place of origin, following a variety of environmental mobility patterns: evacuations to emergency shelters, planned relocation, internal mobilities within their country (circular, seasonal, etc) and international migration across borders. Yet, the lack of adequate protection surrounding environmental mobilities means that they often end up accentuating rather than relieving affected persons' vulnerabilities, leading them to face numerous human rights violations.

AIM OF THIS STUDY

Given these issues, Secours Catholique - Caritas France has partnered with Caritas Senegal, Equipo de Reflexión, Investigación y Comunicación (ERIC) and Ovibashi Karmi Unnayan Program (OKUP) to study the impacts of climate change and environmental degradation on the daily lives and mobility of people living in affected zones in Bangladesh, Honduras and Senegal, precisely in:

- 1 Article 11 of the International Covenant on Economic, Social and Cultural Rights, adopted in 1966 and entered into force in 1976.
- 2 IPCC, 'Climate Change 2023 Synthesis Report - Summary for Policymakers', 2023, https://www.ipcc.ch/report/ar6/syr/downloads/report/IPCC_AR6_SYR_SPM.pdf.
- 3 Ibid.
- 4 IPCC, 'Climate Change 2014: Impacts, Adaptation and Vulnerability - Summary for Policymakers', 2014, https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgII_spm_en.pdf.
- 5 IPCC, 'Climate Change 2023 Synthesis Report'.
- 6 It is important to note that these factors are interconnected and mutually reinforcing. Poverty limits the ability to invest in infrastructure, while inadequate infrastructure and lack of resources further perpetuate poverty, creating a vicious cycle that exacerbates the impacts of climate change and environmental degradation.

- ▶ The Koyra Upazila, a coastal region of Bangladesh that has been facing recurrent cyclones, floods and saltwater intrusions over the past decades.
- ▶ The community of San Juan in La Lima, in the northwest of Honduras, which has been impacted by severe floods following hurricanes Eta and Iota in 2020.
- ▶ The fishing communities of Guet Ndar and Kafountine in Senegal, which are primarily confronted with the depletion of fisheries and coastal erosion.

Through a cross-analysis of these three case studies, this report aims to draw policy recommendations that are grounded in the real-life experiences of individuals who have suffered from the effects of climate change and environmental degradation.

KEY FINDINGS

CLIMATE AND ENVIRONMENTAL PROBLEMS ARE INTENSIFYING

Our three case studies show that the negative effects of climate change and environmental degradation are increasing, manifold, interrelated and aggravated by factors linked to human activities and industries.

- ▶ In the Koyra Upazila of Bangladesh, inhabitants face cyclones almost every year, some of them severely damaging their homes and lands and increasing the salinisation of lands and water sources that is also caused by tidal surges and heightened by the progressive replacement of agricultural activity with shrimp farming.
- ▶ In the community of San Juan in Honduras, an intense tropical storm and a hurricane that happened over a two-week span led to massive flooding that destroyed the community in 2020 and added to the list of tropical storms that are occurring more frequently. The particularly strong impact of the floods may have been increased by the fragility of the soil,⁷ as San Juan was built on a former banana plantation.
- ▶ In Guet Ndar and Kafountine, the growing scarcity of fish caused by overexploitation and the warming of seawater adds to increasing problems of sea-level rise, water surges and coastal erosion that increase hardship for fishing communities.

PEOPLE ARE CAUGHT IN CIRCLES OF VULNERABILITIES

- ▶ The accumulation of different climate and environmental issues has severe impacts on the communities' physical security, access to basic needs (shelter, food, water, sanitation, education, and physical and mental health), economic situation, culture and identity. These are heightened when effective disaster response mechanisms and long-term support are lacking.
- ▶ The floods created by the cyclones and hurricanes in Koyra and San Juan and the increased risks taken by fishermen⁸ from Guet Ndar due to coastal erosion and the depletion of fish stocks have led to human casualties.
- ▶ The salinisation and pollution of soils and water sources in Koyra and San Juan have created long-term issues of food insecurity and lack of water, sanitation and hygiene that have caused health problems.
- ▶ The floods and water surges caused by cyclones (Koyra), hurricanes (San Juan), sea-level rise and coastal erosion (Guet Ndar) have led to the devastation of houses, forcing people to evacuate and take shelter with friends and relatives, in makeshift shelters or in emergency

7 World Meteorological Organisation, 'State of the Climate in Latin America and the Caribbean 2021' WMO-No. 1295, 2022, https://library.wmo.int/doc_num.php?explnum_id=11270.

8 We use the gendered term "fishermen" because the choice to focus on the experiences of fishing professionals in Guet Ndar, a profession that is almost exclusively reserved for men, means that only male participants were interviewed on this site.

centres where access to basic needs and protection from sexual harassment and abuse are not always guaranteed. In the three case studies, emergency aid provision sometimes appeared non-adapted, inconsistent or managed in an unethical or non-participatory manner.

- ▶ These effects also damaged land, as well as personal and professional belongings, leading to substantial losses in assets and livelihoods. This also had implications on mental health, as some people lived in fear of losing everything again after these traumatic events.
- ▶ The depletion of fisheries and the salinisation of lands and water sources prevented communities that mainly depend on fishing and farming – as was the case for the inhabitants of Guet Ndar, Kafountine and Koyra – from making a decent living from their work over the long run, making it difficult for them to recover from the losses they suffered. It also led to an identity disruption and a loss of social status when people no longer worked on their own land or territory, with their own means, or in a profession which had traditional or generational ties.
- ▶ Across all case studies, in the absence of adequate social protection, relief programmes and long-term development support, the loss of economic capital, income level, and possibilities to maintain standard livelihoods pushed people to become more mobile.

ENVIRONMENTAL MOBILITIES AS TRADE-OFFS BETWEEN NEEDS AND RISKS

- ▶ Mobility patterns differ across contexts, depending on the types of environmental issues faced and the length of their effects, mobility habits and practices, geographical proximity to places with economic opportunities, or (the absence of) legal barriers. They are often complex and nonlinear. In the absence of adequate protection mechanisms, they can further amplify existing vulnerabilities.
- ▶ Disasters and sudden environmental changes such as floods were direct mobility drivers when they damaged housing and forced people to be displaced, but this was often temporary and to nearby locations. In other cases, such as salinisation (Koyra) and depletion of fish stocks (Guet Ndar and Kafountine), environmental factors often manifested themselves as exacerbating other challenges, such as means of subsistence, leading to different forms of mobilities.
- ▶ Environmental mobilities were often not linear, not thought of as permanent, and neither entirely chosen nor entirely forced. Mobilities added up depending on the opportunities available and the problems faced. People may have moved to a different region before taking their chances with a different country, after or both. For instance, in Guet Ndar, some professionals of the fishing sector were displaced locally, then engaged in fishing campaigns that led them to other parts of Senegal or to Mauritania for long periods, and then came back and left again. In Koyra, many people were first displaced because of a cyclone, came back and took out loans to rebuild their homes and restart their economic activities but were prevented from sustainably doing so because another cyclone struck and/or because their economic activity no longer allowed them to make a living and repay their loan. This led them to search for alternative income sources, often working in brick kilns in other regions of the country or India for a few months, and then working in the agricultural sectors during the cropping season.
- ▶ Whether they were internal or cross-border, environmental mobilities often had conflicting consequences, both helping individuals and families to cope with their economic needs and placing them in precarious living conditions. For instance, having to go on longer and more distant fishing campaigns increased risks for the fishermen from Guet Ndar of endangering their lives, getting arrested by Mauritanian border guards and seeing their material confiscated. In the framework of rural-to-urban mobility in Bangladesh, people sometimes ended up living in slums as prices in big cities were high and they could only access low-paying jobs, making it difficult for them to access basic needs such as decent housing, food, water, sanitation, healthcare and education. Having to work in a different economic sector and different area meant that people had to resort to low-paying jobs. Their vulnerabilities put them at risk of labour exploitation and abuse. This could happen within their country of origin or abroad, when having a visa tied to one employer, or in the absence of legal status. Not having documents also put people at risk of arrest and detention and relying on brokers who aggravated the debt

cycle. Although it referred to a minority of people in our study, the absence of safe and legal pathways of migration sometimes led people to take immense security risks to reach their destination, taking long trips across the sea for the fishermen of Senegal going to Europe, or on foot for the residents of San Juan, Honduras, going to the United States.

RECOMMENDATIONS

To address these issues, Secours Catholique - Caritas France calls for a human rights-based approach to environmental mobilities that guarantees the rights of people affected by the impacts of climate change and environmental degradation to both safely move from and stay in the places where they live whenever possible. This approach involves ensuring the implementation of existing legal frameworks and non-binding agreements and the development of additional context-specific solutions. Importantly, these frameworks should offer sustainable solutions, co-constructed with impacted communities so they can focus on and be relevant to their needs.

OUR RECOMMENDATIONS INCLUDE:

1. ADOPTING A HUMAN RIGHTS-BASED APPROACH TO ENVIRONMENTAL MOBILITIES

- ▶ **Respecting human dignity**, by considering people's fundamental rights over their status.
- ▶ **Protecting environmental migrants in vulnerable situations..**
- ▶ **Recognising the link between mobility, climate change, and environmental degradation and ensuing common but differentiated responsibility.** This includes a financial responsibility on the part of the industrialised countries whose actions have a major negative impact on climate change and environmental degradation and a legal responsibility for all States to implement protection mechanisms.

2. GUARANTEEING THE RIGHT TO MOVE

- ▶ **Developing safe and legal migration pathways that are flexible and adapted to the various contexts and needs of environmental migrants.** Rather than focusing on one single solution, such as the addition to the Geneva Convention of a new protocol on climate refugees, this approach builds on an array of new and existing instruments. These include regional agreements that establish the freedom of movement of persons and the right to residence and establishment between different countries, visas (humanitarian, work or study visas), humanitarian corridors established through partnerships with civil society organisations, regional conventions broadening the refugee definition, or the lifting of visa requirements, either for a given population or for the purpose of family reunification.
- ▶ **Guaranteeing respect for fundamental rights and access to basic services within one's country and abroad.** This involves guaranteeing access to labour and social rights for people in situations of environmental mobility in order to uphold principles of fairness, dignity and equality in the global workforce. Beyond the right **to** work, ensuring rights **at** work is essential.

3. GUARANTEEING THE RIGHT TO STAY TO MAKE MIGRATION A CHOICE AND NOT A NECESSITY

▶ **Acting on the causes of climate change and environmental degradation:**

- Drastically limiting greenhouse emissions and halting the plundering of ecosystems and wildlife destruction.
- Calling for a differentiated responsibility of States to achieve a fair distribution of climate protection and adaptation efforts.

▶ **Anticipating and managing the effects of climate change and environmental degradation:**

- Enhancing disaster response mechanisms.
- Ensuring equitable distribution of relief services to affected communities and households.
- Connecting immediate relief with long-term development.
- Fostering adaptation by enhancing long-term access to basic needs, social protection, basic services and livelihood diversification.
- Respecting people's right to land and including them in the development of long-term relocation plans when necessary.
- Effectively securing a just and equitable environmental transition through climate justice and funding.

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INTRODUCTION



"After Sidr [2007], cyclones became very frequent and happened almost every year. Because of Cyclone Aila [2009], Koyra Sadar Union was underwater for three years. All the roads were damaged. Every house in our union was flooded. So, people were forced to leave their houses and took shelter in the cyclone centre. We all started to live miserable lives in the cyclone centre. [...] Because of high salinity, production of crops decreased significantly. The economy of our area was completely disrupted. There was no work. So, people in our area migrated to different places in search of work. [...] A broker suggested that I go to Saudi Arabia. He informed me that if I went there, I would earn more than I need. I figured it was the best way for me to save my kids and decided to migrate. [...] When I reached there, my employer took me to his house. My job was to take care of an old lady. But they used to make me do other chores around the house. They did not give me adequate food to eat."

Ayesha, a woman living in Koyra

This testimony by a 45-year-old woman living in the Koyra Upazila⁹ on the coast of Bangladesh encapsulates some of the issues encountered by many people who face the effects of climate change and environmental degradation around the world. First, this account tells us about the recurrence of such effects, as global warming makes cyclones and other extreme weather events more intense and frequent. Second, it shows how the long-term effects of climate change and environmental degradation – such as salinisation – impact economies and ways of life over the long term. Third, it illustrates how the combi-

⁹ See Figure 2 for a description and map of the area.

nation of these factors leads people to become mobile, by going to emergency shelters and sometimes further away. Finally, it highlights the lack of adequate protection received by affected persons, as they see their access to basic needs hindered during disasters, are unable to continue to live in their place of origin in adequate conditions and may face human rights violations when crossing borders to find work, often extremely precarious, in other countries.

The effects of climate change and environmental degradation seriously impair the fundamental right of all individuals to an adequate standard of living,¹⁰ whether they stay in the affected area or move to other places. Yet, legal gaps and operational issues surrounding the protection of the rights of people affected by climate change and environmental degradation to safely and freely move or stay endanger them and perpetuate, or even reinforce, their vulnerabilities.



We are faced not with two separate crises, one environmental and the other social, but rather with one complex crisis which is both social and environmental. Strategies for a solution demand an integrated approach to combating poverty, restoring dignity to the excluded, and at the same time protecting nature.

Pope Francis, *Laudato Si'* §139

Faced with these challenges, Secours Catholique - Caritas France (SCCF) has been advocating for several years for the right to migrate, with a particular focus on environmental migrations. Our international partners have highlighted the lack of access to basic needs and human rights violations faced by people on the move because of sudden-onset disasters, the slow-onset effects of climate change and environmental degradation.

Given these issues, this study aims to provide input for SCCF's and its study partners' advocacy by drawing policy recommendations grounded in the real-life experiences of individuals who have suffered from the effects of climate change and environmental degradation. More specifically, our objectives are to 1) document the impact of climate change and environmental degradation and of the mobilities they induce on affected persons, especially in relation to human rights and basic needs; 2) identify policy gaps and promote policy recommendations that meet the specific needs of affected persons.

For this purpose, we have built on three case studies that take place in areas affected by different types of environmental issues in three countries on different continents: Bangladesh, Honduras and Senegal.

In these case studies, we look at the effects of both climate change and environmental degradation because they are often intertwined. As an example, coastal erosion results from sea-level rise, which is caused by global warming but also from deforestation, coastal construction and other human activities. Focusing on the impact of these effects on individuals allows us to analyse their protection needs in context, whether they have stayed or left, moved within their country or abroad.

This leads us to use environmental mobilities as an umbrella term that encompasses the different types of mobilities induced by the effects of both climate change and environmental degradation, regardless of whether they are internal or international, short-term or long-term, permanent, temporary or recurring. Indeed, as this report will demonstrate, the boundary between these different categories is often blurred when it comes to environmental mobilities. Furthermore, using the concept of environmental mobilities as an umbrella term allows us to use specific terms when the legal frameworks that shape people's experiences are relevant.

¹⁰ Article 11 of the International Covenant on Economic, Social and Cultural Rights, adopted in 1966 and entered into force in 1976.

Thus, by using the mobility lens we recognise that "migrants do not exist *a priori*, but are 'made' through regulations, visas and border processes".¹¹

ENVIRONMENTAL MOBILITIES			
<p>Emergency evacuation</p> <p>Displacement of people away from an area impacted by a sudden-onset disaster to a safer place of shelter.</p>	<p>Planned relocation</p> <p>Process whereby a community's housing, assets, and public infrastructure are rebuilt in another location.</p>	<p>Internal mobility</p> <p>Movement of people within one's own country for the purpose or with the effect of working or establishing a new residence. This includes circular, seasonal, short-term and permanent mobilities, and can be anywhere on the spectrum between forced and voluntary mobility.</p>	<p>International migration</p> <p>Movement of people across the border of their country of usual residence for the purpose or with the effect of working or establishing a new residence. This includes circular, seasonal, short-term and permanent mobilities, and can be anywhere on the spectrum between forced and voluntary mobility.</p>

This report begins with a brief description of our methodology. It then proceeds with a presentation of each case study, looking at the specificity of the lived experience of affected persons in each context and offering context-based recommendations. A cross-analysis of the three case studies is then provided to discuss the similarities and differences between each context and what they can tell us about the impact of different types of environmental issues and environmental mobilities on individuals. Based on this discussion, we highlight key policy recommendations that can help protect the fundamental rights of people affected by climate change and environmental degradation. The recommendations are complementary to the ones presented in the case studies and based on these local realities in order to embrace a ground-up policy construction at the broader level.

¹¹ Caroline Zickgraf, 'Relational (Im)Mobilities: A Case Study of Senegalese Coastal Fishing Populations', *Journal of Ethnic and Migration Studies* 48, no. 14 (26 October 2022): 3450–67, <https://doi.org/10.1080/1369183X.2022.2066263>.



OKUP

METHODOLOGY

To better understand the impact of climate change and environmental degradation on the fundamental needs and mobilities of affected people, this study builds on the analysis of 3 case studies that take place in different parts of the world:

1. The Koyra Upazila, a coastal area in the district of Khulna, Bangladesh, that faces recurrent cyclones, water surges, floods, riverbank erosion and salinity intrusion.
2. The community of San Juan, in the municipality of La Lima, Honduras, which suffered from the severe effects of two hurricanes over a two-week period in 2020.
3. The district of Guet Ndar in the municipality Saint Louis and the municipality of Kafountine in the region of Ziguinchor, Senegal, two fishing communities affected by the overexploitation of fish, water surges, coastal erosion and salinity intrusion.

These areas have been selected as case studies by field partners (Caritas Senegal, ERIC and OKUP) because people residing there have been particularly impacted by the effects of sudden climatic disasters and/or the slow effects of climate change and environmental degradation in recent years.

Focusing on these specific examples allows us to highlight the real-life impacts of these events by carrying the voice of the individuals who face their effects daily. It also allows us to examine the mobilities generated by environmental events in their context and to explore their consequences without giving priority to mobility over immobility or certain types of mobility over others.

To build rich descriptions of the field, case studies used both quantitative and qualitative methods (Fig. 1): 1) quantitative surveys with affected persons aimed at identifying trends within a population sample; 2) semi-structured interviews and focus groups allowed for a deeper understanding of the knowledge and personal experiences of affected persons as well as community leaders, civil society and non-governmental organisation representatives, experts and government officials. Participants were asked questions about the impact of environmental events and of the (im)mobilities they

induced, with a special emphasis on basic needs and human rights. They were also asked about the impact of existing support programmes and policies, along with recommendations for future ones.

The fieldwork was conducted between January and May 2023 by the field partners and by teams of data enumerators recruited locally. This approach helped adapt the data collection approach to the specificities of each context and built trust with the participants. Methods followed the same guidelines across the different sites, but small variations were implemented due to logistical restrictions or local considerations (e.g., no focus groups were conducted in Senegal because it was difficult to gather fishermen during their work time).

Doing research with people affected by climate change and environmental degradation entails important ethical challenges, as their previous experiences often put them in a vulnerable position in society. To mitigate these challenges, a strong ethical framework was used building on the principles of anonymity and confidentiality, voluntary participation, informed consent, respect and benevolence. To mitigate gender biases, each case study includes a balanced number of male and female participants – excluding Guet Ndar, where the choice was made to focus on the experiences of fishing professionals, a profession that is almost exclusively male.

Descriptive statistics were used to analyse the survey data. Interviews and focus groups were transcribed by the field partners and analysed by theme by the SCCF research team. Primary analyses were then discussed with each fieldwork partner bilaterally and in a plenary workshop. The different data analyses were then triangulated with a review of the existing literature. The final results presented in this report were co-constructed by the four organisations involved in the research.

Figure 1. Overview of data collection

	BANGLADESH	SAN JUAN, HONDURAS	SENEGAL	TOTAL
Quantitative¹² survey	433 responses	267 responses	535 responses	1235 respondents
Semi-structured interviews	12 interviews with impacted people	4 interviews with impacted people	28 interviews with impacted people	91 key informants
	10 interviews with civil society organisation and non-governmental organisation representatives and experts on climate and migration	5 interviews with community leaders as well as civil society organisation and non-governmental organisation representatives	16 interviews with community leaders as well as civil society organisation and non-governmental organisation representatives	
	3 interviews with governmental actors at different levels		13 interviews with governmental actors at different levels	
Focus groups	7 focus groups with impacted people including 10 participants each	1 focus group with 8 impacted people 1 focus group with 4 local governmental actors		82 focus group participants
Total	528 participants	288 participants	592 participants	1 408 participants

12 The sample size was calculated based on each site's population size: 193,931 people in Koyra, using a 95% confidence interval and 5% margin of error; 7,000 people in San Juan, using a 90% confidence interval and 5% margin of error; 25,206 people in Guet Ndar and 40,323 in Kafountine using a 90% confidence interval and 5% margin of error. Different confidence levels were used in each country due to logistical restrictions and/or local considerations. However, the aim of the study is not to make comparisons between the three countries but to draw analyses for the research questions. Nonetheless, to account for these differences, caution was taken during the cross-analysis of the three case studies based on survey data, and results were triangulated with our qualitative data and the literature.

STUDY LIMITATIONS

The case study approach means that the results we present are highly contextual. The situations and issues we discuss are specific to the selected areas and encompass neither all the climate and environmental problems that people face in other parts of their countries, nor the whole of their different social, political, economic and cultural realities. As such, the case study results cannot be generalised at the country level and do not provide a comprehensive overview of climate and environmental problems and related mobilities globally. Nevertheless, they provide an in-depth investigation of specific examples that captures the context and lived reality of people affected by different types of problems. The cross-analysis of the three case studies and the triangulation with existing literature indicate some similarities between certain experiences that may also exist in other contexts and can feed into more global recommendations.

The decision to focus on areas affected by climate change and environmental degradation means that we started with people's experiences of environmental events and then examined the role of mobility as part of these experiences. It also means that we have only included people who have moved to other places and then returned. On one hand, this approach allows us to avoid a mobility bias, by which focusing on places of destination may have led to an impression that everyone affected leaves their place of residence, thus hiding the experience of people who stayed in their communities. It also allows us to ensure that the people we talked to have been affected by environmental issues. Indeed, it would have been difficult to identify such a group in a place of destination, as people do not generally identify as "environmental migrants" nor consider environmental issues as the main driver for their choice to leave their place of origin.¹³ On the other hand, this strategy means that we only included the testimonies of people who have either stayed at or returned to their place of origin, giving more space to these experiences of (im)mobility than to others. It also means that the data we have on experiences of international migration is limited, especially when it comes to migration from Senegal to Europe or from Honduras to the United States. This was mitigated by the inclusion of second-hand accounts (people telling us of the experiences of their close ones) and triangulation with previous reports and studies, but remains a limitation when it comes to fully accounting for the experiences of people migrating internationally in all three case studies.

¹³ Andrew Geddes et al., 'Migration, Environmental Change, and the "Challenges of Governance"', *Environment and Planning C: Government and Policy* 30, no. 6 (1 December 2012): 951–67, <https://doi.org/10.1068/c3006ed>.



FOCUS ON BANGLADESH

SUMMARY

The geographic features of Bangladesh – such as low-lying deltaic plains, a wide coastline along the Bay of Bengal and the presence of significant rivers – make it one of the most vulnerable countries to sudden-onset disasters.¹⁴ The vulnerabilities caused by climate and environmental issues are heightened by factors including population density, poverty, governance issues, general lack of resources, and fragile infrastructure,¹⁵ leading to mobilities that are projected to increase: by 2050, an estimated 15 million people will be constrained to leave their place of origin because of climate change and environmental degradation.¹⁶

To better understand the impact of such events and mobilities, this case study, conducted in collaboration between Ovibashi Karmi Unnayan Program (OKUP) and Secours Catholique - Caritas France (SCCF), investigates the experience of individuals impacted by the diverse effects of climate change and environmental degradation in the Koyra Upazila, a coastal region that faces recurring disasters.¹⁷

14 The World Bank, 'Bangladesh', 2021. <https://www.worldbank.org/en/country/bangladesh>; IPCC, 'Climate Change 2014: Impacts, Adaptation and Vulnerability - Summary for Policymakers', 2014. https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgII_spm_en.pdf.

15 Asian Development Bank (ADB), 'Geography, Climate, and Vulnerability', 2019. <https://www.adb.org/countries/bangladesh/geography>; Human Rights Watch, 'Bangladesh', 2021. <https://www.hrw.org/asia/bangladesh>.

16 A. K. Iftekharul Haque, 'Socio-Ecological Vulnerability, Migration and Social Protection: An Examination of Fisheries-Based Livelihoods in Coastal Bangladesh' (Thesis, Université d'Ottawa / University of Ottawa, 2023). <https://doi.org/10.20381/ruor-28678>.

17 A quantitative survey, semi-structured interviews and focus group discussions were conducted with residents of the seven unions (local councils) of the Koyra Upazila who have been impacted by climate/environmental events, practitioners working in local and international organisations and other professionals with expertise on climate and migration, involving a total of 528 participants. Data was completed with a desk review.

This case study shows that as a result of various climate and environmental issues such as cyclones, flooding, soil salinisation and drought, the residents of the Koyra Upazila lost assets and livelihoods, lacked access to basic and relief services and incurred debt. To cope with this difficult situation, people resort to different types of mobilities such as emergency evacuation to nearby areas, internal mobilities to farms and urban areas, and migration to third countries. While these mobilities help them cope with the loss of assets and livelihoods, they introduce new vulnerabilities and human rights violations. Bangladesh has comprehensive policies to address the issues of climate change and labour migration. However, enhanced comprehensive-ness among the policies of climate change and labour migration as well as increased resources, coordination, monitoring and transparency are required to efficiently address these issues.

STUDY CONTEXT - KOYRA UPAZILA

Koyra Upazila is located in a geographically vulnerable area of Bangladesh's Khulna district (Fig. 2). It is a riverine area located close to the confluence of the Ganges, Brahmaputra, and Meghna rivers in the southwest of the country. Low-lying, deltaic plains in the region make it vulnerable to a variety of climate-related risks and disasters.¹⁸ As people primarily work in the agriculture and fishing sectors, their lives and livelihoods are often threatened by cyclones, storm surges, riverbank erosion and flooding.¹⁹ In light of several issues ranging from poverty, lack of resources and services to governance issues and a high population density,²⁰ the challenges faced by people from Koyra in coping with the impact of environmental events are amplified.

Figure 2. Map indicating the location of the Koyra Upazila, Bangladesh



THE IMPACT OF RECURRENT CYCLONES, FLOODS AND SALINISATION

The vast majority of the affected persons who contributed to this study in the Koyra Upazila reported experiencing cyclones (99% of surveyed households), flooding (99%), salinisation (97%), drought (91%) and more. They also noted a growing concern over the increased frequency and intensity of sudden-onset disasters in the area. Based on contextual studies, the most recent disasters that caused lasting impact are Cyclone Sidr (November 2007) and

18 Human Rights Watch, 'Bangladesh'.

19 AKM Abdul Ahad Biswas et al., 'An Internal Environmental Displacement and Livelihood Security in Uttar Bedkashi Union of Bangladesh', *Applied Ecology and Environmental Sciences* 3, no. 6 (12 November 2015): 163–75. <https://doi.org/10.12691/aees-3-6-2>.

20 Md Ashrafuzzaman et al., 'Current and Future Salinity Intrusion in the South-Western Coastal Region of Bangladesh', *Spanish Journal of Soil Science* 12 (21 March 2022): 10017. <https://doi.org/10.3389/sjss.2022.10017>.

Aila (May 2009),²¹ which caused 3,406 deaths²² and 190 deaths²³ respectively and inflicted damage to infrastructure and assets. To a lesser extent, with no recorded fatalities, Cyclone Bulbul (November 2019) and Amphan (May 2020), are also notable.²⁴



“Cyclones strike our region two to three times a year. Cyclone Aila caused massive damage. During Aila, I lost my wife and two children. They were washed away by the tide. After a week, I discovered their bodies. It was a tragedy for me. I lost everything in Aila. Everything was washed away, including my house and cattle. Not only me but also all the villagers lost their assets. All the roads were damaged. There was nothing that was not affected by it. Our society and economy had stagnated.”

Mohammad, a man who took part in Focus Group Discussions in Koyra²⁴

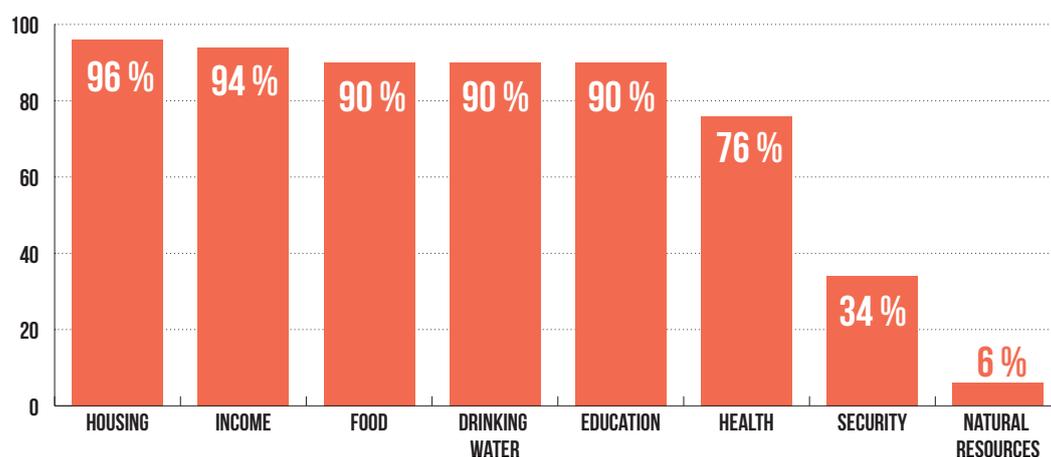
Due to drowning, storm surges are the primary factor in cyclone fatalities.²⁵ The effect of these climate events is further magnified by socio-economic circumstances such as poverty, marginalisation, population density and agriculture-centred livelihoods.²⁶

LOSS OF ASSETS AND LIVELIHOODS AND LACK OF ACCESS TO BASIC NEEDS

Surveyed households reported having been impacted in multiple ways, with the majority reporting loss of housing, loss of income, and lack of access to basic needs such as food, drinking water and education, in addition to facing health problems (Fig. 3).

Figure 3. Impact of the environmental problem(s) on the needs of survey respondents in Koyra

HOW HAS THIS ENVIRONMENTAL PROBLEM AFFECTED YOU?



21 Amelie Bernzen, J. Craig Jenkins, and Boris Braun, 'Climate Change-Induced Migration in Coastal Bangladesh? A Critical Assessment of Migration Drivers in Rural Households under Economic and Environmental Stress', *Geosciences* 9, no. 1 (January 2019): 51, <https://doi.org/10.3390/geosciences9010051>.
 22 Iffat Mahmud, Wameq Raza, and Rafi Hossain, 'Bangladesh: Finding It Difficult to Keep Cool', 10 October 2021, <http://hdl.handle.net/10986/36534>.
 23 Reliefweb, 'Tropical Cyclone Aila - May 2009', 2023, <https://reliefweb.int/disaster/tc-2009-000105-bgd>.
 24 All names have been replaced with pseudonyms.
 25 Start Network, 'Bangladesh Tropical Storm/Cyclone - Disaster Summary Sheet (8 April 2018)', 2018, <https://reliefweb.int/report/bangladesh/bangladesh-tropical-stormcyclone-disaster-summary-sheet-8-april-2018>.
 26 Basundhara Tripathy Furlong et al., 'Gendered (Im)Mobility: Emotional Decisions of Staying in the Context of Climate Risks in Bangladesh', *Regional Environmental Change* 22, no. 4 (December 2022): 123, <https://doi.org/10.1007/s10113-022-01974-4>.

This echoes the results of previous studies that have highlighted the impact of climate-change-related sudden-onset disasters on losses of assets and livelihoods, damages to agricultural land, degradation of water resources and human health.²⁷

As a result of recurrent cyclones, the affected persons and experts we consulted noted that embankments were destroyed and the water level often rose rapidly, causing floods that submerged entire villages, washing away houses, fields, livestock, ponds and personal belongings. In the case of Cyclone Aila, where prolonged flooding occurred, people were forced to leave their homes and take refuge in cyclone shelters for prolonged periods (> six months), disrupting the socio-economic stability of households.



"During Aila, our entire region was submerged for approximately six months. We had about 4 houses and all of them broke down during Aila. The fish in the entire pond were washed away and the bank of the pond was broken. The backyard was chaotic. All of our livestock died."

Fatima, a woman interviewed in Koyra

Even for households who were relatively more economically resilient, the **recurrence of environmental shocks wore down the ability to adapt.**



"In 2007, [Cyclone] Sidr occurred suddenly. Our mango orchard was completely damaged and one of our houses was destroyed. But Sidr has not affected our economic situation much. The agricultural production was good enough to cover the loss. As our garden was completely damaged, we thought of starting shrimp farming on a large scale and did so in 2008. But everything was destroyed when Aila hit our area in 2009. The embankments were completely destroyed by storm surges, resulting in long-term flooding for 3 years."

Rahman, a man interviewed in Koyra

These experiences emphasise the vulnerability of the local housing and infrastructure to disasters. Moreover, they show the vulnerability of local livelihood sources to recurrent shocks.

Beyond the aforementioned emergency contexts, saltwater intrusions brought about by cyclones and storm surges were a major issue in Koyra as they affected the availability of clean drinking water sources. Oftentimes, the affected persons we spoke with mentioned having to pay up to 1500 taka (BDT 1,500 / USD 14)²⁸ for drinking water – adding to their economic strain.



"The floods of saltwater from the cyclone have created a water crisis. The villagers have been compelled to use the saline water to perform household work. My kids had been suffering from diarrhoea due to a lack of pure drinking water. We did not have any idea how we could survive amidst the saline water."

Ali, a man interviewed in Koyra

²⁷ OKUP Helvetas, 'Insights on Migration and Climate Change: Action Research Conducted in the Southwest Coastal Belt of Bangladesh', 2021.

²⁸ All currency conversions are based on the exchange rate at the time of the study: 1 USD = 109 BDT.

Salt-water intrusions also led to the destruction of agricultural productivity where farmers face challenges in cultivating crops.²⁹ In southwest Bangladesh, efforts to combat salinisation and flooding have unintentionally worsened these problems over time. The area relied on a natural tidal system for farming before the 1950s, but in the 1960s, polders, embankments, canals, and sluice gates were built because of the area's vulnerability to storms and floods. While initially protecting the area and increasing agricultural output, these efforts also encouraged the spread of shrimp farming and the use of agricultural land for shrimp ponds, which resulted in salinised soil, deteriorated environmental conditions, and a lack of sustainable means of subsistence. In the decades that followed, illegal infrastructure for shrimp farming grew, further eroding coastal infrastructure and increasing the risk of flooding, vegetation loss, soil erosion, and decreased crop yields. More and more land started to be used for shrimp farming after Cyclone Aila in 2009, as the whole upazila was under water for about a year, which further weakened the fertility of the soil. Hence, the region became a major saltwater shrimp producer, but this intensive farming has reduced subsistence options, increased vulnerability, caused further environmental degradation, sparked land disputes, hindered rice cultivation, resulted in water scarcity, and contributed to health issues and malnutrition in the area.³⁰ This means that in the event of disasters, where affected people lose their assets, it is difficult for them to bounce back economically and they are forced to turn to manual labour as a source of income.³¹



"Here [Koyra Upazila] the livelihood options are being replaced. For example, agriculture/crop production is being replaced with shrimp farming. Shrimp farming doesn't require much labour; it can be done with just two or three people versus ten to twenty workers in the same land (crop production). Thus, people are losing their income source."

An NGO official working in the climate change and migration sector in Koyra



"People who are farming are not able to grow. [...] So, when they lose their previous livelihood options, they have no option but to become day labourers. So, people migrate to a new place in search of work."

An NGO practitioner in Koyra

Such experiences reflect the interaction of climate change, soil salinity, local infrastructure projects, adaptation policies and sudden-onset disasters, as well as the substantial impact on livelihoods and changes to traditional subsistence methods in the Koyra Upazila.

INDEBTEDNESS

Lacking financial resilience as well as needful financial and social support to mitigate the loss of livelihoods, assets and income following these environmental shocks, the affected persons often depend on taking loans from microcredit organisations. Unfortunately, the recurrence of climate shocks and their long-lasting impacts – such as salinisation – do not help people to turn around but rather put them in a cycle of indebtedness.

29 Ashrafuzzaman et al., 'Current and Future Salinity Intrusion in the South-Western Coastal Region of Bangladesh'.

30 Solidarites International and Uttaran, 'Chronic Poverty in the South-West Coastal Belt of Bangladesh', 2013, <https://reliefweb.int/report/bangladesh/chronic-poverty-and-climate-change-southwest-bangladesh>.

31 Biswas et al., 'An Internal Environmental Displacement and Livelihood Security in Uttar Bedkashi Union of Bangladesh'.



"After losing our house and cattle, we had nothing left (following Cyclone Aila in 2009). So, we took a loan of one lac taka [BDT 1,00,000 / USD 918] from [local microfinance NGO with interest] to start everything again. We started to produce vegetables. We thought that we would pay off the debt after selling the crops. But due to high salinisation in the soil, the production of vegetables was very low. We could not make any profit out of it and fell into a huge financial loss. We became unable to pay off our debt."

Nazia, a woman interviewed in Koyra

Microfinance institutions played an important role in helping the community cope with the loss of assets and livelihoods by providing financial services to affected persons. At the same time, concerns were raised regarding the communities' predisposition for rising debt. Concerns mostly centred on how the loans' repayment obligations increase the burden of already vulnerable households as they try to restore their lives while making payments on their debts.³² Such debts often led affected persons to seek alternative means of income generation elsewhere beyond their locality – often in the form of manual labour, which usually generated very little disposable income beyond survival.³³ Moreover, the desperation caused by the environmental shocks and the need to pay off debts sometimes made affected persons vulnerable to brokers offering employment opportunities which lead to labour exploitation within the country and abroad (see the section on mobility).

BARRIERS TO ACCESSING RELIEF SERVICES

Relief support and services appeared to be inconsistent, unequal or temporary. A few of the individuals we spoke with mentioned receiving support varying from financial assistance for starting a small business to relief items like rice, water, blankets, and mosquito nets as well as shelter support. While those that received this support were grateful, they noted that others who were severely affected did not receive any support, which is partly due to a lack of resources relative to needs addressed by NGOs. Some individuals mentioned receiving initial support from the government, such as relief items or financial assistance, but it was either discontinued after a short period or not provided consistently. The lack of continued assistance made it difficult for individuals to fully recover from the impact of the cyclones.

Moreover, a lack of good governance and unethical practices such as bribery and favouritism by people in positions of power and influence was noted in the processes of beneficiary selection for relief and assistance services. This might call for a review of the beneficiary targeting and selection practices and methodology of relief services considering that several individuals mentioned being excluded based on personal factors and personal connections.



"After Aila, we received twenty thousand taka [BDT 20,000 / USD 184] from the government but nothing thereafter. The financial situation of my in-laws was once so good that we felt ashamed to ask for help. We heard that the government and NGO provide subsidies but [some officials] take bribes and select the beneficiaries of their choice."

Fatima, a woman interviewed in Koyra

32 Sultana, N., and S. Abeyasekera, 'Microfinance and Vulnerability to Global Climate Change: A Study of Poor Households in Coastal Bangladesh'. In Proceedings of the 2016 International Conference on Business, Economics, and Information Technology (ICBEIT 2016), edited by J. Smith and R. Johnson, 123-137. Chicago: University of Chicago Press, 2016.

33 Biswas et al., 'An Internal Environmental Displacement and Livelihood Security in Uttar Bedkashi Union of Bangladesh.'

Overall, the individuals we spoke with considered leaving their place of origin as the only way to cope with the destruction of agricultural land, crops, livestock and fish farms and the resulting loss of income and livelihoods.

HUMAN MOBILITIES

Our overall survey results show that **70% of the total surveyed population (n=433) left their place of origin following the effects of climate change and environmental degradation and the associated loss of assets and livelihoods. The majority of people moved within the country, with 66% of respondents noting that they moved to another region within Bangladesh, while 18% noted having moved to another town or village nearby. The remaining 16% reported having moved beyond the borders of their country.** As the survey and interviews took place in Koyra, they only included people who have either stayed or returned.

From a gender lens, climate change and environmental degradation have had varied effects on men and women. Out of the overall 70% that reported having migrated as a result of the environmental problems encountered in our survey, 43% were men, while 27% were women. Another study in the context has found this to be linked to access to human and physical resources, off-farm occupational skills and gender/age roles that designate a sole "breadwinner role".³⁴

People who had left their place of origin and came back reported several issues, which varied depending on their types of mobilities and whether these were emergency evacuations, internal mobilities or international migrations.

EMERGENCY EVACUATION

Following sudden-onset disasters, emergency relocation to cyclone shelters is often the first step in people's mobility journeys. Although necessary, these shelters do not always guarantee full and adequate access to basic necessities.

Cyclone shelters were located in school buildings because of their accessibility, accommodation capacity, community familiarity and government support – all of which makes it easier for governmental and non-governmental organisations (NGOs) to identify, monitor and support affected persons. However, **the use of schools affected children's education.**

Moreover, due to housing a sizable number of people displaced by the cyclones and floods, these schools/temporary shelters were **susceptible to infrastructure damage, and Water, Sanitation, & Hygiene (WASH) facility issues, which led to severe and sometimes fatal health problems.**



"When I was in the cyclone centre, I was struggling to manage adequate food, water and sanitation facilities. My child was experiencing inhuman situations and her vulnerability reached zenith. As there was no pure drinking water, I was forced to drink salt water to satisfy my thirst. Due to starvation and poisonous water, my child and I had diarrhoea. My only child died due to diarrhoea."

Farhana, a woman interviewed in Koyra

34 Bernzen, Jenkins, and Braun. 'Climate Change-Induced Migration in Coastal Bangladesh?'

Oftentimes, emergency evacuation to cyclone shelters was a temporary solution to the disaster and most people attempted to return to their homes when they could, but the lack of sustainable livelihood opportunities led to further mobilities.



“Due to Aila, our Koyra Sadar Union was underwater for three years. All the roads were damaged. Every house in our union was flooded. So, people were forced to leave their houses and took shelter in the cyclone centre. We all started to lead miserable lives in the cyclone centre. The schools also play a role as shelters for affected people. So, our children failed to continue school. Due to high salinity, production of crops decreased significantly. The economy of our area was completely disrupted. There was no work to do. So, people in our area migrate to different places in search of work.”

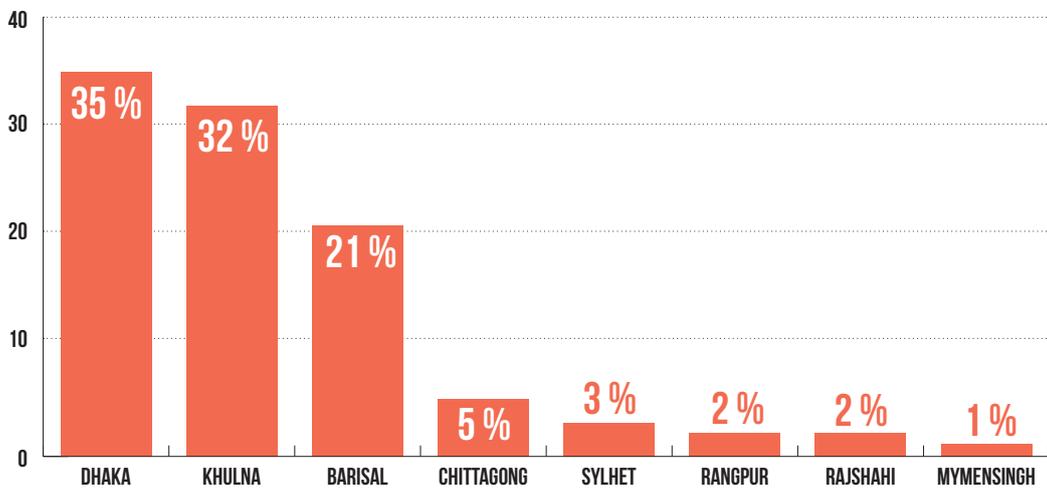
Ayesha, a woman interviewed in Koyra

INTERNAL MOBILITIES TO OTHER REGIONS

Of those that moved to other regions, the majority moved to the Capital Dhaka, while the remaining majority moved to Khulna and Barisal (Fig. 4). To recoup losses, many people engaged in precarious jobs, including working at brick kilns and garment factories.

Figure 4. Destination of survey respondents from Koyra who relocated within Bangladesh

WHICH REGION DID YOU MOVE TO?



Internal mobilities were often seasonal. Some people went to work at the brick kilns for six months in the winter, moved to another area for several weeks in the cropping season, and moved to work in other areas in other seasons.



"I was at the hospital for almost 2 months after coming back home. After my recovery, I decided to do shrimp farming again. For this purpose, I took a loan of one lac taka [BDT 100,000 / USD 918] from an NGO. With that money, we bought fish and started shrimp farming, but all the fish died due to excessive salinity. I went into debt again. Creditors kept pressuring me to repay the loan, but I failed. As a result, they filed a case at the police station. The police warned me to pay the debt within a month. There was no way, so I paid off the debt by selling my last two bigha of land. Now I have no job opportunities here. So, I work at brick kilns for six months in a year, and the rest of the time I drive easy bikes in the area."

Abdul, a man interviewed in Koyra

Some affected persons moved to urban areas for longer periods (> six months), where they often ended up living in slums or other precarious conditions. As a result of their low income, they were not able to afford access to their basic needs. In one response, the city was described as expensive, making it challenging for the individual to afford proper shelter and education for their children. In some instances, the lack of access to healthcare has led to tragic incidents such as the death of a child.



"I went to Chittagong in 2009. I went there with one of my relatives. My family also moved with me. My husband started driving a rickshaw and I started working in garments. We lived there in a rented house. Our income was very low, so we all lived in a small room. It was very difficult for all of us to live together. We had to sleep on the floor. We had no blankets to wear. We had a very miserable life there. [...] We did not get good food and health facilities because of our poor income. One of my children died due to pneumonia. Actually, we were not able to take her to the hospital."

Sultana, a woman interviewed in Koyra

Responses indicated that individuals had to make trade-offs between access to basic needs (i.e., WASH facilities) and searching for economic opportunities.



"After Aila, there was no work in Koyra, so I had to migrate to the garment sector to address our financial problems. My job was good, and I didn't face any difficulties. But I faced problems where I was living. There were no pure drinking water or sanitation facilities."

Sharmin, a woman interviewed in Koyra



"After migration, they do not have access to the standard facilities, such as safe water and adequate sanitation, and their health services and food provisions are inadequate. Moreover, both migrant and local populations are suffering due to limited land and other resources, and increasing human pressure is exacerbating insecurity for all. Therefore, their main challenge is receiving these essential services, and those without financial resources are often excluded from all forms of service. Climate change is a root cause of migration, which is exacerbating existing inequalities, particularly among the most vulnerable populations."

An NGO official working in the climate change and migration sector in Koyra

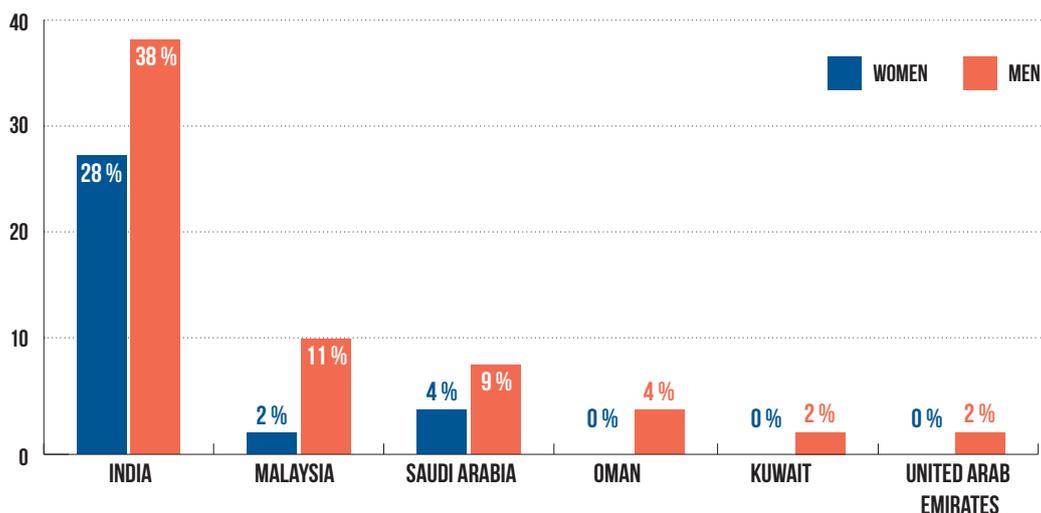
Such incidents go beyond reflecting economic needs at the household level and expose a lack of an effective social safety net that affected persons can access during times of vulnerability. These challenges go beyond the affected persons who decided to migrate and affect family members who remain behind.

INTERNATIONAL MIGRATIONS

16% of the Koyra survey respondents had moved abroad. Among them, the top destination country was India (66%), followed by Malaysia and Saudi Arabia at 13% each, followed by Oman (4%) and the United Arab Emirates and Kuwait with 2% each. Further gender breakdown of this shows that it is men that are the most numerous in migrating beyond borders. However, relative to other destination countries, women do still migrate, with India (28%) being the preferred destination (Fig. 5).

Figure 5. Destination of survey respondents from Koyra who moved to other countries by gender

DESTINATION BY GENDER



The search for livelihoods and safety from environmental issues and induced damages often exposes those who choose to migrate abroad to risks such as debt, exploitation, arrest, and imprisonment due to the use of irregular migration pathways and deceptive promises and exploitation by brokers.

As a way out of the disaster-affected areas, brokers promised job opportunities and compensation. Affected persons in Koyra noted that they were often misled about the nature of work, salary, and working conditions. Moreover, brokers demanded large sums of money for their services, putting individuals and their families in significant debt.

When making the move beyond the borders of Bangladesh, the use of irregular migration pathways due to a lack of access to visas often exposed those who migrated to deception by employers in destination countries or blackmail – in turn posing protection risks.



"I didn't have the money to get a passport, so I went to India illegally through brokers. I gave the broker two thousand taka [BDT 2,000 / USD 18] and the broker let me cross the border. I went there and started working at a brick kiln. I had an agreement with the owner of the brick kiln that he would pay sixty thousand taka [BDT 60,000 / USD 551] for 6 months. But after 6 months of work, he gave me only thirty thousand taka [BDT 30,000 / USD 275]. When I protested, he threatened to call the police. So, I went back without saying anything. Again, I went to another kiln and started working at a monthly salary of four thousand taka [BDT 4,000 / USD 37]. They were also not paying me properly. He used to pay half the money after 2 months."

Abdul, a man interviewed in Koyra

Besides the lack of financial resources, the vulnerability of those that made the journey abroad was exacerbated by a lack of knowledge of their rights and of support systems. This was especially concerning in light of several individuals having reported experiencing abusive and inhumane treatment by employers or brokers. They mentioned instances of physical abuse, withholding of food and wages, and harassment.

Some individuals who tried to take legal action against brokers or employers mentioned being unsuccessful in obtaining justice. They stated not receiving legal aid or facing corruption in the justice system.



"After coming home, I filed a case against the broker, but I was unsuccessful in getting justice. I did not get any legal aid. The brokers bribed the police to settle the case. I had no knowledge of the violation of my human rights, so, I was unable to take any action. In this regard, I have not received any assistance from the government or NGOs."

Ali, a man interviewed in Koyra

In the same manner, a woman from Koyra had sold her house to finance her migration journey to Oman but subsequently returned to Bangladesh due to the misrepresentation of the work she was promised, in addition to facing physical and emotional abuse by her employers.



"I had to deal with difficulties even after arriving in the country. I didn't want to ...[face]... my family as I was abused in Oman. My daughters were by my side, and they convinced the whole family to accept me. The disaster and unsafe migration have had a significant impact on my family and me. Neither my family nor I have sought assistance from the government or any NGO. In Oman, I didn't get any help from anyone because I didn't have any idea about human rights, and I didn't know how to protest and where to ask for help."

Nazia, a woman interviewed in Koyra

In similar exploitative contexts, several other individuals mentioned not having received any assistance from government agencies or NGOs.

When crossing borders without legal authorisation, people faced arrest and detention. This seemed to be particularly prevalent in India and Oman, with several people detained between 6 months and 5 years.



"I migrated to India without a passport. I went there in 2010. After going there, I was arrested by Indian police. They sent me to jail. I was in jail for five years. I never want to cross my country's border again."

Syed, a man who took part in a Focus Group Discussion in Koyra

The journey for those who migrated via irregular pathways but ended up returning to Bangladesh was also prone to some of the same challenges faced on the way in, as brokers are often involved in the journey back and legal troubles await returnees if captured by police.



"[After my payment was withheld by employers and I was blackmailed with the threat of arrest] I decided to return to the country. I paid five thousand taka [BDT 5,000 / USD 46] to a broker to come back home. While crossing the border illegally, I was caught by the Indian police. The police sent me to jail. I spent almost one year in jail. Then I sent the news to the country through a broker. My brother helped me to come out by paying sixty thousand taka [60,000 BDT / USD 551] and brought me back to the country."

Ali, a man interviewed in Koyra

Despite these human rights issues, without systemic changes in place, those who have returned to their place of origin will likely move again in search of better living conditions and livelihood opportunities.

POLICIES THAT IMPACT ENVIRONMENTAL MOBILITY EXPERIENCES

Experts at government and non-government levels we interviewed noted that the Government of Bangladesh has comprehensive plans in place to address climate change and its impact, including national plans (Bangladesh Climate Change Strategy and Action Plan,³⁵ National Adaptation Programme of Action,³⁶ National Strategy for Sustainable Development,³⁷ Bangladesh Climate Change Trust Fund³⁸) and Upazila-level plans (Upazila Disaster Management Plans,³⁹ Livelihood Support Programs,⁴⁰ Community-Based Adaptation Projects,⁴¹ Social Safety Net Programs⁴²).

- 35 Policy framework emphasising catastrophe risk reduction, resilience development, and adaptation. To protect vulnerable groups, especially environmental migrants, and to provide them with sustainable means of subsistence.
- 36 Highlights the necessity of social protection, income generation, and livelihood diversification to lessen vulnerability and assist impacted populations.
- 37 Strong emphasis on ecosystem management, conservation, and sustainable resource use to reduce environmental deterioration and lessen the need for migration.
- 38 Financial resources to implement measures for mitigating and adapting to climate change, such as projects that cater to the needs of displaced communities and environmental migrants.
- 39 Developed by each upazila, these plans put a lot of emphasis on early warning systems, evacuation procedures, and giving affected areas immediate aid.
- 40 To improve resilience and lessen the need for migration, these programmes offer training, financial assistance, and tools for income-generating activities.
- 41 These initiatives frequently include steps to aid migrants and returnees and support communities in their migration-related decision-making processes.
- 42 Upazilas may adopt social safety net programmes like cash transfer schemes. These initiatives seek to increase community resilience, raise living standards, and lessen poverty.

Thus, experts note that it is not policy gaps that need to be addressed, but instead the rigidity of climate change policies, coordination challenges between public and private sectors, lack of monitoring and transparency, duplication of efforts and implementation challenges, including a lack of funding, a shortage of competent labour on the local level, and the requirement for accountability and openness.

When it comes to environmentally induced internal mobilities and international migrations, policy frameworks are limited. The National Adaptation Programme of Action (2009) makes no mention of mobilities, while its original 2005 version viewed it as a negative impact of climate change. The Bangladesh Climate Change Strategy and Action Plan (2008) made mentions of environmental mobilities but with limited concrete results. While 20% of the Intended Nationally Determined Contributions submitted to the United Nations Framework Convention on Climate Change worldwide in 2015 concerned environmental mobilities, Bangladesh's contribution did not include this agenda.⁴³ Overall, it has been argued that the conflict between discourses that consider migration a failure of adaptation (and therefore emphasise local adaptation plans) and those that consider migration an adaptation strategy prevent the development of a formal regulatory framework on the issue.⁴⁴

RECOMMENDATIONS

1. EMERGENCY RESPONSE TO THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Promoting good governance and ensuring equitable distribution of relief services to affected persons.** In light of the various complaints from affected persons who received or attempted to receive aid, it is important to put transparent, accountable systems in place to avoid fraud, bribery, and bias in the delivery of aid. To this end, government and non-government actors engaged in relief delivery must assure that aid reaches those who require it most, regardless of relationships or affiliations, by regularly monitoring and evaluating relief initiatives.

2. ANTICIPATION AND ADAPTATION TO THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Reinforcing social safety net programmes to take the multiple shocks experienced by persons affected by the effects of climate change and environmental degradation into account.** In light of the lack of access to basic needs in the event of disasters and the loss of assets and livelihoods by crisis-affected communities, it is recommended that disaster risk management, social safety net, and climate change adaptation programmes be integrated into the current social safety net framework in order to handle the effects of climate change efficiently. To ensure the resilience of vulnerable people, this integration should comprise coordinating and synchronising disaster risk management, social safety net, and climate change adaptation programme activities. It is possible to increase the efficiency of safety net programmes like Food-For-Work, Rural Employment and Road Maintenance Programme, and Vulnerable Group Development in handling climate change shocks by strengthening and expanding them. For this integrated approach to be successfully implemented, cooperation between the government, NGOs, and relevant ministries is essential.⁴⁵
- ▶ **Enhancing existing infrastructure.** Despite the historical efforts toward disaster mitigation through infrastructure development, there is a need to create and build extensive infrastructure projects that take into account persistent climate and environmental

43 Hyeng Geun Ji, 'The Evolution of the Policy Environment for Climate Change Migration in Bangladesh: Competing Narratives, Coalitions and Power', *Development Policy Review* 37, no. 5 (2019): 603–20. <https://doi.org/10.1111/dpr.12384>.

44 Ibid.

45 Md. Abdul Awal et al., 'Adapting Social Safety Net Programs to Climate Change Shocks: Issues and Options for Bangladesh', 2013, https://www.researchgate.net/publication/341710247_Adapting_Social_Safety_Net_Programs_to_Climate_Change_Shocks_Issues_and_Options_for_Bangladesh.

threats, such as elevated cyclone shelters, reinforced embankments, and flood-resistant housing. Additionally, investment in the repair and upkeep of levees and embankments must be made to safeguard against storm surges and riverbank erosion. Moreover, the use of environmentally friendly approaches, such as wetland restoration and mangrove afforestation to create natural barriers against calamities should be encouraged to find nature-based solutions.

- ▶ **Improving livelihood diversification.** In light of the proven economic vulnerabilities of persons in the Koyra Upazila, there is a need to assist people with switching from lives dependent on agriculture to alternate forms of income. To this end, the expansion of training and capacity-building initiatives to give the local population the skills necessary for entrepreneurship and developing industries is prudent. Moreover, accessible, low-interest microfinance programmes that provide loans for new and growing businesses should be expanded, as they are the immediate go-tos for affected households.
- ▶ **Enhancing access to basic needs and relief services.** As access to healthcare was designated a top priority in times of crisis, efforts should be made towards ensuring that local healthcare systems are strengthened and that there are hospitals, pharmacies, and qualified medical personnel close to crisis-prone areas. By employing sustainable water management practices like rainwater harvesting and desalination methods, avenues toward expanding access to safe drinking water may be experimented with during pre-crisis times. Considering that schools serve a double purpose as crisis shelters and education spaces, more investment should be directed towards creating and maintaining sturdy school structures that can survive climate and environmental events and offer secure learning spaces.
- ▶ **Promoting community resilience and awareness.** In tandem with early warning systems that are already in place, it would be important to conduct awareness programmes aimed at both adults and children on measures for risk reduction, disaster preparedness, and climate change adaptation addressing both the shocks caused by slow onset and rapid onset. This should be accompanied by the timely dissemination of information and organisation of emergency response, the establishment of community-based early warning systems and education of local volunteers. Most importantly, community involvement in decision-making should be encouraged so that the needs and voices of the impacted population are taken into account when creating and implementing policies.
- ▶ **Strengthening regional cooperation and knowledge sharing.** In order to maximise resources, knowledge, and best practices for disaster risk reduction and climate change adaptation, partnerships and cooperation between government agencies, NGOs, and international organisations should be encouraged and fostered. To this end, platforms and forums for knowledge sharing where people may discuss their experiences, lessons learned, and creative solutions to climate-related problems in vulnerable places should be facilitated jointly by government and non-government actors.

3. FACILITATION OF SAFE MOBILITIES

- ▶ **Facilitating safe and legal pathways to migration.** Given that affected persons who choose to migrate internationally face protection concerns, it is important to provide assistance and protection, including access to reliable information and safe and legal migration routes. To this end, both government and non-government actors should work together with international partners and the host nation to safeguard the rights, welfare, and safety of migrants, particularly their protection from exploitation and trafficking.



FOCUS ON HONDURAS

SUMMARY

By 2050, climate change in Honduras is projected to lead to increased temperatures, decreased annual rainfall, more prolonged and intense heatwaves and drought, increased heavy rainfall volume and flood flows, bi-coastal sea-level rise, and increased frequency of extreme weather events.⁴⁶ Between 2015 and 2018, the Dry Corridor, an area particularly vulnerable to climate change, suffered one of the most severe rainfall deficits in the last 60 years. This drought led to the loss of 60% of corn crops, 80% of bean crops and about 50% of coffee and fruit trees, a situation that left more than 192,000 people facing severe food insecurity.⁴⁷ Honduras experienced various disasters in the second part of the 20th century, such as Hurricanes Fifi in 1974 and Mitch in 1998, which caused 8,000 and 14,000 deaths respectively.⁴⁸ Such disasters have intensified in recent years. The 2020 Atlantic hurricane season was particularly active, recording 30 "named storms" (tropical storms or higher strength), which is more than twice the average for previous years.⁴⁹ Out of these 30 named storms, 13 developed into hurricanes and 6 into major hurricanes (i.e., category 3 and 4).⁵⁰ Added to the effects of environmental degradation linked to industrial activities (deforestation, extractivism) and intensive agriculture, the intensification of climate change has dramatic consequences on the population of a country which has a predominantly agricultural and informal economy and is already one of the poorest and most unequal countries in the region.⁵¹

46 Economic Commission for Latin America and the Caribbean (ECLAC), 'Social Panorama of Latin America and the Caribbean 2022: Transforming Education as a Basis for Sustainable Development', 2022.

47 Ibid.

48 CEPAL, 'Evaluación de los efectos e impactos causados por la tormenta tropical Eta y el huracán Iota en Honduras', 5 May 2021, <https://repositorio.cepal.org/handle/11362/46853>.

49 Ibid.

50 Ibid.

51 CEPAL, 'Economía del Cambio Climático en Honduras: documento técnico 2017', October 2017, <https://repositorio.cepal.org/handle/11362/42355>.

In order to implement policies that ensure the protection of the communities currently affected by climate and those expected to feel its impact in the future, it is essential to understand what the effects of current events are. To this aim, this case study focuses on the impact of Hurricanes Eta and Iota on the community of San Juan, in the municipality of La Lima, department of Cortés.⁵² These two disasters occurred within over a two-week span in November 2020. They resulted in severe flooding that affected 2,941,000 people throughout the country⁵³ and led to at least 94 deaths, nearly 4 million displaced, increased poverty for more than 70% of the population,⁵⁴ and damages estimated at approximately 1,765 million Lempiras.⁵⁵

This case study shows that for the residents of San Juan, the floods caused by Eta and Iota resulted in the destruction of their houses and material goods, a lack of access to basic needs, the loss of their economic capital and livelihoods, and physical and mental health problems. The immediate effects of the floods forced people to find refuge either with relatives or at emergency shelters that did not offer the minimum conditions for a secure subsistence. The support they received was perceived as insufficient and unequal due to suspicions of corruption, misappropriation and politicisation of aid. Although to a lesser extent, the destruction and loss of livelihood caused by the floods also led some to join migration caravan towards the United States, leading to insecurity issues. These issues require the implementation of public policies that engage State responsibility to guarantee the protection of people affected by the effects of climate change.

STUDY CONTEXT - SAN JUAN, LA LIMA

San Juan is a community located in the municipality of La Lima, in Northwest Honduras (Fig. 6). It is situated in the centre of the Sula Valley, the industrial region of the country, with a marked historical trait of environmental vulnerability.

Figure 6. Map indicating the location of San Juan, La Lima, Honduras



52 For this case study, the Equipo de Reflexión, Investigación y Comunicación (ERIC) in collaboration with Secours Catholique - Caritas France (SCCF), conducted a quantitative survey, semi-structured interviews and a focus group with a total of 288 people. This includes residents of the community of San Juan who have been impacted by these sudden-onset disasters, community leaders, civil society representatives and local government actors. Data was completed with a desk review.

53 Contra Corriente, 'La Lima: el epicentro de la devastación que dejó la tormenta Eta en Honduras', 17 November 2020, <https://contracorriente.red/2020/11/16/la-lima-el-epicentro-de-la-devastacion-que-dejo-la-tormenta-eta-en-honduras>.

54 Amnesty International, 'The devastating impact of hurricanes Eta and Iota in Honduras', 2020, <https://www.amnesty.org/en/latest/news/2020/12/devastating-impact-hurricanes-eta-iota-honduras>.

55 Banco Interamericano de Desarrollo BID, 'Evaluación de los efectos e impactos de la tormenta tropical Eta y el huracán Iota en Honduras', 2021, <https://repositorio.cepal.org/bitstream/handle/11362/46853/3/S2100044.es.pdf>.

In the 20th century, Honduras' banana industry was concentrated in this northern region and La Lima underwent significant economic growth in the 1970s when the Tela Railroad Company, a subsidiary of Chiquita Brand, moved its headquarters there. Although banana companies have significantly reduced their activities since then – since banana cultivation ceased to be Honduras' main export crop – they remain one of the main employers in the city. The community of San Juan, which comprises 1536 houses, was built by the Tela Railroad Company in 2002 to accommodate families working in approximately 10 banana plantations. It is built on land that used to be banana fields.

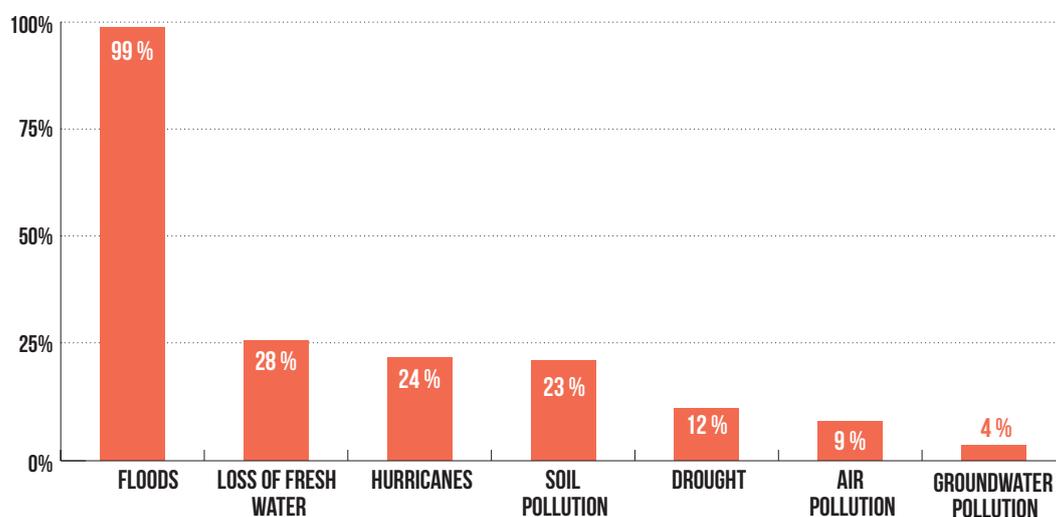
In 2013, the municipality of La Lima had the highest flood damage threat index (47.43%) according to the diagnosis carried out by the Secretariat of Planning.⁵⁶ San Juan is surrounded by the river Chamelecon, the river Ulua and the Mayan Channel. The latter was constructed in 2005 to serve as a relief channel when the Chamelecon increases its flow. Yet, this did not protect the community from the damages caused by Hurricanes Eta and Iota in 2020, as it is the area that was the most impacted by the floods in Honduras.⁵⁷

IMPACT OF HURRICANES AND FLOODS

The residents of the community of San Juan who answered this survey have been primarily affected by the floods that resulted from Eta and Iota and generated loss of clean water and soil pollution (Fig. 7).

Figure 7. Climate and environmental issues faced by the survey respondents from San Juan, La Lima, Honduras

WHAT TYPE OF ENVIRONMENTAL PROBLEM DID YOU ENCOUNTER?



La Lima remained flooded for around 2-4 days for Eta and 1-3 days for Iota.⁵⁸ Having faced floods before, the residents of San Juan we met did not expect the effects to be so severe. They told us how they could see water coming up their stairs, and buses starting to be submerged. A resident also explained having saved his son who had water up to his neck.

Many people could not leave as the flood quickly blocked all exits to the community. As the water came up very fast, some of them who took shelter in the houses that had several floors became trapped.

⁵⁶ Francisco Valle, 'Diagnostico Regional "Region 01 Valle de Sula", Honduras', 2013, https://www.academia.edu/36596687/DIAGNOSTICO_REGIONAL_REGION_01_VALLE_DE_SULA_HONDURAS_docx.

⁵⁷ Contra Corriente, 'La Lima'.

⁵⁸ CEPAL, 'Evaluación de los efectos e impactos causados por la tormenta tropical Eta y el huracán Iota en Honduras'.



"There were approximately 46 people between children and adults there on that terrace and there was even a girl who was due to give birth that week, and I told her that it was illogical for you to have stayed here, we took her out on the professional raft to where there was no water and from there they took her by helicopter."

José, a man interviewed in San Juan

HABITAT AND ASSET DESTRUCTIONS

The floods had huge impacts on the community, damaging houses, roads and material assets. The region of Cortés reported 24.8% of the total housing damage in Honduras.⁶⁰ In La Lima, it is estimated that 844 houses were damaged and 73 completely destroyed.⁶¹



"Everything was full of mud, everything was ruined, the streets were impassable; full of furniture, full of rubbish, it looked like a ghost town. The truth is that it is very difficult to describe, everything was full of mud. Here in this house the roofs didn't fall in, but the living rooms all fell down. There was an impressive smell. You couldn't get in because you could get to the bottom, there was about ten centimetres more mud, here they couldn't open the doors. It is difficult to describe the feelings of helplessness."

María, woman interviewed in San Juan⁵⁹

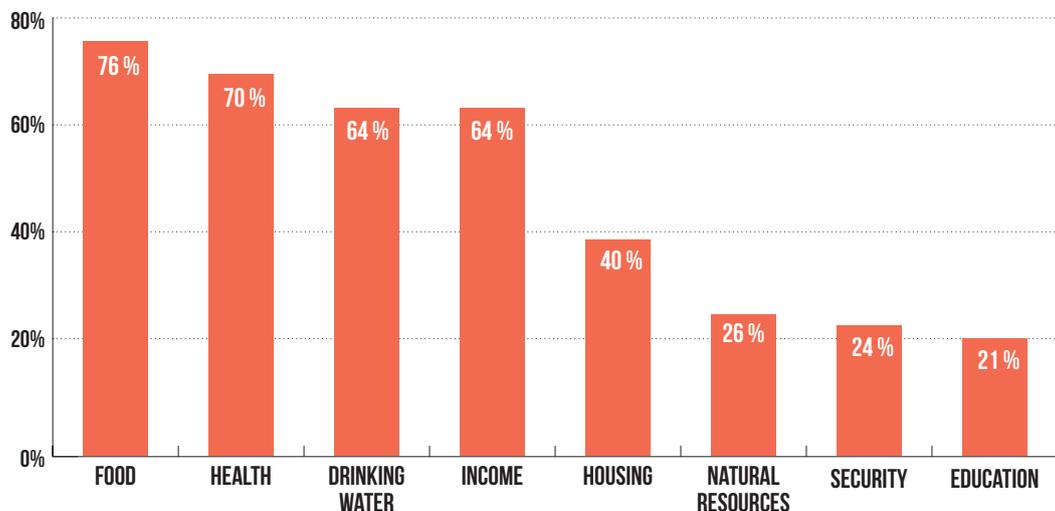
The damage was worsened by the second hurricane. Some people had already returned and started cleaning their belongings after Eta, only to face more destruction when Iota arrived two weeks later.

ACCESS TO BASIC NEEDS

This destruction had a severe effect on people's access to basic needs (Fig. 8).

Figure 8. Access to needs impacted by the floods for survey respondents in San Juan, Honduras

HOW HAS THIS ENVIRONMENTAL PROBLEM AFFECTED YOU?



⁵⁹ All names have been replaced with pseudonyms.

⁶⁰ United Nations Honduras, 'Honduras: Tormentas Tropicales Eta e Iota - Informe de Situación No. 10 (al 14 de abril 2021) - Honduras | ReliefWeb', 2021, <https://reliefweb.int/report/honduras/honduras-tormentas-tropicales-eta-e-iota-informe-de-situacion-no-10-al-14-de-abril>

⁶¹ Contra Corriente, 'La Lima'.

Residents shared accounts of hunger. The International Federation of Red Cross and Red Crescent Societies (IFRC) indicated that one year after the hurricanes, more than 3 million people were facing food insecurity in Honduras, which is more than double the estimate issued in early 2020 (before the hurricanes).⁶² Similarly, the interviews we conducted indicated that some people are still suffering from these effects now.



"When it was four o'clock in the afternoon and the children were not eating, I saw that a lady was making tortillas, so I said to my daughter-in-law: 'I'm going to stop being ashamed and tell that lady to sell me two tortillas for the children and then we'll hold on.' [...] Then I went to the lady who was making the tortillas. She quickly covered the tortillas and told me, 'No, I don't have any more.' 'Do me a favour, we have two children who haven't eaten for several days. There are only two tortillas, one for each,' I begged her. She said, 'No, I don't have any; I can't.' I thanked her and went to cry because the children had another day without food."

Ana, a woman interviewed in San Juan

The municipality is supplied by groundwater, yet the sewage system collapsed and all the wells were contaminated, which affected access to drinking water. The lack of clean water and the damages created by the flood also led to sanitation and health problems. Some people reported getting skin diseases and gastrointestinal illnesses because of bacteria in the water.

In addition to physical health issues, the floods had a negative impact on residents' mental health. All the residents we met shared how traumatic these events had been and the long-lasting effects they had on their lives.



"The psychological trauma that I suffered was strong and I don't think I have completely overcome it. [...] Many people are suffering from depression and have died little by little. Little by little in the community people are dying who could not overcome that trauma. So, this should be treated as a matter of urgency."

Luis, a man interviewed in San Juan



"The impact of losing everything that families have been working for years generates a feeling of great helplessness: 'I have been working for so long and a hurricane comes and takes everything away'. Because if they are not insured by an insurance company, they lose everything and they lose everything for good. Psychologically this is very damaging because these are already vulnerable populations and adding this factor makes it worse. Many people have also been left with a lot of fear every time it rains. We have received many people like this who have developed a phobia of water, small children who don't want to bathe, for example. They have developed phobias, anxiety, and depression because of the feeling of helplessness in the face of an event that is out of control."

Brenda, volunteer at a local civil society organisation

⁶² International Federation of Red Cross and Red Crescent Societies, 'Las comunidades afectadas por los huracanes Eta e Iota están amenazadas por la seguridad alimentaria, el desplazamiento y el cambio climático', 2021, <https://www.ifrc.org/es/press-release/las-comunidades-afectadas-por-los-huracanes-eta-e-iota-estan-amenazadas-por-seguridad>

ECONOMIC SECURITY

In the long term, the major impact of the floods on the community is on their economic resources. The residents of San Juan suffered damage to their homes, lands, personal and professional assets and are still struggling to recover as these were often the investments of a lifetime.



"Practically all of us were affected economically, with everything we had inside our houses, all the tools, the material things, all that was lost. We have been overcoming it little by little, although the truth is that it has not been easy. There are many people who have not yet recovered."

Carlos, a man interviewed in San Juan

Homeowners were particularly impacted as the value of the housing sector dropped dramatically, with properties losing half of their value.⁶³ As an example, a resident of San Juan who is currently unemployed explained that his house was damaged by the flood only one year after he and his wife started repaying their loan. As a result, they lost an important part of their investment and face difficulties repaying their debt.

The floods not only had an impact on the community's economic and material capital, but also on its livelihood.



"The supply of the whole municipality is groundwater, and all wells were contaminated; the sewage system collapsed; the main livelihoods were quite affected; all people involved in agriculture lost quite a lot. It affected food security."

Juan, city council representative

A resident told us he was unable to go to work for a month after the hurricanes. For the many residents of San Juan who had small grocery shops, losing their house also meant losing their business. As we saw, many people in the area worked on banana plantations, yet the damage caused by Eta and Iota damaged about 27% of banana production in Honduras.⁶⁴ The economic impacts were not only individual, but also collective, as public infrastructure was also damaged.

LACK OF SUPPORT TO MEET BASIC NEEDS

To face the impact of the hurricanes, people we surveyed indicated having received very unequal support: 60% received help while 40% did not. Those who received aid received it from the local government (37%), family and friends (31%), NGOs (27%), local associations (28%), the State (10%), and the Church (7%). Support mainly consisted of humanitarian aid, including food, vouchers, sleeping kits, clothes, household equipment, water, cleaning kits and medication. Most people mentioned that support was insufficient and sometimes not suitable. They also indicated that it was not distributed in a fair or equal manner, not reaching those who needed it the most. Some people had suspicions of misappropriation and politicisation of aid.⁶⁵

⁶³ According to the coordinator of the Risk Management Unit and Municipal Emergency Committee in a focus group.

⁶⁴ Banana Link, 'Concern for Banana Livelihoods in Hurricane Ravaged Honduras', 11 February 2021, <https://www.bananalink.org.uk/news/concern-for-banana-livelihoods-in-hurricane-ravaged-honduras/>.

⁶⁵ See also Alessandra Bueso, 'La politización de la miseria del pueblo hondureño', *CESPAD* (blog), 26 November 2020, <https://vi.cespad.org/hn/2020/11/26/la-politizacion-de-la-miseria-del-pueblo-hondureno/>; Univision, 'Tras el paso de Iota y Eta, ¿ayudará Estados Unidos a Honduras y Nicaragua como hizo tras el huracán Mitch?', 22 November 2020.



"When the president of El Salvador sent the aid kits for each family, the mayors opened the kits and took out the best; a journalist asked them why they were taking things out and they said, 'Because people are going to waste these things'. That aid did not reach the people."

Karla, a woman interviewed in San Juan



"Aid was politicised because elections were coming up. [...] They send the aid to the municipality, which chooses a certain person to take a survey of the houses and that person goes around taking the survey with their own people. Because in my case, I spent a week on the roof of my house with water up to my chest, without eating or drinking water."

Mario, a man interviewed in San Juan

Honduras National Anti-Corruption Council estimates that the coronavirus pandemic and Hurricanes Eta and Iota have demonstrated that corruption increases in times of "national emergency."⁶⁶

HUMAN MOBILITIES

Our survey shows that the majority of people left San Juan within days of the floods (79%). Most of them moved to nearby locations (75%, while others went to other regions). In 80% of cases, they only left for a few months, and in 17% of cases for only a few weeks. Most people had returned at least once. People made regular trips back and forth to check on their house (out of fear of theft) and start cleaning.

EMERGENCY EVACUATIONS

Whenever possible, people evacuated to the house of relatives living nearby. Others went to emergency shelters – mostly schools converted into dormitories. A report indicates that most shelters were deactivated for the elections in 2021, which forced the populations that did not have adequate conditions to return to communities.⁶⁷ At the same time, it also indicates that 2,000 people were still living in 50 shelters across the regions of Cortés and Santa Bárbara in April 2021.⁶⁸

This case study shows that there was a lack of preparedness and adequate response in the provision (or lack thereof) of emergency accommodation. The fact that schools were used as shelters also meant that children were deprived of school for months. Living conditions in shelters were described as indecent: they were not suitable for receiving that many people and did not offer even minimum sanitary conditions, leading to health issues such as infections⁶⁹ and hunger.

66 Emy Padilla, 'Honduras: Cuando la corrupción se viste de emergencia y legalidad', *Criterio.hn* (blog), 17 February 2021, <https://criterio.hn/honduras-cuando-la-corrupcion-se-viste-de-emergencia-y-legalidad/>.

67 United Nations Honduras, 'Honduras'.

68 Ibid

69 Contra Corriente, 'La Lima'.



"People had to leave and go to shelters – or rather alleged shelters – because they are not shelters at all. A school or community centre is not a shelter because they do not even meet the minimum conditions: there is no water, there are no mattresses, there is nothing, in other words, it causes greater suffering than what they suffered in the flood [...] They get sick because the sanitary situations are very bad, and also out of lack of food because there is no defined programme to give them immediate attention. There are many families who go hungry."

Francisco, civil society organisation practitioner

Some people also mentioned instances of sexual harassment and abuse towards women and children, which may be linked to the overpopulation of the shelters, the lack of safe spaces, and the lack of safeguarding mechanisms.⁷⁰ The fact that everybody was gathered without consideration of age and gender shows a need for a strengthening of context-sensitive programming in the provision of emergency relief.

Furthermore, some people could not go to shelters because they were full or because of the invisible borders held by gangs that constrained mobilities, demonstrating the need for safe evacuation routes and shelters.



"Well, there are people who were in shelters, people who were in shelters for a month, I know people who were here, many neighbours who were in the park in La Lima, other people who were under bridges because they did not want to go to the shelters, because the shelters were too full, so there was too much to cover so much need."

Carlos, a man interviewed in San Juan

ISSUES WITH RETURNING AND RESETTLING IN SAN JUAN

Most people came back to San Juan as soon as they could and 88% of respondents indicated that they did not want to move to another location. Yet, in the interviews, some people explained that over 2 years later, some houses were still abandoned as some families never came back. The trauma created by the flood also seemed to prevent some people from properly resettling as they live in fear of losing everything again.



"The Eta and Iota incidents have completely changed the way we live, the way we live together, you can no longer buy your things, you can no longer have good things in your homes, because there is a risk that another flood will come, and we will have to run away again. Even last year, when everybody fled, this was on the 23rd of September, everybody left because they were scared another flood like Eta and Iota was coming and this was desolate, people decided to take what little they could recover or put it in trucks. Here, there was an exaggerated exile last year and we hope that this year will not be the same because the truth is that we are no longer safe."

Carlos, a man interviewed in San Juan

⁷⁰ Ana María Rovelo, 'Plan Internacional: Niñas en albergues de Honduras corren riesgo de abuso sexual', Tiempo.hn | Noticias de última hora y sucesos de Honduras. Deportes, Ciencia y Entretenimiento en general, 12 December 2020, <https://tiempo.hn/plan-internacional-riesgo-ninas-albergues-abuso-sexual/>.

The long-term economic impacts of the flood means that the area received little investment and that some people had problems restarting their economic activities and could not necessarily take out a loan to rebuild their houses.



"After the hurricanes, commerce did not reopen all at once, but first there was the clean-up; investment stopped, fast food businesses found it difficult to reopen because of the sewage, we had no drinking water, and without drinking water we could not start again. All of this had a serious impact on migration. Many people had to take out large loans to rebuild their homes."

Sandra, city council representative

Staying in San Juan was sometimes perceived as a necessity more than a choice, as not everyone had the means to resettle elsewhere. Some homeowners also felt stuck as they could not easily sell their properties to resettle.



"I know quite a few close friends who left for the United States, entire families have left for the United States. After this, they say: 'I never want to go through this again.' Most of the people who left were renting, the people who decided not to return are the ones who were renting because of course it was not theirs, the ones who have held on a bit are the ones who are owners, the ones who are paying for the house, and so yes, most of the ones who left were the ones who were renting because there is no reason for them to return to the community."

Luis, man interviewed in San Juan

This suggests that the long-term economic impacts of the floods can eventually become drivers of migration, as some people may think that if they are going to start from scratch, they might as well do it somewhere that is considered safer.

INTERNATIONAL MIGRATIONS

Albeit a minority in our data, our study indicates that the floods have led some people to move abroad, and especially to the United States, with the help of people smugglers or by joining caravans. For instance, it is estimated that between the 9th and the 11th of December 2020, following the storms Eta and Iota, a caravan of 350 people departed from San Pedro Sula (a town 13 km in a straight line to the northwest of La Lima) to reach the United States.⁷¹

The impact of Eta and Iota continue to drive international migration. This is primarily due to 3 factors:

1. In the short term, the **lack of access to rights in an emergency context**.
2. In the medium term, the **problems people had in recovering their livelihoods**, meaning their socio-economic situation would become more precarious, deepening the poverty they were already experiencing during the pandemic.
3. In the medium and long term, the **uncertainty and psychological trauma** of a possible recurrence of such severe disaster in the absence of substantial progress in environmental protection.

⁷¹ IOM, 'Caravan December 2020', December 2020, <https://infounitnca.iom.int/en/emergency-response/caravans/caravan-december-2020/>.

When the lack of regular migration pathways pushes people to irregular routes, migration abroad puts people at risk of violence, insecurity and abuses by the authorities of the countries they cross.^{72 73} By forming caravans, people aim to protect each other from violence and insecurity. However, caravans do not protect people against restrictive migration policies in the United States, Central American countries and Mexico, where they face detention, rejection at the border, and human rights violations. During the COVID-19 pandemic, Central American countries closed their borders and the United States put a hold on the possibility of requesting asylum and implemented a model of express deportation. Despite these restrictive policies, migrations continued, especially following Eta and Iota. In this context, migration policies demonstrate a lack of protection mechanisms, sanitary measures, and respect of human rights that put people's lives at risk.

POLICIES THAT IMPACT ENVIRONMENTAL MOBILITY EXPERIENCES

Honduras has adopted a series of mechanisms and policies to reduce the impact of climate change on its territory and population:

- ▶ The Climate Change Law (2013)⁷⁴ establishes principles and regulations necessary for planning, preventing and responding in an adequate, coordinated and sustained manner to the impacts of climate change.
- ▶ The National Plan of Adaptation to Climate Change (2018)⁷⁵ provides an action plan to fulfil the country's commitments to the Paris Agreement.
- ▶ With the Nationally Determined Contributions (2021),⁷⁶ Honduras committed to a 15% reduction of greenhouse gases by 2030.

However, policies providing protection in the context of environmental mobilities remain limited:

- ▶ In March 2023, Honduras approved the Law for the Prevention, Care and Protection of Internally Displaced Persons in the country. However, this law does not take into account climate change-induced internal displacement and therefore does not engage State responsibility in such a context.⁷⁷
- ▶ The Honduras National Climate Change Strategy⁷⁸ refers to the migratory dimension of climate change and contains one objective that aims to establish and strengthen a legal and institutional framework to address and deal with the special conditions of climate-induced migration, based on a human rights perspective and within the framework of climate change adaptation strategies.⁷⁹ Although it can be considered an important and innovative process to address climate migration, there is currently no record of the development or implementation of these actions.
- ▶ The Law for the Protection of Honduran Migrants and their Families (2014) aims to "pay special attention to the extension of the protective action of the Honduran State to Hondurans abroad who are in a situation of hardship, especially minors, women, the elderly,

72 Amnesty International, 'The Devastating Impact of Hurricanes Eta and Iota in Honduras', 13 December 2020, <https://www.amnesty.org/en/latest/news/2020/12/devastating-impact-hurricanes-eta-iota-honduras/>.

73 Red Regional de Protección, 'Situación de Los Derechos Humanos de Las Personas En Movilidad Humana En México y El Norte de Centroamérica', 2020, https://asylumaccess.org/wp-content/uploads/2020/12/Informe-CIDH_Red-Regional-de-Proteccion.pdf.

74 Observatorio del Principio 10, 'Ley de Cambio Climático (Decreto 297-2013)', 2013, <https://observatoriop10.cepal.org/es/instrumento/ley-cambio-climatico-decreto-297-2013>.

75 Gobierno de la República de Honduras, 'Plan Nacional de Adaptación al Cambio Climático de Honduras', 2018.

76 Gobierno de la República de Honduras, 'Actualización de La Contribución Nacional Determinada de Honduras', 2021, https://unfccc.int/sites/default/files/NDC/2022-06/NDC%20de%20Honduras_%20Primera%20Actualizaci%C3%B3n.pdf.

77 ReliefWeb, 'Honduras - IDP Law - April 2023 - Honduras', 25 April 2023, <https://reliefweb.int/report/honduras/honduras-idp-law-april-2023>.

78 Gobierno de la República de Honduras, 'Estrategia Nacional de Cambio Climático de Honduras', 2010, <https://icf.gob.hn/wp-content/uploads/2022/02/2010-Estrategia-Nacional-de-Cambio-Climatico.pdf>.

79 Pablo Escibano, 'La gestión de las migraciones climáticas en América Latina', Migraciones Climáticas (blog), 11 June 2020, <https://migracionesclimaticas.org/la-gestion-de-las-migraciones-climaticas-en-america-latina/>.

the disabled and Hondurans with issues of social or professional integration" but also those sentenced to capital punishment or life imprisonment, those hospitalised or those in situations of calamity. Under this law, a series of procedures have been established to facilitate agreements with other countries, especially in the Central American region, as well as with transit and destination countries. Yet, its implementation appears to be insufficient.

- ▶ Since 1999, the country was granted a Temporary Protected Status after the disaster caused by Hurricane Mitch at the end of 1998, which was then extended until 2018,⁸⁰ when the Trump Administration cancelled it.⁸¹ Later, in 2022, the Government of Honduras formally asked the United States for a new Temporary Protected Status for about 100,000 Hondurans who left the country due to the devastating damage caused by Hurricanes Eta and Iota in 2020.⁸² No new agreement was implemented but in 2023, the Biden Administration extended the Temporary Protected Status for 18 months for people from El Salvador, Honduras, Nepal and Nicaragua who were already in the United States.⁸³

RECOMMENDATIONS

This study shows that the impact of climate change in Honduras is latent, unresolved, and requires a comprehensive approach that shifts our relationship with the environment and considers individual and collective protection needs from a human rights perspective, both for those who leave and those who stay. Yet, there is currently a lack of public policies that guarantee the protection needs of the populations affected by climate change and environmental degradation. To ensure protection needs are met, there is a need for public policies ranging from prevention, mitigation and attention to risks to the operationalisation of crisis response plans that include safe shelters and safe evacuation routes, and take a human rights, gender and environmental sustainability approach.

1. EMERGENCY RESPONSE TO THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Engage State responsibility to ensure the protection of communities affected by climate change and environmental degradation.** This involves ensuring access to safe shelters, food and fresh water, adequate water, sanitation and hygiene facilities, immediate health care, continuity in children's education, compensation for the damage and loss of their material goods, houses and livelihoods, and mental health support services. Protection mechanisms should be adapted to the specific need of particularly vulnerable populations, such as children, women, elderly people and LGBTQ+ population. Including climate and environmental events as part of the Law for the Prevention, Care and Protection of Internally Displaced Persons could provide a way forward.

2. ANTICIPATION AND ADAPTATION TO THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Monitoring, anticipating and mitigating the effects of climate change and environmental degradation.** This includes, in particular, the development or repair of suitable infrastructure (draining the river, repairing the river banks, planting/keeping trees that maintain soils and facilitate water infiltration), as well as the development of long-term infrastructure that contributes to reducing the impact of floods (e.g., construction of res-

80 Observatorio Consular y Migratorio de Honduras, 'Información sobre la décimo tercera ampliación del Estatus de Protección Temporal TPS', CONMIGHO, accessed 14 July 2023, <https://conmigho.hn/estatus-de-proteccion-temporal-tps/>.

81 US Homeland Security, 'Secretary of Homeland Security Kirstjen M. Nielsen Announcement on Temporary Protected Status for Honduras', 2018, <https://www.dhs.gov/news/2018/05/04/secretary-homeland-security-kirstjen-m-nielsen-announcement-temporary-protected>.

82 Swiss Info, 'Honduras pide a EE.UU. un nuevo TPS para afectados por huracanes Eta e Iota', SWI swissinfo.ch, 26 April 2022, https://www.swissinfo.ch/spa/honduras-inmigraci%C3%B3n_honduras-pide-a-ee-uu--un-nuevo-tps-para-afectados-por-huracanes-eta-e-iota/47547460.

83 United States Department of State, 'El DHS Rescinde La Terminación Por Parte de La Administración Anterior de Las Designaciones de Estatus de Protección Temporal Para El Salvador, Honduras, Nepal y Nicaragua', accessed 14 July 2023, <https://www.state.gov/translations/spanish/el-dhs-rescinde-la-terminacion-por-parte-de-la-administracion-anterior-de-las-designaciones-de-estatus-de-proteccion-temporal-para-el-salvador-honduras-nepal-y-nicaragua/>.

ervoirs designed to feed irrigation systems, construction of water reservoirs, reforestation in the upper, middle and lower basins of both rivers).

- ▶ **Promoting community actions.** This can notably be done through the Local Emergency Committees (CODELES), teams composed of citizens belonging to communities vulnerable to disasters who work with the authorities to develop local emergency plans. The cooperation between community-led initiatives, public policies, governmental and non-governmental actions should be fostered to ensure communities are prepared to face climate and environmental disasters, to prevent and mitigate risks, to manage immediate protection needs, to create medium and long-term solutions, and to allow for greater transparency in the allocation of support.

3. FACILITATION OF SAFE MOBILITIES

- ▶ **Opening safe and legal pathways for those who are forced to leave or who choose to, whether they move to other parts of the country or abroad, temporarily or permanently.** This requires special programmes to ensure legal entry and protection for people on the move whether in Honduras or in transit to a third country. This can also be done through the implementation and renewal of existing laws such as the Law for the Protection of Honduran Migrants and their Families or the Temporary Protected Status.



CARITAS SÉNÉGAL

FOCUS ON SENEGAL

SUMMARY

In Senegal, approximately 600,000 people work in the fishing industry, which represents about 15% of the country's workforce.⁸⁴ Yet, Senegal is particularly vulnerable to the effects of climate and environmental degradation along its coast.⁸⁵ Whether they lead this population to move or stay, such changes put them at risk of suffering socio-economic impacts that can affect their access to fundamental rights, including physical security and access to water, food and decent living conditions. To prevent negative effects on the actors of the fishing sector and promote the design and implementation of appropriate and participative policies, it is necessary to better understand how climate change and environmental degradation already affect this population.

For this purpose, this case study, conducted in collaboration between Caritas Senegal and Secours Catholique - Caritas France (SCCF), examines the experiences of two fishing communities:⁸⁶

84 Food and Agriculture Organization of the United Nations, 'CFI in Senegal', 2015, <https://www.fao.org/in-action/coastal-%20fisheries-initiative/activities/west-africa/senegal/en/>.

85 Kanta Kumari Rigaud et al., 'Groundswell Africa: A Deep Dive into Internal Climate Migration in Senegal' (Washington, DC: World Bank, 18 October 2021), <https://openknowledge.worldbank.org/handle/10986/36445>.

86 Across both communities, a total of 592 people took part in a quantitative survey and semi-structured interviews. This includes fishermen and other men and women working in the fishing sectors, community leaders, civil society and non-governmental organisation representatives and governmental actors at different levels. This empirical data was complemented by a desk review.

- ▶ Guet Ndar, a district of the municipality of Saint Louis where fishermen⁸⁷ engage in different forms of outward mobilities.
- ▶ Kafountine, a municipality in the region of Ziguinchor that is a growing site of destination for professionals of the fishing sector coming from Senegal's coast and neighbouring countries.

This case study shows that fishing sector professionals in Guet Ndar and Kafountine are increasingly facing the effects of rising sea levels, coastal erosion, salinisation and the overexploitation of fish, which are worsened by industrial activities. This has severe impacts on their physical security, access to decent housing conditions, mental health and livelihood. This exacerbated precariousness leads to increased mobilities, including emergency evacuation, planned relocation, increasingly distant and long-term fishing mobilities and migration toward Europe (to a lesser extent). These mobilities can lead to tensions with coastguards and local communities, water, sanitation and hygiene issues, economic loss, detention and fatal capsizing. These issues require adapted policy solutions to enable both safe mobilities and safe stay.

STUDY CONTEXT - GUET NDAR AND KAFOUNTINE

GUET NDAR

Guét Ndar is a traditional district of the commune of Saint Louis inhabited exclusively by a community of fishermen. It is located in the Langue de Barbarie, a sandy spit at the confluence of the Senegal River and the Atlantic Ocean that stretches for 40 kilometres from south of the city of Saint Louis to the mouth of the Senegal River, next to the border with Mauritania. The district of Guet Ndar has one of the highest population densities in Senegal with more than 25,000 inhabitants occupying an area 1 km long and 300 m wide.⁸⁸ With an altitude that hardly exceeds 2 metres, like the entire Senegalese coastal zone, this small strip of land is particularly vulnerable to rising sea levels. Furthermore, the opening of a breach in the strip of land in 2003 has worsened climate change's effects. This is visible by increased coastal erosion and a sharp rise of the sea level and salinisation. These events combined with other factors discussed below had a negative impact on housing safety and fishery, with economic, social and cultural implications.

KAFOUNTINE

Kafountine comprises 19 villages covering a total area of 908 km² and is divided into 2 distinct areas: the mainland (76 km²) and the islands (832 km²). It is located in the department of Bignona in the Ziguinchor region, between the Casamance River Delta and the Gambia. A multitude of small marshes called "bolongs" are scattered throughout the area, forming a network of small rivers. Kafountine is inhabited in majority by a Diola community that practises fishing, cultivates rice and exploits the products of the once lush mangroves. In recent years, it has become one of the main landing sites for the country's fish production, including all the artisanal and semi-industrial fishing trades and fish meal factories. The influx of fishermen and other people working in the fishing industry led to significant growth. It is a dynamic site that is undergoing a strong cultural and economic change due to the establishment of new communities from other localities in the country and the sub-region.

87 We use the gendered term "fishermen" because the choice to focus on the experiences of fishing professionals in Guet Ndar, a profession that is almost exclusively reserved for men, means that only male participants were interviewed on this site. Since Kafountine is a hub that includes different jobs related to the fishing industry, both male and female participants were interviewed.

88 Médiaterre, 'Saint Louis du Sénégal: Les Relations Psychosociales des Communautés de Pêcheurs avec la Mer: Le Cas de Guet Ndar', 2023, <https://www.mediaterre.org/actu,20200206170431,5.html>

Figure 9. Map indicating the locations of Guet Ndar and Kafountine, Senegal

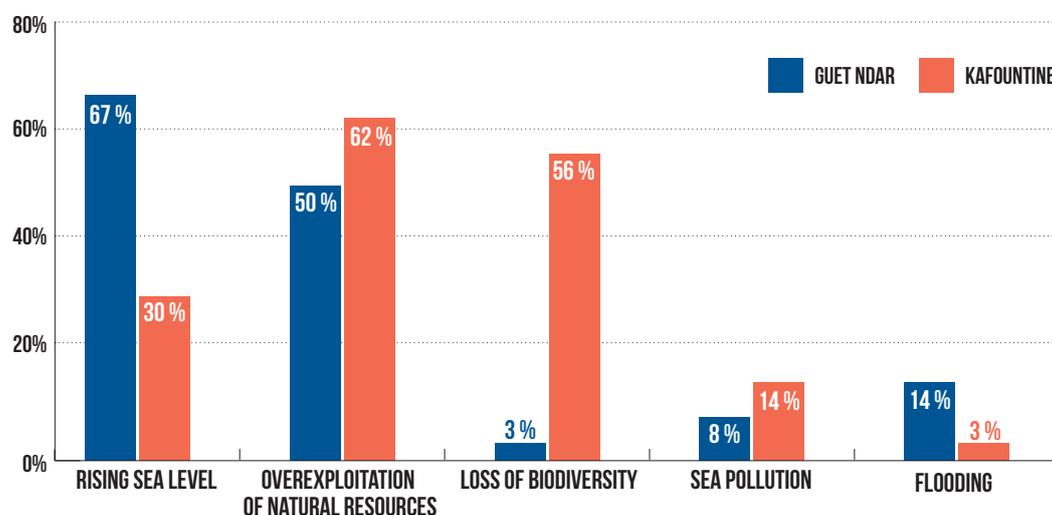


THE INTERSECTING EFFECTS OF CLIMATE CHANGE, ENVIRONMENTAL DEGRADATION AND INTERNATIONAL INDUSTRIES

Fishing professionals in Guet Ndar and Kafountine faced similar climate and environmental issues, including sea-level rise and its correlated effects, overexploitation of resources and loss of biodiversity, and sea pollution (Fig. 10). People who came to Kafountine from other regions and countries faced climate and environmental issues in Kafountine that were similar to those faced in their place of origin, though with a lesser impact on work opportunities.

Figure 10. Climate and environmental issues faced by the survey respondents from Guet Ndar and Kafountine, Senegal

HOW HAS THIS ENVIRONMENTAL PROBLEM AFFECTED YOU?



SEA-LEVEL RISE, COASTAL EROSION AND SALINISATION

Senegal is one of the most at risk countries to sea-level rise in the world.⁸⁹ The Langue de Barbarie in particular is highly vulnerable to sea-level rise and coastal erosion due to its location at the intersection between powerful northern marine flows and the river mouth.⁹⁰ An environmental vulnerability study showed that the coastline retreated by 0.35m/year between 2000 and 2018 and estimated the risk of marine submersion due to sea-level rise to at least 2.5 metres.⁹¹ In Guet Ndar, the results indicated an even more severe erosion, with an average evolution rate of 0.61m/year since 2000.⁹²

In addition to the effect of climate change, coastal erosion in Guet Ndar has been further exacerbated by the opening of a breach in the Langue de Barbarie. Initially dug to be four metres wide, the breach quickly expanded to 200 metres 3 days later and to 7 kilometres in 2015.⁹³ If the opening of the breach enabled Guet Ndarian fishermen to reach the sea more quickly, it also made the crossing more dangerous.

In Kafountine, the effects of the sea-level rise are aggravated by the coastal erosion caused by the destruction of the forests and mangroves linked to the fish processing industry. The fishing wharf is a major site for landing and smoking fish. Trees and shrubs are cut down on the coastline and in the forests to be used as fuel for smoking fish and for pirogue construction.⁹⁴ Coastal erosion is further exacerbated by the construction of tourism and fishing-related infrastructures (petrol stations, refrigeration plants), as well as by the intensification of the fishing sector, which has led to increased activity on the coast, weakening the vegetation that fixes the sand.⁹⁵

In both Guet Ndar and Kafountine, the sea-level rise has had devastating effects on communities, as the narrowing of the coastline impacts fishing practices and destroys fishermen's pirogues, houses and infrastructures.



"The sea [...] has swallowed up a lot of space now."

Alain, a fishmonger interviewed in Kafountine⁹⁶



"The most recent problems are essentially the advancing sea which has caused the coastline to shrink. 15 years ago, the sea was not at this level. All the pirogues were parked on the beach facing the sea. Today, there is hardly any beach left for the pirogues to park on. They are all on the other side of the river because sometimes at night, there are strong winds coming from the ocean and very often when they blow, they destroy many pirogues and houses too."

Fisherman and vice-president of the National Artisanal Fishermen's Collective interviewed in Guet Ndar

89 Rachid Amara et al., 'The Senegalese Coastal and Marine Environment', in *World Seas: An Environmental Evaluation* (Elsevier, 2019), 855–73, <https://doi.org/10.1016/B978-0-12-805068-2.00043-7>.

90 Janok P. Bhattacharya and Liviu Giosan, 'Wave-Influenced Deltas: Geomorphological Implications for Facies Reconstruction', *Sedimentology* 50, no. 1 (February 2003): 187–210, <https://doi.org/10.1046/j.1365-3091.2003.00545.x>.

91 Djiby Sambou et al., 'Résilience Socio-Écologique Des Communautés Vulnérables Du Delta Du Fleuve Sénégal Face Aux Changements Climatiques', Les Papiers de La Fondation (Fondation Croix-Rouge française, 2020).

92 Ibid.

93 Loïc Brüning, 'Érosion Des Côtes Au Sénégal : Migration et Stratégies d'adaptation. Étude de Cas Dans La Commune de Gandiol', in *Actes d'une Journée d'étude ENVIRONNEMENT, CHANGEMENT CLIMATIQUE ET POPULATIONS : PROMOUVOIR LE DIALOGUE*, 2019, <https://libra.unine.ch/server/api/core/bitstreams/ce00886a-02cf-463e-92da-5ef7f73a15fo/content>.

94 Mamadou Barry, 'Érosion côtière et impacts dans la commune de Kafountine (Basse Casamance)' (Mémoire de master, Université Assane Seck de Ziguinchor, 2017).

95 Ibid.

96 All names have been replaced with pseudonyms.

For the fishermen we met in Guet Ndar, tidal surges linked to sea levels and the opening of the breach have caused several deaths. According to the head of the Saint Louis Regional Fisheries Department, the breach has already caused 12 accidents in 2023, 5 of which were fatal.⁹⁷ A fisherman also told us that he had an accident at sea while crossing the breach on 25 December 2022 and lost one of his crew members. Tidal surges could also be traumatic, as they often happened in the middle of the night, destroying houses and causing people to sleep in fear.⁹⁸



"We used to get up in the middle of the night to find other shelters because the water invaded our houses."

Abdoulaye, a fisherman surveyed in Guet Ndar



"The water often attacks us. There is nothing we can do about it."

Moussa, a fisherman surveyed in Guet Ndar

By exacerbating dangers and destroying their equipment, these climatic and environmental phenomena worsened the Guet Ndarian community's work conditions. Indeed, 60% of the fishermen that were surveyed stated that sea-level rise affected their livelihoods. Due to the marine flow disturbances it created, the breach led to a dispersion of the fish shoals towards the open sea. This pushed fishermen to invest in bigger and more expensive equipment to make their fishing trips more profitable,⁹⁹ putting them at risk of greater financial loss.



"Since 2003, when the authorities opened this gap, it has become hell. Yet, this is the only way to get to the sea. Recently we lost a pirogue worth 40 million and we have no insurance. Sometimes the navy patrols in front of the breach but not very regularly. The breach remains a real problem."

Cheikh, a fisherman interviewed in Guet Ndar

In Kafountine, sea-level rise and coastal erosion have led to an increased soil salinisation that has contaminated clean water sources and significantly reduced rice yields.



"This affects the economy. For example, with the reduction in cultivable rice-growing areas, production yields are down. Where once a farmer could harvest 2 or 3 tonnes, today it's just under a tonne."

Mayor of the municipality of Kafountine

⁹⁷ 207 casualties were recorded between 2004 and March 2014. See Aichétou Seck, 'Les pecheurs migrants de Guet-Ndar (Saint-Louis du Sénégal): Analyse d'une territorialité diverse entre espaces de conflits et espaces de gestion' (Université de Liège et Université Cheikh Anta Diop de Dakar, 2014).

⁹⁸ Similar testimonies have been documented in Zickgraf, 'Keeping People in Place: Political Factors of (Im)Mobility and Climate Change', Social Sciences 8, no. 8 (29 July 2019).

⁹⁹ Ibid.

The President of the women's transformation association in Kafountine tells us that although these climate and environmental issues have not yet led to populations being relocated, they might in the future.

"To date, we have not experienced any massive displacement. But we are suffering the effects of the advancing sea. The ocean has pushed inland, and some islands are half-lost. In under 30 years, the sea has taken over the land. More and more families are moving to Diouloulou, Bignona, Ziguinchor, Gambia and here in Kafountine, because even if there are new islands, not all of them are habitable due to the salinity of the soil and the lack of drinking water. But the marine invasion is affecting half of the islands. 7 of the 14 in Kaarone are threatened." (President of the Women Working in Fish Processing Association, interviewed in Kafountine)

OVEREXPLOITATION OF FISHERY RESOURCES

Communities in both Guet Ndar and Kafountine were also confronted with the overexploitation of fishery resources, although on different levels.

In Guet Ndar, the issue was primarily attributed to the presence of foreign trawlers from Europe or China that scrape the marine soils and are not selective in what they catch. Fish stock assessments indeed show a sharp decline over the past decades,¹⁰⁰ which has been linked to uncontrolled fishing by foreign vessels.¹⁰¹ The artisanal fishing sector also contributes to the overexploitation, as it increased tenfold between 1950 and 2010 and the motorisation of the pirogues increased captures.¹⁰² Artisanal and industrial fishing boats are therefore competing for increasingly depleted resources, a competition that Guet Ndarian fishermen consider unfair.

Fishing was further complicated by the installation of a gas exploitation platform off Saint Louis in 2018,¹⁰³ in a fish-heavy area where Guet Ndarian fishermen used to do their daily fishing. This installation led to conflicts. For example, on 19 February 2023, when the navy destroyed a fisherman's pirogue because he had come too close to the platform.¹⁰⁴

In Kafountine, the growth of the fishing sector and the number of catches also had an impact on resources:



"There is a decrease in the resources. It's fair to say that fish stocks have declined significantly. Often when this is mentioned, the players are quick to blame the authorities, such as the ministry in charge. They also mention the issue of foreign vessels. In reality, it has to be said that the number of small-scale pirogues has also increased significantly. There has been an evolution with the modernisation of motorised pirogues. They can now go much further out to sea and stay there much longer. This over-exploitation of the resource is at the root of the decline in the resource. The fish no longer have breeding grounds. These are sometimes destroyed by small-scale fishermen due to lack of knowledge. The fishing of fry for fishmeal factories also contributes to overexploitation of the resource. Freezing units that export sardinella for local consumption are also a factor in the decline."

Local Artisanal Fisheries Council Coordinator, interviewed in Kafountine

100 Kamarel Ba et al., 'Long-Term Fishing Impact on the Senegalese Coastal Demersal Resources: Diagnosing from Stock Assessment Models', *Aquatic Living Resources* 31 (2018): 8, <https://doi.org/10.1051/alr/2017046>.

101 Dyhia Belhabib et al., 'Euros vs. Yuan: Comparing European and Chinese Fishing Access in West Africa', *PLOS ONE* 10, no. 3 (20 March 2015): e0118351, <https://doi.org/10.1371/journal.pone.0118351>.

102 Dyhia Belhabib, Krista Greer, and Daniel Pauly, 'Trends in Industrial and Artisanal Catch Per Effort in West African Fisheries', *Conservation Letters* 11, no. 1 (2018): e12360, <https://doi.org/10.1111/conl.12360>. Ismaila Ndour et al., 'Changes in the Trophic Structure, Abundance and Species Diversity of Exploited Fish Assemblages in the Artisanal Fisheries of the Northern Coast, Senegal, West Africa', *African Journal of Marine Science* 36, no. 3 (3 July 2014): 361-68, <https://doi.org/10.2989/1814232X.2014.950696>.

103 BP, 'Projet de Production de Gaz Grand Tortue / Ahmeyim - Phase 1 - Étude d'impact Environnemental et Social - Rapport Final Consolidé Intégrant Les Revues Réglementaires de La Mauritanie et Du Sénégal' (République Islamique de Mauritanie; République du Sénégal, 2019), https://www.bp.com/content/dam/bp/country-sites/en_mr/mauritania/home/pdf/esia-impact-reports/impact-report-vol-5.pdf.

104 (CS-SSI-CAT2-6-GN-Emile and César)

In both Guet Ndar and Kafountine, the effects of climate change, environmental degradation and industries were intertwined and had a negative effect on the livelihood of communities that are wholly dependent on fishing resources. For instance, one fisherman from Guet Ndar explained that he was losing his investments as the cost of fishing material was high but did not assure enough catches to make up for his investment. Similar accounts were shared by other participants.



"Industrial or 'destructive' fishing, for example, which we consider to be an environmental problem, and which competes illegally with small-scale fishing, is currently causing a great deal of conflict at sea; the food security of fishing families is threatened insofar as industrial fishing takes everything that should go to small-scale fishermen. It should be noted that these industrial fishing vessels use bottom trawls that destroy marine habitats and ecosystems. As a result, fish stocks are dwindling."

Representative of Greenpeace Africa, interviewed in Dakar

The scarcity of fish did not only increase people's economic precariousness but also had an impact on their identity. As a representative of the Association for the Socio-economic Promotion of the Fishing Industry put it, "We're fishermen and we've always lived on the coast. [...] We don't know how to do anything else." The scarcity of fish also led crews farther and **farther into the waters of neighbouring countries** (e.g., Gambia, Guinea Bissau, Mauritania) to find catches, increasing their mobility.

HUMAN MOBILITIES

The majority (83%) of the individuals who answered our survey in Guet Ndar have not left their place of origin and do not intend to do so. However, most have relatives who have moved at one point or another and a few people indicated that the perspective of having to leave their home one day may be inevitable:



"I was thinking of leaving. I don't know when it will happen, but sooner or later we'll all have to leave."

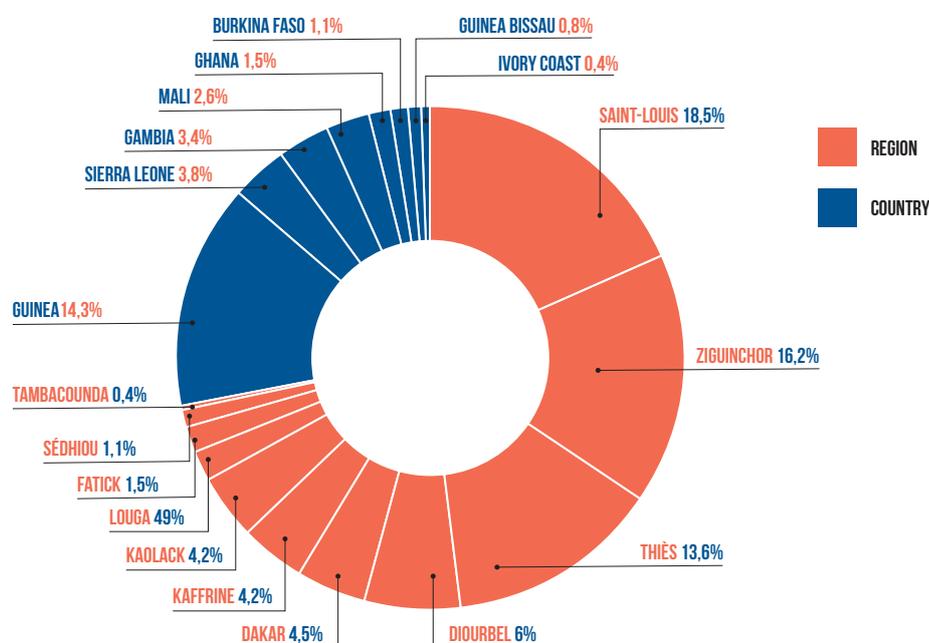
Ousmane, a fisherman interviewed in Guet Ndar

Those who moved had different types of mobilities: 44% left to a nearby location, 33% went to Mauritania, 20% went to another region (Ziguinchor, Thiès, Dakar, Fatick), one person went to Guinea Bissau and one to Spain. They moved for very different lengths of time, ranging from a few months to a few years. **The great majority came back regularly, which indicates that their mobility tends to be primarily circular.**

In Kafountine, we mainly talked to people who came to work from other regions in Senegal or neighbouring countries (Fig. 11). Most of them have lived in Kafountine for over 5 years (82%) but returned regularly to their place of origin.

Figure 11. Place of origin of survey respondents in Kafountine

REGION OR COUNTRY OF ORIGIN OF SURVEY RESPONDENTS IN KAFOUNTINE



Overall, our study identified four main types of mobility: emergency evacuations and planned relocation following the loss of housing, fishing mobility and migration towards Europe.

EMERGENCY EVACUATIONS AND PLANNED RELOCATIONS

Rising sea levels have led to the destruction of houses in Guet Ndar. It is estimated that more than 315 households were directly affected between 2018 and 2019.¹⁰⁵ This led to families being evacuated to makeshift shelters in Khar Yalla and Diougob Peul.¹⁰⁶

The fishermen we interviewed mentioned that living in tents, especially during hot periods, is very difficult and described the living conditions there as undignified and indecent. They mentioned a lack of proper sanitation facilities such as toilets, which implies challenges related to Water, Sanitation and Hygiene (WASH) that can cause health issues.¹⁰⁷ They also described shelters as overcrowded and unsuitable for the size of their households.¹⁰⁸ Indeed, another study indicates that at the beginning of the evacuation to Khar Yalla in 2017, over a hundred families were accommodated in just 67 tents, which translates to over 20 people per tent.¹⁰⁹ Two fishermen also indicated that evacuation to emergency shelters had a negative impact on children's access to school. Furthermore, the distance between the camps and the fishermen's workplace was mentioned as adding transport costs that further burdened their economic situations.

105 Oumar K Ndiaye, 'Actualisation de l'étude d'impact environnemental et social de l'aménagement définitif du site de relogement de Djougop et de la libération de la bande des 20 mètres sur la Langue de Barbarie', Projet de relèvement d'urgence et de résilience de Saint-Louis (SERRP) (Ministère des Collectivités Territoriales, du Développement et de l'aménagement Des Territoires, 2022).

106 Fatima Kante and Ndèye Awa Fall, 'Érosion Côtière et Déplacement de Populations. Étude de Cas Du Site de Recasement Des Sinistrés de La Langue de Barbarie Dans La Ville de Saint-Louis Du Sénégal', in *Actes d'une Journée d'étude - Environnement, Changement Climatique et Populations: Promouvoir Le Dialogue*, 2019.

107 Ibid.

108 "Le problème de l'habitat est aujourd'hui un sérieux problème. Moi même je faisais parti des familles qui avaient perdu leur maison et qu'on avait logé à Bango. Finalement je suis revenu parce que ce n'était pas l'endroit idéal avec une famille polygame. En plus on était tout le temps obligé de revenir ici pour la pêche." (I7)

109 Ibid.

The government is currently planning to create a 20 metres wide and 3.6 kilometres long safety strip on the Langue de Barbarie between the ocean and the districts of Guet Ndar, Ndar Toute and Goxu Mbacc, to provide protection for people living on the seafront and reduce the damage caused by the advancing.¹¹⁰ **This plan involves the permanent planned relocation of 11,808 people directly threatened by the advancing sea and disaster victims occupying tents at Khar Yalla and Camp Gazeille.** They will be relocated to a 15.71 ha site in Diougob Peul where housing and social facilities are currently being built.

However, the community generally seemed reluctant to be permanently relocated. They criticised the new houses for not being adapted to the size of their households and regretted not having been consulted sufficiently throughout the project. Although some people had been living in emergency shelters for several years, they continued to commute daily in order to work. They still considered themselves as Guet Ndarians and either had come back or wished to come back despite the precarious environmental conditions.



"We're all from Guet Ndar. Our ancestors have always lived there. [...] If we're allowed to go back, we'll rebuild our homes and reorganise ourselves as we used to. We prefer this life to the one we have here with the houses they are building, which are not suitable. All our activities are in Guet Ndar, as you can see, at this time of day, all the heads of household are there, and they only come back in the evening. It's difficult for us to live away from the Langue de Barbarie. Our life was easier there because the proximity of the quay allowed us to carry out our activities and provide for our families."

Chairman of the Resettlement Site Management Committee



*"Fishing is in itself an incentive to move. As the saying goes, **'the fisherman follows the fish'**. So as the seasons go by, fishermen move around to find fish."*

Representative of the Association for the Socio-economic Promotion of the Fishing Industry interviewed in Guet Ndar

FISHING MOBILITY

Fishing has always involved movements. As the vice president of the national artisanal fishermen's collective puts it:



"We're fishermen and we've always lived on the coast. How could we imagine moving to an area where we wouldn't be able to fish? We don't know how to do anything else."

Fisherman and vice president of the National Artisanal Fishermen's Collective interviewed in Guet Ndar

Our study indicates that the scarcity of fishery resources led the fishermen to fish farther away and for longer periods of time, often only returning once a year for religious celebrations, while traditionally, fishermen would alternate between fishing seasons locally and abroad.¹¹¹ Those who went in search of fish could go down the Senegalese coast to Joal, Kayar, Kafountine or up North towards Nouackchott and Nouadhibou. Some also went to the Gambia,

¹¹⁰ Ndiaye, 'Actualisation de l'étude d'impact environnemental et social de l'aménagement définitif du site de relogement de Djougop et de la libération de la bande des 20 mètres sur la Langue de Barbarie'.

¹¹¹ Seck, 'Les pêcheurs migrants de Guet-Ndar (Saint-Louis du Sénégal)'.

Guinea or Liberia.

Since Guet Ndar is located right at the border with Mauritania, traditional fishing sites for Guet Ndarians are located beyond the border. However, in recent years, Mauritania has implemented policies to limit access to its waters, including close surveillance of the maritime border that limits access to ancestral fishing sites. Nowadays, fishing campaigns to Mauritania are either organised by Mauritanian economic operators who come to sign contracts with fishermen from Guet Ndar or are conducted without a fishing licence. Yet, without the required fishing permits, fishermen can have their equipment confiscated. Some fishermen we met had been arrested. When arrests occur, fishermen often receive little support from their State, as many people do not have civil status certificates and do not know about the consular services or embassies that could help them.

As Kafountine is an important destination for fishing sector professionals, the majority of people we met in Kafountine came there from neighbouring countries and other parts of Senegal. They say that they have not faced major issues and appear to perceive their moving here as an improvement over their previous situations.



"The first migrant fisherman to arrive here in Kafountine was Doudou Faye. We were the ones who helped him build his house here in Kafountine. He is Sérère and we Diolas are cousins. He now has two houses and a field. He has settled here permanently with his whole family. A lot of migrants have ended up doing the same thing, and it shows how integrated they are into the community. Many members of the Guinean community also have their homes here. I personally helped a Guinean settle down with his family very close to my home."

Souleymane, a village leader interviewed in Kafountine

For those coming from neighbouring countries, Guinea in particular, integration into this new community is facilitated by the fact there is no legal barrier to their settlement. Indeed, the Treaty of the Economic Community of West African States (ECOWAS) and its protocols, as well as the Treaty of the West African Economic Monetary Unit (WAEMU), establish the freedom of movement of persons and the right to residence and establishment between these countries.



"I often came and stayed for one or two years before returning to Guinea. Apart from the routine border controls, I realised that there were no problems with the government or services in terms of settlement of foreigners, which is why I decided to settle in Kafountine."

Babakar, a man from Guinea processing fish interviewed in Kafountine

Yet, some people still described living conditions that are sometimes precarious.



"During my childhood, Joal was full of pirogues and fishing activities were flourishing. I never thought that one day I would find myself doing processing elsewhere than in Joal, especially leaving my family behind. But I had no choice, given the scarcity of the resource. When I moved to Kafountine, I took my daughter with me. But the expenses and living conditions were so precarious that I had to send her back to Joal. It is never easy for a person to leave his home and family. My daughter always asks me when we talk on the phone when I will come back to see her. I often tell her that it will be very soon."

Sokhna, a woman processing fish interviewed in Kafountine

In particular, several people mentioned facing issues with access to sanitation, citing the need to build toilets, provide access to drinking water and improve waste management.

Some people also faced difficulties in finding shelter, especially upon their arrival.



"Many migrant fishermen also sleep under the stars. When they arrive, all they usually have is the contact of the village chief. Unfortunately, he can't take in everyone."

Local Artisanal Fisheries Council Coordinator, interviewed in Kafountine

The men and women we met in Kafountine also described the strenuousness of their work and its increased precariousness as fishery resources reduce.



"I am Guinean and I work as a fish crate carrier. The work is very hard here. We carry crates weighing more than 50 kg every day. Our parents say that we have gone on an adventure for work and they are hopeful. But here the work is not regular. The work is done manually; we carry the boxes on our heads, and it is very hard. Burning the fish in the ovens is also very difficult. The smoke can ruin your eyes and when you get sick you are on your own."

Assane, a man from Guinea carrying crates of fish interviewed in Kafountine

MIGRATION TOWARDS EUROPE

The need to go farther and farther out to find fish, compounded by the lack of fishing licences and the depletion of this resource, has created a situation where some fishermen consider irregular migration as an alternative way to access the means of subsistence and send remittances back home.¹¹² As a last resort, some fishermen decided to go to Europe. Of the 224 people who answered our survey saying they had stayed in Guet Ndar, 53% indicated having relatives who went to Spain. In Kafountine, only one person surveyed described having

112 Brüning, 'Érosion Des Côtes Au Sénégal'; Zickgraf, 'Relational (Im)Mobilities'.

relatives who went to Spain, but the topic was mentioned in several interviews.

Young people in particular were said to perceive migration to Europe as one of the only options for them to find sustainable economic opportunities and provide for their families.



"Many of our friends are now in Spain because life in Guet Ndar is not good for us."

Lamine, a fisherman surveyed in Guet Ndar



"Our ancestors only knew their land; irregular emigration to Europe was never part of our customs. But if we've really reached this stage, it's because people don't know what to do anymore."

Cheikh, a fisherman interviewed in Guet Ndar



"I myself paid for transport for two of my brothers who wanted to go to Europe illegally. It was towards the end of the coronavirus pandemic. The social pressure was unbearable and finally, thank God, they arrived safe and sound."

Astou, a woman fishmonger interviewed in Kafountine

Kafountine was also described as a place of transit, where people from other parts of Senegal and other West African countries stopped before setting off to Europe. It is an isolated locality dotted with uninhabited islands that are ideal hiding places for migrant smugglers. In some cases, individuals were said to end up staying there because they did not have enough money to continue their journey or to go back to their place of origin.

Sometimes, departures ended in tragedy. The capsizing of a pirogue off the Kassel Isles in June 2022, which killed 15 people,¹¹³ particularly moved the community.

113 CANALACTU, 'Chavirement d'une pirogue à Kafountine : 15 morts et 92 rescapés. 7 présumés convoyeurs en garde à vue', 1 July 2022, <https://canalactu.com/a-la-une/chavirement-dune-pirogue-a-kafountine-15-morts-et-92-rescapés-7-presumes-convoyeurs-en-garde-a-vue/>.



"The phenomenon of illegal immigration has existed for a long time, but it reached its peak in 2006. So, the European Union, in collaboration with certain States, set up the Frontex project to combat departures at the local level. It has to be said that both Kafountine and Saint Louis are departure points. Here in Kafountine, the people involved in this activity organised themselves in the commune by grouping candidates together in houses with the help of a certain complicity. Once they had reached a certain number, they set off. When this system was discovered, they changed tactics and decided to group people together on the islands in Kafountine. Candidates went to the islands individually but didn't stay in the villages among the people, but rather in the forest. Others went from Gambia to the islands. The candidates were mainly people from the Fouladou region (Kolda, Vélingara, Sédhiou) who had hardly ever seen the sea and didn't even know what a lifejacket was for. Kafountine used to be known mainly for fishing and tourism. But the phenomenon of illegal immigration has been like an oil stain for the commune. Some of the pirogues were made in the Gambia, which is an independent state, and it was difficult for us to carry out on-the-spot investigations. The candidates, who were grouped together on remote islands, had no water to drink and ate nothing but oysters. They were left there until the day of departure. Sometimes there were deaths. In the course of our operations, we had to rescue 43 people, including in the case of the capsized at Kassel."

Head of the High Authority for the Coordination of the Maritime Safety, Maritime Security and Protection of the Marine Environment's secondary centre

Although they were aware of the dangers crossing the sea to Spain entailed, some people considered the risk worth it. For example, a fisherman in Kafountine explained that despite the risks, he wanted to leave to help his family, but his family did not let him go.

RECOMMENDATIONS

1. MITIGATION OF THE CAUSES OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Restoring and managing fishery resources in a participatory and eco-responsible manner.** Adapting catches to the regeneration capacity of the resource, controlling the application of regulations aimed at protecting fry and all fish that have not reached the size of the catch, controlling fishing equipment and techniques, introducing higher taxes on catches by industrial fishing boats, and promoting licences for artisanal fishing over foreign industrial trawlers would help artisanal fishermen maintain their livelihood while limiting the depletion of fish stocks. The formulation, implementation and participatory monitoring of a sustainable fisheries policy would enable the regeneration of fisheries resources and the interests of Senegalese artisanal fisheries professionals.
- ▶ **Protecting communities against coastal erosion.** As coastal erosion is quickly increasing, building infrastructure such as protective seawalls and wave breakers can help protect coastal housing. At the same time, it is important to tackle the factors that aggravate coastal erosion by stopping or limiting deforestation and the construction of new buildings on the coast and creating protected areas.

2. EMERGENCY RESPONSE TO THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- **Ensuring emergency shelters provide adequate access to basic needs,** including safe and adequate shelters, food and fresh water, adequate water, sanitation and hygiene facilities, immediate health care, continuity in children's education, compensation for the damage and loss of their material goods, houses and livelihoods, and mental health support services.

3. ANTICIPATION AND ADAPTATION TO THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Setting up mechanisms to foster the professionalisation of small-scale fishermen** through the allocation of professional fishermen cards and the implementation of social protection mechanisms (insurance, social security) and vocational training.
- ▶ **Developing initiatives in fishermen communities to register their children**, thereby giving them access to education and professionalisation in the sector.
- ▶ **Implementing a compensation mechanism for the losses incurred by artisanal fishing communities impacted by the implementation of hydrocarbon exploitation platforms** and other mining exploitations based on the revenue they generated.
- ▶ **Communicating with and including communities** in the government projects that affect them: relocation, training in other professions, development of value chains, etc.

4. FACILITATION OF SAFE MOBILITIES

- ▶ **Designing and implementing permanent relocation plans in a participatory manner** with displaced populations (whether victims of disasters or not) to ensure they meet their needs and necessities.
- ▶ **Promoting circular migration for fishing professionals** through partnership or cooperation agreements with States outside ECOWAS, by including requests for fishing licences for Mauritania in the overall framework of bilateral negotiations and by including fishing in the partnership priorities with other neighbouring countries (Guinea Bissau, Gambia, Republic of Guinea and the sub-region).
- ▶ **Providing fishing professionals with administrative assistance and legal protection** by raising awareness of diplomatic and consular services amongst fishing professionals, involving them in the governance and monitoring of fishermen's mobilities abroad and implementing mechanisms to protect the interests of fishermen in the context of contracts concluded with operators in the sector abroad.
- ▶ **Promoting fishermen's awareness of the need to use consular services in destination countries.**



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CROSS-ANALYSIS

The previous chapters have analysed the impacts of climate change and environmental degradation in communities of three different countries: the residents of the Koyra Upazila in coastal Bangladesh, who have been facing recurrent cyclones, floods and saltwater intrusions; the inhabitants of San Juan La Lima, a community in northwest Honduras impacted by severe floods following Hurricanes Eta and Iota in 2020; and the fishing sector professionals living in Guet Ndar and Kafountine in Senegal primarily confronted with the depletion of fisheries and coastal erosion. In this chapter, we put into perspective what these case studies tell us about how different environmental issues affect people's lives and mobilities in different contexts and their implications on human rights.

CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION AS VULNERABILITY EXACERBATORS

The three case studies have shown that for different communities across the world, the negative effects of climate change are increasing. For example, tropical storms appear to have intensified as sea surface temperatures go up:¹¹⁴

- In Bangladesh, category 4 cyclones (wind speed 209-251 km/hr) increased by 31.25% compared to recorded cyclones between 1986 and 2011, while it had only increased by 6.1% between 1960 and 1985.¹¹⁵ Since 2007, inhabitants of Koyra Upazila have been particularly impacted by Cyclones Sidr (2007), Aila (2009), Bulbul (2019), Amphan (2020), and Yaas (2021).
- Honduras experienced 30 tropical storms in 2020, which is more than double the

114 James B. Elsner, James P. Kossin, and Thomas H. Jagger, 'The Increasing Intensity of the Strongest Tropical Cyclones', *Nature* 455, no. 7209 (September 2008): 92-95. <https://doi.org/10.1038/nature07234>.

115 Manik Kumar Saha and Niaz Ahmed Khan, 'Changing Profile of Cyclones in the Context of Climate Change and Adaptation Strategies in Bangladesh', *Journal of Bangladesh Institute of Planners* 7 (2014): 63-78.

average of previous years, out of which 13 developed into hurricanes and six into category 3 and 4 hurricanes.¹¹⁶ More specifically, the residents of the community of San Juan La Lima have been very severely impacted by the category 4 hurricanes Eta and Iota that occurred within a two-week period in 2020.

Another example is sea-level rise, which is increasing under the effects of global warming due to the thermal expansion of seawater as it heats up and the melting of ice sheets and glaciers.¹¹⁷

- In the district of Guet Ndar (Senegal) the coastline has retreated by 0.61m/year since 2000 under the impact of sea-level rise,¹¹⁸ which dramatically reduced the community's living spaces.

The case studies showed that the effects of climate change and environmental degradation are often manifold and interrelated. In fact, the case of Senegal highlighted how the effects of climate change are aggravated by environmental degradation factors linked to human industries. The plundering and destruction of fishery resources by foreign industrial fishermen and the disregard for protected fishing zones and biological rest areas, combined with the warming of surface waters, are leading to the depletion of fisheries with damaging effects on local coastal communities.

The effects are also felt more strongly due to the interrelation of poverty, lack of adequate infrastructure and lack of preparedness. It is important to note that these factors are mutually reinforcing. Poverty limits the ability to invest in infrastructure, while inadequate infrastructure and lack of resources further perpetuate poverty, creating a vicious cycle that exacerbates the impact of climate change and environmental degradation.

Overall, we see that climate change and environmental degradation have a profound impact on people's multiple and intertwined vulnerabilities. This is heightened by the fact that impacted communities are often economically vulnerable to shocks in the first place,¹¹⁹ and is further intensified by socio-cultural factors such as gender, age and ethnicity. The interconnection and mutual reinforcement of these factors create a complex web of challenges. Both sudden- and slow-onset climate and environmental events endanger the availability and accessibility of basic needs like clean water, food and healthcare, further compromising the well-being of affected populations. The resulting economic losses and mobilities contribute to impoverishment, as communities struggle to recover, rebuild and/or adapt when such options are even on the table.

IMPACT ON PHYSICAL SAFETY

The impact on physical safety is especially visible in the case of sudden-onset climate-related disasters. It is estimated that 26 people were killed during the Cyclone Amphan in Bangladesh in 2020¹²⁰ and 94 during Hurricanes Eta and Iota in Honduras in 2020.¹²¹

Still, the case of Senegal shows how the combined slow onsets of climate change and environmental degradation (such as the depletion of fisheries or the accelerated erosion of the Langue de Barbarie caused by the opening of a breach) can also have fatal effects. Fishermen are forced to sail farther and farther afield in the hope of finding fish and thus

116 CEPAL, 'Evaluación de los efectos e impactos causados por la tormenta tropical Eta y el huracán Iota en Honduras', 5 May 2021, <https://repositorio.cepal.org/handle/11362/46853>.

117 NASA Global Climate, 'Sea Level | NASA Global Climate Change', Climate Change: Vital Signs of the Planet, accessed 14 June 2023, <https://climate.nasa.gov/vital-signs/sea-level>; J Warrick and J Oerlmans, 'Sea Level Rise', in *Climate Change: The IPCC Scientific Assessment*, J.T. Houghton, G.J. Jenkins, and J. J. Ephraums (Cambridge University Press, 1990).

118 Ibid.

119 IPCC, 'Climate Change 2014: Impacts, Adaptation and Vulnerability - Summary for Policymakers', 2014, https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgII_spm_en.pdf.

120 ReliefWeb, 'Tropical Cyclone Amphan - May 2020', 9 May 2023, <https://reliefweb.int/disaster/tc-2020-000136-mmr>.

121 Amnesty International, 'The devastating impact of hurricanes Eta and Iota in Honduras', 2020, <https://www.amnesty.org/en/latest/news/2020/12/devastating-impact-hurricanes-eta-iota-honduras/>.

securing their source of income, exposing them to greater risks. In all three case studies, affected persons shared accounts of loss and grief as a result of these environmental issues.

In the case of sudden-onset disasters, a lack of adequate anticipatory measures such as warning systems and evacuation plans posed additional safety risks. The case of San Juan, Honduras, exemplified this issue: many people did not leave on time and became trapped by the floods following Eta and Iota, a man even rescuing his son with water up his neck. In contrast, thanks to strengthened disaster management mechanisms, including early warning systems, cyclone shelters, evacuation plans, coastal embankments, reforestation schemes and increased awareness and communication, Bangladesh has significantly reduced the number of cyclone-induced casualties (from 500,000 deaths in 1970 to 4,234 in 2007).¹²²

IMPACT ON BASIC NEEDS

Case studies highlighted the dangerous effects of difficulty accessing basic needs, including shelter, food, water, sanitation, physical and mental health, as well as education.

For example:

- In Koyra, saltwater intrusions led to a lack of drinking water that caused people, and children in particular, to suffer from diarrhoea, with severe impacts on their health. Lack of proper infrastructure also hindered the provision of essential services during and after climate-related disasters, making recovery more challenging.
- In San Juan, the floods prevented some people from accessing food and damaged the sewage system, causing contamination of drinking water that led several people to be hospitalised due to bacteria in the water.
- Across the three case studies, floods and water surges were described as traumatic events causing mental health issues. The repetitive aspect of climate and environmental events led some people to live in fear that such events would recur, sometimes causing post-traumatic stress. Other studies confirm that the damages, loss of livelihoods and displacement caused by environmental issues such as flooding can lead to severe mental health issues, including post-traumatic stress disorder, anxiety and depression disorders.¹²³



"In the first hurricane, there were perhaps some families who managed to save a few things, but with the second hurricane, they lost everything. [...] Many people have also been left with a lot of fear every time it rains. We have received many people like this who have developed a phobia of water, small children who don't want to bathe, for example. They have developed phobia, anxiety, and depression because of the feeling of helplessness in the face of an event that is out of control."

Brenda, volunteer at a local civil society organisation

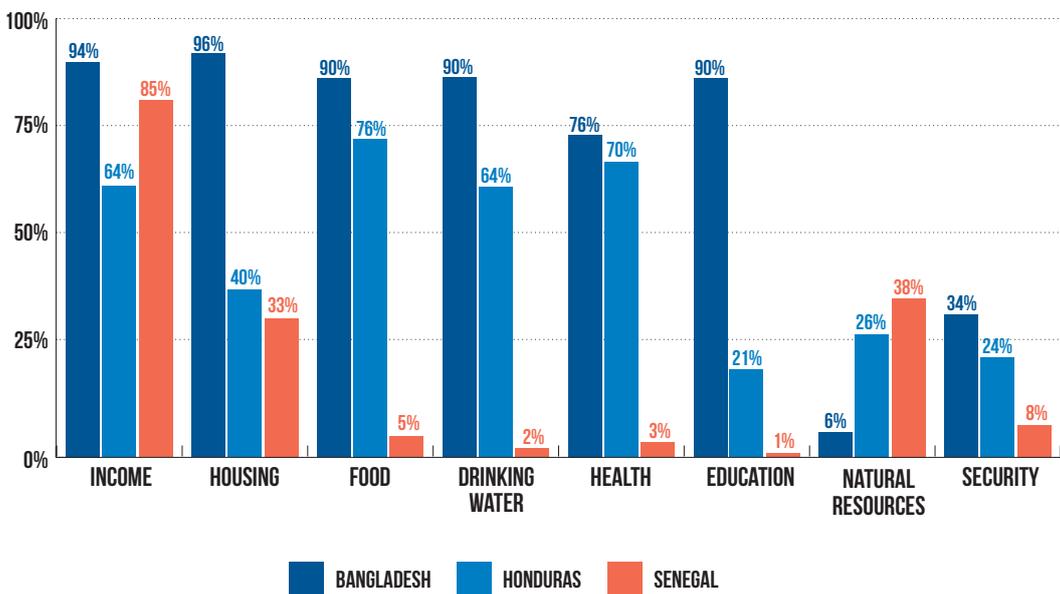
¹²² Ubydul Haque et al., 'Reduced Death Rates from Cyclones in Bangladesh: What More Needs to Be Done?', *Bulletin of the World Health Organization* 90, no. 2 (1 February 2012): 150–56, <https://doi.org/10.2471/BLT.11.088302>.

¹²³ Ana Fernandez et al., 'Flooding and Mental Health: A Systematic Mapping Review', *PLOS ONE* 10, no. 4 (10 April 2015): e0119929, <https://doi.org/10.1371/journal.pone.0119929>; Shilu Tong, 'Flooding-Related Displacement and Mental Health', *The Lancet Planetary Health* 1, no. 4 (1 July 2017): e124–25, [https://doi.org/10.1016/S2542-5196\(17\)30062-1](https://doi.org/10.1016/S2542-5196(17)30062-1).

The figure below (Fig. 12) illustrates how visibly and intensively sudden-onset climate related-disasters (Bangladesh and Honduras) impact people's immediate access to basic needs. In the case of slower-onset events, such as the depletion of fisheries in Senegal, access to basic needs is perceived as underlying the loss of income. **The impacts of slow-onset climate events on people's access to basic needs are far-reaching and long-lasting**, even if surveyed individuals do not necessarily connect the lasting effects of slow-onset environmental events with increasing difficulty in accessing their basic needs.

Figure 12. Impact of climate and environmental issues on survey respondents in Bangladesh, Honduras and Senegal

HOW HAS THIS ENVIRONMENTAL PROBLEM AFFECTED YOU?



Emergency aid provisions aiming to help people cope with these issues often appeared patchy and unequal. In Koyra, relief items like rice, water, blankets, mosquito nets and shelter support were provided but provision was perceived as inconsistent. Affected persons notably cited lack of good governance and unethical practices such as bribery and favouritism by persons in positions of power and influence as being barriers to relief services. Similarly in San Juan, when some people received food, vouchers, sleeping kits, clothes, household equipment, water, cleaning kits and medication, they mentioned that support was insufficient, not always adequate and not distributed in a fair or equal manner, citing suspicions of misappropriation and politicisation of aid.

In all three case studies, emergency shelter was available but appeared to often lack appropriate access to all basic needs. For instance, a man from Koyra explained that when he was in the shelter, he and his family struggled to manage food, water and sanitation, making it "very hard for [them] to survive in such an environment." In San Juan, a civil society practitioner told us: "A school or community centre is not a shelter because they do not even meet the minimum conditions: there is no water, there are no mattresses, there is nothing, in other words, it causes greater suffering than what they suffered in the flood." The use of schools as emergency shelters was also noted to hinder children's education in both Koyra and San Juan. For the people of Guet Ndar who had been evacuated to emergency shelters, the lack of a trash drop-off location close to the households and the limited access to running water, with low pressure and irregular hours created hygiene and health issues until initiatives enhanced the daily water supply from a tank, improving hygienic and medical conditions.

The ill-application of human standards in the provision of emergency relief means the specific needs of particularly vulnerable populations are not always met. In San Juan, some people reported instances of sexual harassment and abuse towards women and children.

Where immediate emergency relief was – to a certain extent at least – provided, long-term, sustainable and anticipatory support was often lacking. Yet, access to basic needs is not only an issue in the immediate aftermath of sudden-onset events but also in the long run. Damage to the sewage system in San Juan restricted access to clean water for months and led to health issues; the salinisation of soils and water sources in Koyra, Guet Ndar and Kafountine had a long-term impact on access to water and food security.

Another salient issue was the lack of coordination between local authorities as well as frontline responders (who are often members of impacted communities themselves) and national/exterior support. This could lead to the duplication of relief programmes or the provision of inadequate support.



“Often, multiple organisations [are] doing the same kind of work with the same agenda in the same place due to lack of coordination. As a result, some people are getting double service in one place while others are being neglected elsewhere.”

NGO official working in the climate change and migration sector in Koyra

IMPOVERISHMENT

Across the three case studies, we have seen that hurricanes/cyclones, sea-level rise and related floods, coastal erosion and salinisation led to the destruction of people’s houses, lands, personal and professional belongings, and work disruptions. This led to two major types of losses: loss of assets and loss of livelihoods. As livelihoods were disrupted, communities became more susceptible to impoverishment, perpetuating a cycle of vulnerability.

As many people lost their homes and lands, they often lost a lifetime’s worth of investments



“Before, my husband and I used to plough agricultural land in our area and fish in the river. Even though we didn’t have much money, our family was doing well with what we did have. In 2007, Sidr occurred suddenly. Our house was destroyed by it. Some of our plants were also damaged. My husband took a twenty thousand-taka [BDT 20,000 / USD 184]¹²⁴ loan and repaired the house. We paid off some debts and got back into farming. The production was good. We thought better days may be ahead. But in 2009, everything went wrong when Aila hit our area. The embankments were completely destroyed, which resulted in long-term inundation for 2-3 years. All the people lost their houses and valuable assets.”

Farhana, a woman interviewed in Koyra

This account shows the repetitive aspect of these damages and how they often impact both people’s housing and professional activity, hindering recovery efforts. The same was visible in Guet Ndar, where water surges not only damaged people’s homes but also their pirogues

124 All currency conversions are based on the exchange rate at the time of the study: 1 USD = 109 BDT.

and fishing equipment. Similarly, in San Juan, Honduras where many people work in the informal economy, damage to houses meant that small shop owners also lost their businesses.

In addition to losing their investments and properties, many people struggled to recover the means to reinvest because they had lost income. Loss of income was indeed highlighted as one of the main impacts of climate change and environmental degradation in all sites (Fig. 12). While in the case of a sudden event, the length of time people were unable to work varied, slow-onset issues consistently had a long-term impact on their income and livelihoods. For people who mainly depended on fishing and farming, as was the case for people in Guet Ndar, Kafountine and Koyra Upazila, the depletion of fisheries and the salinisation of lands and water sources hindered their ability to make a decent living from their work over the long run.



"We're investing at a loss. The cost of equipment is very high, and we can go out to sea and come back with nothing because of the scarcity of resources. Many fishermen are complaining about this situation and can no longer get by even during the season when fish are plentiful."

Youssouf, fisherman interviewed in Guet Ndar

To cope with these economic challenges, some people resorted to taking loans to rebuild their houses and professional activities, sometimes leading them to become trapped in debt cycles. This was especially the case for the people we met in Koyra, where the recurrence of environmental shocks forced individuals to take out loans from different microcredit organisations, sometimes leading them to become trapped in debt cycles.

The economic impacts of the effects of climate change and environmental degradation in the three sites also meant that it became harder for the communities to afford meeting basic needs. This shows a lack of coordination between humanitarian and development efforts to ensure that support is provided adequately throughout time.

To cope with their loss of income, some people shift their professional activity and increase their mobility. Fishermen in Guet Ndar and Kafountine used bigger pirogues and went on more distant fishing trips; people in Koyra often replaced agricultural activities with shrimp farming or went to work at factories (e.g., brick kilns, garment industry) in other regions of Bangladesh or abroad.

IMPACT ON CULTURE AND IDENTITY

As climate change disrupts ecosystems and alters weather patterns, it erodes traditional knowledge systems that are deeply rooted in the environment, leading to the loss of cultural practices and heritage. Rising sea levels and extreme weather events force communities to abandon their ancestral lands, resulting in a disconnection from cultural territories and the loss of cultural identity.

This study also shows the fact that some people being forced to adapt their economic activity also had a huge impact on their identity as it related to generational and cultural ties. In Koyra, we saw that many people had to change their profession. Farmers became day labourers, stay-at-home mothers went to work in brick kilns, teachers went to work in the garment industry, etc. In Guet Ndar, people feared not being able to continue working as fishermen.



"I've always been a fisherman in Guet Ndar. Our ancestors were fishermen, and we became fishermen too. We don't know how to do anything else."

Cheikh, fisherman surveyed in Guet Ndar

These changes of profession could lead to a feeling of dispossession and loss of social status as people no longer worked on their own land, with their own means, or in a profession they knew. There could also be a feeling of loss of cultural identity when their profession was also part of their heritage, as was the case for the fishermen of Guet Ndar. This contributed to defiance towards conversion programmes that aimed at helping fishermen transition towards other professions, which appeared to be implemented with a top-down approach without having had meaningful exchanges with communities in the first place.

ENVIRONMENTAL MOBILITIES

We have seen that the impacts of climate change and environmental degradation on people's physical safety, access to basic needs, livelihoods, culture and identity are interconnected. Except in the case of sudden environmental events that force people to move, environmental factors often manifest themselves as a stress multiplier, exacerbating other challenges and mobility factors. In this section, we look at the different mobility patterns that are thus induced, as well as related human rights issues.

COMPLEX MOBILITY PATTERNS

DRIVERS OF ENVIRONMENTAL MOBILITY

There are generally a multitude of reasons and considerations that influence a decision to leave one's place of origin. In this study, sudden-onset disasters such as floods were direct mobility drivers when they damaged housing and forced people to leave. This was often temporary and to a nearby location. In such cases, people generally returned quickly, first to clean, repair and protect their houses (San Juan) or to continue their professional activities (Guet Ndar), and then to resettle more permanently once this was possible.

If environmental factors played an important role in people's decision to migrate, it was often not so much a single factor leading directly to mobility, but rather a factor interacting primarily with other factors and intensifying them.¹²⁵ For instance, people in Koyra often turned to work at brick kilns in other regions or India because they had lost their livelihoods, because their lands were destroyed to the point of no return or because they had to sell them to pay off their debts. In such cases, working at a brick kiln once or seasonally was the only way for them to make ends meet but was often a step down in terms of social status and economic outcomes: they had more debts and expenses, but their salary was low and precarious. This type of mobility was generally not considered as permanent but as a way to adapt to the new environmental and economic conditions so that families could eventually live in the impacted areas in decent conditions.

A strong recurring element across all the testimonies gathered is how people have tried to find ways to stay in their place of origin, or to find ways to come back, and that it is mostly in the context of recurring events or irremediable damages that they turn to mobility.

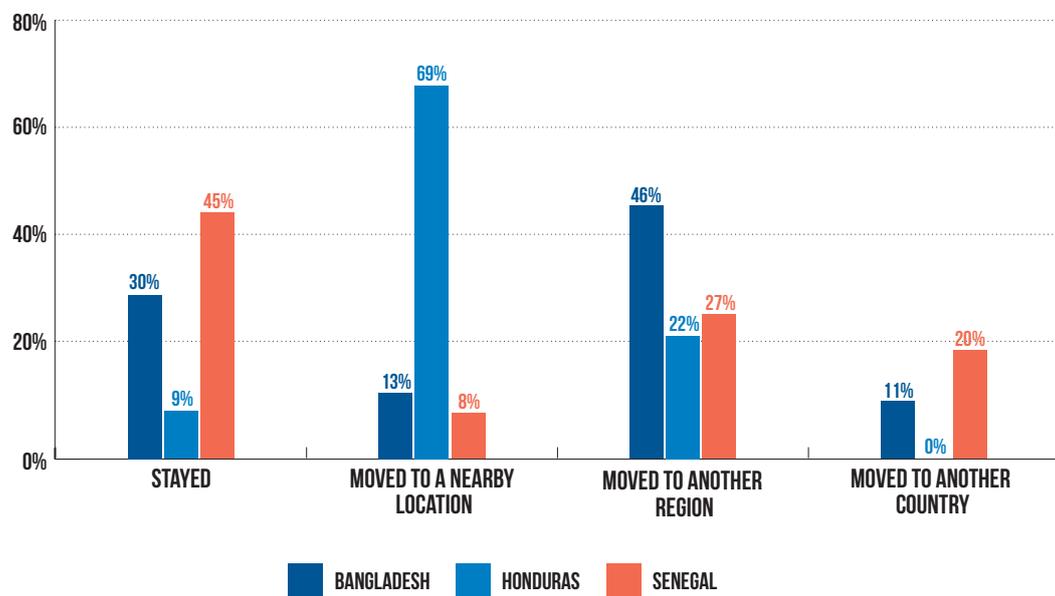
¹²⁵ Mixed Migration Centre, 'Migration Drivers and Decision-Making of West and Central Africans on the Move in West and North Africa: A Quantitative Analysis of Factors Contributing to Departure', 2021, <https://mixedmigration.org/resource/migration-drivers-and-decision-making-of-west-and-central-africans-on-the-move/>.

PATTERNS OF ENVIRONMENTAL MOBILITY

When looking at how people have moved following environmental events across the three case studies (Fig. 13), we see that environmental (im)mobilities vary across contexts, as affected persons can stay or move to nearby locations, other regions in their country, and abroad. In San Juan, where people referred to the effects of one climate event that happened 2-5 years ago, we observe a clear trend, with a majority of survey respondents who moved to a nearby location, and none who moved abroad. In Bangladesh and Senegal, where the effects of climate change and environmental degradation had started over ten years ago and persisted throughout these years, the majority of survey respondents had moved to either another region or another country. This may indicate that when the effects of climate change and environmental degradation become recurrent and/or persistent over time, mobilities tend to occur over longer distances and more people are likely to take the risk of using irregular migration pathways to move abroad.

Figure 13. (Im)mobilities of survey respondents in Bangladesh, Honduras and Senegal

STAY OR DESTINATION BY RESEARCH SITE



Whether people stayed or left did not necessarily indicate the extent of their mobility, which shows the importance of considering each specific context when looking at (im)mobility patterns. In the event of sudden disasters, communities are forced to leave their homes for immediate safety reasons. However, this mobility is limited both in terms of distance travelled and time. For instance, we see that although San Juan is the case study where the least survey respondents indicate having stayed at their place of origin, it is also the case where mobilities are the closest and shortest. Most people had to leave their home during the floods, but they remained nearby (with relatives, at emergency shelters or in makeshift tents), regularly came back to check on their houses and clean, and returned permanently as soon as they could. In contrast, Senegal is the case study where a majority of survey respondents indicated having stayed. Yet, Guet Ndar is (thus far) the only case in this study where planned relocation is currently in process, as a strip of the Languede Barbarie is being permanently evacuated and the residents rehoused due to irreversible coastal erosion and recurrent tidal surges.

Case studies demonstrate the difficulty to grasp environmental mobility phenomena as they are not linear, they can add up depending on the opportunities and challenging encounters, and their definition may change. People can be temporarily displaced, then come back, then be displaced again or leave to find work elsewhere, perhaps first on a temporary basis and then over the long term, in one or several destinations, while still keeping their roots at their place of origin:

- In San Juan, even when displaced by the floods, people often went back and forth between their homes and the place where they took shelter.
- In Guet Ndar, some fishermen were displaced locally, then engaged in fishing campaigns that may have led them to other parts of Senegal or to Mauritania for long periods of time, before coming back and leaving again. Fishing mobilities are by essence non-linear. As a fisherman told us, "*Fishermen follow the fish.*" In that sense, the environmental factors have not necessarily created new types of mobilities but have rather intensified existing ones, as people go on fishing campaigns farther away and for longer periods of time. Some people may only come back to Guet Ndar once a year for religious celebrations and some may have families in other fishing harbours,¹²⁶ both of which allow them to be more locally grounded while maintaining a strong attachment to their place of origin.
- In Koyra, where people have been facing recurrent sudden disasters as well as slow-onset disasters, regional and international mobilities are equivalent to emergency evacuations and are linked to the need of finding alternative livelihoods. In many cases, people were first displaced because of a cyclone, came back to their homes and took up loans to rebuild their homes and restart their economic activities. However, they were prevented from sustainably doing so because another cyclone struck and/or because their economic activity no longer allowed them to make a living and repay their loan. This led them to search for alternative income sources, often working at brick kilns in other regions of the country or India, for example. These mobilities were generally seen as temporary (to recover from their lost assets, income and debts) or seasonal when they became part of a strategy of diversification of income in the long term. In this way, they go to work at brick kilns for 6 months in the winter, then leave for several weeks during the cropping seasons and move for other work in the other seasons. Several people in Koyra told us that they moved abroad because they met a broker who promised them a job to support themselves and their families, only to find themselves being subjected to labour exploitation in the destination country and having to return to their place of origin, often more indebted than they were in the first place.

While in both coastal communities in Senegal mobilities have intensified but not fundamentally changed, border management can affect people's experiences of such mobilities. With the militarisation of the maritime border with Mauritania, mobilities that were considered a normal part of the fishing activity in Guet Ndar became treated as international fishing migration and subjected to specific legal restrictions. This drastically impacted the mobility journey of fishermen. In contrast, Kafountine hosts professionals from the fishing sector coming both from other parts of Senegal (including Guet Ndar) and neighbouring countries (Guinea, Sierra Leone, Gambia, Mali, Ghana). It provides an example where regional and international mobility merge, as both types of mobilities result from the search for work in the fishing sector and are facilitated by an absence of legal barriers, as the Economic Community of West African States establishes the freedom of movement of persons and the right to residence and establishment between these countries.

IMPLICATIONS ON HUMAN RIGHTS

We see that environmental mobilities often have conflicting consequences, both helping individuals and families to cope with their situation and placing them in precarious living conditions. The lack of policies and programmes to ensure that mobilities take place under positive conditions and lead to a real opportunity for improvement exposes people to greater risks of vulnerability and human rights violations.

¹²⁶ Polygamy is not uncommon in Senegal.

PLANNED RELOCATION

Climate change and environmental degradation can lead to permanent relocation plans that can infringe on people's right to land and right to stay if not fully involving communities at every stage of the process. In Guet Ndar, some temporary emergency evacuations are becoming protracted displacements, as the Langu de Barbarie is eroding quickly and a permanent relocation plan is in progress. Yet, some people received this plan with reluctance, as it was designed and implemented without any consultation from them. They felt forced to leave their homes with no choice on where they were going, and in accommodation that did not meet their needs or suit their traditional lifestyle, leading to a feeling of expropriation.

INTERNAL MOBILITIES

Emergency evacuation and planned relocation aside, internal mobilities are often economic mobilities rooted in climate and environmental causes. Having to work in a different economic sector and in a different area means that people have to resort to low-paying jobs that put them at risk of labour exploitation, sexual abuse and increased precariousness.

Some people from Koyra have faced exploitation working at brick kilns, for example, and not receiving the agreed-upon wages. Such labour conditions also put women at risk of sexual abuse.



"I decided to go to work in a brick kiln in Manikganj, Dhaka. They said they would pay one hundred and eighty taka [BDT 180 / USD 1.65] for daily work, but they didn't pay exactly and used to pay only one hundred and fifty taka [BDT 150 / USD 1.38]. Sometimes, they didn't pay at all. Then I moved to another brick kiln, and I started working with an advance of 6 months from the Sardar (owner of the brick kiln) there. I took twenty thousand taka [BDT 20,000 / USD 184] as an advance. But after working for 20 days, a few males started bothering me. They began to sexually harass me, with some attempting to coerce me."

Farhana, a woman interviewed in Koyra

While internal mobilities were often seasonal, some people ended up leaving for longer periods of time to work in urban areas such as Dhaka. Sometimes, they sent money to their families back home and other times, their families came with them. When moving to big cities where prices were higher and they could only access low-paying jobs, people often ended up living in slums. This could make it difficult for them to access basic needs such as decent housing, food, water, sanitation, healthcare and education. Similarly, people from Guet Ndar and other parts of Senegal moved to Kafountine to find work opportunities in the fishing sector, but could sometimes face precarious work and living conditions, including a lack of access to water and sanitation.

INTERNATIONAL MIGRATIONS

At the international level, migration was also a way to improve livelihoods for those who leave and those who stay (via remittances), but the migration pathways available could lead to different forms of human rights violations.

Migration was perceived primarily in a positive light by people who had moved to Kafountine from neighbouring countries with the right to residence and establishment as part of the Treaty of the Economic Community of West African States, showing the benefits of such regional agreements.

In contrast, human rights violations were observed when people were led to migrate via irregular migration pathways. These include:

- **Security risks** when taking long trips across the sea or on foot, as is the case with people going from Senegal to Europe or from Honduras to the United States.
- **Debt**, as recounted by people from Koyra who resorted to brokers promising job opportunities abroad in exchange for large sums of money, increasing the debt cycles that had started with the cyclones.
- **Arrest and abuse by border guards**, as experienced by fishermen from Guet Ndar who continued fishing without permits at their traditional sites across the border with Mauritania.
- **Detention**, as mentioned by people from Koyra who had spent between 6 months and 5 years in jail in India and Oman due to their absence of legal status in the country.
- **Labour exploitation**, as described by people from Koyra who were deceived by employers who did not pay them the agreed-upon salaries, subjected them to physical abuse, withholding of food and harassment, and/or threatened to call the police and disclose their lack of legal status if they complained.

It is important to note that visas alone cannot guarantee the protection of migrants in low-paying and precarious employment situations – for that, additional labour and social rights legislation is required. Indeed, labour exploitation can also happen when people have a work visa that is tied to just one employer, as is often the case with domestic work. For instance, the testimony of a woman from Koyra shows that the labour immigration system and lack of labour law protections for domestic workers in Oman, as in other countries, expose workers to abuse and exploitation.¹²⁷



"I went to Oman several years ago as an adult. I stayed there for three years. I went there with the help of my brother. For my visa and passport, I paid one lac taka [BDT 100,000 / USD 919]. I earned 25 thousand taka every month. I went there legally but they did not pay me as promised. They told me that they would pay forty thousand taka [BDT 40,000 / USD 368] but only paid twenty thousand taka. They used to beat me, so I decided to leave. I never protested. They would give me a light breakfast in the morning and rice for lunch. I did not understand their language much, so they used to beat me up. Now, I work as a day labourer doing soil cutting and cooking in a brick kiln."

Barsha, a woman who took part in a focus group discussions in Koyra

Confronted with these issues, people appeared to be limited in terms of remedies, knowledge of their rights and support from the authorities and consulates of their home countries – all of which leads to a protection gap that infringes upon their right to dignity and right to move.

¹²⁷ Human Rights Watch, "I Was Sold", 13 July 2016, <https://www.hrw.org/report/2016/07/13/i-was-sold/abuse-and-exploitation-migrant-domestic-workers-oman>.



CARITAS SENEGAL

RECOMMENDATIONS

The testimonies, experiences and analysis presented in this report show the complexity of the socio-environmental crisis we are facing and its impact on human rights. The three case studies highlight different instances where people affected by climate change and environmental degradation lack adequate protection, whether they stayed in their place of origin, moved within their country or crossed a border. These are just a few examples of the constellations of situations in which people face a lack of protection following environmental risks.

To address these issues, Secours Catholique - Caritas France calls for a human rights-based approach to environmental mobilities that guarantees the rights of people affected by the impacts of climate change and environmental degradation to both safely move from and stay in the places where they live.

This approach involves ensuring the implementation of existing legal frameworks and non-binding agreements, as well as the development of additional context-specific solutions. Importantly, these frameworks should offer sustainable solutions, co-constructed with impacted communities so they can focus on and be relevant to their needs.

1. ADOPTING A HUMAN RIGHTS-BASED APPROACH TO ENVIRONMENTAL MOBILITIES

Secours Catholique - Caritas France advocates for a human rights-based approach that considers people's fundamental rights and specific vulnerabilities over their status while also recognising the increasing importance of climate change and environmental degradation as migration drivers that engage the responsibility of the international community.

Some recommendations for adopting this approach entail:

1. RESPECTING HUMAN DIGNITY

- ▶ Fundamental rights, such as the right to life, health, education, an adequate standard of living and leaving one's country are based on respect for the dignity and worth of every human being. They are enshrined in the Universal Declaration of Human Rights (1948) and the International Covenant on Civil and Political Rights (1966). We argue that these rights should be guaranteed universally for all, including people living in areas impacted by climate change and environmental degradation, and those who move within and outside their country due to this impact.

2. RECOGNISING THE LINK BETWEEN MOBILITY, CLIMATE CHANGE, ENVIRONMENTAL DEGRADATION AND ENSUING RESPONSIBILITIES

- ▶ The connection between climate change, environmental degradation and mobility is well documented and can no longer be dismissed. Climate change and environmental degradation are global issues that force people to face increased vulnerability and violations of their fundamental rights, even though their responsibility for these problems is often limited. Those who contribute to increasing these vulnerabilities should be accountable for the protection of affected persons. This involves a financial responsibility on the part of the industrialised countries whose actions have a major negative impact on climate change and environmental degradation and a legal responsibility for States to implement protection mechanisms.

3. PROTECTING ENVIRONMENTAL MIGRANTS AS MIGRANTS IN VULNERABLE SITUATIONS

- ▶ In its *Principles and Guidelines on the Human Rights Protection of Migrants in Vulnerable Situations*, the Office of the High Commissioner for Human Rights (OHCHR) defines migrants who are victims of natural disasters, climate change or environmental degradation as migrants in vulnerable situations; that is, people who are unable to enjoy their human rights effectively and are at increased risk of violations and abuses. This observation is also shared by the Office of the United Nations High Commissioner for Refugees (UNHCR). We argue that this vulnerability should be taken into account in migration policies to ensure the protection of people who cross a border following the impact of climate change and environmental degradation

THE SECOURS CATHOLIQUE - CARITAS'S FRANCE PERSPECTIVE ON THE DEBATE AROUND A CLIMATE REFUGEE STATUS

To address the protection gap surrounding environmental migrations, there is a recurrent proposition to promote the recognition of a Climate Refugee status via the development of an optional protocol to the Geneva Convention relating to the Status of Refugees. This is notably supported by the UN Special Rapporteur on the Promotion and Protection of Human Rights in the Context of Climate Change.¹²⁸

In contrast, Secours Catholique - Caritas France argues that the fundamental rights and needs of affected persons should take precedence over their status.

There are several reasons for this:

1. **Reopening discussions on the Geneva Convention raises concerns that it could result in hurting the level of protection for refugees, given the current internation-**

¹²⁸ Ian Fry, 'Providing Legal Options to Protect the Human Rights of Persons Displaced across International Borders Due to Climate Change?' Report of the Special Rapporteur on the Promotion and Protection of Human Rights in the Context of Climate Change, United Nations General Assembly, 2023.

al context with widespread attacks on refugee resettlement and asylum in numerous nations.

2. **Even if such a status were to be defined, the burden of proof that is already incredibly hard to uphold within the framework of the existing Convention would seem even more challenging in the case of environmental migrations.** As demonstrated throughout this report, climate change and environmental degradation create but also reinforce pre-existing vulnerabilities. This means that reasons cited for migrations may not be related to climate issues per se, but rather related to economic opportunities, food (in)security, tensions, violence, etc, while being rooted in climate causes. This makes it extremely difficult to try and isolate one reason for migrations from others – to fit into one “environmental migrant/refugee” category.
3. **The non-linear character of environmental mobilities does not correspond to the linear trajectory assumed by the refugee status.** As demonstrated in this report, people affected by climate change and environmental degradation often leave, return and leave again for different destinations. In contrast, the refugee status implies that people can no longer receive protection from and return to their country of nationality. Thus, creating a new “climate refugee” category could risk forcing the homogenisation of highly complex and context-specific situations, therefore excluding people who have been affected by climate change but do not exactly fit within the defined category or cannot prove that they do.
4. **Creating a new category may also feed into dichotomous and exclusionary narratives** that separate those considered as “good”, “wanted” or “legitimate” migrants who would deserve protection and those deemed as “bad”, “unwanted” or “illegal” who are criminalised and socially excluded.

2. GUARANTEEING THE RIGHT TO MOVE

This report has shown the prevalence of a protection gap when it comes to environmental mobilities. This implies guaranteeing the right to migrate, understood as the possibility of leaving one’s country and entering another one, and the respect for fundamental rights throughout mobility journeys.

1. DEVELOPING SAFE AND LEGAL MIGRATION PATHWAYS

- ▶ **To ensure migration does not become an aggravating factor in the precarity cycle of people affected by climate change and environmental degradation, safe pathways are necessary.** Such pathways would prevent deaths at borders and protect against human smuggling and trafficking, arbitrary detention and labour exploitation. This would also make it possible to give effect to other rights guaranteed by the Universal Declaration of Human Rights, such as the right to choose one’s place of residence (article 13), the right to an adequate standard of living (article 25) or, more essentially the right to dignity.
- ▶ **When looking at cross-border mobility, the protection issues and the legal gaps relating to environmental migrations are part of a wider legal vacuum concerning migrants.** Current migration policies only provide limited legal migration pathways and criminalise people who travel without legal status. The main international protection mechanism afforded to migrants is the refugee status, and yet its criteria are restricted to individuals who have experienced past persecution or with a well-founded fear of persecution on account of their race, religion, nationality, membership in a particular social group or political opinion – factors which only apply to a minority of people. The

protection of environmental migrants involves several dimensions of international law that hamper the development of comprehensive legal protections and hinder the provision of assistance to environmental migrants.

- ▶ **This report has shown that environmentally induced mobility patterns are diverse and complex, often blurring the boundaries between forced or voluntary mobilities, environmental or economic, internal or international, short-term or long-term, permanent, temporary or repeated. To account for this diversity and complexity, there is no one-size-fits-all solution. Thus, we recommend building on different new and existing instruments adapted to the various contexts and needs of environmental migrants.** These pathways can take the form of regional agreements that establish the freedom of movement of persons and the right to residence and establishment between different countries, visas (humanitarian, work or study visas), humanitarian corridors established through partnerships with civil society organisations, regional conventions broadening the refugee definition (see examples below) or the lifting of visa requirements – either for a given population or for the purpose of family reunification, enabling family members to join a relative in a safe country.
- ▶ The development of such diverse pathways can be facilitated through the implementation of existing frameworks, such as:
 - **The Global Compact on Migration (2018)**, notably via its Objective 2, which recognises the effects of climate change as adverse drivers of migration, and its Objective 5, which proposes concrete measures for developing safe and legal pathways of migration in respect of human rights for all migrants, taking into account their needs in terms of protection, work, family life, etc. However, the Global Compact on Migration is non-legally binding and its implementation at the state level via National Implementation Plans is unequal among regions and often fails to adequately address the interconnection of climate change, environmental degradation and mobility. It is therefore urgent for States to translate the commitments made under the Global Compact on Migration into reality and to comply with a high standard of accountability.
 - **The Addis Ababa Convention on African States (1969) and the Cartagena Declaration in America (1984)** broadened the causes defining refugee status under the Geneva Convention to integrate “circumstances seriously disturbing public order”, which allows for the inclusion of environmental risks. While there is little enforcement of the Addis Ababa Convention in the 41 signatory States, fifteen Latin American countries have incorporated the Cartagena Declaration’s refugee definition into national law.¹²⁹ The implementation of such regional instruments into national law would provide a positive way forward regarding climate-related displacement. However, they do not address slow-onset environmental mobilities, for which other instruments are required.
 - **The Guidelines on the Rights of Internally Displaced Persons (1998, non-binding) and the African Union’s Kampala Convention for the Protection and Assistance of Internally Displaced Persons (2009, binding)**, which engage State responsibility to undertake “the necessary measures to provide protection and assistance to people affected by internal displacement due to natural or human disasters, including climate change.”

129 Valentina Canepa and Daniela Gutierrez Escobedo, ‘Can Regional Refugee Definitions Help Protect People Displaced by Climate Change in Latin America?’, Refugees International (blog), February 16, 2021, <https://www.refugeesinternational.org/reports/2021/2/16/can-regional-refugee-definitions-help-protect-people-displaced-by-climate-change-in-latin-america>; Luisa Feline Freier, Isabel Berganza, and Cécile Blouin, ‘The Cartagena Refugee Definition and Venezuelan Displacement in Latin America’, *International Migration* 60, no. 1 (2022): 18-36, <https://onlinelibrary.wiley.com/doi/10.1111/imig.12791>.

- **Guaranteeing respect for fundamental rights and access to basic services within one's country and abroad**
- ▶ As we saw in this report, climate change and environmental degradation have a negative impact on people's economic situations. These individuals often leave their place of origin with increased economic vulnerabilities, leaving them with no other choice but to engage in low-paying jobs that do not give them access to decent housing and put them at risk of labour exploitation. This can happen within one country as well as abroad. People who do not have a legal status are particularly at risk, although it is important to note that visas alone cannot guarantee the protection of migrants who work in low-paying and precarious employment situations, since work visas that are tied to just one employer, as is often the case with domestic worker visas, also increase vulnerabilities to exploitation and abuse.
- ▶ Thus, access to labour and social rights for people in situations of environmental mobility is necessary for upholding principles of fairness, dignity and equality in the global workforce. Providing these rights ensures that all individuals are protected from exploitation and discrimination, **regardless of their nationality or immigration status**. Beyond a right **to** work, ensuring rights **at** work is essential.
- ▶ By providing individuals with the necessary tools and resources, they can also actively participate in society, contribute to their communities, and foster resilience in the face of climate change.
- ▶ Multi-stakeholder collaboration is essential for establishing comprehensive legal frameworks and social protection systems, as well as mechanisms for monitoring and enforcing these rights. Legal assistance and information are required to ensure people can access these rights. Combining legal frameworks, policy integration, international cooperation, resource allocation, and community empowerment is instrumental in guaranteeing respect for fundamental rights and access to basic services within one's country and abroad.

3. GUARANTEEING THE RIGHT TO STAY, TO MAKE MIGRATION A CHOICE AND NOT A NECESSITY

This report shows that mobility was often induced by multi-layered factors. There is a need to ensure that mobility results from a choice, and not from a governance failure to adequately protect populations from the adverse effects of climate change and environmental degradation. This entails finding solutions that tackle the root causes of climate change and environmental degradation – while also addressing other social, political and economic factors – in a way that is transparent and in co-construction with local communities.

1. TAKING ACTION ON THE CAUSES OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

- ▶ **Preventing and mitigating what causes these issues in the first place by addressing the root causes of climate change and environmental degradation: greenhouse emissions, plundering of ecosystems and wildlife destruction.**

The 2015 Paris Agreement calls for keeping global temperature rise well below the 2°C mark by 2100 and staying as close as possible to +1.5°C above pre-industrial levels. To this end, mitigation measures are necessary to stabilise global temperatures by avoiding, limiting or absorbing greenhouse gas emissions. To make a successful transition to greenhouse gas neutrality, it is essential that States drastically reduce their emissions in all emitting sectors. In particular, this means moving away from fossil fuels, which are the main source of greenhouse gas emissions worldwide, and developing

sober, efficient energy models based on renewable energies. At the same time, production and consumption patterns must be rethought considering that food systems as a whole account for over a third of global greenhouse gas emissions. Family farms need to be strengthened and protected to guarantee food security for populations while moving away from high-emission agricultural models and thereby reducing greenhouse gas emissions caused by intensive farming and the transport of goods. Protecting and restoring ecosystems, preserving biodiversity, and combating destructive practices are essential steps in preventing further environmental degradation.

► **This calls for a differentiated responsibility of States**

Climate change and environmental degradation have a disproportionate impact on precarious communities and lower income countries even though they are the least responsible for it and have limited resources for adaptation and mitigation. In accordance with the principle of common but differentiated responsibility and the principle of "climate justice", States must shape their climate policies around their different responsibilities and capacities in order to achieve a fair distribution of climate protection and adaptation efforts. Such an approach must take into account not only countries' different capacities to combat and adapt to global warming but also of their varying levels of greenhouse gas emissions, both current and historical. Climate justice must be ensured between countries and also between different social groups within the same country.

2. ANTICIPATING AND MANAGING THE EFFECTS OF CLIMATE CHANGE AND ENVIRONMENTAL DEGRADATION

► **Enhancing Disaster Response Mechanisms**

- Climate change has led to a rise in extreme weather phenomena such as hurricanes, floods, wildfires and heatwaves, all of which pose significant risks to human lives, infrastructure and ecosystems. To effectively prepare for and mitigate these effects, it is necessary for disaster response mechanisms to enhance preparedness, response and recovery efforts to ensure swift and effective actions in times of crisis. This includes investing in early warning systems, improving infrastructure resilience, implementing evacuation plans, coastal embankments, reforestation schemes, etc., thus ultimately building resilience for future climate-related disasters. The case of Bangladesh, which has significantly reduced cyclone-induced casualties through these measures, highlights their effectiveness.
- A country's ability to adapt to climate change depends on several factors, including its level of development, economic strength and technological know-how. The international community should uphold its responsibility to find the necessary funding and technical support to enable adaptation efforts, notably through mechanisms such as national adaptation plans, adaptation funds, multilateral climate funds, climate insurance, public-private partnerships, bilateral and international assistance, and blended finance.

► **Ensuring equitable distribution of relief services to affected communities and households**

- Across all localities, testimonies have shown that effective aid provision was hampered due to issues such as corruption, a lack of coordination between local and national/global response and the application of support programmes that were not mindful of the specificities of the local context and needs of the populations. Relief programmes need to be context-specific, transparent and designed and implemented in coordination with frontline responders (who often are members of impacted communities) to prevent redundancy and ensure that no one is left behind.

▶ **Connect Immediate Relief with Long-Term Development**

- The report shows the continuing gap between immediate emergency relief programmes and long-term development initiatives. Strengthening this humanitarian-development nexus was identified as a top priority at the 2016 World Humanitarian Summit to ensure more reliable and sustainable protection of affected communities. This involves coordinating efforts to provide immediate relief while also addressing the underlying causes and impact of climate change and environmental degradation, in turn allowing impacted communities to recover and thrive. Development programmes should aim at rebuilding resilience and enhancing communities' capacity to adapt to changing environmental conditions.

▶ **Fostering adaptation by enhancing long-term access to basic needs, social protection, basic services and livelihood diversification**

- States should engage their responsibility to protect vulnerable communities affected by climate and environmental change in emergency situations but also over the long term. This means ensuring long-term access to safe shelters, food and fresh water, adequate water, sanitation and hygiene facilities, healthcare, continuity in children's education, compensation for the damage and loss of their material goods, houses and livelihoods, and mental health support services.
- This report shows that when communities exhaust their coping capacities, they undergo a gradual process of impoverishment that ultimately leads to mobilities and increased vulnerabilities. Ensuring social protection and access to basic services would allow for a more effective adaptation both in the place of origin and during mobilities. When conditions of departure are less precarious and can result from a choice, mobility can become a mode of adaptation to climate change and environmental degradation, notably by facilitating livelihood diversification.
- Many countries are particularly affected by climate change, not only because of their low capacity to adapt but also due to the economic importance of climate-sensitive sectors, such as agriculture and fishery. To face these issues, exploring new income-generating activities and promoting and financing locally-led innovation and training can allow for livelihood diversification to occur as an informed and sustainable choice. Community participation and support from government agencies and development organisations are crucial to creating an enabling environment for livelihood diversification initiatives.

▶ **Respecting people's right to land and associating them in the development of long-term relocation plans when necessary**

- Disruptions caused by sudden- and slow-onset environmental events can necessitate the planned relocation of communities. However, it is imperative to approach these situations with empathy, fairness, and inclusivity. Recognising and respecting people's rights to their land and involving them in the decision-making process ensures that their voices are heard, and their experiences and needs are taken into account. Relocation plans must be chosen and planned in consultation with the populations concerned and not constrained by external actors.

▶ **Effectively secure a just and equitable environmental transition through Climate Justice and funding**

- Many of the recommendations that come out of this report not only require political will, but also adequate funding. In fact, the funding gap is one of the major challenges of environmental mobility and climate adaptation. Some countries, such as Bangladesh, already have a highly advanced policy framework for tackling many of the issues outlined throughout the report but lack the capacity and the means of implementing them. The availability of climate finance is too often uncertain and inconsistent, which creates challenges for countries in planning and

implementing their response.

- To advance climate justice, ensuring that funding mechanisms align with the principles of fairness and inclusivity is essential. This entails: 1) enhancing funding predictability and aligning funding priorities with countries' needs; 2) simplifying and streamlining processes and requirements for accessing climate financing; 3) ensuring flexible eligibility criteria to overcome risk aversion that currently represents a barrier to the availability of diverse funding for national and local response plans; (4) encouraging diversification of funding sources.
- We need to secure sufficient funding to guarantee the functioning and access of populations to public social services (health, education, drinking water and sanitation systems and social protection). This requires considering ways to alleviate the debt burden that weighs on the countries most affected by climate change and environmental degradation, and which limit their ability to allocate resources to essential social services. It also necessitates providing new and additional grant-based climate finance.

GLOSSARY

Adaptation: "the process of adjustment to actual or expected climate and its effects, which seeks to moderate harm or exploit beneficial opportunities."¹³⁰

Basic needs: elements that human beings necessitate in order to fulfil basic requirements and achieve a decent life, including basic commodities, such as food, clothing, and shelter, as well as essential services, such as access to drinking water, to sanitation, to education, to healthcare facilities, and to public transportation.¹³¹

Circular migration: recurrent movement of people between two or more countries, including recurrent movement to work in a different place on a seasonal basis.

Circular mobility: recurrent movement of people between two or more places, be it within a country or across national borders, including recurrent movement to work in a different place on a seasonal basis.

Climate change: "change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods."¹³²

Climate justice: Climate justice recognises that climate change is not only an

environmental issue but also a social, economic, and political one, rooted in historical and ongoing injustices. Climate justice seeks to address the root causes of climate change and therefore these systemic inequalities, promote inclusivity, and empower affected communities to participate in decision-making processes related to climate action.¹³³

Coastal erosion: process by which local sea-level rise, strong wave action, coastal flooding and human activities wear down or carry away rocks, soils, and/or sands along the coast. It can cause damage to natural and human-built environments and lead to human casualties and displacement of constructions and lands.

Cyclone: tropical storm or atmospheric turbulence involving circular motion of winds. Intense tropical cyclones are referred to as cyclones in the South Pacific and Indian Ocean (including Bangladesh), hurricanes in the North Atlantic (including Honduras), and typhoons in central North Pacific.

Disaster: "serious disruption of the functioning of a community or a society involving widespread human, material, economic or environmental losses and impacts, which exceeds the ability of the affected community or society to cope using its own resources."¹³⁴

Emergency evacuation: displacement of people away from an area impacted by a sudden-onset disaster to a safer place of shelter.

Environmental issue: disruptions in the usual functioning of ecosystems that can be natural, caused by human activities, or caused by the effects of human activities on the climate and the environment.

Environmental degradation: deterioration of the environment and destruction of ecosystems and wildlife as a result of human activities.

Environmental migrants: persons who, primarily for reasons related to sudden or progressive environmental issues negatively affecting their lives or living conditions, leave their habitual home, temporarily or permanently, and who cross a border to do so.

Environmental mobilities: situations in which persons or groups of persons who, primarily for reasons related to sudden or progressive environmental issues negatively affecting their lives or living conditions, leave their habitual home, temporarily or permanently, whether they cross a border to do so or remain within their country of origin.

Fishing mobility: mobility of varying duration and distance induced by professional fishing activity.

Flood: overflow of a large amount of water beyond its normal limits, especially over what is normally dry land that can notably be caused by heavy rainfalls during cyclones/hurricanes. It can cause damage to natural and human-built environments and lead to human casualties and displacement.

Fundamental rights: the inalienable rights of all human beings (regardless of their nationality, place of residence, sex, ethnic or national origin, race, religion, language, or any other condition) including civil and political rights, such

130 IPCC, 'Climate Change 2014: Impacts, Adaptation and Vulnerability - Summary for Policymakers', 2014, p.76. https://www.ipcc.ch/site/assets/uploads/2018/02/ar5_wgII_spm_en.pdf.

131 Enrica Chiappero-Martinetti, 'Basic Needs'. In *Encyclopedia of Quality of Life and Well-Being Research*, edited by Alex C. Michalos, 329–35. Dordrecht: Springer Netherlands, 2014. https://doi.org/10.1007/978-94-007-0753-5_150.

132 United Nations Framework Convention on Climate Change, Article 1, 1994. <https://unfccc.int/resource/ccsites/zimbab/conven/text/art01.htm>.

133 United Nations Environment Programme (UNEP), 'Equity in Climate Change: Recognizing Equity and Promoting Social Justice in Climate Change Policies and Projects', 2012.

134 Nansen Initiative, 'Agenda for the Protection of Cross-Border Displaced Persons in the Context of Disasters and Climate Change - Volume 1', 2015. <https://disasterdisplacement.org/wp-content/uploads/2015/02/PROTECTION-AGENDA-VOLUME-1.pdf>.

as the right to life, liberty, free speech and privacy, and economic, social and cultural rights.

Hurricane: term used to refer to a tropical cyclone in the North Atlantic that reaches sustained winds of 74 miles per hour or higher.

Internal displacement: situation where people are “forced or obliged to flee or to leave their homes or places of habitual residence, in particular as a result of or in order to avoid the effects of armed conflict, situations of generalised violence, violations of human rights or natural or human-made disasters, and who have not crossed an internationally recognized border.”¹³⁵

Internal mobility: movement of people within one’s own country for the purpose or with the effect of working or establishing a new residence. This includes circular, seasonal, short-term and permanent mobilities, and can be anywhere on the spectrum between forced and voluntary mobility.

International migration: movement of people across the border of their country of usual residence for the purpose or with the effect of working or establishing a new residence. This includes circular, seasonal, short-term and permanent mobilities and can be anywhere on the spectrum between forced and voluntary mobility.

Irregular migration pathways: channels through which people reach a third country when they do not have a visa or any other legal documents allowing them to cross a national border.

Livelihood: capability to sustain a means of living.

Planned relocation: process whereby a community’s housing, assets, and public infrastructure are rebuilt in another location.

Protection: actions that guarantee the safety, dignity and rights of people.

Regular migration pathways: channels that enable people to reach a third country in a legal and secure manner. These channels may take various forms such as humanitarian visas, study visas, work visas or visit visas, family reunification, resettlement and relocation, humanitarian corridors, or the lifting of visa requirements.

Right to migrate: a fundamental and universal right combining the right to emigrate, i.e., the right of an individual to leave their country, and the right to immigrate, i.e., the right of an individual to enter a country other than their own, with the guarantee that the individual’s fundamental rights are respected throughout all stages of the migratory path, regardless of their status.

Right to stay: right to choose to remain in one’s place of residence and live in decent conditions with respect to their fundamental rights.

Riverbank erosion: wearing away of the banks of a stream or river, which can be caused by flood, heavy rainfall, sedimentation, strong current of rivers, deforestation, constructions, and soil extraction. It can cause damage to natural and human-built environments and lead to human casualties and displacement.

Risk: “The potential for consequences where something of human value (including humans themselves) is at stake and where the outcome is uncertain. Risk is often represented as probability of occurrence of hazardous events or trends multiplied by the consequences if these events occur.”¹³⁶

Refugee: someone who, owing to a well-founded fear of being persecuted for reasons of race, religion, nationality, membership of a particular social

group or political opinion, is outside the country of his nationality and is unable or, owing to such fear, unwilling to avail himself of the protection of that country; or who, not having a nationality and being outside the country of his former habitual residence as a result of such events, is unable or, owing to such fear, unwilling to return to it.

Saltwater intrusion/ salinisation: intrusion of saltwater in lands, ground and surface water that can be caused by natural events (e.g., sea-level rise, cyclones/hurricanes, water surges) and human activities (e.g., inappropriate agricultural practices). It can lead to damaging crop production and health issues.

Water surges: abnormal rises in water level that can be caused by storms (storm surges) and intense tides (tidal surges) linked to sea-level rise. They can lead to floods.

Trapped populations: populations confronted with the effects of climate change and environmental degradation who would like to but are unable to leave their place of residence.

135 ‘About Internally Displaced Persons’, OHCHR, accessed 14 July 2023, <https://www.ohchr.org/en/special-procedures/sr-internally-displaced-persons/about-internally-displaced-persons>.

136 Dina Ionesco, Daria Mokhnacheva, and François Gemenne, *The Atlas of Environmental Migration* (London: Routledge, 2017), p.126.

Publication director: Véronique Devise, national president of Secours Catholique-Caritas France.

Written by: Kahina Le Louvier, Marie Lobjoy and Rediet Abebe Kabeta

Iconography: Elodie Perriot

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Cover photo: Elodie Perriot / SCCF

Contact: dept.plaidoyerinternational@secours-catholique.org

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