

MIGRATION AND AGROECOLOGY IN WEST AFRICA



The opinions expressed in the report are those of the authors and do not necessarily reflect the views of the International Organization for Migration (IOM). The designations employed and the presentation of material throughout the report do not imply the expression of any opinion whatsoever on the part of IOM concerning the legal status of any country, territory, city or area, or of its authorities, or concerning its frontiers or boundaries.

IOM is committed to the principle that humane and orderly migration benefits migrants and society. As an intergovernmental organization, IOM acts with its partners in the international community to: assist in meeting the operational challenges of migration; advance understanding of migration issues; encourage social and economic development through migration; and uphold the human dignity and well-being of migrants.

This document was written by Anna-Gaëlle Chesnier Piña, Migration, Environment and Climate Change (MECC) Junior Expert Consultant at IOM, under the coordination of West and Central Africa Regional Office MECC Specialist, Hind Aïssaoui Bennani.

The document was reviewed by Ileana-Sinziana Puscas, MECC Project Officer, and Lorenzo Guadagno, Disaster Risk Reduction Officer, from the IOM MECC Division in Headquarters in Geneva, Switzerland.

Publisher: International Organization for Migration
17 route des Morillons
1211 Geneva 19 P.O. Box 17
Switzerland
Tel.: +41.22.717 91 11
Fax: +41.22.798 61 50
Email: hq@iom.int
Website: www.iom.int

Cover photo: Senegal © IOM 2018/Alioune NDIAYE

© 2020 International Organization for Migration (IOM)

All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise without the prior written permission of the publisher.

MIGRATION AND AGROECOLOGY IN WEST AFRICA

STRENGTHENING CLIMATE RESILIENCE OF INDIVIDUALS, COMMUNITIES AND TERRITORIES FOR AGENCY OVER MIGRATORY DECISION-MAKING

Setting the background

Population movements in West African countries¹ have a long-standing tradition. They are considered as a key element for improving livelihood strategies (IPCC, 2014; Mertz et al., 2011; IOM, 2018a), as well as an adaptation strategy in the face of climatic stressors. Several drivers can trigger migration, such as economic, social, political and environmental factors.

The ongoing environmental changes linked to climate change are modifying migration patterns due to their impact on livelihood resources, such as the agricultural sector, which accounts for 35 per cent of West Africa's GDP. Over the last decades, the region has experienced an increase in warm temperatures, unpredictable and unstable rainfall patterns (World Bank, 2019; IPCC, 2013), along with slow-onset events which deteriorate natural resources and challenge the agricultural sector's productivity.

In West African rural areas, the main income-generating activity is the food sector, accounting for over 80 per cent – including all activities from the farm level to processing, packaging, transportation, distribution and retailing (Allen et al., 2018). Since the agricultural sector is the main employer in West Africa's labour market (Awumbila et al., 2014), the decay of agricultural production is one driver of migration, where inhabitants migrate seasonally or permanently in search of complementary income or better opportunities.

Agriculture is highly vulnerable not only to current climatic stressors but also to health stressors such as COVID-19. Indeed, the destabilization of supply chains and disruption of trade when borders close and mobility is hindered expose the vulnerability of the food production and distribution systems.

The agroecological model – with its local, short-circuit and self-sufficient practices – can thus contribute to improving communities' food security, living conditions and resilience, while at the same time making agricultural practices more sustainable (Douce, 2020).

“Agroecology is based on applying ecological concepts and principles to optimize interactions between plants, animals, humans and the environment while taking into consideration the social aspects that need to be addressed for a sustainable and fair food system”
(FAO, n.d.).

Agroecology can play an important role in building resilience and adapting to climate change. It's a usually small-scale and highly diverse practice, and its goal is to deliver contextualized solutions to local problems (Levard and Mathieu, 2018) by promoting the sustainable use of ecosystems and selecting local flora tolerant to climatic stressors (Kabore et al., 2019). Contrary to conventional farming, agroecology also promotes the protection of biodiversity, and its production has a wide range of economic and nutritional benefits (FAO, 2018).

This paper aims to expose the migration and agriculture nexus in West Africa to support future policymaking on migration management, diaspora investments, gender equality and environmental protection. It seeks to show the benefits of a transition to agroecology for populations in the context of climate change and environmental degradation, and its links to the migration decision-making of people.

¹ This regional paper was elaborated by IOM's Regional Office for West and Central Africa, which covers the countries of Benin, Burkina Faso, Cabo Verde, Cameroon, Chad, Ghana, the Gambia, Guinea, Guinea-Bissau, Côte d'Ivoire, Liberia, Mali, Mauritania, the Niger, Senegal, Sierra Leone and Togo. Even if this paper is mainly focused on West Africa, the recommendations are also applicable in the context of Central Africa.

Agroecology can create farming and other rural off-farm business opportunities, which help to address livelihood insecurity that can potentially compel people to migrate (FAO, 2018b).

Figure 1. The potential of agroecology in migration decision-making and environmental challenges

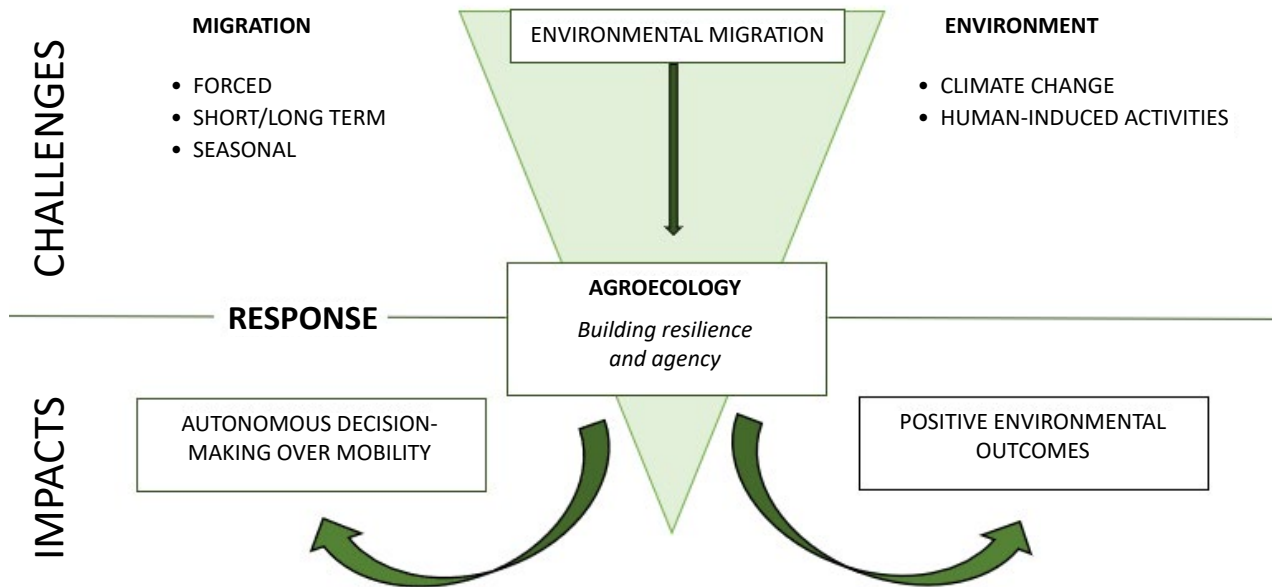
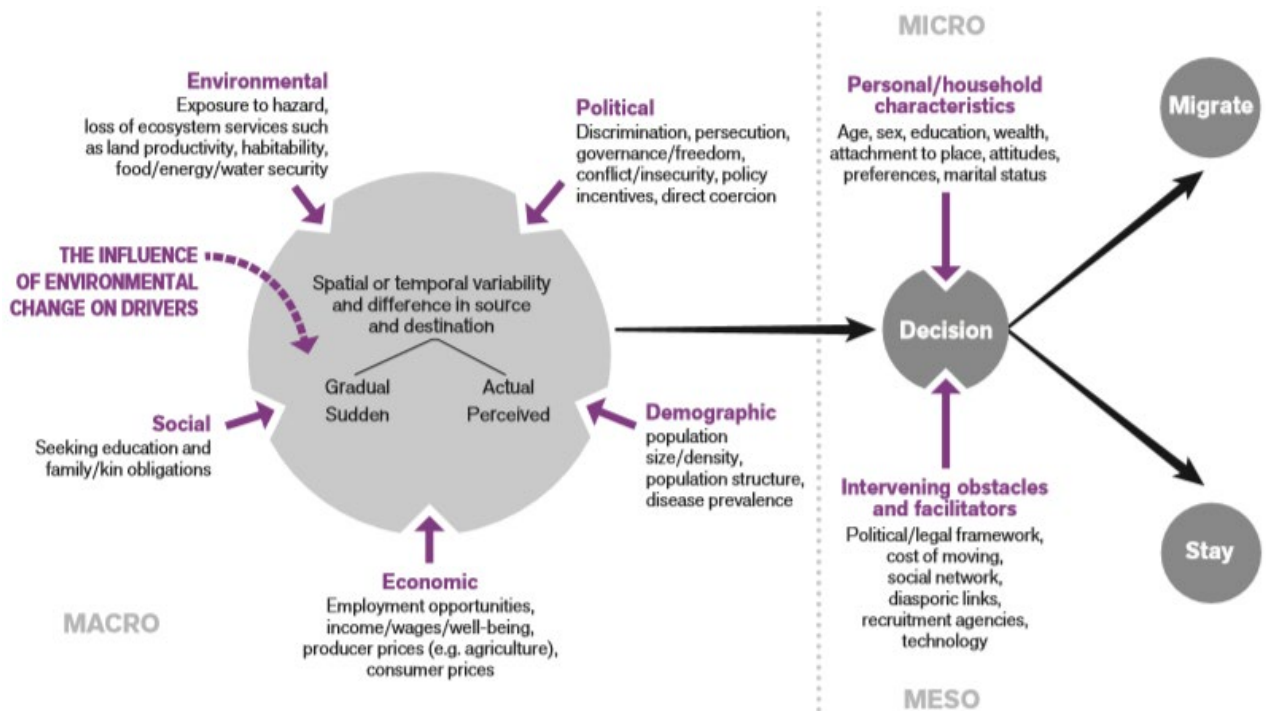


Figure 2. The complex drivers of migration



Source: IOM, 2017b.

Drivers of migration

Migration decision-making is influenced by the multidimensional context in which the individual or community finds itself (see Figure 2). There is a global consensus behind the idea that increasing livelihood opportunities and income diversification can **make migration a choice rather than a necessity**. Yet more data and analysis on the nexus is needed for future research to better understand human mobility dynamics in the context of climate change and environmental degradation, and its effects at the societal and environmental levels. **A transition to agroecology can be beneficial for marginalized communities by increasing sustainable livelihoods and giving some freedom of choice in mobility decision-making to already marginalized communities** (IATP, 2019).

Policy perspective

On the international scene, several policies and agreements exist to strengthen adaptation measures to environmental degradation and climate change, considering their effects on human mobility (IOM, 2014a). Many agroecological practices are aligned with migration and climate change policies and agreements.

On migration, the **Global Compact for Safe, Orderly and Regular Migration** adopted in 2018 is the first intergovernmental agreement that includes State commitments to climatic resilience. In addition, in the **IOM Migration Governance Framework (MiGOF)**, one of the objectives is to seek to develop the socioeconomic well-being of migrants and society, which can be supported by agroecological practices.

From an environmental perspective, agroecology is aligned with the objectives of the **Paris Agreement on climate change**, the **United Nations Convention to Combat Desertification (UNCCD)** and the **Convention on Biological Diversity (CBD)**. It also contributes directly to several Sustainable Development Goals (SDGs), mainly SDG2 on Zero Hunger, SDG8 on Decent Work and Economic Growth, and SDG11 on Sustainable Cities and Communities (FAO, 2018). Indeed, agroecological practices help tackle hunger and poverty, all with a gender scope.

At the regional level, policies related to agroecology exist as well. The Economic Community of West African States (ECOWAS) adopted back in 2005 their **regional agricultural policy (ECOWAP)**. This policy proposed a support programme for an agroecological transition, but even though the potential of implementation is there, there is a lack of coordination and clear strategy that continues to hamper its success, with migration highly disregarded (Oxfam, 2015).

Nevertheless, in 2018 the **Alliance for Agroecology in West Africa (3AO)** – a hub of non-governmental organizations, research institutes and social movements working on agroecology – was created to promote a transition in agriculture to agroecology for West Africa (3AO, 2020).

The advocacy work at the policy level is still ongoing at the time of writing, but country-specific progress has been observed. One of the seven pillars of 3AO is linked to the themes of migration and rural exodus, giving an additional reason why this alliance is an opportunity to advance the work on the migration and environment nexus. In Senegal, *Dynamique pour une Transition Agroécologique au Sénégal (DyTAES)*, which assembles several key actors in the field of agriculture and agroecology, successfully produced guidelines for a transition to agroecology which was delivered to the president Macky Sall in February 2020 (CIRAD, 2020).

As the negative impacts of climate change are increasing in the countries of West Africa, agricultural production and livelihoods become increasingly vulnerable, resulting in more frequent occurrences of forced migration (FAO, IFAD, IOM, WFP, 2018). Hence, there is a need and the opportunity to include migration in agricultural policies in order to efficiently address the migration and agriculture nexus.

Agenda 2030 and Agenda 2063 of the African Union

The 2030 Agenda for Sustainable Development is an integrated approach that balances the three dimensions of sustainable development (economic, social and environmental). It provides an overarching framework that **addresses the complex dynamic relationship between migration and development**. Its key features linked with migration and the environment are the recognition of the **positive contribution of migrants for inclusive growth and sustainable development and climate-resilience practices** to tackle climate change.

The 2063 African Union Agenda is a strategic framework for inclusive growth and sustainable development in all of Africa, making clear synergies with the 2030 Agenda. Introduced by “We, the people of Africa and her Diaspora”, its vision and plan of action are of social, economic and political rejuvenation, with a clear **acknowledgement of the role of migration in the region**. Under its seven aspirations, clear links with the 2030 Agenda and environmental migration components are perceived, such as the **importance of climate-resilient economies for decent jobs**, and advocacy of the modernization of Africa’s agricultural systems through science, technology, innovation and indigenous knowledge, all within the scope of climate change.

Migration, agriculture and climate change in West Africa

Africa remains mostly rural, with only 43 per cent of its population living in urban areas (UN DESA, 2018). In these areas, agriculture is the main source of income, representing 60 per cent of employment (UNEP, 2010; Lynch, 2019). In sub-Saharan Africa, agriculture is climate sensitive, with 95 per cent of it being rainfed. The adverse impacts of climate change have been affecting the agricultural sector and the people, including migrants working in it. Evidence of an increasing degree of unpredictability and uncertainty in rainfall patterns in the region (IPCC, 2019) poses a water-scarcity problem, increasing the vulnerability of said sector.

In addition to climatic stressors, the effects of unsustainable agricultural practices, such as the reduction of soil fertility and biodiversity, further deteriorate the land. These **environmental and human-caused processes can hinder income-generating activities in the agricultural sector. This can leave over 80 per cent of the food-economy-dependent workers in search of other income-generating activities, leading to outmigration** (OECD and FAO, 2016). The community of origin can then in turn be affected by a loss of youths and workers, leaving an ageing population and generally women and children behind.

Agroecological farm Swani Tiqa and the founder of Sow Ranch, Belal Sow. © IOM 2019/Aïssatou SY



Seasonal circular migration and outmigration in West Africa, linked to the dry and rainy seasons, are common economic adaptation strategies (UNCCD, 2016). However, climate change is altering these patterns and worsening living conditions of the already poor rural households, as it **widens inequalities**.

Within this context, employment creation is key to rural development, and agroecology can alleviate several pressures that lead to forced outmigration in search of employment, as the activity is relatively labour-intensive (UNCCD and IOM, 2019).

Agroecology: Building resilience

“Resilience is the ability of a system, community or society exposed to hazards to resist, absorb, accommodate, adapt to, transform and recover from the effects of a hazard in a timely and efficient manner, including through the preservation and restoration of its essential basic structures and functions” (UNDRR, 2009). In the context of fragile ecosystems and livelihoods, **climate change is a threat multiplier, exacerbating existing conditions of socioeconomic marginalization**, including food insecurity, unemployment, lack of social protection and environmental degradation – all of which can result in people being forced to move from their usual place of residence (GFMD, 2017). Thus, a transition towards more sustainable practices, such as agroecology, can help to address these challenges and build the resilience of people (see Figure 1). Sustainable agricultural practices support the creation of **green jobs**, which are defined as job opportunities that “respond to the global challenges of environmental protection, economic development and social inclusion” (ILO, 2016). Through the development of such economic opportunities in the communities of rural areas, there is the potential for conditions to improve – and therefore contribute to mitigating the rural exodus trend. **Moreover, agroecology supports the empowerment of local farmers in contexts where they have long been disempowered and marginalized** (IATP, 2019), as its practices build upon and integrate local and **traditional knowledge**.

What about urban and peri-urban agriculture?

Video: IOM's Migration, Agriculture and Urbanization in Senegal

Agriculture is usually considered as a rural activity, neglecting urban and peri-urban agriculture (UPA). Yet UPA occupies a prominent place in the economy of African countries. It **ensures that a significant part of the increasing urban food demand is met**, but it is rarely considered in municipal or national policies. UPA increases autonomy and improves the economic conditions of low-income households, which can be an activity for reintegration, as IOM projects show. For example, in Ouagadougou, **Burkina Faso, over 45,000 jobs are directly or indirectly linked to urban agriculture** (Ba, 2014).

Climate change is making the food chain vulnerable, and cities are affected as they rely on rural agricultural practices for these resources. Urban and peri-urban agriculture can thus be an adaptation strategy as it provides access to food in short circuits (Dubbeling et al., 2019). Moreover, this activity can be a strategy to cope with rural exodus and increase the capacity of the city to manage incoming migrants. **Better integration of migrants into local development and socioeconomic life** can avoid the formation of slums. Overall, orderly, safe and regular migration can integrate migrants into economic activities (Dubbeling et al., 2019).

Agroecology is a sustainable practice that is both reactive and proactive in the context of climate change. It is a reactive measure as it supports mitigation of and adaptation to climate change, and it is proactive because it can improve the sustainability of agricultural practices in the long term and become a new source of employment, thus minimizing forced displacement (Zickgraf, 2019). Positive short- and long-term results also relate to nutrition and health through promoting a diversified diet and avoidance of chemical products. In addition, social cohesion is at its core, due to the need for local networks for the commercialization of products. Furthermore, it opens up an opportunity to establish a foundation for gender equality by, for example, prioritizing women's participation in projects (ActionAid,

2017) and acknowledging women’s rights to land independently from their sociocultural context. It also works through collective action and sustains itself through horizontal learning exchanges. In the long run, agroecology plays a critical role in food security, livelihoods, and development, empowering individuals and communities.

Agroecological approaches ensure good and sustainable production and minimize the risk of dependence on external inputs such as pesticides, fertilizers and purchased seeds. Thus, they allow individuals and communities to retain their income, power, knowledge and responsibility (ActionAid, 2017), strengthening their resilience (see Figure 3).

Figure 3. The 10 elements of agroecology



Source: FAO, n.d.

The gender and youth² perspective

Ensuring that agriculture can adapt itself to a changing climate is a key component to ensure rural communities’ resilience. By increasing biodiversity and avoiding harmful agrochemicals, farmers working with agroecology can increase their resilience in the face of climate change and zoonoses.

Workers relying on climate-dependent activities in the labour market face many conditions of vulnerability due to not only the adverse effects of climate change but also protection concerns linked with their gender and age. Women and the working youth have a significant role in the labour market of most countries in West Africa. Acknowledging their importance in policymaking could enable activities and investments in this sector to support them.

In sub-Saharan Africa, **around 60 per cent of women work in the agricultural sector** (ILO, 2016), **yet they only account for less than 10 per cent of land ownership** (FAO, 2015). Although highly variable among and within countries, women play a significant role in the agricultural labour force and are key players in the informal economy (UNISS, 2018). During the dry season, they are often left behind with elderly people and children as men leave the village to look for other sources of income. They tend to be excluded from decision-making processes and socially vulnerable.

According to the Food and Agriculture Organization of the United Nations, innovations done by women based on agroecological principles have allowed them to get organized and strengthen their autonomy through year-round agriculture (FAO, 2015). They have gained recognition and visibility in their communities, which increases self-esteem (FAO, n.d.). As an agroecological farmer from Senegal stated: “Women working in agriculture are the messengers for agroecological and governance advocacy as the only sustainable system for a healthy life and a protected environment” (IED Afrique, 2015). **Rural women can thus be empowered and become more resilient by adopting sustainable and adaptive agricultural practices.**

² The definition of “youth” changes in different societies around the world, depending on the different demographic, financial, economic and sociocultural settings. For the purpose of this paper, youth will be defined according to United Nations instruments, which is from 15 to 24 years old (UN DESA, 2013).

On the other hand, population growth is leading to a more youthful Africa, with youths representing 64.5 per cent of the total population (Mo Ibrahim Foundation, 2019). Half of the sub-Saharan Africa population is under 25 years old, and almost 20 million enter the job market every year, out of which 12 million are rural youths (FAO, 2015). Yet **72 per cent of the rural African youth is unemployed or vulnerably employed, with migration often being the only way to sustain themselves and their families.** Given that agroecology can increase the need for workforce, the youth can benefit from it, while simultaneously participating in environmental protection. As a local key actor in Rufisque, Senegal, mentioned during an interview with IOM: “Almost 60 per cent of [our] seasonal workforce comes from Burkina [Faso], Mali and the Gambia.”³

Agroecology can then absorb the increasing number of unemployed youths who are considering migration options. The recognition of its potential – as it proves to be an attractive employment option for rural young people, including migrants (Lynch, 2019) – and communication on success stories can influence the political and financial contexts of agroecological projects, creating an enabling environment, which is largely lacking in the region (3AO, 2020).

It is also important to strive towards **decent jobs** that strengthen migrants’ rights in this working sector. These are defined by the International Labour Organization as jobs that are productive, provide equal opportunity and equal treatment for all women and men, and deliver a fair income, security in the workplace, social protection, and freedom of speech (ILO, 2013). Decent jobs in the region need to be created and promoted, as economies are largely informal, and migrant workers – characterized by low income and poor working conditions – often lack this social protection (ILO, 2019). Through practice and training, the knowledge on agricultural practices gained by the youth can then be disseminated, and in several cases, the youth themselves can be supported to start their own agroecological projects. This horizontal knowledge sharing is also present through “training of trainers”, whereby trained agroecologists disseminate best practices, with the

3 IOM, *Migration, Agriculture and Urbanization in Senegal*. Rufisque, Senegal, 3 June 2020. Available at www.youtube.com/watch?v=pSoSWXqL_8&feature=youtu.be.

goal to train people who will diffuse the information to more hard-to-reach audiences and speed up the transition while ensuring sustainability.

Diaspora and agroecology

Migration can be an adaptive measure that allows for the diversification of a household’s income base (Stapleton, 2017), and the diaspora can play a key role in addressing local needs and supporting the development and implementation of national strategies. Through remittances, households can sustain themselves, raise their investment capital if credit markets fail, and help with the lack of access to financial assistance (de Haas, 2011).

Over 40 per cent of international remittances are sent to rural areas (FAO, 2016a). In West Africa, it is nearly impossible to give the exact figures on these financial flows, yet it is acknowledged that they reduce the incidence and severity of poverty by helping households diversify their sources of income, save and invest (Plaza and Ratha, 2009). Besides capital, non-monetary transfers – such as expertise, competencies and even new social models – help support the livelihood of families (Mercandalli and Losch, 2018). Diaspora members, mainly those who own land in their respective countries of origin or demonstrate skills and qualifications in agroecology, can be agents of development by contributing to economic growth, improving food security and rural livelihoods, and providing insurance in the case of shocks (FAO, 2016a).

Diaspora and agroecology in Kolda, Senegal

In Kolda, a region in the south of Senegal, IOM developed a study on livelihood opportunities through climate-resilient practices for migrant returnees, entitled “Mainstreaming environmental dimensions into reintegration support to reduce the effects of climate change on migration in West Africa”. The case of Sow Ranch was noted as an example to follow. Its founder, Belal Sow, himself a returnee migrant from the Senegalese diaspora in the United States, transformed 10 hectares of degraded and abandoned land into a prosperous agroecological field, which also serves as a training center, contributing to the economic empowerment of a village that suffered from rural exodus and youth unemployment.

By reinforcing transnational networks of diaspora engagement through skills transfer and productive investment, such as agroecology, forced migration and rural outmigration could be influenced. The willingness of the diaspora to get involved in local development is present. In 2018, at the African Diaspora Agro Food Forum in Belgium, discussions were held on how to address investments in agricultural practices, including by diasporas. Indeed, these types of advocacy events are windows of opportunity to address the potential contribution of remittances to sustainable agricultural practices.

Diaspora and agroecology in Morocco

IOM is currently implementing a project on the diaspora's engagement in the development of agroecology in Morocco. Its goal is to advise and guide the Moroccan diaspora to invest in sustainable agricultural practices. As with several other African nations, the Moroccan diaspora is very dynamic and contributes to the resilience of large parts of the country's rural areas. In this project, profiles of diaspora returnees working in agroecology were identified, and the economic, social and environmental benefits of their projects were analysed. The ongoing project has demonstrated the potential for the diaspora to support development and increase food sovereignty and security in rural areas, thus helping create green job opportunities for the youth in marginalized territories. This approach has a good potential to be replicated in other West African countries as well.

The challenges for agroecology development in West Africa

Even though agroecology has positive effects on the agency over migration decision-making and on climate resilience, it still faces structural, social and economic challenges that can hinder its success.

Structural barriers

Countries in West Africa differ in their policies related to migration, environment and agriculture. However, they face similar challenges concerning field practices. Land access and ownership are the most acute ones (UNISS, 2018). In the case

of Senegal, for example, **land tenure insecurity** is largely due to the customary law that continues to govern land rights. The country's decentralized land administration, established since 1996 (IIED, 2008), gives the local governments of municipalities and rural communities ownership of public lands, yet the enforcement of laws has been "sporadic and with limited success" (World Bank, 2019). Moreover, the **rapid urbanization** and expansion of the cities in West Africa hinder land availability for agriculture. In Senegal, for example, an agricultural area near the city of Dakar is at risk of being replaced by residential areas.

"Insecure land tenure impacts the ability of people, communities and organizations to make changes to land that could advance both sustainable land management and climate change adaptation and mitigation. ... [And] these factors also shape dynamics of forced migration" (IOM and UNCCD, 2019).

In addition, climate change, sudden-onset hazards and extreme temperatures are challenging to cope with, illustrating the demand for efficient insurance policies and support from the government through, for example, subsidies. Yet, under the current system, West African governmental subsidies are mainly focused on conventional farming through the sale of fertilizers, pesticides and herbicides, which prevents farmers in developing countries from receiving fair prices to buy inputs for their production, usually leading them into debt (FAO, 2016a; Fitzpatrick, 2015). Official subsidies from the government to start agroecological projects remain uncertain in the region.

Besides subsidies, climate-risk insurance can also support smallholder farmers, as it provides security in case of climatic shocks, such as droughts or floods. It acts as a safety net for vulnerable farmers when combined consciously with parallel programmes on sustainable agriculture. Currently, this is being developed between the African Risk Capacity (ARC) and UNCCD in Mali, Mauritania, Burkina Faso and the Gambia, which aim to unleash funds to assist vulnerable communities threatened by droughts.

Furthermore, there is the issue of water availability and access. Reasons vary throughout the region, but the common boundary is water shortage

and the increasing need for irrigation due to population growth and rising demand for food (FAO, 2018). Moreover, in the Sahel, the fast rate of desertification amplifies the issues of groundwater absorption for the aquifers, making groundwater hard to reach. Taking into account

the context in rural areas, where there is a lack of mechanization – such as water castles, for example – and support, small household farmers, too, have major difficulties in obtaining water and therefore producing self-sufficiently.



Agroecological farm Swani Tiqa, Morocco. © IOM 2019/Aïssatou SY

Social and economic spheres

The transition from conventional agriculture to agroecology requires a **change in practices and behaviours**. Acceptance and willingness to change are major obstacles as the level of risk-taking in West Africa is low (Levard and Mathieu, 2018). Since agroecology takes up to five years to become profitable, investments are high-risk for low-income households. As a result, a secondary job, besides agroecology, is needed. **Access to information and training are heavily required** and demanded by interested rural communities, but they are hard to obtain due to the geographical location and overall availability of teachers and practitioners. Also, poor linkages to financial support and markets hinder the farmers' capacity to become autonomous (UNISS, 2018; Blein et al., 2008).

Because agroecological products in the market tend to be more expensive than comparable non-agroecological products, **creating a demand** for the former is key. As for financial inclusion – in relation to access to savings, credit, insurance and remittances at a reasonable cost – this remains elusive for many African households (Filmer and Fox, 2014). Agricultural households need to save and borrow for a wide range of reasons, such as obtaining and maintaining the land, buying or renting equipment, or both. Yet access to formal financial services is limited. This is especially true for the youth, who have major difficulties in mobilizing capital because their capacity to save and borrow is often constrained by banking regulations (Filmer and Fox, 2014).

Conclusion and recommendations

In West Africa, **migration is a social and economic practice**. Hence, several drivers shape the decision-making process of the migrant. One of these drivers is the environment, and current stressors due to climate change are compelling people to move. Unpredictability and lack of rainfall, environmental degradation, and soil erosion are the main factors that increase the vulnerability of agricultural production. Moreover, movements from rural areas into cities can put pressure on the infrastructures and services in the destination regions and lead to the emergence of slums if integration is not addressed. In parallel, the expansion of urbanization shrinks available agricultural land in the outskirts of cities.

These trends impact rural workers and force them to look for other opportunities outside their communities. It is essential for climate change adaptation practices in the agricultural sector to be fully considered in policymaking of West African countries, in order **to support farmers to develop their projects and minimize forced migration**. As case studies and examples show, **agroecology is a set of practices that promotes resilience to climate-related shocks and pressures**. Encouraging relevant projects and advocating agroecological transition can support rural farmers in strengthening livelihoods and diversifying incomes. This can create a domino effect of economic prosperity in rural territories, through the creation of new green jobs.

Even though challenges in rural areas – such as lack of infrastructures and access to basic services and markets – remain present, agroecology can be one way of empowering communities and helping increase their food security. **Overall, this can ultimately make migration a choice and not a necessity**.

Based on the above analysis on the nexus between migration and agroecology, the objectives of exploring these linkages are to:

- Avert and minimize forced migration due to climate change and environmental degradation, especially among youths, women and small-scale farmers;

- Highlight the joint environmental, economic and social benefits of sustainable agricultural practices, such as agroecology;
- Stimulate the diaspora's engagement in agroecology;
- Contribute to better protection of migrant workers in agriculture.

Taking all into account, this paper recommends the following:

For international and national organizations, associations, and groups working on agroecology

- Gather and disseminate knowledge and support data production on the social benefits of small-scale rural and peri-urban agriculture, with a particular focus on agroecology, in West Africa;
- Encourage indigenous knowledge production to document practices supporting resilience and successful case stories;
- Encourage the “training of trainers” model in agroecology;
- Support local governments in initiatives tackling natural resource governance (land, water) and the creation of green jobs.

For agroecological project leaders

- Better understand the protection needs of internal and international seasonal migrants in agriculture.

For governmental institutions and policymakers

- Enhance the coherence between agriculture, environment and migration policies;
- Assess and address the challenges hindering the transition to agroecology at the financial and institutional levels, especially concerning subsidies, land tenure and funding;

- Develop and strengthen technical tools and communication networks to encourage diaspora and youth engagement in agroecology, regarding production, commercialization or both;
- Reinforce in policy and practice the protection of migrant workers in agriculture given its positive contribution to local development.

Bibliography

- ActionAid
2017 Agroecology, empowerment and resilience: Lessons from ActionAid's Agroecology and Resilience project. Johannesburg.
- African Development Bank
2018 *Central Africa Economic Outlook*. Macroeconomic developments and poverty, inequality, and employment. Abidjan.
- African Union Commission
2015 *Agenda 2063: The Africa We Want*. Final edition. Addis Ababa.
- Allen, T., P. Heinrigs and I. Heo
2018 Agriculture, food and jobs in West Africa. West African Papers, No. 14. OECD Publishing, Paris.
- Alliance pour l'Agroécologie en Afrique de l'Ouest (3AO)
2020 *Rapport de Suivi: Avancées des Initiatives du Plan d'Action de 3AO*. Document d'appui à la rencontre stratégique de Alliance pour l'Agroécologie en Afrique de l'Ouest. Dakar. Available at www.ipes-food.org/_img/upload/files/3AO%20-%20Rapport%20de%20suivi%20du%20plan%20d%27action%20.pdf.
- Awumbila, M., Y. Benneh, J. Kofi Teye and G. Atiim
2014 Across artificial borders: An assessment of labour migration in the ECOWAS region. Research report (ACPOBS/2014/PUB05). ACP Observatory on Migration, Brussels.
- Ba, A.
2014 L'Agriculture urbaine en Afrique: Un potentiel vivrier sous-exploité face à l'insécurité alimentaire. Le Blog de la Fondation FARM, 5 November. Available at www.fondation-farm.org/zoe.php?s=blogfarm&w=wt&idt=1849.
- Bance, S.
2013 Caractérisation des dispositifs d'accompagnement des exploitations agricoles familiales vers l'intensification durable au Burkina Faso [Mémoire de fin de cycle]. Université de Ouagadougou, Burkina Faso.
- Blein, R., B.G. Soulé, B. Faivre-Dupaigre and B. Yérima
2008 Les potentialités agricoles de l'Afrique de l'Ouest (CEDEAO). Fondation pour l'agriculture et la ruralité dans le monde (FARM), Paris.
- Centre de coopération internationale en recherche agronomique pour le développement (CIRAD)
2020 Sénégal: Le pays se mobilise pour une transition agroécologique. Communiqué de presse. 13 February. Available at www.cirad.fr/actualites/toutes-les-actualites/communiques-de-presse/2020/agroecologie-senegal-politiques-publiques.
- Cochet, H., O. Ducourtieux and N. Garambois
2019 *Systèmes Agraires et Changement Climatique au Sud: Les Chemins de l'Adaptation*. Editions Quae, Versailles. Available at www.quae-open.com/produit/102/9782759229208/systemes-agraires-et-changement-climatique-au-sud.
- Conrad, A.
2014 We are farmers: Agriculture, food security, and adaptive capacity among permaculture and conventional farmers in Central Malawi [PhD thesis]. American University, Washington, D.C.
- D'Annolfo, R., B. Gemmill-Herren, B. Graeub and L.A. Garibaldi
2017 A review of social and economic performance of agroecology. *International Journal of Agricultural Sustainability*, 15(6):632–644.

- de Haas, H.
2011 The determinants of international migration: Conceptualising policy, origin and destination effects. *IMI Working Papers Series*, No. 32. University of Oxford.
- Decent Jobs for Youth
2017 Green jobs for youth: Boosting decent jobs for young people, greening the economy. *Thematic Plan*, Issue 4. Available at www.decentjobsforyouth.org/wordpress/wp-content/uploads/2017/08/Thematic-Plan-4-Green-Jobs.pdf.
- Douce, S.
2020 Au Burkina Faso, une ferme agroécologique veut réinventer « le monde d'après ». *Le Monde Afrique*, 5 May. Available at www.lemonde.fr/afrique/article/2020/05/05/au-burkina-faso-une-ferme-agroecologique-veut-reinventer-le-monde-d-apres_6038766_3212.html.
- Dubbeling, M., R. van Veenhuizen and J. Halliday
2019 L'agriculture urbaine comme stratégie de réduction des risques face au changement climatique et aux catastrophes. *La Revue de l'Institut Veolia – Facts Reports*, p. 32.
- Fall, S., D. Niyogi and F.H.M. Semazzi
2006 Analysis of mean climate conditions in Senegal (1971–98). *Earth Interactions*, 10(5):1–40.
- Filmer D. and L. Fox
2014 *Youth Employment in Sub-Saharan Africa*. Africa Development Series. World Bank, Washington, D.C.
- Fitzpatrick, I.
2015 From the roots up: How agroecology can feed Africa. *Global Justice Now*. London. Available at www.wto.org/english/thewto_e/minist_e/mc10_e/agroecologyppmc10_e.pdf.
- Food and Agriculture Organization of the United Nations (FAO)
2005 Optimización de la humedad del suelo para la producción vegetal: El significado de la porosidad del suelo. *Boletín de Suelos de la FAO*, 79.
- 2008 Water for agriculture and energy in Africa: The challenges of climate change. Report of the ministerial conference. Sirte, 15–17 December.
- 2015 Gender and land statistics: Recent developments in FAO's Gender and Land Rights Database. Technical note. Rome.
- 2016a Report of the regional meeting on agroecology in Sub-Saharan Africa. Dakar.
- 2016b *Migration, Agriculture and Rural Development: Addressing the Root Causes of Migration and Harnessing Its Potential for Development*. Available at www.fao.org/3/a-i6064e.pdf.
- 2018a *FAO's Work on Agroecology: A Pathway to Achieving the SDGs*. Available at www.fao.org/3/I9021EN/i9021en.pdf.
- 2018b Les 10 éléments de l'agroécologie: Guider la transition vers des systèmes alimentaires et agricoles durables. Available at www.fao.org/3/i9037fr/i9037FR.pdf.
- nd Agroecology Knowledge Hub. Available at www.fao.org/agroecology/home/en/ (accessed 18 March 2020).
- Food and Agriculture Organization (FAO), International Fund for Agricultural Development (IFAD), International Organization for Migration (IOM), and World Food Programme (WFP)
2018 The linkages between migration, agriculture, food security and rural development. Technical report.
- Global Forum on Migration and Development (GFMD)
2017 Analytical report of the Workshop on Climate Change and Human Mobility Towards Dignified, Coordinated and Sustainable Responses, Skhirat, 24 May. Available at www.gfmd.org/files/documents/gfmd-mecc_analytical_report_final_version_clean.pdf.
- Gravel, A.
2016 Les pratiques agroécologiques dans les exploitations agricoles urbaines et périurbaines pour la sécurité alimentaire des villes d'Afrique subsaharienne [Essai Faculté des Sciences]. Université de Sherbrooke, Québec.

- Innovations Environnement Développement (IED) Afrique
 2015 Femmes et agroécologie. *AGRIDAPE*, 31(4).
- Institute for Agriculture and Trade Policy (IATP)
 2019 Agroecology: Key to agricultural resilience and ecosystem recovery. 16 June. Available at www.iatp.org/agroecology-key-agricultural-resilience-and-ecosystem-recovery.
- Intergovernmental Panel on Climate Change (IPCC)
 2013 *Climate Change 2013: The Physical Science Basis*. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York.
 2014 Human security. In: *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects*. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, Cambridge, United Kingdom and New York.
 2019 *Climate Change and Land*. An IPCC special report on climate change, desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems.
- International Institute for Environment and Development (IIED)
 2008 Land and decentralisation in Senegal. Issue paper No. 149. London.
- International Labour Organization (ILO)
 2013 *Decent Work Indicators: Guidelines for Producers and Users of Statistical and Legal Framework Indicators*. ILO manual. Second edition. Geneva
 2016 Addressing gender gaps in Africa's labour market. Press release. 7 March. Available at www.ilo.org/africa/media-centre/pr/WCMS_458102/lang-en/index.htm.
 2019 *Social Protection for Migrant Workers and Their Families in ECOWAS States*. Abidjan.
- International Organization for Migration (IOM)
 2014a *IOM Outlook on Migration, Environment and Climate Change*. Geneva. Available at https://publications.iom.int/system/files/pdf/mecc_outlook.pdf.
 2014b *Migration, Environment and Climate Change: Evidence for Policy (MECLEP) Glossary*. Geneva. Available at <https://publications.iom.int/books/migration-environment-and-climate-change-evidence-policy-meclep-glossary>.
 2016 Migration Governance Framework. Available at www.iom.int/sites/default/files/about-iom/migof_brochure_a4_en.pdf.
 2017a Migrants and migration policy in the context of the adverse effects of climate change and environmental degradation. Global Compact thematic paper. Geneva. Available at www.iom.int/sites/default/files/our_work/ODG/GCM/IOM-Thematic-Paper-Climate-Change-and-Environmental-Degradation.pdf.
 2017b *The Atlas of Environmental Migration*. Routledge, Oxford and New York. Available at www.iom.int/sites/default/files/about-iom/gender/Atlas-of-Environmental-Migration.pdf.
 2018a Environmental change and translocal vulnerability in Senegal. *Migration, Environment and Climate Change (MECC): Policy Brief Series*, 4(3). Available at https://publications.iom.int/system/files/pdf/policy_brief_series_vol4_issue3.pdf.
 2018b Youth, Employment and Migration Strategy in West and Central Africa. Dakar. Available at <https://rodakar.iom.int/sites/default/files/LHD%20Strategy.pdf>.
 2019a *Migration Flows in West and Central Africa. Overview 2017–2018*. Available at <https://migration.iom.int/data-stories/migration-flows-west-central-africa>.
 2019b *Climate Change and Migration in Vulnerable Countries: A snapshot of least developed countries, landlocked developing countries and small island developing States*. IOM Migration Environment and Climate Change (MECC) Research Series. Geneva. Available at <https://publications.iom.int/books/climate-change-and-migration-vulnerable-countries>.

- n.d. Migration, Environment and Climate Change: Policy Brief Series. Available at <https://environmentalmigration.iom.int/policy-briefs> (accessed 18 March 2020).
- International Organization for Migration (IOM) and United Nations Convention to Combat Desertification (UNCCD)
 2019 *Addressing the Land Degradation–Migration Nexus: The Role of the United Nations Convention to Combat Desertification*. Geneva. Available at <https://environmentalmigration.iom.int/addressing-land-degradation-%E2%80%93-migration-nexus-role-united-nations-convention-combat-desertification>.
- Kabore, P.N., B. Barbier, P. Ouoba, A. Kiema, L. Some and A. Ouedraogo
 2019 Perceptions du changement climatique, impacts environnementaux et stratégies endogènes d'adaptation par les producteurs du Centre-nord du Burkina Faso. *VertigO*, 19(1).
- Kälin, W.
 2010 Conceptualising climate-induced displacement. *Climate Change and Displacement. Multidisciplinary Perspectives. European Journal of International Law*, 22(4).
- Kandji, S.T., L. Verchot and J. Mackensen
 2006 Climate change and variability in the Southern Africa: Impacts and adaptation strategies in the agricultural sector. World Agroforestry Centre (ICRAF) and United Nations Environment Programme (UNEP), Nairobi.
- La Via Campesina (LVC)
 2016 Opinion: Agroecology for gender equality. *Farming Matters*, 32(3). Available at <https://viacampesina.org/en/opinion-agroecology-for-gender-equality>.
- Levard, L. and B. Mathieu
 2018 Agroécologie: Capitalisation d'expériences en Afrique de l'Ouest. Gret and Agronomes Vétérinaires Sans Frontières (AVSF), Nogent-sur-Marne.
- Lynch, S.
 2019 Job creation: Agriculture's potential to mitigate youth migration. Dossier: Stemming youth migration. *Spore*, No. 193:17–22. Available at <https://spore.cta.int/en/dossiers/article/job-creation-agriculture-s-potential-to-mitigate-youth-migration-sid0e41cac7f-7676-4735-8d09-54754d8eed41>.
- Mbow, C., O. Mertz, A. Diouf, K. Rasmussen and A. Reenberg
 2008 The history of environmental change and adaptation in eastern Saloum–Senegal: Driving forces and perceptions. *Global and Planetary Change*, Issue 64:210–221.
- Mercandalli S. and B. Losch
 2018 *Une Afrique Rurale en Mouvement: Dynamiques et Facteurs des Migrations au Sud du Sahara*. L'Organisation des Nations Unies pour l'alimentation et l'agriculture (FAO) et le Centre de coopération internationale en recherche agronomique pour le développement (CIRAD), Rome.
- Mertz, O., C. Mbow, A. Reenberg, L. Genesio, E.F. Lambin, S. D'haen, M. Zorom, K. Rasmussen, D. Diallo, B. Barbier, I.B. Moussa, A. Diouf, J.Ø. Nielsen and I. Sandholt
 2011 Adaptation strategies and climate vulnerability in the Sudano-Saharan region of West Africa. *Atmospheric Science Letters*, 12(1):104–108.
- Mo Ibrahim Foundation
 2019 Africa's youth are key to informing the debate on African migrations. Available at <http://mo.ibrahim.foundation/news/2019/africas-youth-key-informing-debate-african-migrations>.
- Organisation for Economic Co-operation and Development (OECD) and Food and Agriculture Organization (FAO)
 2016 Agriculture in sub-Saharan Africa: Prospects and challenges for the next decade. In: *OECD-FAO Agriculture Outlook 2016–2025*. Paris. Available at www.fao.org/3/a-bo092e.pdf.

- Oxfam
2015 *ECOWAP: A Fragmented Policy*. Oxfam GB, Oxford.
- Plaza, S. and D. Ratha
2009 *Diaspora for Development in Africa: Overview*. World Bank, Washington, D.C.
- Raleigh, C., L. Jordan and I. Salehyan
2008 Assessing the impact of climate change on migration and conflict. World Bank, Washington, D.C.
- Stapleton, S.O., R. Nadin, C. Watson and J. Kellett
2017 *Climate Change, Migration and Displacement: The Need for a Risk-Informed and Coherent Approach*. Overseas Development Institute (ODI), London, and United Nations Development Programme (UNDP), New York.
- Sylla M.B., P.M. Nikiema, P. Gibba, I. Kebe and N.A.B. Klutse
2016 Climate change over West Africa: Recent trends and future projections. In: *Adaptation to Climate Change and Variability in Rural West Africa* (J.A. Yaro and J. Hesselberg, eds.). Springer, Cham.
- Tschakert, P.
2007 Views from the vulnerable: Understanding climatic and other stressors in the Sahel. *Global Environmental Change*, 17(3–4):381–396.
- United Nations Convention to Combat Desertification (UNCCD)
2016 Land restoration: A solution to West Africa's rural exodus? 22 June. Available at www.unccd.int/news-events/land-restoration-solution-west-africas-rural-exodus.
- United Nations Department of Economic and Social Affairs (UN DESA)
2013 Definition of youth. Available at www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf.
2018 *World Urbanization Prospects 2018: Highlights*. Population Division, New York, p. 7. Available at <https://population.un.org/wup/Publications/Files/WUP2018-Highlights.pdf>.
- United Nations Environment Programme (UNEP)
2010 *Africa Water Atlas*. Division of Early Warning and Assessment (DEWA), Nairobi, p. 11. Available at https://agua.org.mx/wp-content/uploads/2011/09/africa_water_atlas.pdf.
- United Nations Integrated Strategy for the Sahel (UNISS)
2018 *UN Support Plan for the Sahel: Working Together for a Prosperous and Peaceful Sahel*. Available at www.un.org/africarenewal/sites/www.un.org.africarenewal/files/English%20Summary%20Report_0.pdf.
- United Nations Office for Disaster Risk Reduction (UNDRR)
2009 *UNDRR Terminology on Disaster Risk Reduction*. Geneva.
2019 Nature-based solutions for disaster risk reduction. PreventionWeb UNDRR Editors. Available at www.preventionweb.net/collections/green-infrastructure.
- United States Agency for International Development (USAID)
2019 Agriculture and food security: West Africa Regional.
- World Bank
2019 Senegal Cadastre and Land Tenure Improvement Project. Report.
n.d. Climate Change Knowledge Portal. Available at <https://climateknowledgeportal.worldbank.org/#> (accessed 18 March 2020).
- Zickgraf, C.
2019 Human mobility and climate change: Migration and displacement in a warming world. *Great Insights*, 8(4).



Anna-Gaëlle Chesnier Piña is a junior expert on the topic of migration, environment and climate change. Her work so far has had a focus on the West and Central African region, although her interests go beyond Africa. Besides IOM, she has also been published in the Internal Displacement Monitoring Centre thanks to her on-field research on the influence of climate change on mobility patterns in Senegal. With a master's degree from Lund University, in Sweden, on Disaster Risk Management and Climate Change Adaptation, she is passionate about advocacy work and research in this domain.

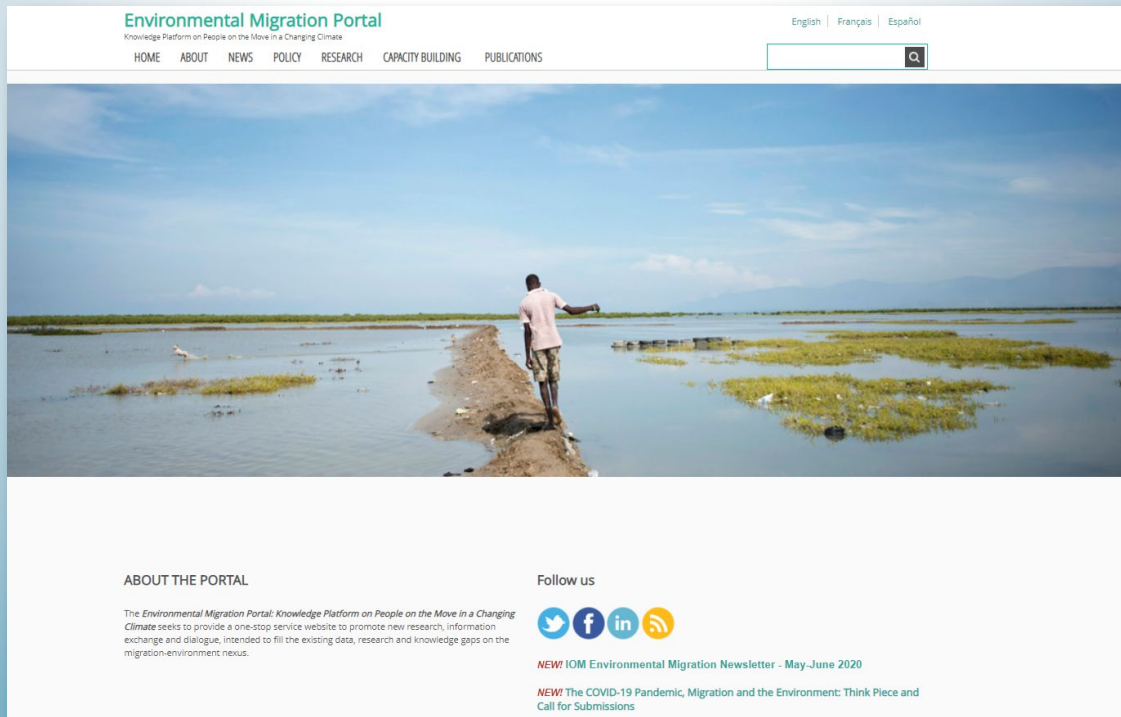


Hind Aïssaoui Bennani is a senior expert and regional thematic specialist on migration, environment and climate change in West and Central Africa and the MENA region. With a strong background in agriculture, sustainable energy, policy planning and migration, she has contributed and supported the development of MECC projects, mainly in the Maghreb and West Africa. With practical experience in organizations besides IOM, she has a compelling network of professionals and knowledge on project management, research and advocacy.

For updated information on IOM's work on migration, environment and climate change, please visit the IOM Environmental Migration Portal.

www.environmentalmigration.iom.int

Follow us on Twitter: [@IOM_MECC](https://twitter.com/IOM_MECC)



17 route des Morillons, P.O. Box 17, 1211 Geneva 19, Switzerland
 Tel.: +41 22 717 9111 • Fax: +41 22 798 6150
 Email: hq@iom.int • Website: www.iom.int