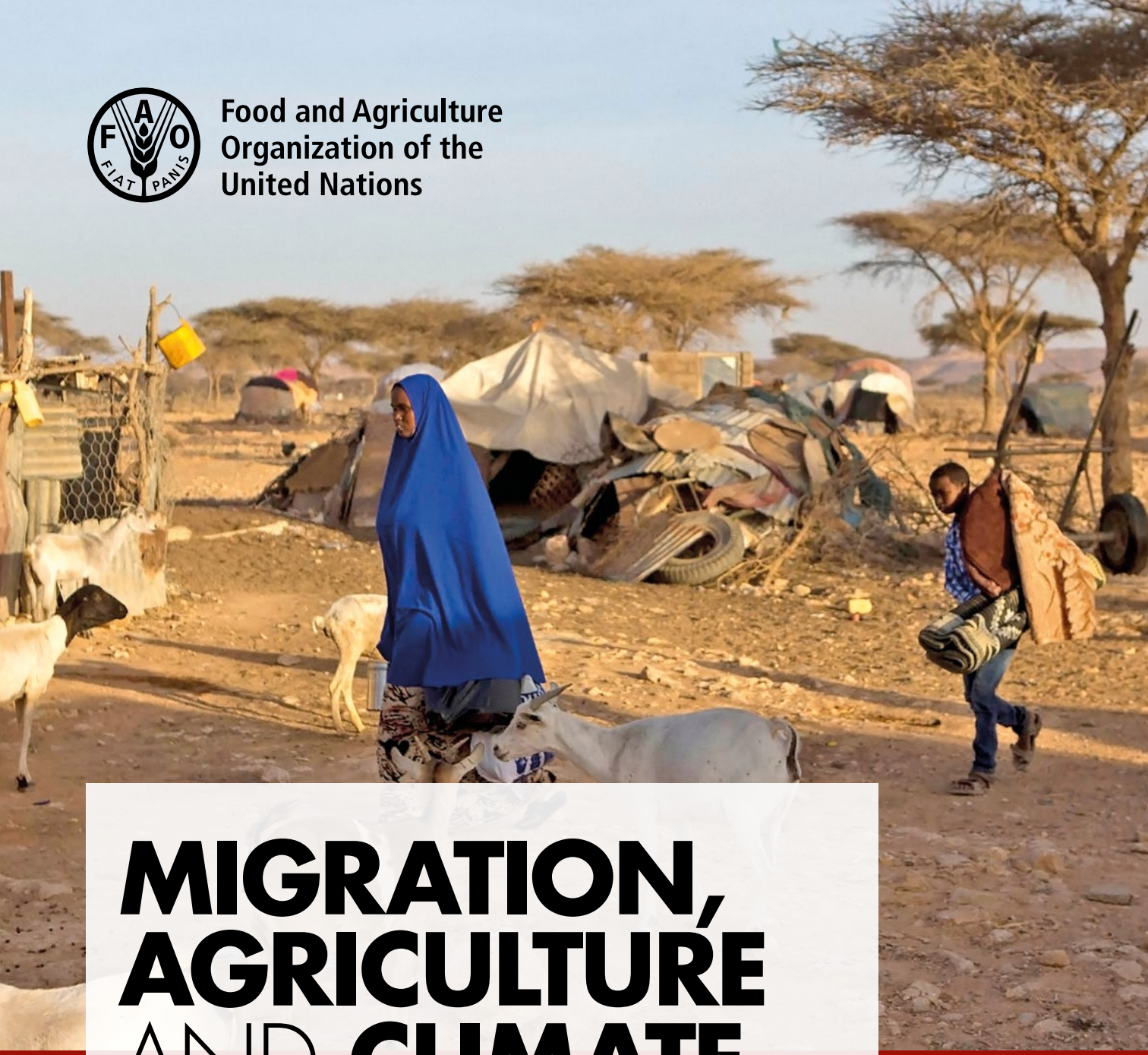
Food and Agriculture Organization of the United Nations



MIGRATION, AGRICULTURE AND CLIMATE CHANGE

Reducing vulnerabilities and enhancing resilience

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Cover photo:
Somalia – A woman and her son walk in a camp for internally displaced persons on the outskirts of the village of Qardho, Somalia. The pastoralists moved there after they lost their livelihoods due to drought.
©FAO/Karel Prinsloo

PAKISTAN

Daily life at a camp in Muzaffargarh set up for internally displaced persons made homeless by flooding in Sukkur. ©FAO/Asim Hafeez

KEY MESSAGES

THE CONTEXT OF MIGRATION, AGRICULTURE AND CLIMATE CHANGE

- Climate change is a cause of rural migration and intensifies other socio-economic drivers of migration, such as rural poverty and food insecurity.
- Short- and long-term effects of climate change have significant impacts on agricultural productivity, rural livelihoods and, indirectly, migration flows.
- Climate change impact on migration is through increases in the frequency and intensity of weather and climate risks. These climate-related risks can be sudden-onset events (e.g. tropical storms, heavy rains, floods and droughts) or slow-onset ones (e.g. sea-level rise, salinization and desertification).
- Migration in the context of climate change has multiple causes. The combination of climate-related risks with socio-economic drivers increases the vulnerability of agriculture, leads to loss of livelihoods and triggers migration.
- Internal migration is one of the coping strategies adopted in response to the threats of weather and climate extremes. Seasonal migrants, in particular, tend to return to their places of origin and rebuild their livelihoods.

ADDRESSING MIGRATION CHALLENGES AND OPPORTUNITIES UNDER CLIMATE CHANGE

- Migration can be an adaptation strategy to climate change. Safe, orderly and regular migration can contribute to agriculture development, economic growth, food security and rural livelihoods.
- Poorly managed migration can increase vulnerability to climate risks, heighten pressure on scarce natural resources, and exacerbate tensions between migrants and host communities on land tenure and resource rights.
- Migration can increase the resilience of vulnerable populations, especially in climate-sensitive rural areas. Migrants can help create decent employment and inclusive social protection systems by transferring remittances, technology, knowledge and skills.
- Investing in sustainable agriculture should be central to the response to climate and migration challenges as it promotes the adaptation to and mitigation of climate change and also reduces other root causes of migration such as rural poverty and food insecurity.
- Mainstreaming migration into climate change adaptation, disaster risk reduction policies and plans, and sustainable development is vital in order to effectively manage the challenges of migration and to fully harness its developmental potential.

INTRODUCTION

A GROWING AND COMPLEX GLOBAL PHENOMENON

Migration is a growing and complex global phenomenon. Climate change drivers and risks such as tropical cyclones, heavy rains and floods, droughts and desertification, and sea-level rise are among the causes of migration from rural areas. Climate change is causing or contributing to an increase in the frequency and intensity of these events and their adverse effects.

Most migration, including migration in the context of climate change, has multiple causes. The convergence of climatic risks with other socio-economic stressors increases vulnerability and contributes to the loss of livelihoods. This situation can trigger migration from rural areas.

In developing countries, the agriculture sectors (crops and livestock, fisheries and aquaculture and forestry) absorb 26 percent of the total damage and losses from climate-related disasters.[1] These impacts aggravate food insecurity and intensify migration around the world.

Between 2008 and 2015, an average of 26.4 million people were displaced annually by natural-hazard-induced and climate-related disasters – and this trend is rising.[2] Today the total number of international migrants, including those displaced by climate-related natural disasters, is 40 percent higher than in 2000, with numbers expected to exceed 400 million by 2050.[3]

It is difficult to accurately estimate the number of migrants as a result of climate change. Given the complex drivers of migration, estimates of climate-related migration vary greatly. This is due in part to a lack of data and the difficulty in isolating climate change as a driver of migration. Overall, migration associated with climate change is growing, and more likely to be in the form of internal mobility within a country.

THE GLOBAL RESPONSE – TRANSLATING COMMITMENTS INTO ACTION

Global agendas and frameworks recognize the positive contribution of migrants for climate risk reduction, resilience building, food security, poverty reduction and economic growth. The 2030 Agenda for Sustainable Development emphasizes the need for international cooperation to enable safe, orderly and regular migration and so ensure this positive contribution.

> Migration – when a choice and not a necessity – can play an important role as an adaptation strategy to climate change.

Migrants driven by necessity rather than by choice will probably experience increased

1 FAO. 2017. *The impact of disasters on agriculture: addressing the information gap.* Rome. (also available at www.fao.org/3/a-i7279e.pdf).

2 IDMC & NRC (Internal Displacement Monitoring Centre and Norwegian Refugee Council). 2015. *Global Estimates 2015: People displaced by disasters.* Geneva. (also available at www.internal-displacement.org/library/publications/2015/global-estimates-2015-people-displaced-by-disasters).

3 FAO. 2016. *The future of food and agriculture – trends and challenges.* Rome. (also available at www.fao.org/publications/fofa/en).

HAITI

People queueing for distribution of seeds and tools in Casudre, 20 km north of Les Cayes. ©FAO/Giulio Napolitano

vulnerability as they are likely to have less adaptive capacity and ability to adjust or respond to the impacts of climate change. This can lead to maladaptation.

Migrants contribute to inclusive growth and sustainable development of places of origin, transit and destination. To harness these development potentials, global commitments to address the root causes of climate-change-related migration need to be translated into actions.

The Sendai Framework for Disaster Risk Reduction, the Paris Agreement and the 2030 Agenda for Sustainable Development highlighted the need for urgent action to respond to climate change, and to address its role as a driver of migration.

It is important to recognize that moving from commitment to action should ensure effective responses to climate change impacts without threatening food systems.

The Sendai Framework for Disaster Risk Reduction (2015–2030)[4] recognizes the importance of migrants and their contribution to the resilience of communities and societies, and that their knowledge, skills and capacities can be useful in the design and implementation of disaster risk reduction measures. It further points out that disaster risk reduction provides the international community with a unique opportunity to enhance coherence across policies and institutions for implementation. ▶

4 UNISDR (United Nations Office for Disaster Reduction). 2015. *Sendai Framework for Disaster Risk Reduction (2015–2030).* Geneva, Switzerland. (also available at www.unisdr.org/files/43291_sendaiframeworkfordrren.pdf).

INTRODUCTION

The 2015 Paris Agreement[5] called for developing recommendations for integrated approaches to avert, minimize and address displacement related to the adverse impacts of climate change. Through the Warsaw International Mechanisms for Loss and Damage, the Paris Climate Change Conference (COP 21, December 2015) established a **Task Force on Displacement** to develop such recommendations. The Task Force complements, draws upon and involves the work of existing bodies and expert groups under the United Nations Framework Convention on Climate Change, as well as relevant organizations and expert bodies outside the convention.

Similarly, **the 2016 New York Declaration for Refugees and Migrants**[6] recognizes the negative effects of climate change, natural disasters and other environmental factors as drivers of migration.

The 2030 Agenda for Sustainable Development[7] recognizes the positive contribution of migrants for inclusive growth and sustainable development. The 2030 Agenda underlines the need for international cooperation to ensure safe, orderly and regular migration involving full respect for human rights, responsible migration and mobility of people, including through the implementation of planned and well-managed migration policies.

> Agriculture and rural development are central to the global agendas and their responses in addressing the challenges as well as realizing opportunities of migration due to climate change impacts.

Yet, in order to translate commitments into effective action, it is necessary to understand the complex nexus of migration, agriculture and climate change. ■

5 UN. 2015. *Paris Agreement* [online]. [Cited 16 October 2017]. http://unfccc.int/files/essential_background/convention/application/pdf/english_paris_agreement.pdf

6 UN. 2016. *New York Declaration for Refugees and Migrants* [online]. [Cited 16 October 2017]. http://refugeesmigrants.un.org/declaration

7 UN. 2015. *Transforming our world: the 2030 Agenda for Sustainable Development* [online]. [Cited 16 October 2017]. www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

MIGRATION, AGRICULTURE AND CLIMATE CHANGE

SYRIAN ARAB REPUBLIC

Life-saving assistance to vulnerable internally displaced persons and host communities, plus emergency support to crop and livestock production. ©FAO/Omar Sanadiki

A COMPLEX NEXUS

The links between climate change, agriculture and migration are complex. While the impacts of climate change on agriculture and food security are relatively well established, the cascading effects of climate change on migration and its consequences for agriculture have not been adequately assessed and addressed. Efforts are required to bridge this knowledge gap.

> Climate change is a threat-multiplier to conflicts, violence and natural disasters that cause migration of agriculture-dependent populations.

Climate change exacerbates socio-economic factors of migration, such as poverty, food insecurity, lack of employment opportunities, limited access to social protection, and the depletion of natural resources.

Potential pathways from climate change to migration are through increases in the frequency and intensity of weather and climate-related risks that include sudden- and slow-onset events. Extreme weather events are sudden-onset events that tend to have immediate impact and are the most direct linkages between climate change and migration. Tropical storms, heavy rains, floods are examples of such events and tend to cause severe impacts within a short period.

Natural disasters caused by these sudden-onset events often displace rural populations because of damage to their assets or production losses. However, people often attempt to return to their places of origin and rebuild their livelihoods. Only a proportion of displacement leads to more permanent migration.[8]

Slow-onset events create gradual environmental change through incremental impacts ▶

8 IPCC (Intergovernmental Panel on Climate Change). 2014. Human security. In IPCC. *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects*, pp. 755–791. 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, USA.

MIGRATION, AGRICULTURE AND CLIMATE CHANGE

that occur over a longer period. They include sea-level rise, increasing temperature, ocean acidification, glacial retreat, salinization, forest degradation, loss of biodiversity, and desertification. These events interact with vulnerabilities and socio-economic factors to influence migration decisions. For example, slow-onset events can lead to initial temporary migration to seek out opportunities, followed later by permanent migration as conditions worsen due to climate change.[9]

Sea-level rise will affect migration flows and result in permanent migration as coastal areas become uninhabitable.[10] Sea-level rise will slowly erode agricultural land in coastal areas and cause increased impacts due to storm surges that ultimately make the coastal areas uninhabitable. Seawater intrusion can result in salinization of freshwater resources and loss of agricultural productivity. Weather-related extremes and longer-term climate change leading to loss of agricultural productivity will have a significant impact on migration.

> A large proportion of migrants are from rural areas and depend mostly on agricultural sectors and natural resources for their livelihoods.

Dependent on smallholder agriculture, they are highly exposed and vulnerable to climate change, which heightens the pressure on the four pillars of food security: availability, access, utilization and stability. When faced with food shortages due to climate impacts, these families may migrate temporarily.

Seasonal internal migration is a crucial livelihood option for agriculture-dependent populations during rainfall deficits, providing a means of livelihood diversification and a reduction in household consumption requirements at the places of origin. This type of internal migration is common among the poor, but not necessarily among the poorest – who may lack the resources to move.

Climate change can exacerbate the degradation of agricultural assets, decrease production and drastically reduce livelihood opportunities in rural areas. Combined with food insecurity and poverty, these impacts contribute to drivers of migration.

Rainfall deficits, drought and floods have different impacts on migration patterns. For example, following rainfall deficits, short-term migration increases, and the accompanying reduction in crop yields leads to short-distance internal migration. This internal migration often intensifies following longer droughts. Similarly, flood-affected households use migration as a coping mechanism, often travelling short distances before returning.[11]

Migrants can contribute to the creation of decent employment and inclusive social protection systems by transferring remittances, skills, technology and knowledge.

9 IOM (International Organization for Migration). 2016. *Assessing the climate change environmental degradation and migration nexus in South Asia.* Dhaka. (also available at https://publications.iom.int/system/files/pdf/environmental_degradation_nexus_in_south_asia.pdf).

10 IPCC, 2014 (see note 8).

11 IOM (International Organization for Migration). 2009. *Migration, environment and climate change: assessing the evidence.* Geneva, Switzerland. (also available at http://publications.iom.int/system/files/pdf/migration_and_environment.pdf).

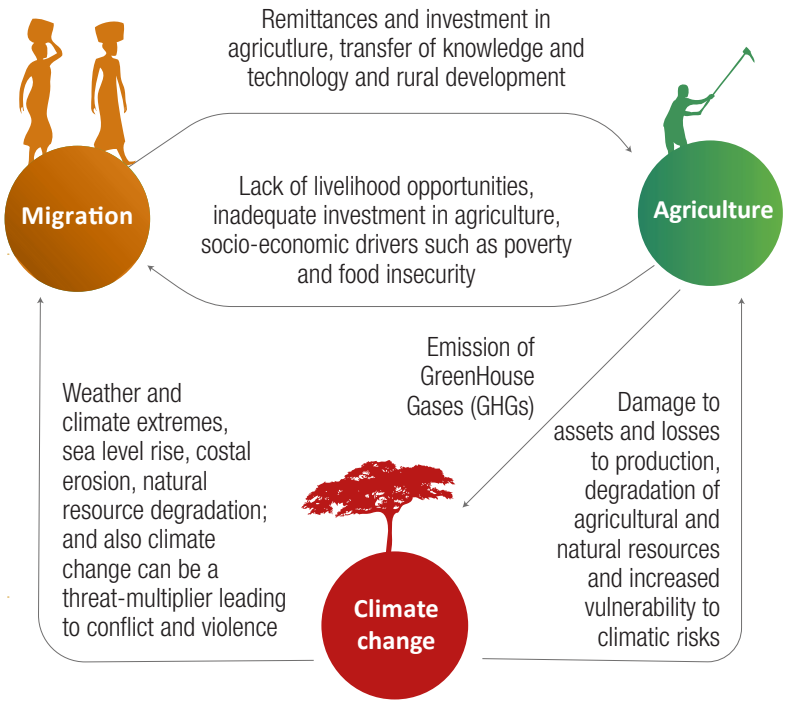
NIGER

Herders affected by a fodder deficit in Abala Sani waiting to receive emergency assistance. ©FAO/Issouf Sanogo

> Migration can increase the resilience of vulnerable populations, especially in climate-sensitive rural areas.

Migration that is not adequately foreseen and facilitated in climate-sensitive and vulnerable situations can jeopardize food security in both places of origin and destination. For example, migration from rural to urban areas may cause labour shortages in rural areas, affecting agriculture production and reducing food availability. Moreover, poor agriculture-dependent rural populations frequently exposed to impacts of extreme weather and climate events may be those least able to migrate. ■

Migration, agriculture and climate change nexus



MIGRATION AS A COPING AND ADAPTATION STRATEGY

OPPORTUNITIES AND CHALLENGES

Migration as an adaptation strategy to climate change presents both opportunities and challenges to rural communities, and can increase the climate resilience of vulnerable rural populations dependent on agriculture.

Migration can be a proactive adaptation strategy, particularly at early stages of environmental degradation. Managed migration can also be an effective disaster risk reduction strategy. [12] Migration can help reduce risk to lives, livelihoods and ecosystems, and enhance the overall capacity of households and communities to cope with climate change. Contributions by migrants through the transfer of remittances, as well as knowledge and skills upon their return, can significantly strengthen the livelihoods of families and communities affected by climate change.

Migration can be a pathway to diversify rural household incomes, help reduce the shocks of climate extremes and boost climate risk preparedness. International remittances to developing countries are three times the amount of official development assistance, and about 40 percent of these remittances go to rural areas.[13] Migrants, diaspora communities and returnees can help ease poverty and improve food security in their rural areas of origin.

Unless migration-prone rural areas receive investment for climate change adaptation measures focusing on natural-resource management, sustainable agriculture and rural development, these areas risk losing the younger and most dynamic members of their workforce.

Poorly managed migration flows can lead to increased vulnerability to climate risks, heightened pressure on scarce natural resources, and greater tensions between migrants and host communities on land tenure and resource rights.

Well-managed migration entails essential elements such as: strengthened institutional capacity, seasonal agricultural employment schemes, better working conditions for migrant agricultural workers, enhanced access to education and training, improved skill recognition, support for migrant enterprises, awareness raising about human rights, and strengthened regional and international cooperation and other partnerships.

> Migration of young men can lead to the ageing and feminization of the rural population and place greater burdens of work on those who remain.

This situation will further increase the burden on women working in agriculture, which, when coupled with climate change impacts, may lead to less-sustainable farming practices or a deterioration in land management due to labour constraints. However, an increased role in agriculture can be empowering for women, provided

12 IOM (International Organization for Migration). 2017. *The Atlas of Environmental Migration.* Geneva, Switzerland.

13 FAD (International Fund for Agricultural Development) and WB (World Bank). 2015. *The use of remittances and financial inclusion. A report by IFAD and WB to the G20 Global Partnership for Financial Inclusion.* Rome.

MEXICO

Herding sheep. Poverty and hardship have been pushing people in rural communities to migrate.
©Alex Webb/Magnum Photos for FAO

they obtain a correspondingly expanded role in decision-making and control over natural resources and their management at household and community levels.

CONTEXT-SPECIFIC POLICY RESPONSES

Rural development, agriculture and food security policies and programmes should consider and integrate the risks and opportunities of migration as a response to weather and climate-related hazards. They should be coherent with the priorities of climate change adaptation, disaster risk reduction and natural-resource management.

Interconnected policy and programme initiatives can address the root causes of migration by creating decent rural employment opportunities, promoting sustainable agricultural practices, alleviating pressure on natural resources, and contributing to climate change adaptation and mitigation. They can also promote access to inclusive social protection systems and, at the same time, facilitate migrants' transfer of skills and knowledge, and spur investment in agriculture and natural-resource management.

It is particularly important to build on the complementarities among national adaptation plans, nationally appropriate mitigation actions, nationally determined contributions, and disaster risk reduction frameworks in order to simultaneously address challenges and take advantage of opportunities of climate-induced migration. This includes relevant strategies and measures for agricultural development, food security, sustainable natural-resource management, climate change adaptation, and resilience to weather and climate-related natural hazards.

> The mechanisms and frameworks related to climate change at the national level are critical entry points for dealing with the complex drivers of migration and for avoiding social crises caused by climate-related shocks and stresses.

Tackling the challenges requires greater attention on these interconnected policy issues, and more investment in agriculture, food security and inclusive rural transformation. ■

FAO'S CONTRIBUTION TO ADDRESSING MIGRATION CHALLENGES UNDER CLIMATE CHANGE

ENSURE FOOD SECURITY OF VULNERABLE POPULATIONS AT PLACES OF ORIGIN AND DESTINATION

FAO programmes on food security and nutrition promote policies and encourage political commitment to ensure that people have access to enough high-quality food to lead active, healthy lives in their places of origin and destination.

FAO offers tools and systematic coordinated approaches for crop and food security assessments in order to improve understanding of the situation in places of origin and destination for migrants, as well as to inform decision-making. These include: integrated food security phase classification, crop and food security assessment missions, and the Global Information and Early Warning System on Food and Agriculture (GIEWS).

MANAGE AND USE NATURAL RESOURCES SUSTAINABLY

A shift from a simple focus on maximizing production towards more sustainable agriculture is crucial to dealing effectively with the interconnected issues of migration, agriculture and climate change.

> Sustainable management and use of agricultural, fishery, aquaculture and forest resources enhances resilience against climate risks, and contributes to creating jobs in rural areas of origin and destination.

FAO's vision for sustainable food and agriculture is that of **"a world free from hunger and malnutrition, where food and agriculture contribute to improving the living standards of all, especially the poorest, in an economically, socially and environmentally sustainable manner."** To focus attention towards its global goals of food security, the elimination of poverty, and the sustainable management and utilization of natural resources, FAO has built a common vision,[14] promoting sustainable agricultural development in places of origin for migrants, and reducing climate-related risks and vulnerabilities.

FAO's Blue Hope Initiative aims to improve the economic, social and ecosystem resilience of coastal communities throughout the Mediterranean, while providing migrants with access to services, information and viable livelihood opportunities.

14 FAO. 2014. *Building a common vision for sustainable food and agriculture: principles and approaches.* Rome. (also available at www.fao.org/3/a-i3940e.pdf).

NEPAL

Female members of a farmers field school trying new agricultural techniques. Nepal is one of the countries hardest hit by the impacts of climate change, with farmers among the worst affected. Poverty and the impacts of climate change are pushing people to migrate. ©Chris Steele-Perkins/Magnum Photos for FAO

NEPAL: MANAGING CLIMATE RISKS AND ADAPTING TO CLIMATE CHANGE IN THE AGRICULTURE SECTOR

For the most vulnerable groups in Nepal, migration is one strategy for coping with the impacts of extreme climate events. Insufficient production of foodgrains by households has forced many people to engage in off-farm jobs or go abroad. Migration increases significantly in communities hit by drought and floods. In areas highly exposed to climate-related natural disasters, up to 75 percent of men between 19 and 44 years of age migrate. As a result, a surge in remittances by migrants to Nepal has frequently been identified as a major reason for a decline in poverty.

However, the most vulnerable, especially women and older people, are left to focus on agricultural activities and often face the consequences of crop failures due to climate impacts.

To help strengthen capacities for climate risk management and adaptation to climate change in the agriculture sector, FAO provides comprehensive support, such as reinforcing institutional and technical capacity at all levels to better respond to the needs of vulnerable communities. This includes enhancing climate information services and promoting community-driven approaches with gender-sensitive good practices for climate risk management, resource conservation and livelihood diversification. Just by introducing stress-tolerant crop varieties, yields of rice, wheat and maize have increased by 54 percent, 19 percent and 91 percent, respectively.[1]

1 FAO. 2014. *Managing climate risks and adapting to climate change in the agriculture sector in Nepal.* Rome. (also available at www.fao.org/3/a-i3577e.pdf).

SUPPORT ADAPTATION STRATEGIES THAT ENHANCE INCLUSIVE RURAL DEVELOPMENT

Climate change adaptation strategies focusing on rural development can create opportunities so that people, especially youth, do not feel forced to abandon their agricultural lands. This can lead to better access to social protection, efficient management of resources, and more productive and sustainable food systems. Examples of FAO's work include enhancing decent rural employment opportunities, ▶

FAO'S CONTRIBUTION TO ADDRESSING MIGRATION CHALLENGES UNDER CLIMATE CHANGE

especially for women and youth, promoting off-farm activities, and fostering rural–urban linkages.

FAO also supports the rural poor in their efforts to better manage climate-related risks by promoting social protection increased livelihood support for migrants from rural areas that are most vulnerable to climate risks. These efforts include advocating for seasonal agricultural employment schemes and better working conditions for migrant agricultural workers.

The tools and approaches to support vulnerable rural youth and smallholder farmers include junior farmer field and life schools to train vulnerable rural youth in agricultural, business and life skills, and cash transfer and voucher programmes to benefit smallholder farmers who are particularly vulnerable to climate extremes. Training on gender and climate change in agriculture and food security for rural development tackles the different needs of men and women when supporting the development of climate-resilient rural communities.

ENHANCE RESILIENCE TO WEATHER AND CLIMATE EXTREMES

> Building resilience to extreme weather and climate events means finding better ways to adapt to climate change and at the same time to harness opportunities of migration.

Efforts involve enhancing the coping capacities of communities and institutions to withstand, adapt and transform in the face of climate shocks, and providing essential agricultural livelihood support to enhance resilience in vulnerable and climate-risk-prone areas.

FAO helps rural communities recover after temporary migration caused by weather and climate extremes, while also promoting good practices for disaster risk prevention, preparedness, response and recovery that can help overcome the long-term barriers to sustainable development posed by climate change.

UGANDA

A member of the Agalyawamu farmers group inspecting a fully matured coffee plant. FAO provided support to improve livelihood resilience under the Global Climate Change Alliance: Agricultural Adaptation to Climate Change in Uganda Project. ©FAO/Isaac Kasamani

Preparedness strategies comprise investing in early warning systems, evacuation plans, and implementing measures to ensure adequate assistance and protection for migrants.

Resilience-building initiatives include disaster risk reduction in agriculture sectors aimed at reducing damage and loss due to climate related disasters. These include: "Caisses de résilience", which promote investments in good agricultural practices and the development of institutional and technical capacities; and Safe Access to Fuel (SAFE) – an initiative that helps meet the energy needs of both migrant and host populations in emergency and protracted crisis situations.

UGANDA: STRENGTHENING RESILIENCE OF RURAL POPULATIONS THROUGH AGRICULTURAL ADAPTATION TO CLIMATE CHANGE

Uganda is affected by climate change, as shown by the increasing occurrences of drought, floods and landslides. The country's economy and the well-being of its people are intricately linked to the natural environment, and therefore highly vulnerable to climate change. Against this background, FAO has provided technical support to the Government of Uganda to strengthen the resilience of rural populations, cattle keepers and agricultural production systems, and bolstered the capacities of communities and commercial farmers to cope with climate change.[1]

The incomes and livelihood conditions of vulnerable communities are improved by putting into place market-oriented agriculture and livestock development, diversifying livelihoods and providing access to microcredit. Coffee yields have soared by more than 50 percent; farmers participating in village savings and loan schemes have re-invested about 40 percent of their savings to support climate-change adaptation practices; and new reservoirs have provided water for more than 40 000 cattle during critical dry months of the year.

1 FAO. 2017. *Final Evaluation of the Global Climate Change (GCCA) – Uganda: Agricultural Adaptation to Climate Change project.* Rome. (also available at www.fao.org/3/a-bd692e.pdf).

FAO'S CONTRIBUTION TO ADDRESSING MIGRATION CHALLENGES UNDER CLIMATE CHANGE

INTEGRATE MIGRATION INTO CLIMATE CHANGE POLICIES AND STRATEGIES

> Proactive climate-risk reduction and management approaches are vital to effectively manage the challenges of migration and to benefit fully from development opportunities.

In order to minimize displacement, climate-change adaptation and resilience strategies should explicitly consider the needs of agricultural communities particularly vulnerable to the effects of risks and drivers of climate change.

FAO promotes mainstreaming of migration into agriculture and into climate change policies, strategies and programmes. Ongoing work focuses on technical support to include the agricultural sectors into nationally determined contributions and national adaptation plans. As part of FAO's efforts to support climate change adaptation and mitigation, an analysis of intended nationally determined contributions emphasized the need to strengthen rural settlements, increase capacities to anticipate disasters, and improve rural infrastructure and the availability of decent jobs. ▶

SAFE ACCESS TO FUELWOOD AND ALTERNATIVE ENERGY IN HUMANITARIAN SETTINGS

In times of conflict, climate-related natural disasters or complex emergencies, accessing cooking fuel may further place the lives of affected populations at risk. For populations in emergency and recovery situations, FAO focuses on natural resources management and livelihood activities in order to increase resilience in crisis- and disaster-affected areas.

In South Sudan, FAO provided almost 9 000 fuel-efficient stoves to households in Bentiu and trained women on how to use the stoves and fuel-saving cooking practices. An additional 9 000 stoves were provided to households in Mingkaman and Nimule. The use of these stoves significantly reduced the amount of fuelwood needed to cook meals. In the three camps, 82 percent of recipients reported spending less money on fuel, and 90 percent indicated spending less time collecting fuelwood. In addition, the number of collection trips undertaken by women using the stoves fell from 4 to 2.4 trips per week, reducing the likelihood of women being exposed to protection risks and also easing pressure on the surrounding forests.

GRENADA

Returning to work after Hurricane Ivan. Fishers come back on land after fishing. ©FAO/Giuseppe Bizzarri

ADAPTING TO CLIMATE CHANGE AND IMPROVING RESILIENCE IN SMALL ISLAND DEVELOPING STATES

Climate-related drivers and risks for Small Island Developing States (SIDS) are: sea-level rise, tropical and extra-tropical cyclones, increasing air and sea surface temperatures, and changing rainfall patterns. Sea-level rise poses one of the most widely recognized climate change threats to low-lying coastal areas on islands and atolls. Evidence of migration as a response to climate change is scarce for small islands, and this underpins an urgent need for robust methods to identify and measure the effects of climate change on migration in SIDS. There is strong evidence that adaptation to climate change generates larger benefit to SIDS when delivered in conjunction with other development activities, such as disaster risk reduction and community-based approaches to development.[1]

At the national level, FAO is assisting SIDS to strengthen community preparedness and resilience to climate-related natural disasters by facilitating development of disaster risk reduction/management plans for agriculture sectors. Greater emphasis is placed on prioritizing risk reduction measures and good practices that have synergies of both disaster risk reduction actions and climate change adaptation. At the global level, in support of the implementation of the SIDS Accelerated Modalities of Action Pathway, FAO has facilitated development of a food security and nutrition action programme to accelerate concrete action on food security and nutrition.[2] This programme highlights the importance of climate change adaptation in the context of increased resilience of food systems and communities to climate change, disasters and shocks.

1 IPCC (Intergovernmental Panel on Climate Change). 2014. *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part B: Regional Aspects,* pp. 1613–1654. 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, USA. (available at www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap29_FINAL.pdf).

2 FAO. 2017. *Global Action Programme on Food Security and Nutrition in Small Island Developing States.* Rome. (also available at www.fao.org/3/a-i7297e.pdf).

FAO'S CONTRIBUTION TO ADDRESSING MIGRATION CHALLENGES UNDER CLIMATE CHANGE

PROMOTE COLLABORATIVE ACTIONS TO RESPOND TO CLIMATE-RELATED DRIVERS OF MIGRATION

The international community has a unique opportunity to respond to climate-related drivers of migration through policies, operational programmes, partnerships and advocacy in key international fora. Collaborative efforts will help ensure safe, orderly and regular migration, seizing the multiple benefits for both communities of origin and destination and for the migrants themselves.

FAO and the International Organization for Migration work closely on projects related to natural hazards, climate change, food security and displacement. Both organizations will work together to ensure that the migration, agriculture and climate change nexus is properly reflected and addressed in the global arena.

FAO and the Secretariat for the United Nations Framework Convention on Climate Change collaborate in areas such as adaptation strategies, addressing loss and damage associated with climate change, and sharing knowledge and lessons through the Nairobi Work Programme on impacts, vulnerability and adaptation to climate change.

> In summary, climate change is one of the drivers of rural migration, which is particularly affected by extreme weather and climate events. Facilitation of safe, orderly and regular migration can contribute to agriculture development, improved food security and resilient livelihoods.

To address the challenges and harness the opportunities of migration, climate-change adaptation strategies should promote investments in sustainable agriculture, coordinate institutional and policy responses, and implement concrete actions to enhance the resilience of rural populations. ■

Further reading:

FAO. 2016. *Migration, agriculture and rural development – addressing the root causes of migration and harnessing its potential for development*. Rome. (also available at www.fao.org/3/a-i6064e.pdf).

FAO. 2016. *Migration and protracted crises – addressing the root causes and building resilient agricultural livelihoods*. Rome. (also available at www.fao.org/3/a-i6101e.pdf).

TUNISIA

Coastal fisheries communities are often vulnerable to numerous challenges, but the widespread migration across the Mediterranean in recent years has added economic and environmental stresses. The Blue Hope Initiative supports Mediterranean small-scale fishing communities in transforming vulnerable coastal zones into engines of stability and hope.
©Nikos Economopoulos/Magnum Photo

FAO AND THE GLOBAL MIGRATION GROUP

The Global Migration Group (GMG) is an interagency body that promotes dialogue on migration issues at the international level. Its main priorities are to promote the application of instruments and norms relating to migration, and to encourage the adoption of more coherent, comprehensive and coordinated approaches to the issue of international migration.

FAO joined the GMG in 2014, bringing its technical expertise in agriculture and rural livelihood strategies as a value added to the group. As a member, FAO advocates bringing rural poverty, food security and natural-resource management to the forefront of the international debate over migration. FAO pays particular attention to internal migration movements (including seasonal and circular migration) and the root causes of rural migration. Through the GMG, FAO contributes to normative work at the global level and systematically collaborates with other member agencies on global migration initiatives.

FAO and the International Organization for Migration have been appointed co-chairs of the GMG in 2018. This will ensure that the GMG makes its collective expertise available to technically support the intergovernmental negotiations for the Global Compact for Safe, Regular and Orderly Migration by the end of 2018.

MIGRATION, AGRICULTURE AND CLIMATE CHANGE

Reducing vulnerabilities and enhancing resilience

Migration is at the forefront of international discussions on social and economic development. Food and agriculture are central to people's well-being and linked to why many people migrate, especially where existing hardship is compounded by climate-related impacts. However, the connections between migration, agriculture and climate change are often overlooked or ignored.

The Food and Agriculture Organization of the United Nations (FAO) promotes sustainable agriculture, climate change adaptation and resilient rural livelihoods as an important part of the global response to the current migration challenge and as a contribution to safe, orderly and regular migration. This booklet further explores the nexus between migration, agriculture and climate change and shows how sustainable agriculture and rural development can both help tackle the challenges and create opportunities in the face of growing global migration.

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