



Youth in Bor, South Sudan, return home after a long day repairing and building dikes to protect against heavy flooding caused by rains. © IOM 2020

HUMAN MOBILITY AND HEALTH IN THE CONTEXT OF CLIMATE CHANGE, ENVIRONMENTAL DEGRADATION AND DISASTERS

Climate change is happening faster and with more complex and intersecting impacts than we are prepared for. It is the defining crisis of our times. Therefore, the world needs to act now – individually and collectively – to stop temperature rise and to ensure sustainable development for all. Today, the number of people migrating because of the adverse impacts of climate change, environmental degradation and disasters on their livelihoods, daily lives and health is rising and will continue to do so in the future, if adaptation and mitigation measures fail to meet the scale of the crisis.¹ At the same time, mobility is a social determinant of health and can be a contributing factor to the transmission of diseases.

Climate change threatens to undermine progress in global health, including achievement of universal health coverage (UHC), along with poverty reduction and development more broadly. Changes in climate will significantly affect agricultural and food production, essential health and other infrastructure, livelihoods, human labour capacity, behaviour and physical, mental and social well-being – with variations intensifying inequalities within and between countries.² Indeed, climate change is expected to exacerbate climate-related health hazards, including communicable disease outbreaks, barriers to accessing health services and premature deaths due to malnutrition, heat stress, increased propagation of

water-borne diseases (e.g. cholera), vector-borne diseases (e.g. malaria and dengue) as well as zoonotic diseases (e.g. Ebola virus disease (EVD) and COVID-19), disruption to food and water systems and extreme events including floods, storms, wildfires and droughts, among others. Between 2030 and 2050, climate change is expected to cause 250,000 additional deaths per year, with direct damage costs to health estimated at USD 2-4 billion/year by 2030.³

Moreover, in 2022 alone, there were 32.6 million new internal displacements, the highest number ever recorded, triggered mainly by weather-related hazards, including floods, storms and droughts – more than those related to conflict and violence. This includes, for example, drought in the Horn of Africa, floods in Pakistan and intense cyclones in Bangladesh and the Philippines – with major impact on health and human mobility. In addition to contributing to displacement, climate change increases food insecurity through the negative impacts of heatwaves, droughts and heavy rainfall on agriculture, livestock and fishing industries, among other factors. Three-quarters of countries experiencing food insecurity also have internally displaced populations; severe food insecurity compounds the vulnerabilities of displaced populations, with significant health implications – particularly among children and pregnant and lactating women.⁴

¹IOM (2023). *Climate Change and Human Mobility: Quantitative evidence on global historical trends and future projections*. IOM, Berlin.

²IOM (2023). *Climate Change and Human Mobility: Quantitative evidence on global historical trends and future projections*. IOM, Berlin.

³IPCC (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegría, M. Craig, S. Langsdorf, S. Lössche, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY. | WHO (2021). *Climate Change and Health Fact Sheet*. WHO, Geneva.

⁴Internal Displacement Monitoring Centre – IDMC (2023). *Global Report on Internal Displacement 2023: Internal displacement and food security*. IDMC, Geneva.

The above examples illustrate the enormous impact of climate change and disaster-induced mobility on public health and economies. Yet, the individual and collective impact on migrants is often not accounted for: migrants and displaced populations have specific physical and mental health needs linked to their exposure to environmental and climate impacts. For instance, they often experience significant barriers to accessing essential health and social protection schemes or receiving information in a language they understand. This is rooted on the basis of migration conditions, discrimination, exploitation, linguistic and cultural barriers, lack of documentation and other circumstances.

The increasingly scarce opportunities and resources, such as water and crop yields, resulting from climate and environmental impacts have compounded effects on migrant populations in conflict and disaster-prone areas, making them even more vulnerable, and shape the conditions of relocation. Resilient health systems and infrastructures are needed to absorb a potential increased demand for health services and decreased supply of health-care workforce. At the same time, health systems themselves have an impact on the environment, accounting for 1 to 5 per cent of the total global human environmental impact.⁵ Reducing emissions and optimizing efficiency and environmental performance from the supply of health services is essential to reducing the negative effects of health-care delivery on climate change.

<p>Already, changing climatic patterns are facilitating the spread of Chikungunya, Zika, Japanese encephalitis and Rift Valley Fever, and increases in temperature, heavy rainfall, flooding and drought have been associated with an increase of diarrhoeal diseases.⁶</p>	<p>In projected scenarios, losses in agricultural yields due to climate change will put an additional 8–80 million people at risk of hunger by 2050, with the majority living in Africa and Asia.⁷</p>	<p>More than 216 million people may be mobile by 2050 in absence of decisive climate action. Up to 80% of these movements could be averted or safer.⁸</p>	<p>Populations affected by river flooding will increase by 120-400% with 2°C and 4°C warming, with worldwide flood-related fatalities expected to double in the coming decades.⁹</p>
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The communities who live in the tropical atolls are among the most economically, socially and physically disadvantaged populations in the Autonomous Region of Bougainville, which faces coastal erosion due to the combined impacts of sea level rise and environmental degradation. © IOM 2016/Muse Mohammed

⁵Hensher, M., & McGain, F. (2020). Health Care Sustainability Metrics: Building A Safer, Low-Carbon Health System: Commentary Examines How to Build a Safer, Low-Carbon Health System. *Health Affairs*, 39(12), 2080-2087.

⁶IPCC (2022). *Climate Change 2022: Impacts, Adaptation and Vulnerability*. Contribution of Working Group II to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [H.-O. Pörtner, D.C. Roberts, M. Tignor, E.S. Poloczanska, K. Mintenbeck, A. Alegria, M. Craig, S. Langsdorf, S. Löschke, V. Möller, A. Okem, B. Rama (eds.)]. Cambridge University Press, Cambridge, UK and New York, NY.

⁷IOM (2023). *Climate Change and Human Mobility: Quantitative evidence on global historical trends and future projections*. IOM, Berlin.

⁸Clement, Viviane; Rigaud, Kanta Kumari; de Sherbinin, Alex; Jones, Bryan; Adamo, Susana; Schewe, Jacob; Sadiq, Nian; Shabhat, Elham (2021). *Groundswell Part 2: Acting on Internal Climate Migration*. World Bank, Washington, DC.

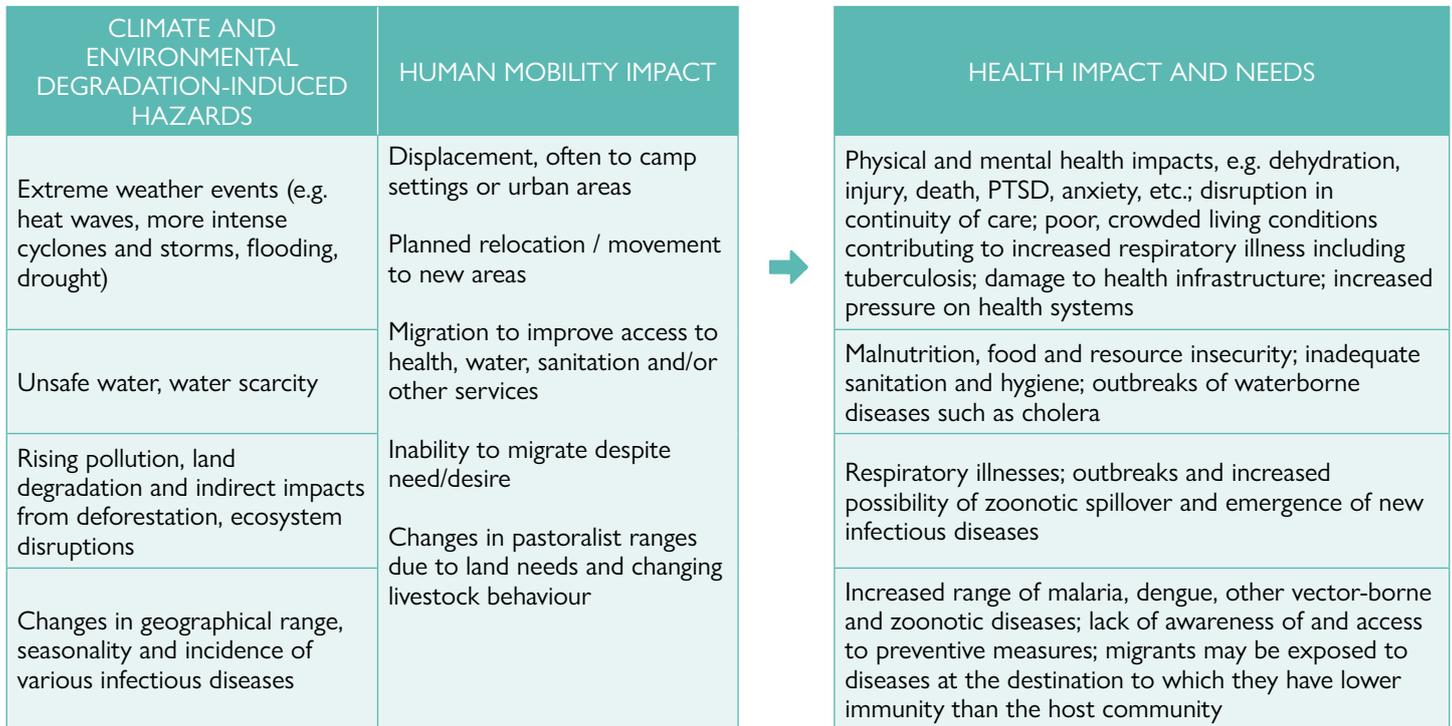
⁹IOM (2023). *Climate Change and Human Mobility: Quantitative evidence on global historical trends and future projections*. IOM, Berlin.

IOM VISION

IOM, as the UN Migration Agency, has an imperative to act on this triple nexus of health, climate change and mobility: [Its Institutional Strategy on Migration, Environment and Climate Change 2021–2030](#) outlines a comprehensive, evidence and rights-based approach to migration in the context of environmental degradation, climate change and disasters, for the benefit of migrants and societies. Together with IOM's engagement in migration health, particularly focusing also on resilience, sustainable development and empowerment, it provides the rationale for action, both at policy and country-level.

IOM provides solutions:

- >> **For people to move:** IOM manages migration in the context of climate change, environmental degradation and disasters due to natural hazards. This includes addressing the physical and mental health needs of those needing to move, ensuring they are fit and able to do so, for example through health assessments, vaccinations and COVID-19 testing prior to international journeys.
- >> **For people on the move:** Assisting and protecting migrants and displaced persons in the context of climate change, environmental degradation and disasters due to natural hazards includes supporting their equitable access to quality health-care services. It also involves, for example, mitigating public health crises stemming from natural hazards and protecting migrants from diseases including zoonoses such as COVID-19 and EVD. IOM engages in activities to prepare for and respond to disease outbreaks and shocks in high risk locations along the mobility continuum and at points of entry, including integrated health and water, sanitation and hygiene (WASH), disease surveillance, community engagement and population mobility mapping (PMM).¹⁰
- >> **For people to stay:** Making migration a choice by building resilience and addressing the adverse climatic and environmental drivers that compel people to move helps ensure that people are able to access longer-term health care and support. IOM works to strengthen health system capacities and climate resilience in close cooperation with national and local stakeholders by mitigating exposure pathways and vulnerability factors to better support uninterrupted provision of health services in the context of shocks to allow for continuity of care. Initiatives include, for example, training health workers and improving health infrastructure, including climate-resilient health facilities, integrated with WASH and energy innovations.



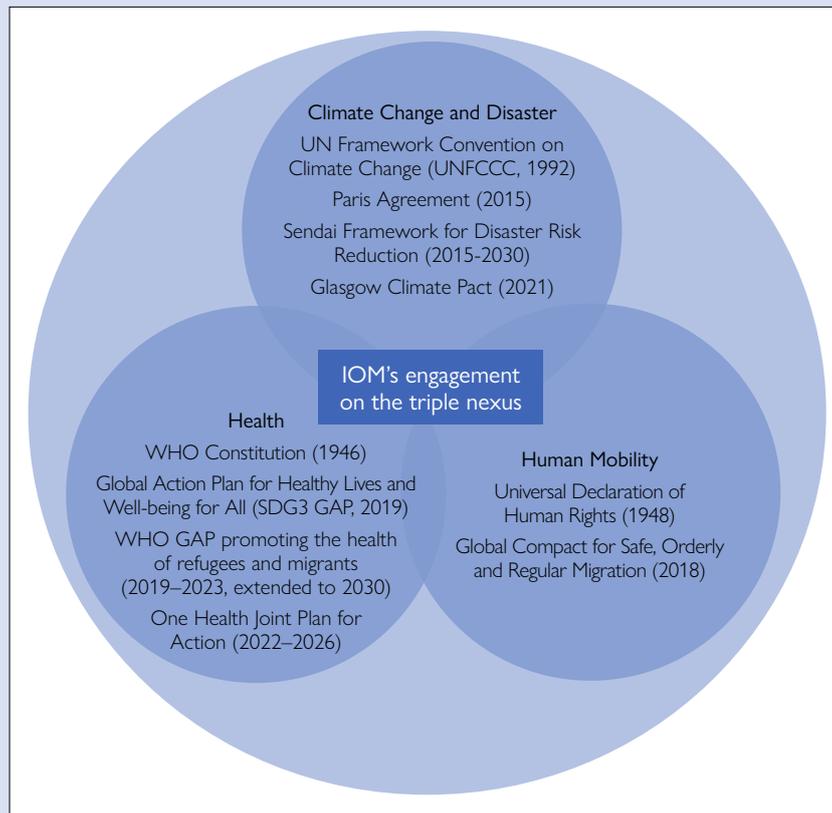
¹⁰IOM (2021). Population Mobility Mapping Information Sheet. IOM, Geneva.

Addressing the Triple Nexus: Climate Change – Human Mobility – Health

Sustainable development is at the heart of the triple nexus of climate change, environmental degradation and disasters, human mobility and health. Achieving the Sustainable Development Goals (SDGs) requires an integrated response cutting across the 17 Goals of the [2030 Agenda for Sustainable Development](#) to address this interdependent nexus.

At the global level, countries have committed to act on climate change and disasters, human mobility and health through several policy instruments, as illustrated in Figure 1. The intersection of these policy domains however remains a challenge, and more efforts are needed by governments to implement actions addressing not only two of these areas but the triple nexus.

Figure 1. Triple Nexus Policy Agreements



The [Global Compact for Safe, Orderly and Regular Migration \(GCM\)](#) in its Objective 2 aims to “minimize the adverse drivers and structural factors that compel people to leave their country of origin”. Signatories of the GCM who agreed to invest on this objective also included action on climate change mitigation and adaptation.¹¹ Adaptation and resilience strategies to tackle climate change-related disasters will help promote safe, orderly and regular migration as well as sustainable development, which includes building climate resilient health systems, ensuring access to health services and promoting the physical, mental and social well-being of all populations.

As policies are formulated and committed to at national, regional and global levels, they need to be followed up and implemented. At country-level, the triple nexus impacts on populations on the move and host communities. When addressed coherently and in a coordinated manner, it can change people’s lives. IOM has worked across all regions in different settings to create change and impact.

BANGLADESH – Health-care infrastructure and sustainable energy

Cox’s Bazar, Bangladesh, struggles to provide reliable power to its residents and more than 900,000 Rohingya refugees are hosted in informal camps in spontaneous settlements. To improve conditions for the affected populations, IOM explored alternative energy sources; field teams have harnessed solar energy to power facilities in and outside of the camps to meet the urgent health and WASH needs of the refugees and host communities. To date, 27 IOM facilities in Cox’s Bazar are equipped with solar photovoltaic systems, including four health facilities as well as several women and girls safe spaces, along with water supply networks. This is facilitating the reliable delivery of primary, sexual and reproductive health services, as well as services to address gender-based violence, COVID-19 and mental health and psychosocial support (MHPSS) needs. IOM has also constructed 100 climate resilient community clinics in Cox’s Bazar to improve health services for more than 1.5 million people, utilizing green energy and state-of-the art waste management systems.



Solars panels behind IOM’s health post in Balukhali Rohingya refugee settlement. © IOM 2018/Olivia Headon

¹¹ IOM (ND). 10 Key Takeaways from the GCM on Environmental Migration. IOM, Geneva.

KYRGYZ REPUBLIC – Air quality and health impacts in migrant settlements

Air pollution is a pressing public health issue in the big cities of Kyrgyz Republic, which is exacerbated by the effects of climate change. The capital, Bishkek, which is the largest hub for internal and international migrants, has repeatedly ranked as the most polluted in the world. IOM launched a project in the Kyrgyz Republic to contribute to the effort against air pollution and adoption of the WHO Healthy City Vision approach in Bishkek. The project has enhanced the awareness of migrants and government and non-government stakeholders on the health impacts of air pollution to reduce vulnerabilities of migrants and communities and support development of a migrant-inclusive Healthy City Vision programme. The project supported an assessment on the impact of air quality on residents' health; provided information using various education platforms and communication channels, including social media and community events; provided training in 30 localities addressing air pollution, green initiatives and community projects, including the differential impacts of air pollution on the health of male and female migrants, migrant children and so forth; and inspired environmental activism through support to small community health projects



Smog over the city of Bishkek, Kyrgyzstan. © IOM 2022/Mikhail Dudin

among migrants and community members who have undergone these trainings. Residents have begun campaigns and are working to bring their local-level projects up to a city-wide scale.

BRAZIL – Capacity strengthening in border regions with high levels of climate-change related migration using a One Health approach

In the Brazilian Amazon, climate change and deforestation have led to increased migration of indigenous groups. The area is often a transit point for incoming migrants from other countries in Latin America. IOM helps to build partnerships between local, state and federal governments, as well as civil society organizations, and to strengthen capacities of border municipalities. It contributes to addressing the compounded challenges posed by migration, climate change and health issues, and increases access of migrants to essential health services in border municipalities. IOM uses a One Health approach¹² to strengthen policy coherence among the migration, environment and climate change and health areas; enhance capacity of the national public health-care system to face challenges related to climate change and international migration; and strengthen community resilience in border municipalities, including cross-border Indigenous peoples and other traditional communities. The project generates, among others, new evidence on health needs and climate-change related adverse drivers of mobility across seven official border posts; supports the Brazilian national health-care system in border municipalities to prepare for challenges related to migration and climate change, including extreme events and emerging zoonoses via technical



IOM staff handling over medicines to patients from Mobile Health Unit. © IOM 2023/Gema Cortés

support; and contributes to increased resilience of cross-border communities by increasing awareness of prevention and treatment of climate change-related health risks and access to rights, and providing training, equipment and supplies for identification and treatment of diseases.

For more information on the above activities please contact the Migration Health Division at mhddpt@iom.int and the Migration, Environment, Climate Change and Risk Reduction Division at mecchq@iom.int.



¹² WHO (2022). *One Health Fact Sheet*. WHO, Geneva.