Disaster Risk Reduction

Overview

The frequency and intensity of natural hazards is increasing, leading to the escalation of disasters and contributing to conflicts. According to the Emergency Events Database, in 2021 alone there were 432 disasters related to natural hazards worldwide, accounting for 10,492 deaths, affecting 101.8 million people and causing approximately USD 252.1 billion of economic losses. In the same period there were 23.7 million new displacements in the context of disasters, including those not related to climate. Although most people displaced by disaster move temporarily – often on a pendular basis or as part of pre-emptive evacuation – and usually remain close to home, these population movements have significant long-term demographic and socioeconomic implications. Looking ahead, the scenarios are not encouraging. The World Bank estimates that an additional 216 million people could become internal climate migrants by 2050 if efforts are not made to strengthen climate action and development investments.

Disaster displacement can have devastating cascading effects, including the loss of lives, property and livelihoods. It can also increase insecurity, which further influences people's mobility decisions and shapes the pattern of protracted crises. In areas of destination, unmanaged population flows lead to overcrowding and limit access to services, housing and livelihoods. In areas of origin, displacement results in a loss of adaptive capacity, reverses development gains and contributes to insecurity – which is experienced most acutely by women and children. Disasters, climate change and environmental degradation also increase the risk of human trafficking and raise protection issues for children, women and those crossing borders.

Disaster Risk Reduction (DRR), climate change adaptation and resilience building interventions aim to reduce and mitigate the risk of displacement and increase the resilience of communities to cope with disasters. More broadly, DRR is defined as the concept and practice of reducing disaster risks through systematic efforts to analyze and manage the causal factors of disasters, including through reduced exposure to hazards, lessened vulnerability of people and property, wise management of land and the environment, and improved preparedness for adverse events.

DRR is closely linked to building the resilience of crisis-affected people, which IOM has defined as the capacity of a system (an individual, household or community) exposed to pressures to avoid, resist, and recover from their impacts in an efficient manner, without compromising its essential basic structures and functions. Careful consideration of risks and incorporation of risk-reducing and resilience-building measures into the broader emergency response effort need to begin at the earliest possible stage, generally from the very outset of the humanitarian response and, where possible, build on pre-existing initiatives.

Information from UNDRR on hazard types

Key Points

- Disaster Risk Reduction (DRR) and Climate Change adaptation interventions aim to reduce and mitigate the risk of disaster displacement and increase the resilience of communities to cope with disasters.
- IOM promotes DRR, Adaptation and Resilience building through standalone activities and as a cross-cutting measure that is incorporated into multiple sectors.
- In designing and delivering DRR and resilience-based programming in crisis contexts, IOM will need to actively engage with and seek technical support from relevant national and local authorities to ensure coordination and complementarity of initiatives and build on existing DRR programming, policies and coordination architecture.

Key Considerations

For some groups, mobility as a strategy to respond in disaster is not a viable option. Significant physical and financial resources are required to move, and cultural obstacles (e.g. discrimination based on gender or ethnicity), the lack of supporting social networks and the absence of adequate infrastructure can prevent people from moving.

So called 'trapped populations' – that is, the most vulnerable groups, who have insufficient means for coping with a disaster and are forced to remain in areas exposed to hazards – represent a significant humanitarian challenge in crisis response. Global

environmental changes are expected to further exacerbate this vulnerability, both by eroding the resource base required for moving and by increasing the incidence of natural hazards. IOM's emergency response needs to pay particular attention to identifying, assisting, and reducing the risk exposure of trapped populations.

Relevance to IOM's Emergency Operations

Crisis-affected populations are frequently concentrated in hazard-prone areas, climate change hotspots, and in places characterized by exposure to security risks. Therefore, crisis-affected populations face a great deal of risk to secondary or recurrent displacement that perpetuate and prolong crisis and generate new protection risks. At the same time, local communities begin a recovery process immediately after a crisis event and often adopt strategies that expose communities to the same risk conditions that caused displacement in the first place, thereby increasing the likelihood of them being affected by shocks and stresses in the future.

Further, starting risk sensitive programming early on provides an entry point to integrate DRR and resilience-based principles more comprehensively into the longer-term recovery process to help build back better and safer, address underlying risk factors, and thereby enable the strengthening of community capacity to respond to future hazard threats and risks. In the context of IOM's emergency response, IOM should promote DRR, adaptation and resilience building through standalone activities and as a cross-cutting theme that is incorporated into multiple sectors across the response, wherever relevant and technically feasible.

Within IOM, DRR programming at HQ level is now located within the Migration, Environment, Climate Change and Risk Reduction Division (MECR). DRR works closely with the emergency preparedness, camp coordination and camp management, shelter support, WASH support, environmental sustainability units, as well as the Transition and Recovery Division and the Global Data Institute.

Coordination

In designing and delivering DRR and resilience-based programming in crisis contexts, IOM will need to actively engage with and seek technical support from relevant national and local authorities in ensuring coordination and complementarity of initiatives, and build on existing DRR programming, policies, and coordination architecture. Given the multi-sectoral nature of DRR and resilience-based work, it will be important that programming operates within inter-agency processes and works in conjunction with civil society, local NGOs, and the private sector.

Of specific relevance for coordination around DRR and resilience at the global level, IOM is a signatory to the UN Plan of Action on Disaster Risk Reduction for Resilience, a mechanism to help coordinate and accelerate progress of the Sendai Framework for DRR targets by all the main DRR actors in the UN and international system at global and national levels. IOM leads the global Camp Coordination and Camp Management (CCCM) Cluster for disaster displacement. IOM contributes to annual organization reporting to the UN Plan of Action.

In 2022-23, IOM is also working to support the Mid-Term Review (MTR) process of the Sendai Framework for Disaster Risk Reduction including via regional interview processes and through a centralized written submission. Under the UN Senior Leadership Group for DRR for Resilience, IOM is also a member of a task team to develop a series of recommendations from Sendai MTR submissions that will inform the revised workplan of the DRR Focal Points Group. Presently, IOM is working with UNDRR, OCHA, UNICEF, UNDP, FAO and UNHCR on mainstreaming DRR into humanitarian action inclusive of the roll out of risk informed planning workshops in countries with humanitarian response plans and working with ODI on a financing study on access to DRR finance in South Sudan and Mozambique.

More information on the Sendai Midterm Review Process

In addition, IOM is a party to the Inter-Agency Standing Committee's sub-group on climate change, where participant organizers seek to establish common messages about the role of humanitarians within the climate crisis specifically for dissemination in high level global events inclusive of COP28 in UAE in November/December 2023 and within the scope of agency submissions to the UNFCCC.

Operations

Low-cost, community-owned solutions: a multi-dimensional approach to disaster risk

management

The impacts of climate change on human mobility have particularly significant implications for States with limited resources. This key consideration informs the response of the Organization, which has developed an innovative approach to programming involving low-cost prevention and preparedness measures that are selected and owned by communities. The goal is to provide communities with advance warning of incidents that could rapidly become disasters, ensuring that they can make informed decisions to move or shelter in place in order to protect their families and property.

IOM supports communities to identify environmental risks and community actions that could lead to disasters. These efforts include work on ecosystem restoration alongside communities to identify key risk behaviours that have direct negative impacts on the environment and living conditions. For example, the Organization is actively contributing to reforestation to combat desertification, and to the restoration of coastal mangrove forests to reduce the impacts of coastal flooding. It also supports work on drainage systems in urban and peri-urban areas affected by flooding, rapid population growth and limited mitigation infrastructure in cities such Dakar, Freetown, Port-au-Prince, Bangui, N'Djamena, Dili and Beira (Mozambique).

In South Sudan, IOM is using community-based disaster risk management to foster resilience and improve the ability of communities to sustainably prevent and respond to flooding. This approach centres on strengthening knowledge and the capacity for an effective community response to climate-related shocks, while enhancing resilience through strategic infrastructure interventions. By building dikes and other protective infrastructure to address the consequences of more regular and intense flooding along the Nile, it has been possible to recover hundreds of hectares of land – which is home to tens of thousands of people – from flood waters. As a result, local residents have been able to return and quickly resume their livelihood activities, which include farming as well as market-based activities. Land reclamation programmes have also helped curtail outbreaks of water-borne diseases by removing standing water from communal areas.

In Somalia, competition over access to land and water is the structural driver of most violent conflict. Climate change and environmental degradation are further reducing already scarce water resources, forcing communities to migrate and generating confrontations over diminishing yields. Through multisectoral, multidisciplinary collaboration, IOM, the United Nations Environment Programme and the Stockholm International Peace Research Institute are implementing and advancing policy through a pilot project on breaking the climate–conflict cycle in Galmudug, Somalia. The aim is to reduce displacement and conflict in target locations through tangible investments in water infrastructure and practical innovations for water and energy capture in the agropastoral sector, bolstered by sustained dialogue, conflict mediation and enhanced natural resource management.

Adequate preparedness will be essential to ensuring that mobility can be tapped as a viable life-saving strategy for people exposed to continued risk. Preparedness will help ensure that people can make informed choices in the event of crisis and remain mobile for the shortest period possible in order to facilitate a swift recovery.

IOM's emergency response can incorporate community-based preparedness measures in displacement sites as well as in host/return communities in several ways:

- Support hazard monitoring and vulnerability assessment to expose local risk conditions and capacities.
- Promote participation in disaster management and preparedness planning: establish roles & responsibilities of local disaster preparedness organizations; support evacuation planning and risk mapping; assist in the identification of escape routes; prepare transportation arrangements, evacuation sites and stockpiling.
- Promote periodic disaster preparedness, response and recovery exercises - including evacuation drills, training, and awareness-raising.
- Support communication systems and infrastructure for enhanced disaster coordination.
- Capitalize on indigenous knowledge, techniques and capacity to define and enhance understanding of disaster management actions.

At COP27 in November 22, the UN Secretary-General launched the Early Warning for All Initiative (EW4ALL) to extend universal coverage to multi-hazard early warning systems to 2027. There are 4 pillar working groups as follows:

Pillar Group 1 - UNDRR lead - Disaster Risk Knowledge

Pillar Group 2 - WMO lead - Observations & Forecasting

Pillar Group 3 - ITU lead - Dissemination & Communication

Pillar Group 4 - IFRC lead - Preparedness & Response

IOM is a party to all four pillars and will support the amplification of global level work to national and community-level contexts specifically through the delivery of 'last mile' community level risk dissemination and preparedness and response actions under Pillars 3 and 4. EW4ALL will cover the following hazards: floods, heatwaves, drought, cyclones, and storms (focusing on these hydromet hazards is anticipated to also benefit some geo-physical hazards like tsunamis and volcanic eruptions).

Strengthening early warning/early action is an important component of preparedness. By supporting access to timely and accurate information on hazards, exposure, and vulnerability IOM can help communities to plan for and roll out an efficient response. Enhancing communication and information management in crisis contexts - in particular between the affected population and concerned authorities - will enable better risk identification and facilitate informed choices.

Given the dramatic rise in humanitarian needs, cost-effective, locally owned solutions are more critical than ever. To this end, IOM is strengthening a variety of early warning systems in multiple countries around the world. The Displacement Tracking Matrix (DTM)'s Transhumance Tracking Tool (TTT) combines different tools including Flow Monitoring, early warning systems, return surveying and drought modelling. As of early 2023, IOM is working with a region-wide network of partners, the regional pastoralist organization Reseau Billital Maroobe (RBM), which represents 750,000 herders in 12 countries in West and Central Africa. IOM currently implements 13 projects in 11 countries, integrating the Transhumance Tracking Tools in West and Central Africa and most recently Somalia, with most programming being cross border in nature. The TTT has mapped out the movements of 10,000s of herders and millions of livestock in an effort to share early warnings related to these movements including movement schedules and routes/destinations and vulnerabilities to enable conflict resolution and management between affected communities and herder groups as a changing climate has impacted these movements as water and feed become more scarce. Between 2020-2022, over 6,000 real time alerts were sent via IOM's Displacement Tracking Matrix programme and its partners related to these movements to inform community-based conflict prevention.

In Bangladesh, another early warning system has been developed by IOM and the Food and Agriculture Organization (FAO) to tackle rainfall-triggered landslide risks affecting Rohingya refugees in the Cox's Bazar district, while support has also been provided to host communities under the Government's Cyclone Preparedness Programme. Other examples of IOM's work in this area include the establishment of disaster management committees linked to a national disaster management information system in 25 provinces in Afghanistan, and the development of early warning systems in the Federated States of Micronesia, Papua New Guinea, the Philippines and Vanuatu.

Since June 2021, an upsurge in armed attacks by gangs has caused widespread insecurity in Port-au-Prince Metropolitan Area (Zone Métropolitaine de Port-au-Prince – ZMPP in French) and displaced tens of thousands of people. Insecurity in the capital, which has accelerated since the assassination of President Jovenel Moïse in July 2021, has exacerbated the already difficult economic and political conditions facing Haiti.

To provide a holistic view of the displacement situation in the ZMPP, the Haitian Directorate General of Civil Protection (DGPC) and DTM, launched regular site and neighbourhood assessment activities in August 2022. From October 25 to November 23, 2022, data was collected by telephone from key informants. The results indicate that 155,166 people (39,623 households) were displaced in the ZMPP as of November 23, 2022, representing a 77 percent increase from Round 1. This is primarily due to the worsening security situation in the ZMPP observed during September 2022. Via phone surveys IOM has built a displacement early warning system to pre-inform humanitarian stakeholders about the scale of needs and specific vulnerabilities within neighbourhood population groups that are likely to be displaced by gang warfare as well as delivery on the timely assessment of displacement locations. Via the provision of displacement alerts, security perception information, service impacts, and mobility restrictions, IOM is supplying information to conflict affected neighbourhoods in an effort to inform their mobility decisions out of harm and to areas of the city where supportive services can be received by humanitarian stakeholders like IOM and local government authorities.

Example activities on early warning/early action include:

- Promote small-scale early-warning and information dissemination systems (e.g. community-based drought and floods monitoring) based on local capacities and technologies; and on community knowledge of relevant hazards and risks, warning signals and their meanings, and actions to be taken when warnings are issued.
- Promote risk-awareness and readiness to react to warnings; address hindering factors for early warning/early action

(e.g. linguistic and cultural barriers; obstacles to mobility; and issues of trust).

Early Warnings for All Initiative

Planned Relocation

IOM programmes in many situations in which no in situ risk reduction intervention is viable. In such situations, planned relocation is an option to pursue as a means of reducing the exposure of vulnerable populations to hazards. IOM's experience in three core areas of mobility management - population movements; land, property and housing; and livelihoods and reintegration - enables the organization to bring a distinct approach and added value in supporting and implementing planned relocation programmes in crisis contexts as a prevention and risk reduction strategy.

Example activities:

- Identify persons in need on the basis of their particular needs, risk exposure, and other characteristics; identify potential, suitable, settlement sites.
- Establish information dissemination, consultation, and participation mechanisms that enable relocated persons and other affected populations to contribute, have ownership of, and make informed choices about, each stage of the relocation process.
- Plan and oversee the safe, dignified, and timely movement of persons and their belongings and assets to settlement sites.
- Provide support to local integration and access to services; support resumption or creation of livelihood opportunities in resettlement sites; assist on issues related to land, property and reparations.

For further reference please see:

- Guidance on Protecting People from Disasters and Environmental Change through Planned Relocation
- TOOLBOX: PLANNING RELOCATIONS TO PROTECT PEOPLE FROM DISASTERS AND ENVIRONMENTAL CHANGE
- Environmental Migration, Disaster Displacement and Planned Relocation in West Africa
- Finding Safer Ground: Planned Relocation Policies and Processes in The Caribbean

Environmental Protection

There is a strong link between environmental degradation and increased risk from natural hazards. Poor management of natural resources and destruction of the eco-system make disasters and secondary displacement more likely. Displaced people depend on ecosystems in the host community or around displacement sites to meet their basic needs and for absorbing their waste, potentially impacting negatively the environment upon which local communities already depend.

Emergency responders will therefore need to understand and be sensitive to the impacts of displacement and associated crisis response activities on the hosting environment. Apart from generating new disaster risks, environmental degradation can also spur conflict between newcomers and the host community resulting from dwindling resources if not properly anticipated and managed. IOM emergency response should, in this light, respect the limit of the carrying capacity of host ecosystems and incorporate environmental protection or renewal measures as needed.

Example activities:

- Bring together host and displaced communities into risk assessment and resource sharing planning processes to mitigate tensions over diminishing natural resources.
- Identify and prevent/mitigate environmental risks and impacts when supporting agricultural activities or livelihoods dependent on intense resources extraction.

- Identify and prevent/mitigate environmental risks when planning and managing displacement sites, from the moment a site is selected until after it has been responsibly closed.
- Support measures that manage and replenish natural resources through water conservation, waste management, environmentally sustainable farming, and grazing practices and structural protection measures (e.g. building protective stone and earthworks to prevent rapid water run-off) amongst others.
- Implement environmental awareness-raising and training initiatives targeting displaced people.

Disaster Displacement Data

Internal displacement data provides vital insights, guiding the work of humanitarian, development and peace actors. Indeed, understanding the scale and characteristics of internal displacement within a country helps prevent, prepare for and respond to crises. IOM is therefore leveraging its global leadership on displacement data to ensure effective early warning and early action by providing crucial information regarding internally displaced persons. The IOM Global Data Institute, which houses the Displacement Tracking Matrix, is expanding its data collection and analysis work on climate change. The Displacement Tracking Matrix, the world's largest repository of displacement data, is operational in more than 100 countries and tracked over 31 million displaced persons in 2021.

Data scarcity in many hazard-prone areas is a major and pressing challenge, requiring investment in national hydrological and meteorological services. Gaps in available resourcing, reporting and data collection systems represent additional areas to be addressed by IOM, which works alongside communities in vulnerable locations to understand historic, current and changing conditions, collect data and assess the accuracy of forecasts. This approach supports the improvement of monitoring and warning systems, and builds dialogue and trust between stakeholders in demonstrating how forecasts can guide early action.

Given the lack of displacement-related metrics among the indicators that countries use to monitor progress of the Sendai Framework for Disaster Risk Reduction 2015–2030, IOM and the Internal Displacement Monitoring Centre have launched a joint project to develop a set of indicators for monitoring disaster displacement, its impacts and related risks. Similarly, to cover the gap in indicators to monitor implementation of the Global Compact for Safe, Orderly and Regular Migration, IOM and the Platform on Disaster Displacement have developed an indicator framework to assess the progress made by States on implementing the Global Compact objectives related to disasters, climate change and environmental degradation. This framework has already been piloted to produce a baseline analysis for 21 countries. Both sets of indicators are intended to support countries in measuring progress in relation to their commitments.

Information on IOM-IDMC Disaster Displacement Indicators programming

DRR as a cross-cutting theme

Sector-specific DRR and resilience-building measures will also need to be incorporated into the emergency relief sectors of the MCOF, wherever feasible. Table 1 provides examples of such measures within camp management and displacement tracking (MCOF Sector 1); shelter and non-food items (MCOF Sector 2); health support (MCOF Sector 4); and land and property support (MCOF Sector 9).

Camp management and displacement tracking	Shelter and non-food items	Health support	Land and property support
Ensure safe displacement sites by identifying and mapping hazards exposure	Ensure multi-hazard resistant emergency shelters in order to minimize disaster risk	Strengthen health systems; enhance access to water, sanitation and hygiene facilities; and increase awareness of health risks and prevention measures	Find, secure and recover land records

Camp management and displacement tracking	Shelter and non-food items	Health support	Land and property support
Carry out environmental impact assessments at displacement sites; identify resources, e.g., ground water and forests, that need to be protected; develop community-based environmental action plans and establish and train environmental committees with representatives from host and camp communities	Use transitional shelter design as a platform for communicating disaster risk reduction techniques, that includes host communities	Ensure that key health facilities are safe from hazards and have capacity to address the increased demand for services in crisis	Incorporate questions on land tenure in a rapid livelihoods assessment
Ensure that the procurement and disposal of materials necessary for constructing settlements and the provision of water, sanitation and energy facilities considers environmental impact	Plan sites by taking into account the location of alarms, such as a bell or siren, as well as muster points, routes for evacuation and evacuation areas	Identify vulnerable individuals whose health status represents an obstacle to mobility and assist them in managing their relocation or evacuation	Undertake rapid assessment of damage and loss to cadastral infrastructure and land records
Ensure waste collection and disposal, water conservation and the systematic use of energy efficient stoves	Provide retaining walls, drainage and other engineering works in shelter sites to prevent landslides	Assist contingency planning for health services and commodities with health authorities and other stakeholders	Undertake land availability and hazard risk mapping
Ensure that, upon closure of temporary settlements, any waste produced is disposed of responsibly and the sites where these settlements were located are environmentally restored	Provide training of authorities, labourers, contractors, and humanitarian organizations in hazard-prone settlements to understand and incorporate risk reduction into shelter response	Promote disaster risk awareness among health workers	Educate people living in hazard-prone areas about land rights
	Build on/develop existing community preparedness capacity in planning and implementing NFI distributions		Provide access to information, legal counselling and representation in relation to land and property rights
			Manage community conflicts stemming from land distribution, by promoting dialogue and participatory decision-making processes

Camp management and displacement tracking	Shelter and non-food items	Health support	Land and property support
			Voluntary resettlement of people in hazard-prone areas where appropriate

IOM's Role

Partnerships

IOM is an active member in multiple DRR-related inter-agency partnership efforts. These include but are not limited to:

- The Capacity for Disaster Reduction Initiative (CADRI) where IOM is the global co-chair with UNDP and also the co-facilitation agency in West and Central Africa and Eastern and Southern Africa.
- The Center of Excellence for Climate and Disaster Resilience (COE)
- Risk-Informed Early Action Partnership (REAP)
- Camp Coordination Camp Management Cluster (CCCM)
- Climate Risk and Early Warning Systems Initiative (CREWS)
- The UN Senior Leadership Group for DRR for Resilience and the UN DRR Focal Points Group
- The Platform on Disaster Displacement
- The Secretary General's Action Agenda on Internal Displacement - the Solutions Agenda
- The Secretary General's Early Warnings for All Initiative (EW4ALL)

Links

- IOM Environmental Migration Portal
- Institutional Strategy on Migration, Environment and Climate Change 2021-2030
- The Capacity for Disaster Reduction Initiative (CADRI)
- IDMC Global Repository of Best Practices

References and Tools

- People on the Move in a Changing Climate – Linking Policy, Evidence and Action
- Evacuations and Disaster Risk in the Caribbean
- IOM Thematic Brief - Climate Change and Future Human Mobility

Other Entries in this Topic

- Sendai Framework for Disaster Risk Reduction
- Emergency Preparedness

Contacts

For technical guidance please contact the relevant DHRR and MECC at IOM's Regional Office or the Migration, Environment, Climate Change and Risk Reduction Division: MECRHQ@iom.int and Nick Bishop, Disaster Risk Reduction Programme Officer: nbishop@iom.int.

Document last updated: Jul 2024