

# Policy Briefing

## Climate Change and Migration

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# Mitigating the Impact of Cyclone Disasters: Lessons from Cyclone Idai

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## Executive summary

This policy briefing presents cyclone disaster management strategies for effective relief and recovery in affected communities. Recently, in Southern Africa climate change has manifested through cyclones that have devastated and displaced a significant number of individuals and households, shattering their long-term goals and aspirations. African governments and relief agencies are often overwhelmed by the responsibility of ensuring community relief and recovery from climate-related disasters, given the unforeseen demand on resources. Most interventions have a short-term alleviation impact while long-term goals fall away. Based on a mixed methods research design, this briefing argues that pre-disaster fortification of communities and migration capacitation are effective long-term adaptation strategies after devastating events. It calls for the integration of community resilience building and environmental migration into national frameworks for adaptation and broader development plans.

# Introduction

Climate change is affecting society across the globe through meteorological extremes such as frequent droughts, floods, heatwaves and cyclones.<sup>1</sup> Recently, in Southern Africa, Cyclone Idai displaced an estimated 1.85 million individuals in Mozambique and approximately 270 000 in Zimbabwe.<sup>2</sup> Although governments and various organisations assisted with providing shelter, health facilities, camp management, food and clothes, among other necessities, the displaced individuals' long-term goals and aspirations have been derailed.<sup>3</sup>

In Mozambique, resettlement often occurred with almost no prior notification and with little to no communication with displaced people about their options, feelings, plans and ambitions. In Zimbabwe, a significant number of Cyclone Idai survivors are still living in temporary sites.<sup>4</sup> The situation in the two countries is a classic example of what happens in the region when a climate change-related disaster strikes. The nature of the response is such that the long-term ambitions of the displaced are curtailed.

Given the repercussions of having the long-term development goals of displaced individuals and communities derailed, there is a need for adaptation mechanisms that build and strengthen relief, recovery and resilience of all life faculties in areas prone to cyclones and related disasters. This briefing shows that the current relief and recovery strategies only address immediate and short-term needs. This perpetuates vulnerability. Effective adaptation can be achieved through a prolonged fortification process prior to the destructive event. In addition, building migratory capacity empowers communities to become more adaptive and resilient.

## Fortification of cyclone-vulnerable communities

The colossal devastation and displacement wrought by Cyclone Idai underline the vulnerability of individuals and communities to climate change-related disasters. Experts predict that there will be a surge in the proportion of major cyclones with high wind

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- 1 Intergovernmental Panel on Climate Change, *Climate Change 2001: Impacts, Adaptation and Vulnerability. Contribution of Working Group II to the Third Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge: IPCC, 2001).
  - 2 UN Refugee Agency, "Surviving Devastation: The Aftermath of Cyclones Idai and Kenneth", October 12, 2019, <https://www.unhcr.ca/news/surviving-devastation-aftermath-cyclones-idai-kenneth>.
  - 3 Mark Yarnell and Devon Cone, *Devastation and Displacement: Unprecedented Cyclones in Mozambique and Zimbabwe a Sign of What's to Come?* (Refugees International, August 13, 2019), <https://www.refugeesinternational.org/reports/2019/8/12/devastation-and-displacement-unprecedented-cyclones-in-mozambique-and-zimbabwe-a-sign-of-whats-to-come>.
  - 4 Yarnell and Cone, *Devastation and Displacement*.

speeds and high rainfall.<sup>5</sup> Climate change-related disasters of even greater magnitude are thus expected.<sup>6</sup> This justifies the need to fortify vulnerable communities against the hazards.

In a survey conducted by the author,<sup>7</sup> Cyclone Idai survivors said that they were ill-prepared for a disaster of such magnitude. There is a lack of knowledge about climate change and adaptation measures. More than 70% of the 351 sampled respondents professed ignorance about climate change and the need for adaptation.<sup>8</sup> They made no connection between climate change and extreme weather events. Some attributed the cyclone to spiritual forces that were punishing their communities for social ills and various other transgressions. This lack of knowledge about climate change and their associated beliefs bred passivity and an inability to take steps to mitigate possible climate disasters.

There is no well-coordinated flow of information on weather and climate between weather experts and communities. As a result, local communities are mostly ill-informed and consequently ill-prepared. When disseminated, the information is encrypted through language and terminological barriers, as indicated by more than 55% of the respondents.<sup>9</sup> One traditional leader said that ‘the information is for themselves and the few educated ... we don’t understand anything they say’.<sup>10</sup> This creates a barrier that heightens vulnerability, since the information does not effectively help the intended beneficiaries. It was also reported that the dissemination of inaccurate information had created mistrust in the communities that were meant to be helped. For example, one season farmers invested in drought-tolerant maize varieties on the advice of meteorological reports, only to experience an agricultural season with good rainfall. Communities then started ignoring warnings from meteorological reports, making them even more vulnerable.<sup>11</sup>

The need for effective information dissemination cannot be overemphasised.<sup>12</sup> Meteorological jargon must be simplified for easy assimilation by beneficiary communities. Frequent dissemination through mobile platforms, community gatherings and the

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5 IPCC, “Summary for Policymakers”, 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*, eds. C Field et al. (Cambridge: Cambridge University Press, 2014).

6 Asian Development Bank, *Global Increase in Climate-Related Disasters* (Working Paper, ADB, Manila, November 2015), <https://reliefweb.int/sites/reliefweb.int/files/resources/global-increase-climate-related-disasters.pdf>.

7 The sample size of the study was determined using Cochran’s sample size formula. Chain referrals, as well as stratified random and purposive sampling approaches, were used. The chain referral sampling approach was used to identify 22 personnel from relief organisations, who participated in interviews. The stratified random sampling approach was used to select 351 respondents for the questionnaire survey. The respondents were either survivors of Cyclone Idai or close family members of survivors. Purposive sampling was used to select 10 officers from government departments, who participated in interviews, and seven traditional leaders, who participated in key informant interviews. Fifteen other individuals were selected to participate in the storytelling exercise.

8 Lazarus Chapungu, “Survey Data on Migration Dynamics Within a Displaced Population: The Case of Cyclones Idai and Kenneth” (Masvingo: Great Zimbabwe University, 2020).

9 Chapungu, “Survey Data on Migration Dynamics”.

10 Chapungu, “Survey Data on Migration Dynamics”.

11 Chapungu, “Survey Data on Migration Dynamics”.

12 Yan Tan, “Chinese Perspectives on Climate Change and Resettlement” (Background Paper, Population-Environment Research Network Cyber Seminar “Displacement and Resettlement Associated with Climate Change and Large Climate Migration and Adaptation Projects”, University of Adelaide, November 2011).

media will increase access to information, which in turn builds knowledge and resilience. This should be preceded by the scientific verification of predictions so that they are as accurate as possible. Such measures will increase trust and confidence in the information disseminated by the meteorological department. The best approach is to build community-based information systems and infrastructure. For example, a meteorological information centre manned by trained locals might be effective in handling community information needs that contribute to the fortification process.

In addition, community infrastructure such as houses, roads and bridges has not been climate proofed. In some cases, pole and *dagga* houses without firm foundations had been built. In others, houses had been poorly sited without considering crucial environmental factors. For example, a significant number of displaced households indicated that they had been settled in depressions that channelled floodwater, which washed away their houses.

The need to fortify such communities is clear. The process requires a well-coordinated bottom-up and participatory approach to ensure that the knowledge, aspirations and long-term goals of community members are considered. Community-based organisations need to facilitate the fortification process because they understand the socio-cultural, economic and political dynamics that affect communities. Communities need to be involved in weather and climate observation processes using both indigenous and science-based knowledge. A training programme with 'watered-down' content, using local languages, must be rolled out. Governments and civil society organisations should coordinate their efforts in mobilising resources to enable the fortification process.

Governments have resettled people after disasters, but this is often not preceded by an assessment of risks in the resettlement area. For example, some of the 101 households resettled in Nyahode area<sup>13</sup> in Chimanimani after Cyclone Eline were then hit by Cyclone Idai. In addition, resettlement processes are not augmented with psycho-social support mechanisms that restore hope and confidence. For example, in 2000 the Cyclone Eline survivors were reported to experience post-traumatic disorders, career abandonment and social isolation.<sup>14</sup>

Governments should work with experts and international partners such as the UN Development Programme to ensure that new locations are at low risk of experiencing cyclones and similar disasters. Methods and tools such as satellite data, map-based tools and hydrological analysis should be used. Following on this, housing designs need to be climate proofed to avoid complete loss of such infrastructures. UN-Habitat, which has expertise in the design and construction of climate-resilient housing, should be engaged to champion this call. Although the government of Zimbabwe has given assurances that

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13 Sarah Opitz Stapleton et al., *Climate Change, Migration and Displacement: The Need for a Risk-Informed and Coherent Approach* (London: Overseas Development Institute and UNDP, 2017).

14 Agritex-NEU-Ministry of Agriculture of Zimbabwe, USAID/Famine Early Warning System, World Food Programme Zimbabwe and FAO/Sub-Regional Office for Southern and East Africa, "Assessment of the Impact of Cyclone Eline (February 2000) on the Food, Agriculture and Natural Resource Sector in Zimbabwe", April 2000, <https://fews.net/sites/default/files/documents/reports/1000050.pdf>.

people displaced by Cyclone Idai will be resettled permanently on new land, it is uncertain when this will be done. To achieve a successful transition from early recovery to long-term development, the measures described here should be followed.

## Building migratory capacity of vulnerable communities

The cyclone-driven catastrophic flooding and landslides across Mozambique, Malawi and Zimbabwe led to mass forced movements to presumed safe zones. However, the abruptness of the process meant people had no time to prepare, train or gather resources to migrate safely. In addition, they did not have information about their destinations so that they could plan accordingly. In Malawi, Mozambique and Zimbabwe, thousands of people were displaced from their homes.<sup>15</sup> Cyclone Idai caused extensive, large-scale migrations that far exceeded the management capacities of governments and humanitarian actors. Building the capacity of vulnerable communities to migrate both before and during disasters lessens the burden of dealing with the problem of environmental refugees, and may ensure that some communities easily recover from the disaster and continue with their lives as before.

Migration is a positive adaptation strategy in the context of climatic change. It reduces population pressure in places prone to climate risks and lessens strain on limited resources while alleviating other risks related to overpopulation, offering those who stay better economic opportunities that will increase their resilience to climate-induced impacts. Migrant networks and personal linkages play a pivotal role in the social and economic development of the source area. The financial remittances sent to relatives back home on a regular basis can greatly improve resilience to environmental shocks. The skills, knowledge and behaviours that migrants transfer between receiving and sending areas, along with political and civic practices, bargaining and identities, can foster adaptation. However, in Southern Africa migrants face barriers that inhibit movement, consequently reducing the capacity to be climate-disaster resilient.

There was a lack of migratory capacity among affected communities before and after the cyclone. Most of the survivors did not have the capacity to migrate to areas with better opportunities. This contributed immensely to poverty and the inability to adapt and gain resilience to climate-induced disasters. Even during the disaster, most of the people had to wait for emergency teams owing to lack of skills, resources and information about their destination areas.

Governments should aim to build the capacity of communities to migrate. This can be done by creating economic zones in climate disaster-proof areas in each province. As people

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15 UNHCR, "Tropical Cyclone Idai Update: UNHCR Response in Mozambique, Malawi and Zimbabwe, July 2019", July 15, 2019, <https://reliefweb.int/report/mozambique/tropical-cyclone-idai-update-unhcr-response-mozambique-malawi-and-zimbabwe-july>.

move for economic reasons, opportunities for income remittance, skills development, knowledge and social capital are created. Building migratory capacity in the event of a disaster is helpful, especially in cases where the disaster is of a magnitude as great as that of Cyclone Idai.

## Conclusion

Climate projections indicate that the intensity of cyclones is likely to increase. Areas recently affected by cyclones will not be spared, despite the fact they are already beleaguered by recurrent droughts and extensive underdevelopment. Unfortunately, people in these areas have contributed the least to human-induced climate change. Governments in Southern Africa, the international community, development agencies and relief organisations need to step up and assist countries affected by climate disasters in a sustainable way by fortifying communities and building their migratory capacities. This will enable effective resilience and recovery. Integration of community resilience building and environmental migration into national frameworks for adaptation and broader development plans is a necessity.

## Recommendations

### Government

- Establish dedicated, diverse and multi-stakeholder consortia of government agencies and non-state actors to pro-actively and consistently fortify vulnerable communities through effective information and monitoring systems, resource capacitation and education programmes. This should include community-based meteorological information centres that are manned by trained local people and are buttressed by a participatory process to sensitise communities about impending disasters.
- Collaborate with development agencies to establish 'second home safe zones' for families living in areas prone to cyclones and build their migratory capacity through training, resourcing, education and networking.

### Civil society organisations

- Civil society organisations should help facilitate the informed resettlement of survivors through a comprehensive assessment of resettlement areas and the long-term aspirations of survivors. This should include post-trauma psycho-social support to restore hope and confidence to migrants and processes to integrate survivors within the wider community that has not been affected.
- UN-Habitat should assist governments with technical housing designs for climate disaster-prone areas.

# Author

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## Cover image

An aerial view of a flooded district on the outskirts of the city of Beira, central Mozambique, on 20 March 2019, after the passage of cyclone Idai. (Adrien Barbier/AFP via Getty Images)

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