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Responding to loss and damage in food systems

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'Loss and damage' is seen as a new paradigm for international climate action, but has long affected the operational realities of institutions that keep responding to climate-induced food system breakdowns. Without stronger systems for climate prediction and protection, escalating humanitarian needs risk crowding out the financial space for loss and damage prevention.

Over the past 28 years, negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) have established a two-pronged strategy to combat climate change: mitigation aims to prevent the worsening of global warming, whereas adaptation focuses on planning and investment decisions that are necessary to adjust to its unavoidable impacts.

Constantly rising temperatures[1] and adaptation investments that have remained "too little, too slow"[2] made a third strategy necessary: responding to loss and damage (L&D) that materializes when the unmitigated impacts of climate change breach the limits of adaptation. Such L&D manifests in various ways, from loss of life, income and infrastructure to loss of biodiversity, cultural heritage and indigenous knowledge. In many regions, it also leads to the breakdown of food systems that escalates crisis levels of hunger and overwhelms an already over-stretched humanitarian aid system.

Responding to L&D in food systems requires a step-change in the way countries manage climate risk. Faced with the occurrence of more frequent and intense climate extremes, governments start realizing the need for more fiscal space to accommodate climate-related contingencies and nasty surprises — as well as the likelihood that certain impacts of climate change might materialize at a scale beyond known reference frames. An absorptive, response-focused approach to L&D is quite intuitive for many institutions, not the least because it builds on existing response capabilities and budgeting systems. The downside of such a strategy is that risk absorption is not financially sustainable in a world of increasingly compound, cascading and protracted emergencies. If there are no complementary investments in systems to analyse risks and vulnerabilities, to predict harmful events and to provide physical, landscape-based and financial protection, the climate crisis is bound to overwhelm household, government and aid budgets alike.

The decision to establish an L&D financing mechanism at the 27th Conference of Parties to the UNFCCC has taken place against the backdrop of another record year of heatwave, storm, flood and drought disasters[3]. These emergencies compounded other fiscal stresses countries had already been facing in the wake of the COVID-19 recovery and a globalized food and energy crisis following the Russian invasion of Ukraine[4,5]. Although the decision to elevate L&D from a theoretical concept to an actual financing mechanism was widely heralded as a breakthrough in international climate change negotiations[6], it is the inevitable consequence of a failed collective effort in mitigating catastrophic levels of global warming — coupled with recurrent under-investments in predictive and protective action. At this point in time, the financial burden of climate change does not rest on the shoulders of the most carbon-intensive countries, but on the most vulnerable households in the most climate-sensitive economies. It also rests on an international aid system that keeps providing food assistance during and after climate disasters but has been neither designed nor resourced to be the world's go-to mechanism to respond to L&D from climate change.

The operational realities of the World Food Programme (WFP), the largest frontline agency of the United Nations fighting hunger, are a case in point. The number of people facing acute food insecurity in the wake of climate, conflict and economic shocks has increased from 135 million in 2019 to 349 million in 2022 (ref. [7]). Nowhere is this more apparent than in the Horn of Africa, where five consecutive failed rainy seasons have pushed millions of people to the brink of starvation[8]. This unprecedented series of climate shocks, which intersect with inflation, displacement and conflict, erode the purchasing power of households and increase operational costs for food assistance. According to WFP's preliminary calculations, the average costs for WFP to provide acutely food-insecure people in East Africa with a full ration rose by 23% between 2021 and 2022 due to food and energy price inflation and accelerating L&D in local, national and regional food systems that could not be matched by the shallow and precarious funding base for international humanitarian aid[9].

Today, 49 million people in 49 countries are teetering on the edge of famine[7], while adaptation investments in fragile contexts remain insufficient, slow and ill-targeted. This leaves humanitarian food assistance as one of the few instruments at countries' immediate disposal to respond to L&D at the local level. Yet, the more resources are needed to absorb L&D after climate disasters, the less are available to avert and minimize L&D before it materializes.

In its recommendations on the Humanitarian–Development–Peace Nexus, the Organisation for Economic Co-operation and Development has established a direction of "prevention always, development wherever possible, humanitarian action when necessary"[10]. This approach contrasts with the real-world tensions humanitarian actors experience as they are forced to concentrate finite human and financial resources on an ever-growing wave of food system breakdowns. As climate extremes keep hitting faster and harder, they create the same financial pressures for aid agencies as they do for households and governments, binding resources to deal with today's needs as opposed to investing in future risk management and disaster prevention.

Against the backdrop of rising humanitarian needs, averting and minimizing L&D in food systems remain more constrained by the crowding out of prevention-focused financing than by the lack of knowledge on how to invest. Despite limited action to curb greenhouse gas emissions, many governments know how to prepare for worsening climate impacts. Solutions start with systems for climate risk analysis, forecasting and early warning that enable people and institutions to anticipate harmful climate events. These systems can be coupled with financial safety nets, which take the shape of shock-responsive social protection systems, climate risk insurance, or anticipatory action systems that trigger pre-positioned financing when critical warning thresholds are crossed. An analysis of forecast-based cash transfers ahead of a predicted flood event in Bangladesh in 2020 has shown that recipients of forecast-based financing were more likely to evacuate families and livestock, lost fewer assets and were less dependent on informal borrowing after the flood[11]. The same study observed higher child and adult food consumption and faster recovery of affected households after the damaging event. The costs of humanitarian operations were reduced by more than half compared with similar-sized events in 2017 and 2019.

Communities also need physical protection through the infrastructure, landscapes and ecosystems they depend on. This can involve windbreaks and hedgerows to counter soil erosion, terraced hillsides to avert landslides, coastal greenbelts to buffer storm surges, and communal reservoirs and groundwater recharge structures to increase water reserves for times of drought. When coupled with support to diversify and strengthen livelihoods, ecosystem-based approaches can generate substantive resilience benefits: in Niger, WFP is supporting communes that are classified as extremely vulnerable through an integrated resilience programme that combines land rehabilitation with livelihood diversification, school-based programmes and malnutrition prevention. During the worst food security crisis in a decade following a particularly poor rainfall season in 2021, 80% of supported villages did not require humanitarian assistance — which illustrates increased capacities to withstand climate shocks[12,13].

Climate change is becoming a major test of our collective ability to prevent and manage crises — and L&D is among the most pressing challenges for an international aid system that experiences financial and political trade-offs between disaster response and disaster prevention. Without critical financing for community-based adaptation in vulnerable and fragile contexts[14], more food system breakdowns are imminent, and humanitarian assistance will become an increasingly critical L&D response. Such reactive capabilities will always remain relevant with a view on humanitarian principles, but cannot constitute the primary pathway to tackle L&D from climate change. Addressing L&D through risk absorption needs to be complemented by targeted investments to avert and minimize L&D — which involve deliberate and time-bound efforts to predict the next impending loss event and protect vulnerable people and assets from its impact.

L&D has been an expression of the global climate crisis for many years, even though current climate policies still project that a two-pronged strategy of climate change mitigation and adaptation could keep it at bay. The realities of today's disaster relief operations tell a different story: communities on the frontlines of the climate crisis cannot wait for international climate change negotiations to curb global warming or come up with incremental financing innovations that do not reach them fast enough. These communities face clear and present danger and require long-overdue, locally focused protection — without which an increasingly overloaded and under-funded humanitarian aid system will not be able to support everyone in need.

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Competing interests

The author declares no competing interests.