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What cannot be mitigated or adapted to, will be suffered. Loss and damage in humanitarian terms

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Special Issue - Impacts of Climate Change and Health Inequity: Colliding Crises

VSI: Health Disparities and Climate Change

What cannot be mitigated or adapted to, will be suffered. This suffering will be concentrated among the poorest and most vulnerable populations [1]. In this context, the UN climate negotiations play a pivotal role. Their objectives encompass establishing agreements, frameworks, and commitments to mitigate greenhouse gas emissions, adapting to the impacts of climate change, coordinating efforts to deal with loss and damage and promoting global cooperation on climate action. The UN climate negotiations approach loss and damage from climate change in three distinct ways: (I) Averting loss and damage by reducing greenhouse gas emissions; (II) Minimising loss and damage by assisting people and communities to adapt and build resilience; and (III) Addressing loss and damage by dealing with and recovering from the consequences of climate impacts.

In this perspective paper, we define loss and damage broadly as the harm from observed impacts and projected risks of climate change [2-3]. Loss and damage can take various forms, including physical, ecological, economic, and social impacts, and can be both tangible and intangible, including damage to health. Losses and damages are context-specific, influenced by socio-economic conditions, geographic location, and governance structures amongst other factors. There is a need to acknowledge the multi-dimensional nature of losses and damages and for a nuanced understanding, including local perspectives, to inform effective policy responses, including adaptation and compensation [4]. The concept of loss and damage pertains to realities that health and humanitarian actors currently witness and respond to in the context of climate change; this includes loss of access to food and water, loss of income and livelihoods, and loss of future outlooks and opportunities. Health impacts are placed in the category of non-economic loss and damage and include the loss of life and healthy years, psychological impacts from displacement, or loss of sense of place or identity [5-6].

As climate change continues unabated and as the limits of adaptation are reached, the health and humanitarian community, including organizations like Médecins Sans Frontières (MSF), increasingly address loss and damage in the form of complex emergencies. This perspective paper aims to place loss and damage science and policy in a humanitarian and public health context. We translate the concept of loss and damage for the health and humanitarian community in an effort to inform and engage humanitarians in the research, policy response, and public debate on loss and damage.

Why is loss and damage relevant in health and humanitarianism?

The work of health and humanitarian actors is to save lives, reduce suffering, restore dignity, and protect health. However, beyond advocacy, there is ultimately little these actors can do to address the erosion of the life support systems upon which human health and the stability of societies depend. As humanitarian needs grow alongside emissions, there are limits as to what humanitarians can reasonably take on and achieve.

The toll of climate change experienced at current levels of warming is intolerable for many. Further, if humanity fails to limit global warming to 1.5 degrees, tipping points will be crossed, which could make large areas in the world uninhabitable, in which case both adaptation and loss and damage costs will skyrocket. In human terms, lives, health, homes, and livelihoods will be lost, and millions more people will be displaced [7-8]. Concretely, massive loss and damage could look like the evacuation of mega-cities due to extreme heat, whole island nations being submerged, and desertification leading to the collapse of food systems.

The health and humanitarian community will not be able to plan and deliver a meaningful response to loss and damage at this scale. Even at current levels of loss and damage, health systems and humanitarian support are unprepared. The lack of preparedness within the humanitarian sector primarily stems from two key factors. Firstly, it results from a combination of inadequate resources, a lack of comprehensive understanding about the intersection of climate change and health, and a failure to effectively incorporate climate-related considerations into existing emergency and relief policies and practices. Secondly, the gap between humanitarian needs and the actual assistance provided is substantial [9]. Furthermore, this discrepancy is anticipated to rise because, without immediate and decisive climate action, the annual number of people in need of humanitarian assistance due to the climate crisis could double by 2050 [10].

Count your losses

The science has advanced. The health costs of climate change are quantifiable, and attribution studies can more accurately determine the climate fingerprint of health impacts. This raises the question of liability, which is related to climate justice. For example, in Burkina Faso, a significant proportion of child mortality is related to low crop yields in the year of birth, 72% of low crop yield is attributed to weather conditions and the burden of child mortality could increase two-fold in Sub-Saharan Africa with 1.5 degrees of warming [11]. Further, climate-related displacement is projected to rise, with up to 32 million people in West Africa potentially compelled to move within their countries by 2050 as a consequence of slow-onset climate impacts [12]. However, when engaging in the Loss and Damage discourse, the health and humanitarian community also needs to recognise the

nuances and uncertainties involved in attribution science, and the need for a broader approach that incorporates a range of disciplines and perspectives to address the complexities of climate-related losses and damages [13]. Loss and damage science goes beyond attribution studies and forecasting models to involve various scientific disciplines, some of which are familiar to the health and humanitarian community, such as epidemiology and social science, and others that the sector needs to work more closely with, including climatology and ecology.

Indeed, accurately estimating loss and damage is complicated, as it does not just pertain to calculating the impacts of climate change but also aims to capture those impacts that could or have not been mitigated and/or adapted to. While current attempts tend to focus on loss and damage in terms of emergencies and responses, more attention is needed on slow-onset climate change events, and the long-term health effects of climate change, including in terms of effects on health equity and social cohesion [8]. Improved understanding, detection, quantification, and attribution of loss and damage could help inform humanitarian action. In addition to existing vulnerability assessments that help identify 'climate hot spots', where high vulnerability overlays low adaptive capacity, new attribution studies on health-related loss and damage could help quantify risks and shift responsibilities. Beyond assisting humanitarian agencies, this could also inform adaptation finance, build health system resilience, establish weather-based insurance schemes, and strengthen early warning systems.

A continuum of preventative action - for humans and the planet

In public health, addressing health issues 'upstream' refers to addressing the root causes and determinants of health, while addressing health issues 'downstream' focuses on the immediate consequences and outcomes of those determinants on individuals or populations. Relatedly, an enduring truism in public health is that the best outcomes are produced for most people, by tackling the root causes of health problems. Yet, despite our best prevention efforts, harm will still occur. Further, the climate crisis is significantly advanced and some impacts are 'locked in' - they cannot be reversed or mitigated in the near term. Consequently, we can infer that climate change must be addressed on all fronts – by continuing to tackle source issues 'upstream' whilst simultaneously addressing 'downstream' impacts that were not prevented.

Many parallels can be drawn between human health and the health of the planet's climate, both in the prevention of ill health and injury and in the responses to health issues. In public health, preventative activities occur at three levels; primary, secondary, and tertiary prevention[1], which is a useful analogy for the health of the planet. Primary prevention is like mitigation – preventing illness, disease, and injury. For humans, primary prevention includes the mass vaccination programs MSF delivers for climate-sensitive diseases like meningitis in South Sudan. For the planet, primary prevention is mitigating and eliminating greenhouse gases and other forms of pollution. Secondary prevention is synonymous with adaptation – reducing risk in the disease's early stages. For humans, secondary prevention includes malnutrition screening and supplementary feeding programs, which

[1] Primary prevention involves interventions that aim to prevent the onset of a disease or health condition, secondary prevention focuses on early detection and treatment to halt or slow the progression of a disease, and tertiary prevention involves efforts to reduce the impact of an existing disease or condition and prevent complications or relapses.

are becoming the norm in Somalia and other countries in the Horn of Africa. For the planet, secondary prevention is like adaptation, for example, reducing risk by developing early warning and response systems. Tertiary prevention is activated when an illness, disease, or injury is diagnosed, with activities aimed to stop deterioration and avoid complications. For humans, in traditional terms, this would include rehabilitation and some forms of chemotherapy, and in humanitarian terms, outbreak response to control the spread of climate-sensitive diseases to reduce the impact on people and communities. For the planet, tertiary prevention can be viewed as loss and damage because it addresses the ongoing and long-term consequences of climate change impacts that were not prevented or adaptable to, aiming to minimize their extent and prevent further deterioration in the planet's health and stability.

As health threats increase with climate change, attention, effort, and investments slowly shift from primary prevention to tertiary prevention. Interventions become costlier and deliver less benefit forcing more curative, treatment-based approaches, which pose different costs, challenges, and risks. After more than 30 years of climate diplomacy, COP27 ended with a historic deal to create a new fund, in which countries responsible for high carbon emissions will compensate countries suffering from climate change impacts [14]. At COP28, the size and practicalities of the loss and damage funding facility will again assume a prominent role in the discussions. What is happening is clear, time and options are running out. Moving further down the line of climate actions, just like in public health, the cost to societies, ecosystems, and economies increases, services become less accessible to all, inequities increase, and health outcomes worsen.

Loss and damage - a win and a loss

COP27 was declared 'the loss and damage COP', based on a historic agreement to provide financial compensation for the most severe impacts of climate change. Largely construed as a win, the outcome is seen as a vital act of solidarity between high-emitting countries and climate-vulnerable countries. Some see the agreement as representing immense progress for vulnerable nations, but there is also a cynical side. Others hold that the commitments made at COP27 to address loss and damage are undermined by a lack of dedicated climate finance. Additionally, the lack of progress in 2023 to build consensus on the sources and modalities of this finance leaves impacted countries and communities without sufficient resources to respond to and recover from climate-related impacts.

The need to address loss and damage reflects the failure of the international community to adequately mitigate emissions and of nations to collectively assert control over polluting corporations, who behave as supernational powers and push their negative externalities onto global populations. The COP27 outcome statement also failed to strengthen the decision to include the phasedown of all fossil fuels. Some are concerned that increased attention and funding to loss and damage will detract from advancing ambitions upstream and addressing root causes.

Not all loss and damage will be witnessed, measured, attributed, or claimed, and lives, health, livelihoods, and cultural heritage are inherently irreplaceable. To justly compensate affected populations for loss and damage would be immeasurable and unaffordable. However, a fully functional loss and damage fund could reveal the true cost of fossil fuels and force this cost back upon industry, governments, and multi-lateral institutions that continue to subsidise fossil fuels. This

might then provide a strong additional signal for states and societies to accelerate the energy transition and reform the global financial system.

The role of health and humanitarian actors in addressing loss and damage

In the era of loss and damage, maintaining hope and focussing on solutions improves our chances of tackling the climate crisis. Health and humanitarian actors can play an important role in averting loss and damage by mitigating their own carbon footprint and environmental impact, investing in anticipatory action and early warning systems, and integrating disease surveillance with meteorological data in highly vulnerable contexts. Health and humanitarian actors can consider new indicators of vulnerability and draw attention to and address the severe gaps between global and local service provision. Health and humanitarian actors can also play a role in minimising loss and damage by ensuring coherence across humanitarian, disaster risk reduction, public health emergency, and sustainable development. They can help provide a platform for the voices of affected populations, particularly vulnerable communities that are often overlooked by international coordination efforts. This, in turn, helps to identify where financial and other types of support are needed, and how it can effectively improve the situation of those dealing with the impact of climate change.

Health and humanitarian actors are well placed to contribute to loss and damage science and the political debate surrounding it through data collection and analysis in disaster-affected areas, and by advocating for the recognition of loss and damage as a critical issue in the political debate. Also, through capacity building, with the aim to support a collective understanding of the risks, impacts, and potential adaptation measures, and thereby empower communities to take action and advocate for their needs. Health workers and humanitarians can build collaborative partnerships with policymakers, researchers, and other stakeholders to bridge the gap between research and policy, participating in interdisciplinary research and sharing their experiences and lessons learned. Health and humanitarian actors can also incorporate climate change adaptation and resilience-building measures into their programs, to contribute to reducing future losses and damages. The expertise, proximity, experience, and commitment to supporting vulnerable communities make the health and humanitarian community valuable stakeholders in addressing the challenges posed by loss and damage associated with climate change.

Finally, as humanitarian agencies often operate in areas and with communities that states fail or choose not to reach, and where development agencies may not be equipped to work, they are in a unique position to bear witness to the limits of adaptation (both hard and soft). Humanitarian actors are at the frontlines of acute health impacts and are well placed to give testimony, often in quantitative but also in qualitative terms. Importantly, humanitarians can hold governments to account and ensure that all forms of climate finance transparently include new and additional resources and are not redirected from already severely underfunded humanitarian and development assistance.

In the lead-up to the COP28 UN climate conference, health and humanitarian actors should reflect on their unique proximity to the realities of loss and damage and the communities most affected. This affords an important responsibility to keep a pulse on the global discussion and to maintain

pressure on negotiating parties to ensure that outcomes concretely respond to the needs of the world's most vulnerable people.

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Declaration of interests

☒ The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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