World Health Organization

WHO Policy Brief

Loss and Damage

Synopsis

There are some climate change threats that are beyond the pace and scope of mitigation or adaptation, resulting in immediate and long-term permanent loss and damage to communities and the systems and ecosystems that underpin them. The less climate action that is taken, the more loss and damage will need to be addressed. Bracing for these unavoidable, adverse impacts requires tailored strategy and support and a long-term view. Under the UN Framework Convention on Climate Change (UNFCCC), there is significant room to expand planning, assessment, and technical support to strengthen the approach to, and coordination for, minimizing and coping with immediate and long-term non-economic losses to health and well-being through the Warsaw International Mechanism (WIM) on Loss and Damage.

Science

Atmospheric changes are so advanced that there are adverse impacts from climate change to which we will not be able to mitigate or adapt. This third pillar of climate change action is referred to as loss and damage (L&D). Entire human and non-human habitat, social structures, and livelihoods are destroyed by increasingly strong and frequent natural hazards and slow-onset events. This means L&D is experienced in both economic and non-economic terms. Economic losses include property, assets, infrastructure, revenue, and agricultural production. Non-economic losses are broad, long acting, 'complex, compounding, and cascading'[1], and include a range of sudden and long-term impacts to health and well-being. See Table 1.

Non-economic losses can be more costly, and difficult to recover from, than economic losses, and can perpetuate or lead to poverty traps and chronic health burdens for individuals and the health sector. The Intergovernmental Panel on Climate Change (IPCC) estimates that "well-being losses" are significantly higher than actual asset losses.[2] According to the World Bank, incorporating non-economic losses, such as to well-being, increases the estimated cost of natural hazards to the global economy from $300 billion to $520 billion per year.[3] This cost is disproportionately felt by countries experiencing significant multidimensional poverty.

The burden to the health sector from non-economic loss and damages due to climate change extremes and events is significant and will increase. There is a tendency to focus only on loss and damage emergency situations and response. However, more attention is needed on slow-onset climate change events[4] and their impact on L&D, as well as to scoping out a more comprehensive approach to how climate change affects health and well-being over the long term, and in multiple dimensions, including for physical and mental health and well-being, and social cohesion and health equity. Long-term investment in community organization and mental health are required for recovery.[5] See Box 1.

A new framework for anticipating, absorbing, and strategizing outcomes to unavoidable large-scale health impacts is needed. Sudden and increasingly frequent climate-associated events, like storms and floods, lead to both **acute health emergencies and slow-onset physical and mental health conditions.** Slow-onset climate-associated events, such as droughts, lead to slow-onset and **chronic conditions**, such as chronic malnutrition, contributing, for instance, to developmental impacts to children5. Both sudden and slow-onset events increase **near-term and long-term disease susceptibility**, such as to infectious diseases (e.g., food-, water-, vector-borne) as well as for **comorbidities**, such as noncommunicable diseases. These impacts and shocks will affect health services at the level of the individual, whole communities, and sub-regions. See Table 1.

Box 1: Looking beyond acute adverse health effects of climate change-associated loss and damage events

Non-economic loss and damage to health and well-being

Current scope and strategy:

- **Sudden events + acute physical health conditions** arising from emergencies

Additional scope and strategy needed:

- **Sudden events + slow-onset health conditions**
- **Slow-onset events + slow-onset health conditions**

} *including communicable and non-communicable disease susceptibility and incidence of comorbidities for both physical and mental health*

- **Loss & damage events and their impact on children, adolescents, and youth,** including physical and mental health and well-being, and growth, development, learning, ability to thrive and potential to succeed
- **Capacity for the health sector and sectors that provide essential basic health services** including (i.e. water, sanitation, and hygiene) to manage public health for communities knowing that acute and chronic conditions will continue to increase with ongoing non-economic loss and damages

Valuation of non-economic losses is difficult and needs more attention. Costing loss and damage by assets and production is incomplete – the "gravity of a loss depends on who is experiencing it".[6] Three essential accounting tools needed are 1) health metrics alongside environmental metrics in impact assessments, with a focus on health outcomes, 2) methodology for interpreting and comparing intrinsic non-economic losses related to culture and society[7], and 3) enhanced vulnerability mapping layered to climate exposure risks[2]. Not all risks are measurable because some aspects of non-economic loss and damage are values-based[2], and encompass ecosystem services that are considered to have intrinsic value but are not easily quantified, such as the social and cultural determinants of health.[2,8]

Funding required to prepare and manage health sector needs related to loss and damage in the near- and long-term is significant, and unaccounted for. Post-disaster humanitarian aid and adaptation investments do not cover the costs of loss and damage.[9] Health professionals and health systems will continue to be frontline for emergencies and shoulder increased, long-lasting disease burden associated to environmental threats. More support for health system resilience to unavoidable shocks is needed.

Non-economic health loss and damages due to climate change are not equal across countries.[2] Low-income countries incur 44% of recorded disasters but 68% of total deaths reported, and a disproportionately high number of impacts to human systems as a percent of population.[2] Globally, vulnerable areas are disproportionately affected by well-being losses and loss of life.[2] True vulnerability assessment combines economic and non-economic losses.

The starting point for climate-resilient development is not equitable among countries. The most vulnerable will disproportionately bear the human cost of climate change-associated disasters.[2] For instance, observed average mortality from floods, drought and storms is 15 times higher for highly vulnerable countries and regions.[2] At the same time, the vulnerability of the most vulnerable is projected to increase significantly and continuously to 2100, while those currently in very low or low vulnerability countries are not expected to greatly increase vulnerability.[2] Economic and non-economic losses and damages will likely be concentrated among the poorest vulnerable populations, particularly for women, youth, elderly, ethnic and religious minorities, Indigenous People and refugees.[2]

Losses and damages in the food sector and to food access – including the survival of plants, livestock, and fish and long-term effects on agricultural productivity – will have significant impacts to health and well-being in the short- and long-term.[2] The IPCC highlights the vulnerability of food systems to loss and damage.[2] For example, residual coping strategies to a drought in Mali in the early 1980's are still observed to include daily reduction in the number and quality of meals consumed to counterbalance livelihood strain[4]. This has serious implications for the health and well-being of children. For instance, undernutrition which is untreated during the first two years of life can lead to irreversible stunting.[5] For instance, undernutrition which is untreated during the first two years of life can lead to irreversible stunting.[5]

Table 1: Examples of observed[10] and potential non-economic loss & damage to health and well-being

Resulting from	
sudden and emergent events: heatwaves, storms, floods, landslides, hurricanes, cyclones, tsunamis, wildfires	**slow-onset events:** increasing mean temperature, drought, desertification, sea-level rise, ocean acidification, glacial retreat, loss of pollinators, habitat, and biodiversity, loss of land and forests, salinization

Impact		Health Condition: Acute and emergent	Health Condition: Slow-onset and chronic
Direct L&D	injury or trauma	physical injury or death	mobility impairment post-traumatic stress disorder
reduced	water quality	water-borne disease drinking water scarcity decline in sanitation and hygiene	▪ increased incidence of vector-borne disease (e.g., mosquitos transmitting malaria, cholera) ▪ food safety risks from new pathogens and/or soil and water contaminants ▪ malnutrition
reduced	air quality	new-onset lung disease exacerbation of asthma or chronic obstructive pulmonary disease allergic response	▪ increased likelihood of adult lung disease ▪ heart attack, and/or stroke ▪ increased incidence of chronic allergies
reduced	food availability	food scarcity macronutrient deficiency	▪ dietary change ▪ micronutrient deficiency ▪ increased incidence of stunting and wasting ▪ increased susceptibility to diabetes, obesity, heart disease ▪ decreased cognitive development of children ▪ depression
Indirect L&D	non-economic impacts of reduced agricultural productivity degradation to biodiversity and ecosystems loss or degradation to territory, cultural heritage/ artifacts, indigenous or local knowledge loss of cultural way of life, and/or societal or cultural identity, loss of safety networks	grief stress	▪ increased multidimensional vulnerability ▪ broad, negative impacts on social determinants of health ▪ dietary change ▪ depression ▪ anxiety ▪ solastalgia[1] ▪ loss of agency[2] ▪ loss of sense of place ▪ reduced social cohesion ▪ intimate partner violence ▪ decreased access to traditional medicines ▪ weakened immune systems

[1.] Distress produced by environmental change. Also known as ecological grief.

[2.] Agency is a component to psychological stability. It is the sense of control over one's own life, and faith in one's own ability to handle tasks and situations.

Policy

A collective and cohesive loss and damage response is needed from the health community to inform the conversation under the Santiago Network and the WIM Expert Group on Non-Economic Losses. See Box 2. The Santiago Network could be used as an inclusive space that improves coordination between environment and health domains on actions for loss and damage, fulfilling the WIM's aims to address loss and damage by collaborating with relevant organizations and expert bodies outside the UNFCCC (Paris Agreement, Article 8). It would also support the Sustainable Development Goal 3* Global Action Plan (**SDG3 GAP**) proposals for joint actions among international health-related agencies on innovative programming in fragile and vulnerable settings.[11] Greater coordination among emergency frameworks would also support efforts to address non-economic loss and damage.

Box 2: Catalyzing implementation of the Warsaw International Mechanism on loss and damage: strengthening capacity on non-economic loss and damage among health experts

Objective of the WIM: "to address loss and damage associated with impacts of climate change, including extreme events and slow onset events, in developing countries that are particularly vulnerable to the adverse effects of climate change"	increase understanding
Scope of the WIM (Paris Agreement): "averting, minimizing and addressing loss and damage associated with the adverse effects of climate change" such as through cooperation and facilitation of: early warning systems; emergency preparedness; slow onset events; events that may involve irreversible and permanent loss and damage; comprehensive risk assessment and management; risk insurance facilities, climate risk pooling and other insurance solutions; non-economic losses; and resilience of communities, livelihoods and ecosystems.	elaborate on elements of scope and strengthen valuation for non-economic L&D to health and well-being
Implementation of the WIM - the Santiago Network for: ▪ providing **technical assistance** for addressing L&D at the local, national, and regional levels in vulnerable, developing countries ▪ catalysing technical assistance of organizations, bodies, networks and experts ▪ facilitating and catalysing collaboration, coordination, coherence and synergies to accelerate action and across communities of practices, for delivery to developing countries ▪ facilitating development, provision and dissemination of, and access to, knowledge and information, including comprehensive risk management approaches, at the regional, national and local level ▪ facilitating access to action and support (finance, technology and capacity building) under and outside the UNFCCC, including urgent and timely responses to the impacts of climate change	strengthen coherence and approaches to non-economic L&D to health and well-being
Guidance for implementation of the WIM – the Executive Committee Expert Groups: Its Expert Group on Non-Economic Losses: "aims to enhance cooperation and facilitation in relation to non-economic losses through enhancing data collection on, as well as knowledge and awareness of, non-economic losses, facilitating their mainstreaming in measures at the national level" *For more information see "Warsaw International Mechanism" at www.unfccc.int*	stay informed on developments and work to fill knowledge gaps on non-economic L&D

*Sustainable Development Goal 3 (good health and wellbeing)

More comprehensive frontline funding based on vulnerability mapping, and aimed at recovery, rehabilitation, and ensuring population health and stability is needed. Greater harmony in the use of frameworks such as between the technical support and indicators under the Sendai Framework for Disaster Risk Reduction, the guidance provided in the **WHO Framework for Emergency Preparedness**, the **WHO Health and Emergency and Disaster Risk Management Framework**, the planning of, and considerations of climate change under, the Intergovernmental Negotiating Body for a WHO treaty on pandemic prevention, preparedness, and response[12], and the work of the Santiago Network, is important. Consideration of L&D in comprehensive vulnerability assessments is needed.

Operationalizing the WIM through financing and mobilization of the Santiago Network can strengthen policy coherence on non-economic loss and damage. The 25th UNFCCC Conference of the Parties (COP) advanced implementation by establishing the **Santiago Network** and COP26 agreed on the functions of the Santiago Network and modalities of its institutional arrangements but did not agree on how the technical work of the Santiago Network would be funded or by whom (Decision CMA.3). In parallel, COP26 established the **Glasgow Dialogue** under the Subsidiary Body on Implementation (SBI) to, between 2022 and SBI 60 in 2024, discuss additional, overarching funding mechanisms for financially supporting averting, minimizing, and addressing loss and damage. Future UNFCCC negotiations should aim for efficient and effective operation of this work.

Key Messages to the UNFCCC parties on Loss and Damage:

COP27 will consider institutional arrangements of the Santiago Network under, jointly, the Subsidiary Body on Scientific and Technological Advice (SBSTA) and the SBI, and also will hear a review of the Glasgow Dialogue under the SBI. In addition, the WIM is an agenda item for discussion at COP27.

It is critical that UNFCCC Parties recognize **that the stabilization and reduction of atmospheric greenhouse gas concentrations at levels consistent with the Paris Agreement temperature goal promotes health and well-being** and maximizes the possibility to avert catastrophic and irreversible non-economic L&D to health and well-being. There is significant room to enhance strategies and planning related to the scope of non-economic loss and damage under the WIM as well as the guidance for implementation of technical assistance under the Santiago Network.

The following key policy advancements on L&D under the UNFCCC would promote and strengthen public and global health:

Enable capacity building:

- support **implementation of the Santiago Network** to coordinate and facilitate L&D needs assessments
- support development of a needs **gap report on loss and damage**

Improve data reporting:

- **distinguish indicators and metrics** for adaptation needs (mapping, activities, priorities, costs) under the Global Stocktake from loss and damage needs (criteria for recovery, short- and long-term planning to minimize health burden)
- encourage **research on non-economic loss and its valuation**, including: 1) health metrics for integrated assessments, 2) intrinsic and values-based non-economic loss & damage, and 3) vulnerability mapping, with attention to go beyond temperature-societal impact analyses and mortality statistics

Improve assessment:

- incorporate economic and **non-economic considerations into vulnerability and adaptation assessments**
- incorporate **assessment of adaptation capacity**, such as percent of the population with access to WASH, doctors per 1000 people, and consider indices such as e INFORM and WorldRiskIndex
- **add a specific category associated to children, adolescents, and youth** under non-economic losses and damages
- utilize **UNICEF's Child Climate Risk Index** to inform loss and damage vulnerability mapping
- **emphasize the risks faced by children, adolescents, and youth in prioritization and provision of technical support** under the Santiago Network

Practice

Public health practice can reinforce implementation of the UNFCCC and climate-resilient development. In resolution (73/2) the UN General Assembly called on the WHO to "promote healthy communities by addressing the impact of environmental determinants on non-communicable diseases, including air, water and soil pollution, exposure to chemicals, climate change and extreme weather events, as well as the ways in which cities and human settlements are planned and developed..."[14] At the same time, stronger climate policy and action on loss and damage at global and national levels supports public health.

At the national level, **investment in health sector resilience and preparedness** through the Alliance for Transformative Action on Climate and Health (ATACH) is critical. It is essential to work towards **universal health coverage** and ensure social protection and infrastructure programmes are well-connected and shock-responsive.[1, 13]

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