

## **WHO submission on views and information on the elements to be included in the work programme on loss and damage**

This submission contains the views of the World Health Organization on elements to be included in a work programme to consider approaches to addressing loss and damage associated with climate change impacts in developing countries that are particularly vulnerable to the adverse effects of climate change, as requested under paragraph 28 of Decision -/CP.16 on *Outcome of the work of the Ad Hoc Working Group on long-term Cooperative Action under the Convention (AWG-LCA)*.

WHO welcomes the opportunity to submit its considerations on loss and damage within the health sector as a consequence of the adverse effects of climate change and to express its views on the following three broad thematic areas:

- Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same;
- A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow-onset events, taking into consideration experience at all levels;
- The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change.

### **1. Assessing the risk of loss and damage associated with the adverse effects of climate change and current knowledge on the same**

#### **WHO evidence**

- Climate change is happening now and it inevitably affects the basic requirements for health: clean air and water, sufficient food and adequate shelter. This in turn impacts on some of the largest global health problems. Each year, about 3.5 million people die from malnutrition, 2.2 million from diarrhoea, 800 000 from causes attributable to urban air pollution, and 60 000 in climate-related disasters, mostly in low resource settings and highly prevalent in humanitarian settings<sup>1</sup>.

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<sup>1</sup>[http://whqlibdoc.who.int/publications/2009/9789241598880\\_eng.pdf](http://whqlibdoc.who.int/publications/2009/9789241598880_eng.pdf).

[http://www.ipcc.ch/publications\\_and\\_data/ar4/wg2/en/contents.html](http://www.ipcc.ch/publications_and_data/ar4/wg2/en/contents.html)

[Inter-Agency Standing Committee \(IASC\); World Health Organization \(WHO\)](#). Protecting the health of vulnerable people from the humanitarian consequences of climate change and climate related disasters 2009.

[http://www.who.int/hac/events/drm\\_fact\\_climate\\_risk\\_management.pdf](http://www.who.int/hac/events/drm_fact_climate_risk_management.pdf) . Disaster Risk Management for Health Fact Sheets. Global Platform - May 2011

- Climate change also brings new challenges to the control of infectious diseases as some are highly climate-sensitive to temperature and rainfall, including cholera and the diarrhoeal diseases, as well as vector borne diseases including malaria, dengue and schistosomiasis.
- Health facilities are often damaged or destroyed in weather related disasters, hampering the ability to provide emergency health services and primary health care.<sup>2</sup>
- Climate change threatens to reverse the progress that the global public health community has been making against many diseases, and increase the challenges for the humanitarian community to respond to natural, biological and social emergencies.
- WHO carried out the first analyses to estimate the global burden of disease attributable to climate change in the early 2000s, producing a set of estimates that have been widely cited in global climate policy, and which form the basis for subsequent estimates of economic costs of the impacts of climate change on health, for example by the UNFCCC and World Bank. Following a mandate from the World Health Assembly, WHO is now coordinating a re-estimation of these health impacts at global and regional level.
- Damage to health represents an important fraction of overall economic losses due to climate change. In the early 1990s, studies estimated that damage costs of climate change ranged from 1% to 3 % of global world product (GWP), and the loss of human life as a fraction of overall economic loss reached up to 50% in some scenarios<sup>3</sup>. Estimates for specific diseases also showed the impact of damage costs. For example, based on medical-treatment costs per case, estimates present annual damage costs of increased Salmonella cases in the EU with a range between Euro 70 and 139 million until 2040<sup>4</sup>.
- However, there still remains a major knowledge gap on economic losses resulting from health impacts - including the cost of premature death, impact on people's productive capacity (both sick people and healthy people, the latter for example under heat stress), and the burden borne by health systems to deal with increased caseload. No health economic study systematically examines all the health damage cost categories across all diseases/health impacts at global level, leaving aside a wide range of associated climate-sensitive health impacts.
- To fill these gaps, WHO is undertaking a global damage cost study based on a re-estimation of health impacts attributable to climate change. Such a study will provide international decision makers with a better understanding of the magnitude of the health impact and motivate further adaptive and mitigation actions at international level. Aside from this, WHO has developed a Damage Cost tool<sup>5</sup>, which provides guidance on how to

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<sup>2</sup> For example, more than 236 health facilities damaged and 200 destroyed by flooding and mud in the Pakistan flood 2010, the university hospital in Burkina Faso flooded and critical services suspended, hospitals flooded in the Manila Metropolitan area, 92 health centres flooded or inaccessible in Benin in 2010.

<sup>3</sup> Tol, R. *The damage costs of climate change: towards more comprehensive calculations*. Environmental and Resource Economics. 1995. 5:353-374.

<sup>4</sup> Cited in Hutton, G. *The economics of health and climate change: key evidence for decision making*. Globalization and Health 2011, 7: 18.

<sup>5</sup> A collaboration between WHO Headquarters and the WHO European Regional Office. More details available upon request.

estimate at country level damage costs associated with unmitigated health impacts of climate change. It provides minimum standards for the selection, measurement and valuation of impacts and response options, thus giving stakeholders sufficiently robust estimates to raise funds and plan responses. A key advantage of country studies over a global damage cost study is that its implementation is country-led and it enables countries to assess costs based on their specific needs.

- Therefore, gaps in knowledge and evidence remain, particularly regarding damage costs and loss of lives due to climate change at national and sub-national level. As many environment and health-related impacts are not always easy to measure in monetary terms, the available data and studies value only direct and quantifiable economic impacts, resulting in a systematic under-valuation of health effects of climate change and lack of analysis of correlated data and consequences<sup>3</sup>. WHO therefore proposes to bring attention to:

- Quantification of loss in terms of well-being and household resilience.
- Estimation of interactions and linkages between climate-change effects and impacts on human populations, with an emphasis on the level and equity of distribution of productivity and wealth impacts.
- As most studies are global or regional, analysis of impact variation between countries with similar climate change patterns can serve as a measure to monitor vulnerability and inequities between countries, and as an indicator for how different countries at different stages of economic development are affected by climate change.
- Estimation of losses in health infrastructure and to health systems from the impact of climate events.

## **2. A range of approaches to address loss and damage associated with the adverse effects of climate change, including impacts related to extreme weather events and slow-onset events, taking into consideration experience at all levels**

Based on the health risk assessments that WHO has already carried out at a global level, and is now supporting at national level, the evidence to date indicates that although the effects of climate change on sudden-impact extreme weather events will have important health consequences, slow-onset events are likely to have a much larger aggregate impact. It is therefore essential that international efforts to address loss and damage also address the fundamental determinants of vulnerability to climate change, and go beyond just risk transfer to spread the cost of shocks.

The Organization is therefore proposing a comprehensive approach to strengthen health systems to assess and address the adverse effects of climate change on health. This includes strengthening of health protection through disaster risk reduction, humanitarian preparedness and response and, potentially, use of insurance and other risk transfer mechanisms, for example in relation to health facilities. It also includes a vulnerability and adaptation assessment for the full range of health effects of climate change, followed by comprehensive adaptation planning to address key weaknesses in health systems including the vulnerability of health infrastructure to climate events.

In order to contribute to the efforts of health-system strengthening in least developed countries and confer them with a "climate-resilient" status for health, a series of interventions are proposed as a minimum package, which include:

- a comprehensive climate-change and health-vulnerability assessment;
- preparedness for, and response to, the public health consequences of extreme weather events, including population displacement;
- an integrated environment and health surveillance system, including meteorological surveillance;
- strengthening country capacities for the delivery of preventive interventions of selected communicable disease control programmes;
- research on local-level health effects of climate change and on locally-appropriate adaptation measures; and
- intersectoral coordination and health representation in national and international development, humanitarian, and climate policy forums.

***Vulnerability and adaptation assessments.*** WHO would encourage and support Parties to conduct vulnerability, impact, and adaptation assessments based on the WHO public health tool "Vulnerability and Adaptation Assessment" which supports the following iterative process:

1. Identification of the human health risks for current climate variability and recent climate change, and the public health policies and programmes to address the risks.
2. Projection of future health risks and impacts under climate change.
3. Identification and prioritization of policies and programmes to address current and projected health risks.
4. Establishment of a process for monitoring and managing the health risks of climate change.

Vulnerability and adaptation assessments are important as they can provide national-level evidence of the linkages between climate and health, improve understanding of local and specific health risks and vulnerabilities, provide the opportunity for capacity building, and serve as a baseline analysis to monitor how health risks may be influenced by a changing climate over time.

***Enhanced capacity to address public health emergencies*** saves lives and protects communities. Acute shocks such as extreme weather events and disease epidemics can overload health systems in even the most developed nations. Complex emergencies, resulting in humanitarian crises result in enormous health burdens for the affected population and often require wide-scale international assistance. WHO therefore proposes:

- Further reinforcing health vulnerability and risk assessment, multi-sectoral disaster risk reduction, health emergency preparedness, early warning, and health action in emergencies to help to ensure that people are better protected from the increasing hazards of extreme weather and help communities recover more quickly following a disaster.
- Support for increased capacity of health systems to prepare for climate-change hazards and extend services and continuity of care to mobile, hard-to-reach

- populations and newly established communities after displacement, bridging emergency relief and long-term sustainability.
- Strengthening of coherent partnership between humanitarian actors, NGOs, private sector, and national health systems through emergency preparedness measures in advance of any emergency, to be maintained from the very onset of the emergency and throughout the community recovery and stabilization phase.

***Strengthened disease surveillance systems, linked to weather forecasts, early warning systems and disease control programmes*** can protect health from local to global scales. Effective disease surveillance and control become even more important under conditions of rapid environmental change and movement of people, disease vectors and infections.

- Rapid and accurate disease notification, in compliance with the International Health Regulations, is an essential component for planning disease control.
- Extreme weather forecast and public health tailored early warning, such as the WHO Regional Office for Europe Heat-Health Action Plan, have great potential for using meteorological information to enhance early warning and effective response. They are relevant over a range of time scales, from hours or days (for example for flood or heat wave warnings), to weeks (for seasonal epidemics of vector-borne disease), to months (seasonal forecasts of precipitation anomalies allowing planning for flooding or drought), to years (for drought and associated food insecurity)
- Increased linkage of disease surveillance activities with meteorological and environmental information, for example as planned under the Global Framework on Climate Services, could greatly enhance the effectiveness of health-protection measures.

### ***Local public health interventions to build community resilience***

- Health loss and damage can be reduced by preventive actions along the full spectrum of health determinants, from reducing environmental hazards (for example ensuring access to safe water), to improving the social determinants of health (such as educating and empowering women in developing countries), to control programmes for specific diseases (for example Integrated Vector Management to make best use of a range of interventions to control vector-borne disease).
- Such strategies need to be flexible enough to take into account the diverse composition of modern communities, and include migrants and people from different ethnic and cultural groups, and with different health-seeking behaviours.

WHO is providing support and expertise to each of the above-mentioned responses, covering planning, global coordination, assisting national governments and regional partners, and making analytical contributions. Impact assessment, economic tools and reviews are a central part of WHO's work, such as conducting reviews of economic evidence and conducting cost-benefit analysis on interventions such as Malaria Early Warning Systems. WHO is also coordinating major pilot projects in 14 countries to generate the knowledge and capacity needed to scale up the solutions efficiently. The Organization will continue to ensure that this work feeds into the objectives and work programmes of the UNFCCC.

### **3. The role of the Convention in enhancing the implementation of approaches to address loss and damage associated with the adverse effects of climate change**

Parties to the UNFCCC commit themselves to avoid adverse impacts on "*human health and welfare*", as specified in Article 1, Paragraph 1, of the Convention. The ongoing and planned work outlined above is designed to support UNFCCC parties to achieve this goal.

However, UNFCCC delegates consider that health is relatively neglected compared to the importance that it should have within the negotiations<sup>6</sup>. We would therefore propose that the Convention could help UNFCCC parties to achieve their stated goals through:

- A results-based approach to fulfil the commitment in Article 4.1. (f) of the UNFCCC - i.e. "All Parties...shall: ...f. Take climate change considerations into account, to the extent feasible, in their relevant social, economic and environmental policies and actions, and employ appropriate methods, for example impact assessments, formulated and determined nationally, with a view to minimizing adverse effects on the economy, on public health and on the quality of the environment, of projects and measures undertaken by them to mitigate or adapt to climate change;", backed by monitoring and assessment of progress against this commitment.
- Continuing to encourage countries to include health as one of the priorities for national adaptation planning.
- Supporting health actors in assessing and addressing loss and damage from climate change in health, as well as economic and environmental terms, and designing appropriate response measures.

Finally, WHO would like to restate our commitment to help achieve the goals of the UNFCCC, and to lend all available technical support for health protection from climate change, under the mechanisms finally agreed by UNFCCC parties.

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<sup>6</sup> Singh, S., U. Mushtaq, et al. (2011). "The importance of climate change to health." *Lancet* **378**(9785): 29-30.