

A collaboration between the InterAcademy Partnership and Save the Children

Global Call For Policy Relevant Systems-based Climate and Health Case Studies Detailed background rationale

*The following document lays out the technical background to this call for case studies. In the first phase, only short abstracts should be submitted using the online form available here (<https://forms.office.com/e/FETdgm1Be7>) by the deadline of **31 May 2023**.*

After review, a number of authors will be invited to submit full-length case studies based on the structure outlined here and will be invited to a workshop to be held in Trieste, Italy, to present their work and discuss it with others.

Following the workshop, these selected case studies will be edited for clarity and consistency for publication by IAP.

Introduction

Climate change will shape the future of health of all communities, and it will deepen inequities (Haines and Whitmee, 2009). Planetary Health is a framework to understand and address the ways human impacts to natural systems such as the climate are leading to adverse human health consequences (Whitmee *et al.*, 2015). Planetary Health as a new transdisciplinary field is specifically committed to (1) building a *useful* evidence base on complex global environmental change and human health linkages, (2) executing systems-based (with cross-sectoral integration)¹ research with end-users' involvement, and (3) co-producing solutions for transformative change. Planetary Health goes beyond the existing global health framework to take into consideration the state of the natural systems such as the climate, biodiversity, oceans, lands and forests, upon which human health depends. Examples of the ways by which human-driven environmental change can affect health include those shown in **Figure 1**.

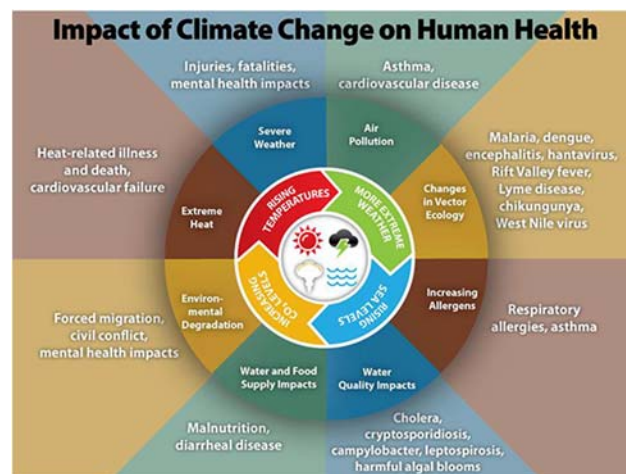


Figure 1. From: <https://www.cdc.gov/climateandhealth/effects/default.htm> - as cited in the IAP Report 'Health in the Climate Emergency: A global perspective' (IAP, 2022).

¹ Systems-based approach with cross-sector integration encompasses the complex interactions between natural and social systems and the integration of research outputs from across many disciplines throughout the processes for developing and implementing policy (IAP, 2022).

Human health risks and widening social and health inequities related to poor living environments could be reduced or prevented if the drivers and consequences of climate change are understood and this understanding is reflected in policy and planning. To this end, strategies that recognize and propose interventions across the entire system driving health outcomes, from ‘upstream’ drivers (e.g. climate change), to the underlying causal environmental hazards (e.g. increased flooding or droughts) and structural inequities (e.g. unequal access to infrastructure/services) which impact human health interactions (vis-a-vis displacement or loss of water access, etc.) are urgently needed for identifying practical solutions.

Activities in and outside of the health sector (e.g. industry, energy production, transport, agriculture) contribute to climate change and at the same time affect health. In many instances, the relationship between climate and human health can be non-linear and involve time delays and feedback loops (Whitmee *et al.*, 2015). Such complex, dynamic interactions can lead to health outcomes that are hard to predict and result in unintended consequences including disproportionate adverse impacts on underserved groups such as children, women and people living in poverty. This calls for what has been referred to as a “systems approach for sustainability” (Fiksel *et al.*, 2014; Bai *et al.*, 2016; Gatzweiler *et al.*, 2016). The nature of the climate change challenge calls for this approach in support of improved understanding of human health outcomes that emerge from the complex interrelationships between natural and social systems. This in turn could lead to a fuller understanding of trade-offs as well as the human consequences, intended or unintended, of decisions affecting climate change (Pongsiri *et al.*, 2019; IAP, 2022).

Systems-based approach

Systems thinking offers the opportunity for researchers and policymakers to address climate change in a holistic way, allowing them to consider the many factors and interactions that contribute to, or are affected by, climate change. Such thinking aims to see the difference between the root causes and symptoms of complex problems. In doing so, it can help to identify the most effective leverage points to stimulate positive change.

Systems thinking requires researchers and practitioners to understand how climate change will affect not only matters within their specific disciplines and sectors, but also the following:

- multi-sectoral impacts;
- trade-offs among the array of effects and policy choices across sectors;
- accounting for and, if possible, avoiding unintended consequences;
- disproportionate impacts on vulnerable and underserved communities; and,
- potential synergies or “win-wins” across sectors regarding the policies being formulated and implemented.

Need for case studies of policies and practical solutions to climate and health

The issues that climate change and health encompass can be difficult to communicate as they require audiences to think at a scale or connect drivers, systems and consequences that may be unfamiliar. There is a clear need for case studies of approaches to problem solving and policy development that draw upon the environmental and health sciences, as well as integrated

methods and co-production with users to address interlinked systems-based environmental change and health challenges. For example, quantifying human health impacts of climate change (including any harm caused by inaction and the estimated health benefits of action) could help policy-makers better understand health impacts and set priorities. Understanding the factors that drive social and behavioural change could also enhance climate actions at multiple levels (Rare, 2019). Applied modelling tools that incorporate linked climate change-human health relationships could inform planning for, monitoring and managing human health risks of a changing climate over time. Systems-based approaches or multi-criteria decision analyses could help identify key trade-offs and unintended consequences, and thereby inform climate mitigation or adaptation strategies involving multiple sectors (Haines *et al.*, 2009; Wilkinson and Haines, 2015; IAP, 2022).

While there are published reports that deal with such interlinkages, many are available in technical journals and academic language. This project aims to collate a collection of case studies that will present successful systems-based approaches in clear, concise language for policymakers.

Elements and requirements for policy-relevant/solutions-oriented Planetary Health case studies

IAP is now soliciting case studies (3,000 total words in length) reflecting work that demonstrates if/how the use of a systems-based approach (with cross-sectoral integration) to understand a climate and health problem either informed or could inform policies or solutions aimed at reducing or preventing risks to human health. There is high priority given to case studies that focus on the **linkages between climate and health** in four thematic areas:

- food systems and agriculture;
- energy, including production, distribution, access, efficiency;
- urbanization, including urban planning; and
- health systems strengthening.²

Most desirable are case studies which: (1) focus on a priority thematic area; (2) address underserved groups such as children and women; and (3) intended to address a solution or policy problem from the outset. If the study did not begin with the objective to directly inform policy or solutions, there is still interest in learning how the study/process undertaken could be used to directly inform policy or solutions for the future. There are no limitations on study date(s).

Key question for each case study:

How can policy-makers, the private sector and practice-based scientists use a global or local understanding of the relationship between climate and health to directly inform solutions or policies for sustainable development, environmental conservation, and/or public health at relevant spatial scales (local, subnational, national, regional, global)?

² WHO (2015); Kadandale S. *et al.* (2020).

Specific case-study elements and questions which the cases should aim to answer:

Case-Study Element	Requirements and Description
Focus	<p>Projects should have focused on human health influenced by one or more well-defined, measurable, human-driven environmental changes. Recognizing that human-driven stressors, alone or in combination, could lead to environmental changes such as climate change which directly or indirectly affects health, the scope of this call covers the wide range of climate-health relationships such as those in Figure 1, with priority on thematic topics “food systems and agriculture”, “energy”, “urbanization and urban planning” and “health systems strengthening”.</p> <p>(1) what was the specific climate-health relationship of interest? (2) what was the geographic location/spatial scale of study? (3) what was the population (disaggregated by age, sex) at health risk? (4) what is the known or probable causal pathway by which climate variability affected the health risk? (5) if the climate-health problem was not new or emerging, what have been the approaches used to date to address the problem, and where have they fallen short of effectively reducing or preventing the identified risks to human health? Were there any adverse side effects or unintended consequences to the historical use of these approaches? (6) what was the policy objective? (i.e. what was the desired impact for policy or solution to be informed)</p>
Team	<p>Team makeup should have involved actors from multiple disciplines and sectors such as academia, public sector, NGOs and the private sector so that the producers and users of scientific knowledge were working together. If the case involved actors from multiple disciplines and sectors, describe the contribution of each. If the case did not involve producers and users of scientific knowledge working together, explain why and if this created any limitations. Highlight any public or civil society engagement in the study process. Also of interest are study approaches which engaged community stakeholders to participate in the co-design and execution of study activities.</p> <p>(1) who were the actors and their associated disciplines/sectors? (2) what were the roles/contributions of each actor?</p>
Methods	<p>Methods should describe how systemic, complex interactions and feedbacks between human-driven environmental change and human health were documented and measured. This description should include:</p> <p>(1) which tools were used (e.g. assessment methodologies, mathematical models, agent-based or other systems models, decision analyses) to address</p>

	<p>the study objective and how? (i.e. increased understanding (quantitative or qualitative) of a specific climate-health relationship)</p> <p>Of particular interest is any cost-effectiveness assessment of a systems-based approach compared to ‘business as usual’ approaches.</p>
<p>Results and Products</p>	<p>Describe <i>how</i> study findings and approach was/can be used by decision-makers to inform solutions including reducing or preventing environmentally-driven human health challenges; policies for climate adaptation and mitigation. Analyses of efforts to apply a systems-based understanding of climate and health to inform decision-making are sought as well as efforts which fell short of complete success (recognizing that much can be learned from unsuccessful efforts and those which led to unintended consequences).</p> <ol style="list-style-type: none"> (1) what were the measurable results of the study? (2) how did the study inform policy or possible implementation of a solution? (3) how did the systems-based approach to understanding the climate-health problem identify and/or address any trade-offs or unintended consequences? (4) how did the systems-based approach improve on other approaches to address the study objective? <p>Note: Of priority are studies which intended to address a policy relevant, solutions-oriented question from the outset. If the study did not begin with the objective to directly inform policy or solutions, please describe how the study/process undertaken could be used to directly inform policy or solutions for the future (e.g. to frame a policy-relevant research study, including identifying study question, policy partners to be involved, clear vision of science to policy/impact pathway).</p>
<p>End-users</p>	<p>Clearly define the end-users of the understanding of the Planetary Health problem and their role(s) in the case study.</p> <ol style="list-style-type: none"> (1) who were the main target audiences for the activities described in the case study? (2) how were the study’s end-users (e.g. community stakeholders, decision-makers and/or civil society) involved?
<p>Lessons Learned</p>	<p>To document, further develop, and share best practices in Planetary Health science policy engagement, clearly identify:</p> <ol style="list-style-type: none"> (1) what are the enabling factors (legal, social, political, governance) required for policy application or having impact – and for impact to be sustained? (2) what factors impede or challenge policy application or having impact, and how can they be overcome?

	<p>(3) how can the application of solutions/policies described in this case study be used in other places or spatial scales experiencing or anticipating similar environmental changes or already observing public health impacts?</p> <p>(4) what is a specific <i>educational</i> opportunity to use the study products and lessons learned as part of long-term capacity building?</p>
Format	<p><u>3000 total words length maximum (abstract and body)</u> Abstract: 200 words maximum Body: includes focus, team, methods, results and products, end-users, lessons learned as described above. Please avoid using jargon or overly technical language References: 15 maximum Tables/Figures: 3 maximum, with captions (please confirm that you have permission to use each image and IAP has permission to publish them) Acknowledgements Submissions to be submitted in English Notation of where material may be previously published</p>

Desired impact of case studies on key audiences

The integration of environment, human health and sustainable development objectives underlies the United Nations (UN) Sustainable Development Goals (SDGs) which all UN member countries agreed to adopt and report progress. A peer-reviewed resource of policy-relevant, solutions-oriented case studies could inform science-based policy advice to governments to improve their practices to address natural systems and human health together in the context of the SDGs. The scientific and practitioner (e.g. healthcare workers, other implementers) communities could benefit by being informed of the need for multidisciplinary strategies to address interlinked climate-health challenges; and, of the need to also consider socio-environmental strategies to reduce, mitigate or prevent risks to human health at multiple levels – individual, community, subnational, national, and regional. Finally, policy relevant and solutions-oriented case studies could inform how researchers design, partner in, and execute studies in a way that has a positive impact for the long-term sustainability of our natural systems, human health and development.

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