



## Avoiding catastrophes: seeking synergies among the public health, environmental protection, and human security sectors

Global health catastrophes have complex origins, often rooted in social disruption, poverty, conflict, and environmental collapse. Avoiding them will require a new integrative analysis of the links between disease, armed conflict, and environmental degradation within a socioecological vulnerability and human security context. Exploring these connections was the aim of *Avoiding Catastrophe: Linking Armed Conflict, Harm to Ecosystems, and Public Health*, an expert workshop held in May 4–6, 2016, at Concordia University in Montreal, QC, Canada.

The deliberate disruption of essential health services and conflict-related displacement has facilitated epidemics (eg, cholera in Zimbabwe, measles in the DR Congo, yellow fever in Angola, or polio in Somalia, Afghanistan, Pakistan, and Syria), interfered with vaccination campaigns, and posed immediate threats and long-term burdens to regional health security.<sup>1</sup> Syria is currently facing an outbreak of cutaneous leishmaniasis as vector control programmes have been disrupted, and displaced persons experience poor housing, malnutrition, limited medical treatment options, and other susceptibility factors in refugee settlements.<sup>2</sup> Declining or poor access to land, food, fuel, and safe water forces people, often women, to travel further for resources or shelter, eroding human and ecological resilience. The residual effects of recent civil wars in Sierra Leone and Liberia, including fragile health-care systems and deep distrust of governments, substantially hampered the capacity to respond to the Ebola virus disease crisis.<sup>3</sup>

Conflict itself can exacerbate ecosystem degradation, decreasing the resilience and adaptive capacity of already vulnerable populations who are reliant on natural resources as sources of food, medicines, and wellbeing. Natural and human-induced disasters might also compound vulnerabilities and consequences. Civilian populations are often vulnerable to state or non-state armed forces that commit horrific war crimes, mass sexual violence, and other crimes against humanity, which can also lead to the spread of diseases. Although a global health security agenda might prioritise emergent threats to global health, smaller

localised outbreaks are often neglected and met with inadequate responses.

At the Concordia conference, experts in medicine, human rights, ecology and biodiversity, zoonotic disease, public health, health-care systems, war, genocide, and disaster-risk reduction explored new opportunities to achieve greater insight and understanding of the interplay between public health, conflict, and environmental degradation to avert catastrophe when each of these components spirals out of control. A firm commitment to engage in further collaborative multidisciplinary work was obtained.

There was consensus that resource allocation priorities should not reflect simplistic either/or scenarios for action on different scales. We urgently need therapeutics and vaccines to overcome the burden of existing diseases and respect the life and health of each sick or injured patient with optimal care. However, we also need a broader long-term vision—one in which we can avoid or reduce the future burden of emerging diseases such as Ebola (lest we forget HIV's rapid global rise just decades ago); avoid or reduce the myriad health effects of climate change, biodiversity changes, land-use change, and pollution; and tackle other drivers of disease that overlap with those of ecosystem degradation and societal disruption.<sup>4,5</sup> To do so, we need more coherent policies, legislative frameworks, governance structures, and strategic investments to support an agenda for sustainable development that respects ecological dynamics and thresholds, basic resource needs, cultural variability, and the fundamental right to human security, in line with a vision to achieve planetary health.<sup>6</sup>

With the unprecedented rise of climate change and natural disasters,<sup>7</sup> and the likelihood of increased conflicts associated with both,<sup>8</sup> there are no easy assurances about health, social, and environmental security. These efforts must also be met by broader collective action and political will, at local, national, and international scales. This can be facilitated by new platforms that synthesise research and policy outreach such as the Future Earth Health Knowledge-Action Network, the EcoHealth, One Health, and Planetary Health communities, and institutes like the Montreal Institute for Genocide and

Human Rights Studies that identify transdisciplinary solutions to the connected and compounded factors disproportionately faced by vulnerable populations.<sup>9</sup> Intergovernmental organisations such as the Secretariat of the Convention on Biological Diversity are actively reaching across disciplinary divides to integrate health and the environment in collaboration with the WHO and other partners. With a now-strengthened policy making arm (the UN Environment Assembly, established in 2015), the UN Environment Programme's Environmental Cooperation for Peacebuilding initiative can target the natural resource needs and environmental pressures in post-conflict planning.<sup>10</sup> Multilateral development institutions can better mitigate risks through integrated risk assessments to foresee potential interacting threats to environment, health, and social stability. Culturally sensitive, ethical, socially responsive, equitable and politically creative solutions are urgently needed to bring stakeholders and communities together in a united and committed front for the health of our people and planet.

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