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CLIMATE CHANGE AND HEALTH: RESEARCH CHALLENGES FOR VULNERABLE POPULATIONS

Humanity's inability to fit its activities into that pattern is changing planetary systems fundamentally. Many such changes are accompanied by life-threatening hazards. This new reality, from which there is no escape, must be recognized—and managed.

Our Common Future,
United Nations World Commission on Environment and Development, 1987

In recent literature on development, climate change appears to be acquiring a position of unparalleled importance. Its links with most development debates is unquestionable; linkages with health however continue to be debated and discussed in various public discourses, media and research literature. Why has it taken so long to see what is obvious? What are the relationships and interlinkages between climate change and health? And what are the emergent priorities in this context?

Debate on climate change and health can only be understood when viewed within the paradigms of development and *neo-development,* growth and globalization, neo-liberalism and frameworks of inequality and contextual understanding of health burdens and realities with respect to multiple webs of causation and determinants.

Climate change mainly refers to large and irreversible changes in the earth's climate and the loss of sustainability in climatic factors, all of which can have implications on human life and lifestyle, physical environment, infrastructure, growth and development, disease and health patterns and human existence. Human health is vulnerable to the inconsistencies of the environment, due to variability in temperature, pressure and climate. The danger of climate change could be simplistically classified into two groups: greater extremes of weather and climate; and, unforeseen weather in areas of the world (i.e. extreme heat in cold areas and vice versa). Both of these changes bring with them implications for human health and disease burdens.

Health research has broadly been grouped into research on infectious and chronic diseases; the boundaries between the two have been contested with instances of tuberculosis (TB) emerging as a chronic illness. However, the distribution of diseases following the epidemiological transition has led to developed nations suffering large chronic disease burdens with growing numbers of older populations, and the developing nations fighting the burden of infectious diseases and brimming with younger populations. This balance is disturbed, however, and chronic diseases are increasingly seen in the developing world, coexisting with infectious disease and giving rise to a phenomenon popularly called the "double burden". At the same time, inequality and deprivation within the developed world has led to the re-emergence of infectious disease like TB.

Health inequalities and their relationship with social phenomena have often dominated discussions in society and health. Inequality and how it impacts health, together with the reproduction of social inequalities in health, are seen as crucial challenges with "no easy answers". These inequalities demonstrate quite clearly that vulnerabilities and marginalization from restricted opportunities and opportunity structures bring forth challenges. Research cannot remain insulated or immune to these questions.

Climate change introduces a new set of risks and concerns for different groups. The lack of a level playing field within nations and unequal global frameworks bring forth future risks, where existing inequities and vulnerabilities are not merely strengthened, but the gaps between opportunities available to different groups actually increase. For instance, climate change might induce several climatic and weather hazards in developing nations of south Asia. The already existing social inequalities in access and survival are bound to proliferate and lead to further poverty and deprivation for many social groups. Floods for instance, are bound to affect large populations in Bangladesh; their impact would compound, however, for the most vulnerable groups – those on low incomes, women, people with disabilities, and other disadvantaged groups that sit low on the social gradient.

Discussions on climate change and environment have used the argument of growth and the implications of climate change on flows of wealth for the world. While economic growth is a lucrative incentive for researchers and policy-makers to examine drastic changes in the environment, the relationship between climate change, development and human health is a story of human rights and of survival. Researchers and policy-makers must look beyond immediate monetary goals into long-term priorities and explore openings to deal with challenges of climate change and health.

Research into the relationship between climate change and health is largely underdeveloped. Despite the availability of sophisticated tools in science as well as medicine, the area has often been relegated, and arguments to pursue this relationship are often based on conjectures, contestable speculations and unreliable correlations. Despite the advances made, disciplines, researchers and policy-makers have largely been unable to accumulate the political will and assimilate the analytical tools into a strong body of interdisciplinary learning that would capture the range of pure medicine, public health, physical sciences and social sciences. Only with such an interdisciplinary approach can we begin to effectively address some of these questions for the future.

The first research challenge would be to gather the political will and resources to manage climate change. Climate change and the associated realities are inevitable and irreversible, and need to be intelligently managed. This can only be done with a dialogue between national governments, international organizations, industry, the research and academic community, civil society and all other related groups. Only this breakthrough and a common global mandate can generate the momentum needed to deal with the implications of climate change and its impact on health, particularly for vulnerable groups. Social justice needs to be a priority in this agenda and vulnerable groups in all societies need special attention.

The second important research challenge would be to develop rigorous research and theory on the relationship between climate change and health. Some of the

current findings have opened this dialogue, but research on climate change and health needs to involve public health practitioners and researchers from all areas. Rigour in research needs to be encouraged to be able to come up with strong policy prescriptions. The research community needs to develop its analytical tools, as well as critically evaluate what is available in order to fashion this.

Thirdly, research on climate change and health needs to prioritize areas and groups that are most affected by this relationship, irrespective of which part of the world or social segment they belong to. A humanist approach needs to be developed, accompanied by equity and social justice. Transparent policies on industry, growth and development and the implications of climate change and health within these sectors need to be encouraged. Neo-colonial frameworks in trade on health goods and services are one of the first concerns in this regard, and medical aid must be made available to the most vulnerable immediately and at the lowest costs.

Climate change is a global phenomenon; its impact and implications however are local. Much of the fight against climate change and its impact on health, particularly for the vulnerable sections of society, are a priority on the international agenda. Research on climate change and health must further develop the vision to address the critical needs of vulnerable populations, and not forget the social inequalities that arise in the context of macro interventions. Research must understand and address social inequalities in health and develop a larger mission and agenda on countering the challenges posed by climate change and its implications on health.

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