Climate and Health Interlinkage

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Climate change threatens human health in numerous ways by increasing the likelihood of extreme weather events, poor air quality, wild fires, floods, droughts; it causes illness transmitted through food, water and disease carrier's like mosquitoes and ticks.

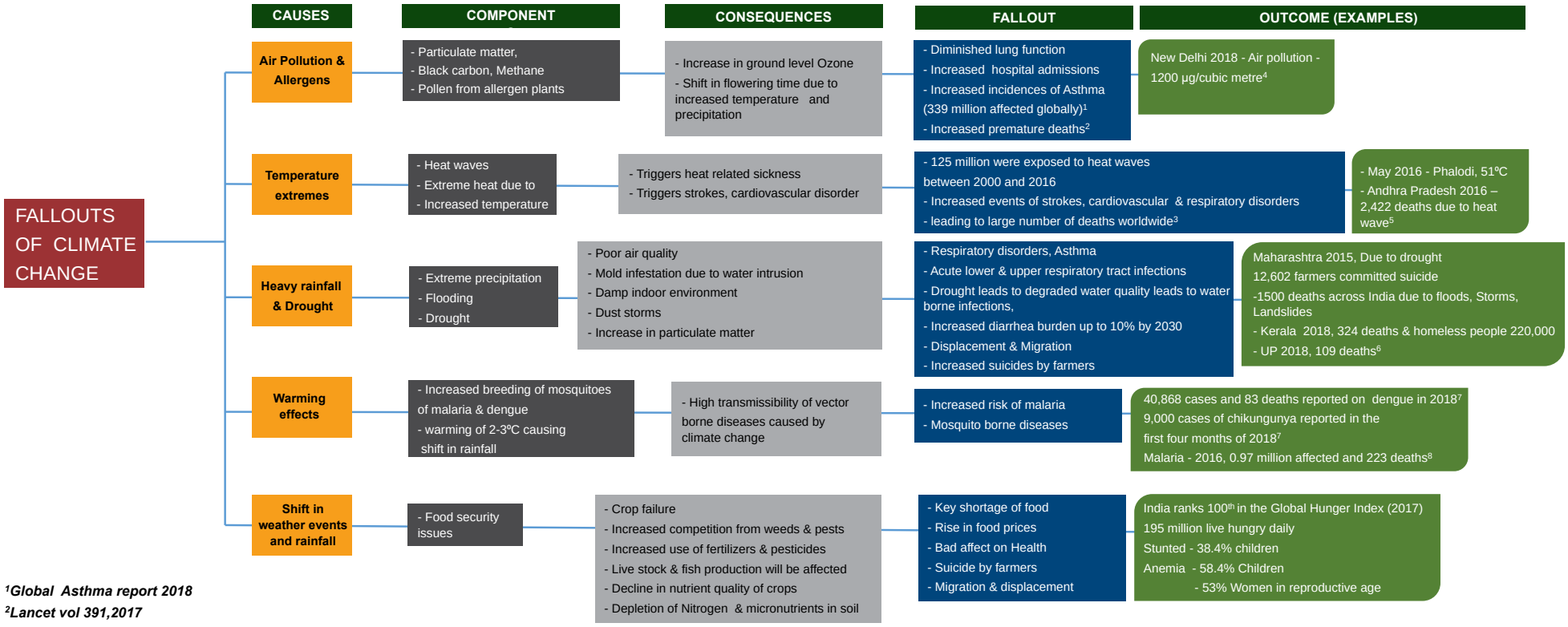
The strong link between climate change and sustainable development has elevated it to a key priority among the seventeen components of the SDGs as described by the UNDP. The target of achieving a poverty-free, peaceful and healthy planet has been set for 2030. More specifically, the associated targets of SDG 13 focus on the integration of climate change measures into national policies, the improvement of education, awareness-raising and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning.

Risks from climate change are now mainstream in the health discourse. This is evidenced by the recent proliferation of large health and medical coalitions, such as the Global Climate and Health Alliance and the Medical Society Consortium on Climate and Health. The Belmont Forum, a consortium of 26 major and emerging funding agencies concerned with global environmental change, has signalled interest in investing in research on health and climate change. Similarly, the World Bank's emphasis on "Climate Smart" strategy aims to improve health systems in concert with those systems that mediate a good part of the heath impact of climate change such as access to energy and clean water, and urban development.

Although climate change poses global public health problems, not everyone is equally at risk. Important considerations include age, economic resources and location. It is often said that the poorest are most vulnerable to climate change due to their obvious lack of resources to cope with extreme events, and therefore these vulnerable communities face a disproportionately higher risk. More than 38,000 additional people are expected to die due to heat exposure as per conservative estimates by WHO, compared to projections without climate change between years 2030 and 2050. It is therefore important to consider the impacts of climate events on the already-fragile health conditions of vulnerable populations. For instance, in areas with poor physical and social infrastructure, natural disasters like floods can often adversely impact a community's resilience and emergency response capabilities. It is critical to attend to such issues in emerging economy contexts like India, where addressing climate change through mitigation and adaptation can lead to better health outcomes for society's most vulnerable.

The linkages of climate change to some of the vector-borne and communicable diseases are well-understandable, as the atmospheric warming and resulting effects of flooding, water contamination, etc., often leads to more conducive environment for survival and propagation of pathogens as well as vectors.

The wide-ranging health impacts are scientifically well documented and are represented in Fig.1 to give an overview of the various components that affect health.



[1]Global Asthma report 2018
[2]Lancet vol 391,2017
[3]Lin etal 2009, Epidemiology, 20, 738-746
[4]Phys.org - August 2018
[5]The Guardian - June 2018
[6]India: Floods & Landslides - June 2018
[7]National Vector Borne Disease Control Programme, GOI
[8]Disease control Programme (NVBDCP) Annual Report 2016-17

Fig.1: Fallouts of Climate change on health

Economic impact of climate change on health

A variety of attendant social and environmental determinants make it difficult to establish the economic costs of climate change on health in quantitative terms. However, research projects spanning the past decade have substantively quantified the relationship between climate and health relationships outcomes.

The direct costs from damage to health excluding sectors like agriculture, water & sanitation could be between 2-4 billion USD per year by 2030 (WHO report on climate change and health, Feb 2018).

According to recent research from the World Bank, the economic costs related to damage by air pollution is around 500 billion USD for India, and 1.4 trillion USD for China. Research further projects the loss of productivity due to heat in Asian countries at 11-20% by 2080.

As noted by the Bank, resources to mitigate such impacts are still inadequate: While many countries and institutions have realized the importance of climate resilience mechanisms in the health sector, funding in this sector accounts for only 13.3% of total global adaptation spending. Furthermore, only 15% of countries have a national climate change action plan with reference to health.

According to a study by WHO, between 2030 and 2050, climate change is expected to cause 250,000 additional deaths per year by increasing instances of malnutrition, diarrhoea, malaria and heat stress.

PROACTIVE MEASURES REQUIRED FOR ADAPTATION AND RESILIENCE TO CLIMATE AND HEALTH

In the emerging economies like India, climate change is poised to have profound impact. While public health programmes focusing on under-nutrition, WASH to reduce the waterborne infections, prevention of respiratory disorders, cardiovascular diseases and stroke are being actively taken up, there is little being done to address these from the climate change perspective.

Furthermore, without greater investments to strengthen health-sector resilience, the recent gains made through small-scale/individual interventions cannot be scaled. Thus, it is critical to build models or pathways to health-sector resilience that leverage evidence-based understanding of the threats posed by climate change. Instead of isolating the issues, stakeholders in government, private sector, and civil society should coalesce around a shared agenda that utilizes climate change adaptation mechanisms to improve public health outcomes. Such engagement can be fortified by the involvement of non-governmental organizations (NGOs), known to work with communities in less-developed countries on issues that impact human development. NGOs connect governments and international institutions with communities that need assistance through programs which benefit the socio-economically deprived.

Confronted with development imperatives, India's exposure to climate risks are significant enough to dampen the country's growth prospects. According to World Bank's Action on Climate & Health, India happens to be a geographic hotspot, highlighting the need for investments in the following areas in order to target resources for maximising impact and minimising risks.

Some of the key areas are identified as follows:

- Focus on the social determinants of health to better understand the health risks associated with climate change;
- Multisector economic analysis - to better illustrate for example environmental and health benefits of shifting behaviours, for instance, to use public transport system, use of advanced cook stoves, etc.;
- Predictive modelling of the health as well as economic outcomes associated with climate change should also help in taking corrective measures through interventions;
- Real-time monitoring of emissions/effluents and identifying the sources of the emissions/leaks and the health disorders associated with it along with its social impact should be pursued more intensively;
- It is important to determine the impact of climate-smart agriculture on human health, as climate-smart agriculture is known to improve human well-being through improved food and nutrition outcomes.

Contending with the adverse impacts of climate change could cost India 2.8 percent of its GDP and depress the living standards of nearly half the country's population by 2050, according to a World Bank report. In such light, it makes profound sense for the private sector to invest in work outlined above. Not only do such projects make business sense, but they also open up opportunities to deploy CSR funds in collaboration with governments and multilateral agencies to offset negative environmental externalities. The way forward is an optimal balance of multi-sectoral resources and an interdisciplinary approach, supported and sustained by collaboration between different sectors. Indeed, such a response will go a long way in facilitating the design, financing, and implementation of a cost-effective and high-impact strategy minimising the effect on public health from climate change issues.