

Sector Briefing on Climate Change Impacts and Adaptation

HEALTH

Climate change, considered the biggest global health threat of the 21st century, will pose challenges to the public health community at the global, national, and local levels. Improved understanding of the human health dimensions of climate change will enhance countries' capacity to cope with and respond to challenges. While such responses will be developed through interventions by the health sector itself, adaptation responses will also involve other sectors such as urban development, water, agriculture, education, and disaster risk management.

Potential Impacts of Climate Change on Health

Rising temperatures and more frequent, persistent, and intense extreme weather events will have significant implications for human health.

Potential health risks from climate change include

- Rising temperature, compounded with poor air quality, particularly in highly populated areas, is likely to cause widespread heat stress and smog-induced cardiovascular and respiratory illnesses.
- Warmer temperatures, heavy rainfall, and more frequent floods will increase the geographical habitat of disease vectors as well as the incidence of waterborne infectious diseases.
- More frequent and/or intense storms and typhoons, combined with an increasing number of people living in coastal areas, are likely to increase injuries and deaths, water contamination, infectious diseases, food shortages, and mental health problems.
- Significant reductions in crop yields as a result of more intense floods, drought, heat stress, and pests and disease will likely lead to increased malnutrition and micronutrient deficiencies.

- More intense droughts are projected to increase the likelihood of forest fires and dust storms, adversely impacting air quality over broad rural and urban areas.

While all populations are vulnerable to climate-induced health risks, the populations most at risk include

- the elderly, children, women, and the poor as a result of their limited adaptive capacity;
- communities in low-lying areas and coastal settlements;
- urban residents due to heat-island effect, outdoor and indoor air pollution, and high population density;
- those in locations with water shortages, poor sanitation, and intermittent power supply; and
- migratory populations who tend to live in temporary settlements which are more conducive to health hazards.

Adaptation Options

A wide variety of adaptation measures can be carried out to address the health risks from climate change. These measures fall into three broad categories: information and knowledge support, health system strengthening, and infrastructure development and planning.

Information and Knowledge Support

- Strengthen data collection and analysis to support national adaptation strategies and risk management plans that address health vulnerabilities.
- Disseminate information to improve awareness of climate risks for the general public, health professionals, and emergency responders.
- Develop weather forecasting, early warning systems, and local climate impact scenarios to ensure that information reaches the most exposed and vulnerable.
- Increase the capacity of communities and professionals to respond to the health impacts of climate change among the elderly, women, children, and the poor to reduce their vulnerability.

Health Care System Strengthening

- Estimate the health impacts of climate change to improve the planning and allocation of resources to the health sector.
- Incorporate early warning systems in disease surveillance and response systems.
- Develop health information systems to facilitate a better understanding of the relationship between climate, disease outbreak, and response.
- Promote awareness among health professionals of likely changes in disease patterns as a result of climate change and provide training for rapid detection and treatment.
- Strengthen primary health care services to enhance the resilience of local communities to climate-related health risks.
- Strengthen environmental health capacity to predict, detect, and reduce the spread of vector-borne disease.

Climate-Proofing of Health Care Infrastructure

- Make hospitals and community clinics more climate resilient through appropriate design and building materials.
- Locate health care infrastructure outside vulnerable areas.
- Design and build climate-proof water facilities to prevent flooding and contamination of water supply.
- Limit settlements in flood plains with updated and enforced coastal setback and flood area zoning regulations.
- Plan for backup power capacity in health service facilities in areas where natural disasters may occur.

Accounting for Health Impacts of Climate Change

Based on case studies of climate change impacts on health in Nepal, the Philippines, and Tajikistan, a recent ADB-funded study emphasized that preventing the projected health impacts of climate change is likely to be more effective than a strategy solely focused on reacting to (i.e., treating) those health impacts. It further suggests the need to better understand the nature of the health impacts of climate change as well as of the health impacts of investment projects, including adaptation projects in agriculture, water, and disaster risk reduction. The report also stressed the need for climate experts, health experts, and economists to communicate more effectively with each other to ensure that the health impacts of climate change are fully integrated into projects' technical and economic assessment.

Source: ADB. 2011. *Accounting for Health Impacts of Climate Change*. Manila.

- Maximize natural ventilation in the design of housing and health centers to mitigate the effects of heat waves and cold spells, and include green spaces in urban design.

There is no universal single-best adaptation measure to address the projected health impacts of climate change. Possible options need to be appraised against a set of predefined criteria given the specific socioeconomic characteristics of target populations. These criteria may include technical feasibility as well as the costs and benefits or cost-effectiveness of adaptation options. The health impacts of climate change adaptation investments in sectors such as water, agriculture, and urban development should be explicitly accounted for.

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