

# Climate Change and Human Health in Asia and the Pacific: From Evidence to Action

Report of the Regional Workshop  
Bali, Indonesia, 10-12 December 2007



**World Health Organization**

Regional Office for South-East Asia

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# Recommendations: Regional framework for action to protect human health from the effects of climate change in Asia and the Pacific

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Participants of the regional workshop on climate change and human health, held in Bali, Indonesia from 10 to 12 December 2007, officially representing the governments of Bangladesh, Bhutan, Brunei Darussalam, Cambodia, China, Fiji, Indonesia, Japan, Lao People's Democratic Republic (PDR), Malaysia, Maldives, the Federal States of Micronesia, Nauru, Nepal, New Zealand, Palau, the Philippines, the Republic of Korea, Solomon Islands, Sri Lanka, Tonga and Vanuatu, jointly developed a regional framework to guide regional and national action towards reducing the potential burden of disease linked to the effects of global warming and climate change.

## Preamble

During the last 100 years, human activities related to the burning of fossil fuels, deforestation and agriculture have led to a 35% increase in the carbon dioxide (CO<sub>2</sub>) levels in the atmosphere, causing increased trapping of heat and warming of the earth's atmosphere. The Fourth Assessment Report (AR-4) of the Intergovernmental Panel on Climate Change (IPCC) states that most of the observed increase in the globally-averaged temperatures since the mid-20th century was very likely due to the increase in anthropogenic greenhouse gas (GHG) concentrations. Eleven of the last 12 years (1995-2006) rank among the 12 warmest years in the instrumental record of global surface temperature. The IPCC also reports that the global average sea level rose at an average rate of 1.8 mm per year from 1961 to 2003. The total rise in the sea level during the 20th century was estimated to be 0.17 m.

The globally averaged surface warming projected for the end of the 21st century (2090-2099) will vary between 1.1-6.4 degrees centigrade.

The global mean sea level is projected to rise by 30-60 cm by the year 2100, mainly due to thermal expansion of the ocean. It is very likely that hot extremes, heat waves and heavy precipitation events will continue to become more frequent. It is likely that future tropical cyclones (typhoons and hurricanes) will become more intense, with larger peak wind speeds and heavier precipitation, causing loss of life and an increase in injuries. These climatic changes will cause disruption of the ecosystem's services to support human health and livelihood, and will impact health systems.

The IPCC projects an increase in malnutrition and consequent disorders, with implications for child growth and development. The disruption in rainfall patterns can be expected to lead to an increased burden of diarrhoeal disease and to the altered spatial distribution of some infectious-disease vectors. WHO estimates that the modest anthropogenic climate change that has occurred since 1970, claims 150 000 lives annually.

Therefore, the IPCC urges a drastic reduction in GHG emissions to mitigate global warming and an urgent implementation of adaptation measures.

The current and emerging climate change-related health risks in Asia and the Pacific include heat stress and water- and food-borne diseases (e.g. cholera and other diarrhoeal diseases) associated with extreme weather events (e.g. heat waves, storms, floods and flash floods, and droughts); vector-borne diseases (e.g. dengue and malaria); respiratory diseases due to air pollution; aeroallergens, food and water security issues; malnutrition; and psychosocial concerns from displacement.

These risks and diseases are not new, and the health sector is already tackling these problems. However, the capacity to cope with potentially increasing levels of these risks and diseases is limited, particularly in developing countries.

There is a growing, but still limited, political commitment to integrate health considerations into efforts to mitigate and adapt to climate change at national and international levels in the Region. Also, there is also insufficient awareness among the general public about climate change and its impact on health.

The availability of relevant hydro-meteorological, socioeconomic and health data is limited and available data are often inconsistent and seldom shared in an open and transparent manner. Furthermore, there is insufficient capacity for assessment, research and communication on climate-sensitive health risks in many countries, as well as insufficient capacity to design and implement mitigation and adaptation programmes.

There is an urgent need to incorporate health concerns into the decisions and actions of other sectors while they plan to mitigate and adapt to climate change, to ensure that these decisions and actions also enhance health. By promoting the use of non-motorized transport systems (e.g. bicycles) and fewer private vehicles, greenhouse gas emissions would be reduced, air quality would improve and more people would be physically active. Such an approach would produce associated benefits (i.e. reduce the burden of disease while lowering greenhouse gas emissions) and needs to be promoted.

## Goal and objectives of the regional framework

### *Goal*

To build capacity and strengthen health systems in countries and at the regional level to protect human health from current and projected risks due to climate change.

### *Objectives*

- (1) Increase awareness of health consequences of climate change:

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