Climate Change and Health

There is now increasing evidence to indicate the serious impact of climate change on health. For example, dengue emerges in countries previously free from it, and there are reports of malaria occurring increasingly at higher altitudes. Another major concern is the serious impact that climate change will have on food security and the nutritional status of populations. Such an impact is bound to occur due to the variability of rainfall patterns, droughts and floods that will affect agricultural practices and the resulting quality and quantity of crop yields.

WHO is responding to climate change by taking action in collaboration with many other partners such as the United Nations Environment Programme (UNEP), the United Nations Development Programme (UNDP), and the Intergovernmental Panel on Climate Change (IPCC), to explain the impacts on health and search for both mitigation and adaptation options to the causes and consequences of climate change.

The Joint Meeting of Health Secretaries and the Consultative Committee for Programme Development and Management held in the Regional Office from 2-6 July 2007, discussed the issue and made the following recommendations:

**Action by Member States**

1. The health sector should assume leadership in putting forward health arguments for mitigation of climate change in line with the policies of other sectors;

2. The health sector should prepare for mitigation of anticipated effects of climate change on health, i.e. through emergency preparedness for disasters; and measures for prevention and control of vector-borne diseases, diarrhoeal diseases and malnutrition, and

3. Countries should monitor and document the health effects from climate change.
Action by WHO-SEARO

(1) Support capacity enhancement of the health sector to take the leadership role in providing strong arguments on the health impact of climate change;

(2) Enhance the global, regional and sub-regional collaboration for joint action towards conducting research on the health effects of climate change and strengthening institutional capacity thereby leading to evidence-based policy and action;

(3) Provide and share advocacy and educational material and documentation with Member countries for sensitizing political leaders, policy-makers and the community on the public health effects of climate change on them, particularly the vulnerable population groups, and

(4) Observe “health and climate change” as the theme for a World Health Day, in order to issue a call for global and national action.
Issues

1. There is now a clear scientific consensus that the earth is warming, with more extreme events, such as heat waves, floods and droughts taking place, and that human actions are the dominant cause of these changes. Global atmospheric concentrations of carbon dioxide, methane and nitrous oxide have increased markedly as a result of human activities since 1750, and now far exceed the pre-industrial values which have been determined from studies of ice cores that span many thousands of years. The increase in carbon dioxide concentration has been primarily due to fossil fuel use and land-use change, while that of methane and nitrous oxide has been primarily due to agriculture. The evidence of warming of the climate system is unequivocal, and is observable in increases in global average air and ocean temperatures, widespread melting of polar and glacial snow and ice and rising average sea levels. Climate change is projected to accelerate over the coming decades, with temperatures increasing at approximately 0.2 degree Celsius per decade. Even if concentrations of all greenhouse gases and aerosols had been kept constant at year 2000 levels, a further warming of about 0.1 degree Celsius per decade would be expected. Anthropogenic warming and sea-level rise would continue for centuries due to timescales associated with climate processes and feedback even if greenhouse gas concentration were to be stabilized. Such warming will induce many changes in the global climate system during the twenty-first century that would very likely be larger than those observed during the twentieth century.

Health and related risks

2. Climate change poses health risks that are global, diverse and slow or impossible to reverse. Observational evidence from all continents and most oceans shows that many natural systems are being affected by regional climate changes, particularly temperature increases. These and related effects are likely to impact the health status of millions of people. There is now strong evidence that the climate change that has occurred so far is already causing health effects, for example by increasing the likelihood of a heat wave like the one in 2003, which killed over 35000 people in Europe, and by contributing to conditions for malaria epidemics in the tropical highlands of many countries. Climate change affects some of the most important disease burdens, particularly those related to childhood, such as malnutrition, diarrhoea and also malaria and viral fevers. It will also affect populations that are the most vulnerable, and those who live in specific physical environments such as low-lying islands, river delta plains, and seaside areas. Communities that are poor and are inadequately protected by health services would also be severely affected. The greatest concern is for regions with the highest burden of climate-sensitive disease, the weakest public health capacity to respond to the additional demands for health services, and where climate change is most likely to slow the socioeconomic development. Unless actions are taken to reduce and respond to this threat, the disease burdens will increase, with the possibility of severe shocks to global public health.

3. The case of the SEA Region is naturally of serious concern to us because we inhabit it. But the vulnerability is especially great because this Region is already disaster-prone. Low-lying regions such as Maldives and other Indian Ocean islands, Bangladesh, and the Indian coastline are at risk from sea-level rise. More intense and frequent weather events such as
cyclones and floods would result in the loss of precious lives and income, and leave scores of families and communities bereaved. Sea-water intrusion would cause fresh-water contamination, which could result in outbreaks of diarrhoea and a severe impact on affected populations. Furthermore, the displaced populations would be subject to potential psycho-social conflicts of adjustment to new habitats and alien environments.

4. Populations living in high altitudes may also get affected by these changes. Already the lives of those living in the high altitudes of the Himalayas are being affected by the risks linked to flash floods from bursting glacial lakes, caused by melting glaciers. Glacial retreat in the Himalayas will also shrink freshwater supplies not only in situ, but also downstream. Warmer temperatures will impact on biodiversity and upset agro-ecosystems, and probably will induce outbreaks of dengue and malaria. Moreover, climate change will disrupt rainfall patterns and bring about droughts that in turn would increase food insecurity, malnutrition and conflicts over water, and also precipitate huge population displacements.

Mitigation and adaptation

5. Action to address climate change is possible on two fronts. The first priority is to reduce emissions of greenhouse gases. Changes in lifestyle and behaviour patterns will be needed to contribute to climate change mitigation across all sectors. Management practices can also have a positive role especially those aimed at achieving higher energy efficiency. Although mitigating the impacts of climate change is paramount, it is also important to adapt to its impacts through preparedness and protective action. A wide variety of national policies and instruments are available to governments to create incentives for reducing greenhouse gas emissions and to initiate adaptation.

6. Several countries in the SEA Region have already taken action in this regard. Most have set up national bodies to specifically study national vulnerability and assess the potential impacts from climate change. Some countries have established national committees that are in charge of developing action plans to reduce greenhouse gas emissions and select adaptive measures. The National Climate Change Committee, established in 1993 by the Royal Thai Government, the Interministerial Committee on Climate Change established in Sri Lanka and the recently created Indian Prime Minister’s Council on Climate Change are a few examples. All countries in the Region have preparedness and response plans for early warning systems, based on forecasting information that can be used to meet the challenges posed by climate change. For example, Bhutan has developed a plan to carry out concrete actions in five priority areas: by instituting medical emergency response; strengthening programmes aimed at controlling vector-borne and waterborne diseases; setting up an early warning sub-system by coordinating disease surveillance and climate-monitoring activities; reducing the risks of vector-borne and waterborne diseases by engaging and empowering local communities and through advocacy and awareness-raising measures in general.

WHO’s response

7. WHO has rapidly and effectively assembled critical evidence of the problem and is now increasingly focused on raising awareness and supporting policy responses. This includes highlighting the health dimensions of climate change at major international meetings (annual
conferences of the United Nations (UN) and ministerial meetings), working with other UN agencies on new initiatives and partnerships (Piloting health adaptation to Climate Change, with Bhutan as the pilot country in the SEA Region), and holding advocacy meetings and workshops. An attempt is also being made to urgently bring together the wealth of information on this topic that WHO and partners have accumulated over the years into an organized and coherent whole. Armed with this knowledge, the health sector would be in a strong position to advocate for the need to prioritize the health dimension of climate change and to increase opportunities for tapping the amounts of donor funding that would be forthcoming for climate change action in the future. This information will also help forge a thorough understanding on the part of national health and other leadership of link between climate change and health. Such understanding would hopefully ensure a sustained commitment to climate change-related efforts and needed strategic actions. Such a strategy might include six key elements: evidence-based actions; strengthening the key features of the public health system that are aimed at protection from climate change; guiding health development by promoting and advocating for energy-efficient national development options; advocating for individual behaviour change towards more environment-friendly choices; advocating with the private sector for investment and marketing approaches that would reduce environmental health risks; and monitoring and evaluating the effectiveness of climate change-related effects.

8. WHO is supporting all Member countries in the SEA Region to understand the linkages between climate change and health and to help develop policy responses. It is also working in partnership with other agencies such as the World Meteorological Organization (WMO), the UNEP, and the UNDP. Three specific regional workshops have been held on this topic in the recent past. Most recently in 2007, a Workshop on Climate Change and Health in South-East and East Asian Countries was held in Kuala Lumpur, Malaysia, and was attended by representatives of countries from both South-East Asia and the Western Pacific regions; an Inter-regional Workshop on Human Health Impacts from Climate Variability and Climate Change in the Hindu Kush Himalaya Region was hosted by India in 2005; and the Synthesis Workshop on Climate Variability, Climate Change and Health in Small Island States was hosted by Maldives in 2003.

**Future action**

9. At the national level, high-level health policy directives need to be given to: recognize the primary role that the health sector must assume in developing and implementing national action plans for mitigation and adaptation to climate change; to express, as a priority, national commitment to address the challenges posed to human health by climate change; to provide clear directions to plan actions and investments at the national level to address the health effects of climate change and to promote the wider objective of strengthening the preventive approach to public health.