

# Environmental Health Update

## Sustainable Development and Healthy Environments



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### Focus of the month

#### Climate change – we need urgent action, now!

It is now universally acknowledged that the climate change we are witnessing will continue for a long time. This obviously has serious implications for human health. One of the main findings of the Fourth Assessment of the Intergovernmental Panel on Climate Change (IPCC) released in November 2007 is that “Warming of the climate system is unequivocal, as is now evident from observations of increases in global average air and ocean temperatures, widespread melting of snow and ice, and rising global average sea level”. The assessment also stated that “Anthropogenic warming could lead to some impacts that are abrupt or irreversible, depending upon the rate and magnitude of the climate change”.

Increasing global temperatures will translate into more frequent and more intense cyclones, unusual patterns of rains and floods, but also, in some places, droughts. At the same time, we will see a rise in sea levels. The consequences that projected climate change will have on water availability, food production and land and property loss have the potential for triggering major population displacements and, indeed, social conflicts. These changes could also gravely

affect national economies and generate political and social unrest.

The projected effects from climate change will impact all countries of the South-East Asia Region, from rapid glacier melt in the Himalayas that will increase flooding, and rock avalanches, to reduced water and food resources, particularly in the large river basins. Indeed, IPCC states that “Coastal areas, especially the heavily-populated mega delta regions in South, East and South-East Asia, will be at greatest risk due to increased flooding from the sea and, in some mega deltas, flooding from the rivers”.

The impact on human health from climate change will be significant. The reduced availability of drinking water could mean more frequent and more severe outbreaks of diarrhoeal



diseases such as cholera. IPCC confirms that “Endemic morbidity and mortality due to diarrhoeal diseases primarily associated with floods and droughts are expected to rise in East, South and South-East Asia due to projected changes in the hydrological cycle associated with global warming”.

Scarcity of water and food could increase malnutrition. Water and sanitation programmes in all countries in the Region have made significant efforts towards reaching the Millennium Development Goals. Although much still needs to be done, in particular in terms of ensuring safe water in rural areas and sanitation



### Highlights

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coverage in general, a lot has been achieved in the last decade. For example, in the South-East Asia Region the estimated number of deaths from diarrhoeal disease has come down from close to 980 000 in 1999 to 504 000 in 2005. But progress can be negated or reversed by the onset of climate change. There is an urgent need to strengthen these programmes to preserve these achievements and prepare the health sector to meet the new challenges ahead.

Warmer temperatures will favour the development of vector-borne diseases such as dengue. Vector control programmes in countries of the Region have performed relatively well; the number of estimated malaria deaths has dropped considerably from 69 000 in 1999 to less than 24 000 reported fatalities in 2005. But, the number of dengue deaths only dropped from 12 000 in 1999 to 9 600 fatalities in 2005, posing increased challenges to national vector control programmes. One of the reasons could be more favourable breeding conditions – warmer temperatures and increased humidity, especially in urban settings. Vector-borne disease prevention and control will not be able to achieve results unless strengthened and oriented towards more efficient community participation.

Hence, it is vital for the health sector to prepare for the challenges posed by climate change. But responding



to climate change does not mean creating new programmes; effective action to protect human health from climate change can be achieved with stronger and well-coordinated national health systems that give priority to climate-sensitive diseases – notably at the primary level. Key preventive public health actions will need to aim both to improve health today and to reduce vulnerability to climate change in the future. It is, therefore, vital for individuals, communities, the corporate sector and national authorities to make the behavioural and policy changes that will bring immediate health benefits and also reduce the impact on human health due to global climate change.

## SDE News

### Indonesia determines priorities to address the impacts of climate change on human health

A national workshop on Human Health and Climate Change was organized in Jakarta, Indonesia on 22-23 November 2007. This workshop was attended by 48 participants of national health officers, environmental experts, researchers, meteorological agencies, Public Health Experts Association, Planning Board, agricultural, Technology Development departments and academics at national level, with four staff of the Ministry of Health Indonesia serving as the secretariat. The workshop reviewed and shared the experiences and projections of climate change impacts on health, and developed an outline for a national framework for local action to promote such mitigation and adaptation mechanisms. Efforts to reduce the health burden from climate change require changing the conventional reactive behaviour to a proactive attitude and learning to anticipate risks. The health sector needs to actively participate at the national, provincial and district levels, and work with other sectors, especially climatologists.



Six priority actions for the health sector were identified: improvement of infectious disease surveillance programmes, health action in emergencies programmes, safe drinking water programmes, integrated vector management programmes, environment health capacity building and healthy public policy programmes. The national framework for local action was highlighted at the Bali UNFCCC COP13 by the Indonesian delegation. More information available with Mr Jan Speets ([speetsj@who.or.id](mailto:speetsj@who.or.id))

## Bangladesh produces framework for action to reduce potential burden of disease linked to climate change

Ministry of Health Bangladesh organised a national workshop in Dhaka from 19-20 November 2007, together with the Bangladesh Centre for Advanced Studies (BCAS),



and with support from WHO Bangladesh and SEARO. It was the first of its kind in the country. Besides top officials from Health and Environment, representatives of the Intergovernmental Panel on Climate Change (IPCC), International Union for the Conservation of Nature and Natural Resources (IUCN), ICDDR, UNDP, German Agency for Cooperation (GTZ), Save The Children and the Embassy of Canada attended. The participants were briefed on the current knowledge about global warming and climate change, and specifically on the potential impacts on human health. Working groups identified the most relevant health outcomes that will need to be addressed, assessed the current response capacity of the health sectors and provided a list of challenges for the future in terms of what needs to be done to fill the gaps identified, with increasing population and increasing pressure from climate change. The final product of the workshop is a framework for action integrating the answers given by the participants to the questions: 1: *How to increase knowledge and awareness of the health consequences from climate change within the health sector?*; 2: *How to assess and address the vulnerability of national health systems with regards to the challenges posed by climate change*; 3: *How to integrate climate change related health issues into other key sectors such as agriculture, education, industry, urban development etc.* For details contact Dr Andrew Trevett at [trevetta@searo.who.int](mailto:trevetta@searo.who.int).

## India discusses options for climate change and health-related action

In collaboration with the National Environmental Engineering Research Institute (NEERI), WHO office in India conducted a national workshop on climate change and its



impact on health at Loonavala, near Mumbai, India, on 26-27 November 2007. Participants from major ministries, scientific and health institutions from across India attended<sup>1</sup>. The Director General of Health Services, Ministry of Health and Family Welfare, Government of India, inaugurated the workshop. The meeting discussed options for mitigation and adaptation and the development of a framework for national action. The workshop recommended establishing a robust database linked to the World Meteorological Organization (WMO) norms and strengthening the case for connection between climate change, health, food security and malnutrition in India. For further details contact Mr A K Sengupta at [senguptaak@searo.who.int](mailto:senguptaak@searo.who.int).

## Towards a regional framework to protect human health from the effects of climate change



A WHO Regional Workshop on Climate Change and Human Health in South-East Asia entitled "From Evidence to Action" was organized at Bali, Indonesia on 10-12 December 2007. The workshop brought together senior health officials from countries within South-East Asia and the Western Pacific Region and also representatives from partner and donor agencies. The participants were exposed to the latest evidence on climate change and health by international experts. A Framework for action to protect human health from the effects of climate change in the Asia-Pacific region was developed. This framework provided a series of recommendations for government as well as WHO pertaining to awareness creation and strengthening health systems capacity to reduce the impact of climate change. For details contact Mr Alexander von Hildebrand at [hildebranda@searo.who.int](mailto:hildebranda@searo.who.int).

<sup>1</sup>NEERI, The Energy and Resources Institute (TERI), Indian Meteorological Department (IMD), Vector Control Research Centre (VCRC), National Institute of Cholera and Enteric Diseases (NICED), Indian Agricultural Research Institute (IARI), Medical Research Council, LRS Institute of Tuberculosis and Respiratory Disease, King Edward Memorial (KEM) Hospital and National Disaster Management Authority (NDMA).

## Nepal national consultation solicits strengthened MoPH capacity for managing climate change action

A national Consultation on Climate Change and Human Health in Nepal; Vulnerability and Impact, Adaptation and Mitigation, was organized in Kathmandu on 19-21 December 2007. Sixty-five representatives including those from Health, Environment, Meteorology, Water Supply, Agriculture sectors and academic institutions participated in this workshop to debate the effects that climate change may have on health in Nepal. Organized by the Nepal Health Research Council (NHRC) and financially supported by WHO-SEARO as part of its efforts to raise the capacity of member countries in this technical area, the meeting recommended that the Ministry of Health and Population should strengthen its capacity to study and advise on environment and health linkages, including climate change effects. NHRC has meanwhile decided to setup within it an intersectoral committee, which would meet at least every six months to review current climate change and health-related research and adaptation measures and determine further actions. Already in its first meeting, the committee has decided to use the 2008 World Health Day as a lead event for raising climate change awareness in Nepal and to develop specific promotional and awareness-raising activities in the run-up to this day. For details contact Mr Han Heijnen at [hanheijnen@gmail.com](mailto:hanheijnen@gmail.com).

## Regional meeting reviews progress on Water Safety Plans

The regional meeting on Water Safety Plans (WSP) was organized by WHO SEARO in Kathmandu, Nepal, on 10-13



Participants inspecting the water source at a community based water supply where water supply plan was implemented.

December 2007. About 50 participants consisting of high- and mid-level managers from water and health sectors from SEA and WPR countries, as well as other agencies attended. The participants also visited a community-based water supply system in Kathmandu where the water safety plan concept was piloted. As evidenced by the project assessment report<sup>2</sup> figures indicate that the water quality in the setting had improved and contributed to sustaining the water supply system.

The meeting also recommended actions for integrating WSP into national policies and regulations; capacity building of water caretakers, technicians, and operators; suggestions for research and development in water quality management and testing. These were useful to all participating regional countries engaged in promoting WSPs. Ms Payden (WHO/SEARO), Mr Han Heijnen (WHO/Nepal), and Mr Nasir Hassan (WHO/Cambodia) attended for WHO. For details contact Mrs Payden at [payden@searo.who.int](mailto:payden@searo.who.int).

## Regional workshop seeks to promote policies and guidelines on Health Care Waste Management

A WHO-supported regional workshop on "Building Capacity for Implementing Sound Health Care Waste Management



in SEAR countries" was organized by WHO SEARO at MS Ramaiah Medical College, Bangalore, India on 17-19 December 2007; 25 participants from SEAR countries and also Mongolia attended. Participants were briefed on existing guidelines, policies and legislation, training courses, material, tools and methods and also updated on WHO's activities and policies on health care waste management.

The workshop recommended that countries that do not have guidelines and policies to develop them by mid-2008 and draft legislation by December 2008. WHO assistance is solicited for providing the needed technical assistance and funds for these actions and to help frame an outline for developing HCWM legislation. On capacity building, the workshop recommended that all SEAR countries establish national study centers to offer health professionals and others interested to enlist in the IGNOU<sup>3</sup> distance-learning certificate programme. It was recommended that standard operating procedures, surveillance systems and documentation for hazardous procedures be developed to ensure safety of health workers and waste handlers. For details contact Mr Alexander von Hildebrand at [hildebranda@searo.who.int](mailto:hildebranda@searo.who.int).

<sup>2</sup>Mahadevsthan Water Supply Project (Project end status report – 2006), DWSS, Nepal.

<sup>3</sup>Indira Gandhi National Open University (IGNOU).

## EH News

### EASAN 2007 pledges to boost efforts to improve sanitation and hygiene throughout East Asia

The East Asia Ministerial Conference on Sanitation and Hygiene 2007 (EASAN 2007) was organized by the World Bank's Water and Sanitation Programme (WSP), UNICEF and the World Health Organization in Beppu City, Japan on 30 November-01 December 2007. It was the highest level forum of its kind held in the Region. The conference brought together ministers, technical experts and civil society from 15 East Asian countries namely Brunei Darussalam, Cambodia, China, Indonesia, Japan, Republic of Korea, Lao People's Democratic Republic, Malaysia, Mongolia, Myanmar, the Philippines, Singapore, Thailand, Timor-Leste and Viet Nam. The conference was staged in association with the Asia Pacific Water Forum. The participants pledged to boost efforts to improve sanitation

and hygiene throughout East Asia, which will benefit millions of its unreached populace.

Representatives signed a declaration committing them to achieving or exceeding the MDG target for sanitation and calling for higher levels of investment in sanitation and hygiene, particularly in ways to benefit the poor and vulnerable. The declaration calls on intergovernmental groups to recognize the importance of sanitation, hygiene and water for global health, their close interaction with climate change and the economic and social benefits that they bring.

For details contact Mr Terrence Thompson, Regional Adviser in Environmental Health, WHO Regional Office for the Western Pacific (WPRO), Manila, Philippines, at [thompson@wpro.who.int](mailto:thompson@wpro.who.int); or Mr Jan Willem Rosenboom, Water and Sanitation Programme East Asia and the Pacific Region (WSP-EAP), Cambodia (email – [jrosenboom@worldbank.org](mailto:jrosenboom@worldbank.org)) or Mr Mark Henderson, UNICEF, Thailand (email – [mhenderson@unicef.org](mailto:mhenderson@unicef.org)).

## Visits and missions

### 6th Annual Congress of Asia Pacific Association of Medical Toxicology

The 6th Annual Congress of Asia Pacific Association of Medical Toxicology – Challenges and Opportunities in Medical Toxicology, was held in Bangkok, Thailand, on 12-14 December 2007. The congress was inaugurated by Prof Dr Her Royal Highness Princess Chulabhorn Mahidol who also delivered the keynote address entitled "Searches for Cytotoxic Natural Products". WHO-SEARO sponsored six participants from member countries including one from WHO-SEARO. With the presentation of several scientific

papers, the conference highlighted the need to develop and strengthen the poisons centres in the Asia Pacific countries to manage cases of poisoning. They can also play an important role in detection, assessment and management of chemical events, which is an essential requirement for the implementation of IHR 2005<sup>4</sup>. It also underlined the need to develop national protocols for management and prevention of poisoning from snake bite and strengthening capacity to assess the impact of continued use of persistent toxic substances in the region. For further details contact Dr Habibullah Saiyed at [saiyedh@searo.who.int](mailto:saiyedh@searo.who.int).

<sup>4</sup> <http://www.who.int/csr/ihr/en/>

## Upcoming Events

- Delhi Sustainable Development Summit (DSDS) 2008 on "Sustainable Development and climate change", co-organized by the Ministry of Environment and Forests (Government of India) and The Energy and Resources Institute (TERI), 7-9 February 2008.
- 7<sup>th</sup> April 2008 WORLD HEALTH DAY 2008: "PROTECTING HEALTH FROM CLIMATE CHANGE". The goals are to raise awareness and public understanding of the health consequences of climate change; show the impact of the interdependency between health and climate change on national and international decisions and policies and demonstrate WHO's role in facing the challenges globally and in regions, countries and communities; spark commitment among governments, international organizations, donors, civil society, businesses and communities (especially among young people) to collaborate in putting health at the heart of the climate change agenda. More information at: [hildebranda@searo.who.int](mailto:hildebranda@searo.who.int).

## Publications and Learning Materials

### Health in a changing climate

Statement by Dr Margaret Chan, WHO Director-General, on the occasion of World Environment Day. Available at the link <http://www.who.int/mediacentre/news/statements/2007/s11/en/print.html>.

### Intergovernmental Panel on Climate Change Working Group II, Chapter 8: Climate and Human Health Impacts

*Climate Change 2007 – Impacts, Adaptation and Vulnerability* - Contribution of Working Group II to the Fourth Assessment Report of the IPCC, provides the most comprehensive and up-to-date scientific assessment of the impacts of climate change, the vulnerability of natural and human environments, and the potential for response through adaptation. The report provides a complete new assessment of the impacts of climate change on major regions of the world (Africa, Asia, Australia/New Zealand, Europe, Latin America, North America, polar regions and small islands). It will form the standard scientific reference for all those concerned with the consequences of climate change, including students and researchers in ecology, biology, hydrology, environmental science, economics, social science, natural resource management, public health, food security and natural hazards, as well as policy-makers and managers in governments, industry and other organizations responsible for resources likely to be affected by climate change. The report is available at the link <http://www.ipcc.ch/ipccreports/ar4-wg2.htm>.

### Contribution of Working Group II to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change – Summary for Policymakers

This summary gives the key policy-relevant findings of the Fourth Assessment of Working Group II of the Intergovernmental Panel on Climate Change (IPCC). The report is available at the link <http://www.ipcc.ch/pdf/assessment-report/ar4/wg2/ar4-wg2-spm.pdf>.

### Comparative risk assessment of the burden of disease from climate change

The World Health Organization has developed standardized comparative risk assessment methods for estimating aggregate disease burdens attributable to different risk factors. These have been applied to existing and new models for a range of climate-sensitive diseases in order to estimate the effect of global climate change on current disease burdens and likely proportional changes in the future. The comparative risk assessment approach has been used to assess the health consequences of climate change worldwide, to inform decisions on mitigating

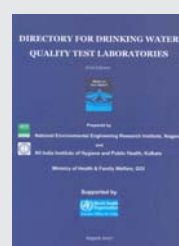
greenhouse gas emissions and in a regional assessment of the Oceania region in the Pacific Ocean to provide more location-specific information relevant to local mitigation and adaptation decisions. Article in *Environmental Health Perspectives* (2006). A research article giving details is available at the link <http://www.ehponline.org/members/2006/8432/8432.pdf>.

### Guidance manual for drinking water quality monitoring and assessment



This manual has been prepared by National Environmental Engineering Research Institute (NEERI), Nagpur and the National Institute of Communicable Diseases (NICD), New Delhi in collaboration with the United States Environmental Protection Agency, World Health Organization and the lead ministries in India involved in the water management programme. The main objective of this manual is to ensure quality control in the drinking water quality testing laboratories. It includes the methods for physico-chemical, microbiological and biological parameters, which can be adopted by all laboratories. It also outlines the various aspects of organizational structure of laboratories, roles and responsibilities, staff management and training. The recommendations on organizational matters given in this manual are suggestive, with a view to easing the extensive water quality problems in the country. For further details, contact Mr A. K. Sengupta, NPO, WHO Country Office for India. ([senguptaak@searo.who.int](mailto:senguptaak@searo.who.int)). The document is available at the website [http://www.whoindia.org/EN/Section33/Section35/Section45/Section431\\_1501.htm](http://www.whoindia.org/EN/Section33/Section35/Section45/Section431_1501.htm).

### Directory for drinking water quality test laboratories



This document has been prepared by the National Environmental Engineering Research Institute (NEERI), Nagpur and All India Institute of Hygiene and Public Health (AIHH & PH), Kolkata in collaboration with the Ministry of Health and Family Welfare, Government of India, WHO and other lead ministries of India. This document contains comprehensive information on drinking water quality test laboratories existing in the country and their capabilities. It will provide valuable support, not only to the managers of water supply systems, but also to other key personnel, including grass-root level stakeholders concerned with drinking water quality. For further details, contact Mr A. K. Sengupta, NPO, WHO Country Office for India ([senguptaak@searo.who.int](mailto:senguptaak@searo.who.int)). The document is available at the website [http://www.whoindia.org/EN/Section33/Section35/Section45/Section431\\_1492.htm](http://www.whoindia.org/EN/Section33/Section35/Section45/Section431_1492.htm).

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