Health and Climate Change
A short summary for the consideration of negotiators

Climate change is not just an environmental issue – it is the biggest global health threat of the 21st century.
Climate change will have devastating consequences for human health due to:

- changing patterns of infections and insect-borne diseases, and increased deaths due to heat waves
- reduced water and food security, leading to malnutrition and diarrhoeal disease
- increased frequency and magnitude of extreme climate events (hurricanes, cyclones, storm surges) causing flooding and injury
- increasing vulnerability for those living in urban slums and where shelter and human settlements are poor.

Climate change will affect all countries, but will have greatest impact on those with least access to the world’s resources, who have contributed least to carbon emissions. The carbon footprint of the poorest one billion people is 3% of the world’s total footprint.

10 million children die every year, over 200 million children under five do not fulfil their developmental potential, 800 million are hungry and 1,500 million have no access to clean drinking water. Climate change will increase these figures very significantly.

The intergenerational injustice for our children and grandchildren should be a catalyst for urgent action on greenhouse gas emissions, reforestation and adaptation efforts now. However, major health benefits from low-carbon living with potential reductions in obesity, heart disease, diabetes and respiratory illnesses, should assist successful negotiations.

Changing patterns of disease and mortality

Urban populations are particularly vulnerable to climate change effects, especially heat waves and heat stroke. Rising urban populations, urban sprawl and poor housing will exacerbate risk. The urban population in developing countries will increase from 2.3 billion in 2005 to 4 billion by 2030. The 2003 heat waves in Europe resulted in up to 70,000 excess deaths.

Rising temperatures will affect the geographical range and seasonality of dengue, malaria and other vector-transmitted diseases. 260–320 million more people could be affected by malaria by 2080 as a consequence of new transmission zones. 6 billion people will be at risk of contracting dengue by 2080, compared with 3.5 billion people if climate remained unchanged. Water-borne diseases such as cholera and leptospirosis may increase due to more intense El Niño-type extreme events and a rise in ocean temperatures.

Food

Climate change will worsen existing food insecurity. The food crisis in 2008 saw an estimated 100 million to 850 million additional people become food insecure and the UN’s World Food Programme reported a doubling in food emergencies since the 1980s. Models predict that climate change will put South Asia and Africa at great food security risk by 2030, and by 2100 half of the world’s population could be food insecure. Yields of corn, soybean, maize, wheat and rice decrease dramatically as temperature rises.

Global warming will affect agricultural policy and practices. The Stern Review estimates agriculture produces 14% of GHGs. The impact of climate change on food security and public health risks need to be tackled holistically. Policy needs to consider ecosystems and sustainability in both the long and short term. Disaster relief efforts need revision and to improve the health and livelihoods of the poor.

Water and Sanitation

Climate change makes the provision of water, sanitation and drainage services to the world’s poor more urgent. Adequate access to clean water and sanitation is crucial for good health. In Delhi (India), 15 million people face serious water shortages, with water being transported up to 300 km. The projected population of this municipality is more than 30 million by 2025. Droughts and floods are likely to increase in frequency and intensity, and glacial melting will have drastic effects on fresh water availability. Governments must ensure safe storage and treatment of water, reduce water wastage and enable the use of alternative water supplies.

Shelter and Human Settlements

One-third of the world’s population lives within 60 miles of a shoreline and 15 of the world’s 20 largest cities are located on a coast, making them vulnerable to both sea level rise and increased extreme storm and flood events. Ninety-nine per cent of households and businesses in low-income countries do not have disaster insurance. Policy requires not only secure emergency shelter for those displaced or affected by climate events, but also human settlements prepared for the future climate-changing environment. Well-governed, successful cities that focus on improved housing, living conditions and infrastructure will reduce poverty, and at the same time be in a better position to adapt to climate change. Economic diversification lessens vulnerability to climate change, especially where incomes derive from primary resource industries such as agriculture, forestry, and fisheries.

Extreme Events

Weather-related disasters are expected to increase in number and severity due to climate change. Between 2004 and 2006, 70% of natural disasters occurred in Asia, the Pacific region, Africa and the Middle East. By 2100 India and Australia can expect summer temperatures to peak above 50ºC. Health impacts arise from loss or contamination of potable water leading to disease destruction of crops resulting in food shortages, poor nutrition and malnutrition and post-disaster depression and anxiety.

Conclusions

Climate change adaptation and mitigation are central to development policy and all governance actions. Health systems must not simply deliver clinical services, but also make an effective public health response to climate-induced threats to health.

See www.ucl.ac.uk/global-health

© UCL, 3 December 2010

Notes


