

## Climate Change- The threat to human health in 21st Century

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#### Please explain in detail how global warming affects public health?

The 5th Assessment report of Inter-Governmental Panel on climate change (IPCC AR5) suggests that climate change can affect health in three ways:

• Directly through changes in the frequency of extreme weather such as intense heat waves, flood, sea level rise and storms. The health risks include heat-related illness and deaths, injuries and death from extreme weather events.

• Indirect climate impacts on health mediated through changes in ecosystems. Of greatest concern are the increased risks of waterborne diseases, vector-borne diseases and cardiovascular and respiratory disease (due to air pollution).

• Indirect climate impacts mediated by human systems, mainly through increased risk of under-nutrition from diminished food production in poor regions, occupation health issues and mental stress.

In addition to the impacts on health of people, climate change and extreme weather events can also damage health facilities. Health services can be affected or disrupted, if energy and water supply and accessibility is affected.

### **Can you please highlight few examples/cases where climate change has directly impacted health?**

The countries of the region are experiencing more floods and landslides due to intense and frequent precipitation. Several cyclones have hit the region in the last 10 years. Floods in Myanmar in 2015 and in Sri Lanka and DPRK in 2016 have killed and injured many people, displaced several hundreds of thousands of people and damaged health care facilities.

A study in India showed an increase in heat wave. In 2015 over 2500 people died due to heat wave in south India. Droughts have affected parts of India and Sri Lanka in recent years which impact crop production, can increase the risk for under-nutrition as well as water and food borne diseases. However, we do not have any evidence at the local level on the impact of climate change on under-nutrition. This is something we are encouraging countries to assess.

### **What are the indirect effects of climate change on health?**

Vector-borne diseases are one of the effects. A study in Nepal showed that a 1°C increase in mean temperature increased malaria incidence by 25%. A study in Bangladesh showed the disproportionate health risks of vulnerable population groups from climate changes mainly as malaria, dengue, childhood diarrhea and pneumonia. A sentinel surveillance conducted as part of a pilot project on health adaptation in Bhutan has found culex and anopheles vectors at very high altitudes (>2100m) which could be due to warmer temperature at higher altitude compared to 10-20 years ago. These are small studies conducted with limited data. However, such findings are useful to carry out further statistically representative studies and at the same time to strengthen climate sensitive disease programmes in countries to include climate risks in their program planning and implementation.

### **Does climate change have any positive implications on health too?**

There could be some positive impact in isolated places. For example warming in temperate places in some countries may lessen the local population's exposure to extreme cold. These places may also benefit by being able to grow food crops with rise in temperature.

Some vectors may not survive in higher temperatures which could lead to lesser transmission of vector borne diseases.

However, the negative impact is expected to be much greater, and hence, the overall impact is expected to be more negative than positive.

### **Internationally is climate change addressed with healthcare in mind?**

Article 1 of the 1992 United Nations Framework Convention on Climate Change (UNFCCC) refers to health as one of the adverse effects of climate change and article 4 refers to commitments of countries to assess the health implications of adaptation and mitigation policies. However, initially health sector did not get much attention at the global level. For the last 10-15 years WHO has been advocating at the global, regional and national levels to highlight the climate impacts on health and the need for resources to support countries in adapting to climate change impacts. WHO has been working with Health Ministries to encourage them to participate in UNFCCC COP meetings.

The landmark Paris agreement on climate change reflects an aspiration to keep global average temperature below 2°C. Right to health is mentioned in the preamble and the agreement explicitly recognizes the health impacts of climate change. With all these developments, we are hopeful health action will increase both globally and at the population level where adaptation levels are needed.

### **Can you please outline some of the efforts taken by Asian governments to address climate change?**

Most Ministries of Health in the SEA region have established climate change and health program and appointed focal points. National high level advocacy workshops and trainings have been conducted in most countries. Bangladesh and Nepal are implementing health adaptation project with WHO technical support. Maldives is implementing a low carbon climate resilient project in one island. Bhutan has completed a five year health adaptation project. Nepal is the first country in the region to prepare its Health-National Adaptation plan (HNAP). Bhutan, India, Indonesia, Sri Lanka and Thailand have drafted their HNAP while remaining countries have plans to start this year.

Few studies were conducted in the countries, however, availability of long term health and climate data is a challenge.

**In your opinion, what are the measures needed to deal with climate change?**

The best measure is to reduce greenhouse gas emissions to slow down climate change. Hopefully the Paris agreement will be able to achieve this. Reducing emissions will not only mitigate climate change but will also have health co-benefits. For example, promoting active transport and less use of motorized vehicles will give health benefits through better air quality and greater physical activity.

The next measure would be to develop resilience and prepare for eventuality so that any system including health and people are able to cope with and adapt to the risks posed by climate change.

**Please highlight specific efforts taken by WHO to reduce the impacts of climate change on public health.**

The WHO Regional Office for South-East Asia is working with its Member countries to highlight public health impacts of climate change at several high level conferences and advocacy meetings.

A Ministerial Roundtable on building health systems resilience to climate change is planned at WHO South-East Asia Region's governing body meeting in September.

WHO is supporting Member countries develop their health-nationaladaptation plans through regional trainings and individual country support.