

# Protecting Human Health

## from Climate Change



**World Health  
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## Protecting Human Health from Climate Change

Climate change is a verified, global phenomenon, but its consequences will not be evenly distributed. Developing countries and small island nations will be the most affected. Countries will experience more frequent extreme weather events and resulting changes in water quality and availability, increased contamination of air, and food security problems. Health impact due to climate change include diarrhoeal diseases, vector-borne diseases, heat stress, malnutrition, deaths and injuries due to extreme weather events and mental stress.



Devastating effects of cyclone

Better understanding of the health effects of climate change and vulnerability will help communities and policy-makers better manage the risks.

**Mitigation** means human actions to reduce sources of greenhouse gases or facilitate their removal from the atmosphere.

**Adaptation** refers to adjustments in natural or human systems to a new or changing or changing environment that moderates harm or exploits beneficial opportunities. A successful adaptation can reduce vulnerability by building on and strengthening existing coping strategies.

For many countries, adapting to the effects of climate change will necessitate strengthening existing capacity and applying new approaches to determine the risks associated with a changing climate and increased climate variability. For health departments, this also means an increasing need to collaborate with other sectors that play critical roles in managing the risks to health and well-being—trade, environment, transport, infrastructure, and many others.



Water scarcity is prevalent in most of the developing countries.

## Adaptation measures to reduce health impacts from climate change

- (1) Strengthening disease surveillance and link with meteorological data
- (2) Enhancing knowledge of health workers on the health impacts of climate change
- (3) Strengthening programmes dealing with climate sensitive diseases
- (4) Improving quality and access to primary health care
- (5) Risk reduction through preparedness and response (early warning systems and evacuation)
- (6) Locally relevant research on climate-sensitive health outcomes



Ambulatory medical services is an essential component of disaster preparedness

## There are specific adaptation measures to reduce diarrhoeal diseases:



Rain water harvesting

- (1) Rain water harvesting for ground water recharge and drinking (currently being undertaken in Bangladesh, Bhutan, India, Indonesia, Maldives, Myanmar, Sri Lanka, Thailand)
- (2) Household water treatment and safe storage
- (3) Proper treatment and safe disposal of human excreta and solid waste
- (4) Health education, including promotion of handwashing at critical times
- (5) Preventing wastage of water--conservation

## Specific adaptation measures to reduce vector-borne diseases:

- (1) Solid waste management – disposing garbage in the right place, reducing waste, reusing and recycling where possible
- (2) Proper storage of water in the house—cover containers to stop vector breeding
- (3) Clearing stagnant water in the surroundings
- (4) Proper drainage systems
- (5) Promotion of impregnated bednets—a net can last for 3 years
- (6) Awareness of the precautionary measures
- (7) Integrated vector management



Proper waste disposal prevents environment degradation and reduces breeding places for disease vectors

## Specific adaptation measures to reduce malnutrition:

- (1) Integrated water resource management
- (2) Protection of water resources
- (3) Safe reuse of waste water in agriculture (treat, test & reuse )
- (4) Use of organic fertilizers
- (5) Exploring crops that can grow in extreme weather conditions

## Specific adaptation measures to reduce heat stress:

- (1) Planting trees by the roadside to provide cooler shelter to pedestrians
- (2) Changing working hours for vulnerable groups. Occupational groups performing physical labour in unprotected work-places such as agriculture, construction and small industries will require to avoid work during peak temperature hours.

- (3) Reduction of urban “heat island” effect eg. making cities less congested, having more green areas, placing industries outside the city etc
- (4) Maintain electrolyte balance by taking adequate salt and water
- (5) Wear light clothes

## Mitigation measures:

- (1) **Energy efficiency** – conserve energy, use energy efficient bulbs (eg Compact Fluorescent Lamps)
- (2) **Transport** – use fuel-efficient vehicles such as CNG vehicles- and encourage use of public transport
- (3) **Locally produced food** – saves energy in transportation
- (4) **Low carbon food** – reduces emission (gas and dung of animals) and healthy as well
- (5) **Solid waste** – Reduce, reuse and recycle. Compost biodegradable waste – it’s a good manure. Recycle plastics and paper
- (6) **Green and safe building design** – Buildings that make optimal use of local materials; are adapted to local climate conditions; optimize energy use; and enhance structural resilience to extreme weather as well as emergency response.
- (7) **Renewable energy sources** - Solar energy for lighting, cooking and heating, Biogas for cooking and lighting, wind energy etc
- (8) **Water** – Conserve water and recycle waste water



Use of locally produced food items saves transport-related emissions.

## Reduce your carbon footprint – actions at the individual level

- (1) Buy energy efficient appliances (TV, fridge, washing machine, oven etc). They may be more expensive but they pay for themselves through lower energy bills.



Use of solar energy reduces emission of greenhouse gases and air pollutants.

- (2) Make best use of the sun – fit solar panels on the roof of your home to heat water, provide light and heat rooms.

- (3) Buy fuel efficient cars, and use car-pooling, public transport, , and walking or bicycling as appropriate

- (4) Replace bulbs with compact fluorescent lamps or CFL bulbs. These are slightly expensive but last longer and use less energy



Use of biogas reduces need for wood collection in rural areas and provides cheap and clean domestic fuel.

- (5) Plant trees – one tree can absorb 800 kilograms of carbon dioxide in its lifetime

- (6) Quit using plastic bags – carry your own bag when shopping

- (7) Save paper – print on both sides of the paper. Proofread documents on screen before printing. Turn single-sided printed pages into scratch pads
- (8) Turn off TVs, videos, stereos, computers and other equipment when not in use; they can consume between 10-60% of the power when in “standby” mode. Turn off computer screens and photocopiers when you take a break. Turn off lights when you leave your room for more than 5 minutes.
- (9) Save water – close the tap while brushing your teeth, soaping clothes or body, or washing dishes. Repair leaky plumbing fixtures and prevent overflowing tanks. Energy is used for pumping and treating water. Save water and you save energy at the same time!
- (10) Value wastes – do not dump home wastes indiscriminately. Heaps of garbage left in the open emit methane and contribute to global warming. Separate wastes so that they can be recycled and reused. Compost organic waste where possible.

