LANCET COUNTDOWN: TRACKING PROGRESS ON HEALTH AND CLIMATE CHANGE

INDIA

LANCET COUNTDOWN ON HEALTH AND CLIMATE CHANGE
DATA SHEET 2024

Health and climate change in India

The *Lancet* Countdown on Health and Climate Change annually takes stock of the evolving links between health and climate change through 50+ peer-reviewed indicators. Since 2016, these indicators have provided regular, reliable global and regional stocktakes on climate change and health. Data in this year's report reveal that people all around the world are facing record-breaking threats to their wellbeing, health and survival from the rapidly changing climate. This document summarises key country-level findings from the 2024 report of the *Lancet* Countdown for India, which reveal that:

Trends in **heat and health** are particularly concerning, with populations experiencing increases in exposure to high temperatures, undermining livelihoods and threatening people's health and wellbeing.

Climatic conditions have grown increasingly suitable for the spread of **vector-borne diseases** including dengue and malaria.

Air pollution is affecting the health of local populations, with a high burden of disease and deaths that could be avoided by transitioning to zero emission, clean energy sources.

These findings underline the urgency of redirecting finance away from health-harming fossil fuels; and towards strengthening local health systems, adapting to climate change, and pursuing efforts to reduce greenhouse gas (GHG) emissions through interventions that simultaneously deliver health co-benefits.

Heat and health

Exposure to high temperatures threatens people's lives, health, and wellbeing, leading to death and heat-related disease, and increasing healthcare demand during heatwave episodes. Older people, socio-economically deprived communities, very young children, pregnant people, and those with underlying health problems are particularly at risk.

From 2014-2023, each infant and adult over age 65 was exposed to an average of 7.7 and 8.4 heatwave days per year, respectively. These are 47% and 58% increases, respectively, compared to 1990-1999 (indicator 1.1.1).

In 2023, individuals were exposed to a moderate or higher risk of heat stress for an average 2,400 hours per year, or the equivalent of 100 days per year, during light outdoor activities (like walking) (indicator 1.1.2).

ECONOMIC IMPACT OF HEAT

Heat exposure limits labour productivity, which undermines livelihoods and the social determinants of health.

181 billion potential labour hours were lost due to heat exposure in 2023, an increase of 50% from the 1990-1999 annual average (indicator 1.1.3).

US$141 bn was the potential income loss from labour capacity reduction due to heat in 2023. The agricultural sector was the most affected, with more than US$71.9 billion in potential losses (indicator 4.1.3).

Sea level rise and health

Sea level rise can affect human health through episodic flooding, permanent inundation, erosion, soil and drinking water contamination, vector- and water-borne disease, and mental health impacts, with populations living less than 1 metre above sea level particularly vulnerable.

In 2023, 18.1 million people were living less than 1 metre above sea level in India (indicator 2.3.3).

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Vulnerability to infectious diseases

The suitability for transmission of many infectious diseases, including vector-borne, food-borne, and water-borne diseases, is influenced by shifts in temperature and precipitation associated with climate change.

The transmission potential (R0) for dengue transmitted by *Aedes albopictus* mosquitoes increased by 85% from 1951-1960 to 2014-2023, with an average R0 above one at 1.6 for 2014-2023. For *Aedes Aegypti,* in the same time period comparison, R0 has decreased only by 4%, but R0 remains high at 2.3 (indicator 1.3.1).

From 2014-2023, the length of coastline with conditions suitable for the transmission of *Vibrio* pathogens at any one time during the year was 23% greater than in 1990-1999. In these last 10 years, the average annual population living within 100 kilometres from coastal waters with conditions suitable for *Vibrio* transmission surpassed 210 million (indicator 1.3.3).

Air pollution, energy transition and health co-benefits

The continued use of fossil fuels and biomass lead to high levels of air pollution, which increases the risk of respiratory and cardiovascular disease, lung cancer, diabetes, neurological disorders, adverse pregnancy outcomes, and leads to a high burden of disease and mortality. Transitioning energy systems to renewables would benefit human health, simultaneously reducing air pollution; mitigating greenhouse gas emissions; and contributing towards universal, affordable, and clean energy.

Renewable energy use in India has grown since 2000, supplying a record 11% of the country's electricity in 2022. While this growth marks progress in the right direction, 71% of electricity still comes from coal, emphasizing the need for a faster transition away from these harmful fuels and to clean energies (indicator 3.1.1).

In 2022, India contributed 15.8% of the world's consumption-based PM2.5 emissions. For a production-based accounting, India contributed 16.9% of the world's PM2.5 emissions. India was the world's second-highest emitter of PM2.5 based on both consumption- and production-based accounting (indicator 4.2.5).

Redirecting fossil fuel subsidy funds to incentivising the expansion and affordability of low-carbon power and to health-promoting interventions would deliver net benefits to local populations, and support a just transition.

In 2022, India had a net-negative carbon revenue, indicating that fossil fuel subsidies were higher than carbon prices. India allocated a record net total of nearly US$58 billion in fossil fuel subsidies in 2022 alone (indicator 4.3.3).

HEALTH IMPACTS OF AIR POLLUTION

1.6 million deaths were attributable to anthropogenic air pollution ($PM_{2.5}$) in 2021. Fossil fuels (coal and liquid gas) contributed to 38% of these deaths (indicator 3.2.1).

US$320 billion the monetised value of premature mortality due to anthropogenic air pollution in 2021 (indicator 4.1.4).

Indoor $PM_{2\cdot5}$ derived from the burning of solid household fuels resulted in approximately 113 deaths per 100,000 in Indonesia in 2020 (indicator 3.2.2).

Drought and health

Droughts can impact crop yields and livestock, increasing the risk of food insecurity and malnutrition. They can also affect water security, impair sanitation, and increase the risk of infectious disease transmission.

Each year from 2014 and 2023, an average of 42.7% of India's land area experienced at least one month of extreme drought, nearly double what was seen from 1950 to 1960. During the same period, around 25% of India's land faced drought for three months or more annually, almost 7 times the extent recorded between 1950 and 1960 (indicator 1.2.2).

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