

PAKISTAN

LANCET COUNTDOWN ON HEALTH AND CLIMATE CHANGE
DATA SHEET 2023

Health and climate change in Pakistan

The *Lancet* Countdown on Health and Climate Change is an academic collaboration of over 200 researchers from around the world, which annually takes stock of the evolving links between health and climate change through 40+ peer-reviewed indicators. Pakistan is at the forefront of climate change impacts, which increasingly overwhelm local health systems. This document summarises key findings from the 2023 Report of the Lancet Countdown for Pakistan, which reveal that:



Populations are increasingly exposed to health-threatening **extreme heat**, with associated increases in heat-related illness and mortality.



Increasingly frequent and intense **droughts and floods** undermine food security, water security, and sanitation, and increase the risk of malnutrition and infectious disease transmission.



Air pollution is increasingly 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.



Scientific and political **engagement** in health and climate change has been growing in recent years

These findings underline the urgency of strengthening local health systems, adapting to climate change, and pursuing efforts to reduce greenhouse gas emissions through interventions that simultaneously deliver health co-benefits. These actions will help build healthier, more resilient populations, and forge the way to a thriving future for Pakistan.

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 women, and those with underlying health problems are particularly at risk.

50%

From 2013-2022, each infant and each adult over age 65 was exposed to an average of 4 days of health-threatening heatwave days per year, over a 50% increase from the average in 1986-2005 (indicator 1.1.2).

ECONOMIC IMPACT OF HEAT

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

26 billion potential labour hours lost due to heat exposure in 2022, an increase of 115% from 1991-2000 (indicator 1.1.4).

US\$16 billion potential associated income loss in 2022, equivalent to 4.4% of GDP (indicator 4.1.3).



Agricultural workers were hit the hardest, seeing 67% of the potential hours lost and 56% of the potential income losses in 2022 (indicators 1.1.4 & 4.1.3), putting agricultural productivity at risk, and affecting agricultural communities disproportionately.

FUTURE PROJECTIONS

Unless urgent mitigation and adaptation action is taken, the health impacts of heat will increase drastically in coming years.

2°C SCENARIO

In a scenario in which temperatures are kept to under 2°C of heating, heatwave exposure for people over age 65 is projected to be 4.5 times greater by mid-century (2041-2060 average) than at present (indicator 1.1.2).

Floods, drought and health

Droughts and floods 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.

60%

In 2013-2022, 60% of the land area experienced at least one month of drought, a 35% increase from 1951-1960 (indicator 1.2.2).

Air pollution, energy transition and health co-benefits

The low adoption of clean renewable energy and 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. All of these lead to increasing demand on care services.

57%

In 2020, over 100,000 deaths were attributable to small particulate matter (PM_{2.5}) generated from human activities, a 73% increase from 2005 (indicator 3.2.1).



Of these deaths in 2020, 32.8% were caused by fossil fuel burning, and 34.6% by biomass (such as wood and dung) burning (indicator 3.2.1).



The use of dirty fuels inside households resulted in 79 deaths per 100,000 in 2020, with higher impact in rural than in urban households (indicator 3.2.2).

RENEWABLE ENERGY TRANSITION



The carbon intensity of Pakistan's energy system was 65% higher in 2020 than in 1971 (indicator 3.1.1).



Renewables and other low carbon sources of energy made up less than 6% of total energy supply in 2020, while coal still accounted for 13% (indicator 3.1.1).

11%

Only 11% of the domestic energy used per person in Pakistan is non-polluting at point of use (indicator 3.1.2).

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.

Engagement in health and climate change

To respond to the health impacts of climate change, locally relevant data and research is required to inform policies and to enable governments to take a leading role in championing health-centred climate action on mitigation and adaptation within Pakistan and in international negotiations.



The number of peer-reviewed scientific articles on health and climate published with lead authors based in Pakistan has been trending up for decades, peaking with 66 papers in 2021 and followed by 56 papers in 2022 (indicator 5.3).



2022 marked the fourth year that Pakistan mentioned the intersection of climate change and health in UN General Assembly statements. Mentions of climate change and health individually have been increasing over the last 15 years (indicator 5.4.1).

FOR FURTHER INFORMATION, VISIT:
WWW.LANCETCOUNTDOWN.ORG

*Romanello M, di Napoli C, Green C et al. The 2023 report of the *Lancet* Countdown on health and climate change: the imperative for a health-centred response in a world facing irreversible harms. *Lancet* 2023; published online Nov 14. [https://doi.org/10.1016/S0140-6736\(23\)01859-7](https://doi.org/10.1016/S0140-6736(23)01859-7).