**[Health and climate](https://www.dawn.com/news/1686379/health-and-climate)**

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EARTH can host humans owing to its climate. However, the damaging human footprint has jeopardised the environment and is, consequently, a threat to the human race itself in a multitude of ways.

The strong connection between the environment and health is underscored by the fact that climate change is now recognised as the leading health threat of the 21st century, contributing to the global burden of disease and premature deaths. According to the WHO, about 23 per cent (12.6 million) of global deaths annually are linked to the environment. Out of these, around 9m deaths occur solely on account of poor air quality that gives rise to allergies and respiratory and cardiovascular diseases. All this shows that environmental pollution is no more a passive but an active and aggressive threat to humankind.

Human-induced climate changes include deforestation, burning of natural fuel resources, greenhouse gas (GHG) emissions from energy production, industrialisation, transportation, etc. These contribute to extreme weather conditions such as heatwaves and rising sea levels as snowmelt increases, shifting rain patterns, floods and storms, drought, poor air quality, and so on. All of these are disrupting agriculture and economic growth, while harming public health as malnutrition and epidemics become more widespread.

High temperatures resulting from global warming increase the mosquito population that is responsible for vector-borne illnesses such as malaria. These extreme weather conditions are also likely to aggravate anxiety and depression as we experience growing instances of financial and food insecurity. Meanwhile, the rising levels of carbon dioxide in the atmosphere can lead to staple crops such as wheat and rice becoming deficient in the nutrients our bodies require. This makes it even harder to combat the nutritional requirements of growing populations.

Global warming is the main threat to global health.

Researchers have found that when crops are exposed to carbon dioxide at the level predicted for 2050, a plant can lose as much as 10pc of its zinc, 5pc iron and 8pc protein content. Studies show that protein decreased in rice, wheat, barley and potatoes by 7.6pc, 7.8pc, 14.1pc and 6.4pc, respectively, when exposed to greater carbon dioxide concentrations. It is reported that 18 countries, including Pakistan, could lose over 5pc of protein from rice and wheat by 2050.

All these essential nutrients are already in insufficient quantities in women and children in low- and low-middle-income countries, including Pakistan, contributing to the overall burden of disease.

The Intergovernmental Panel on Climate Change has estimated that atmospheric concentrations of carbon are expected to reach approximately 550 ppm before 2050, even if further action is taken to reduce them. As a result of this, some 175 million people, or 1.9pc of the global population, could find itself deficient in zinc, and 122m people (1.3pc) could become protein deficient. The reduction of 4pc or more in dietary iron can increase the risk of anaemia, especially in women and children under five years.

Interestingly, electricity is responsible for a quarter of all emissions globally. This can be easily resolved by using less electricity for heating or cooling purposes through the use of adequate insulation, LED bulbs and energy-efficient building materials.

However, electricity can be generated without emissions if renewable energy resources such as solar, waste and biofuel, wind and ocean power are put to use. Planting tea, bamboo and other plants also helps carbon reduction by trapping carbon in the plants and soil. Farming methods such as crop rotations keep the soil healthy and are an effective way to sap carbon from the atmosphere.

Moreover, shifting to emission-free ways of transport such as bicycles and electric cars that do not need fossil fuels like petrol or diesel, increasing the use of public transport and walking also helps lessen the generation of GHG. However, no measure can be truly effective unless the government mobilises its resources and institutional support aimed at attaining the Sustainable Development Goals of which many are related to health and the environment, while simultaneously taking aggressive mitigation and adaptation measures to tackle the climate challenge that we face today.

A comprehensive national climate action plan should be followed to reduce all emission-related operations as well as to educate the citizenry on energy-efficient practices in their daily life. Additionally, there is a dire need to strengthen public health services to plan for future health challenges, while taking measures to adapt to the effects of climate change on planetary health.

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