

# No direct link but climate change could affect response to Covid-19 pandemic: WHO



Rapid expansion of polluting economic activities may lead to any reversal in environmental improvement. PHOTO: REUTERS

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SINGAPORE - The changing climate may not have directly caused Covid-19 [or affected its spread](#), but the World Health Organisation (WHO) said on Wednesday (April 22) that climate change could be affecting the world's response to the pandemic.

Climate change undermines environmental determinants of health, and [places additional stress on health systems](#), said the WHO in a question-and-answer segment posted on its website.

[AVAILABILITY OF WATER](#)

Water, for example, is used for personal hygiene, medical care, drinking and food production.

But the availability of this resource could be affected by climate change, symptoms of which include erratic rainfall patterns and droughts.

The virus causing Covid-19 is thought to be mainly transmitted directly from [person to person through close contact](#), or through respiratory droplets produced when an infected person coughs or sneezes.

"Physical distancing and washing hands are essential to breaking the chain of transmission, and are the most effective way to protect yourself, in all locations and all seasons of the year," said the global health body.

While access to adequate and safe water and sanitation is essential for communities to [practise basic hygiene](#) and reduce transmission of Covid-19, one in four healthcare facilities around the world lacks basic water services, directly impacting more than two billion people, it said.

"Around 80 per cent of the world's population is already experiencing some level of water scarcity. Climate change further threatens the availability of water," said the WHO.

## AIR POLLUTION AND HEALTH

Air pollution is a serious health risk that kills about seven million people every year and is responsible for one-third of all deaths from stroke, lung cancer and heart disease, said the WHO.

While global efforts to reduce the spread of Covid-19 have led to reduced economic activity and a respite in air pollution in some areas, these are short-term benefits that are "no substitute for planned and sustained action on air quality and climate", said the WHO.

It cautioned that a rapid expansion of polluting economic activities once the measures have ended may lead to any reversal in environmental improvement, unless there is a clear focus to promote equity, environmental health, and a just transition to a green economy.

Separately, research is ongoing at Singapore's Nanyang Technological University (NTU) to investigate the link between air quality and health outcomes for patients with Covid-19, a respiratory disease.

Professor Stephan Schuster, research director at NTU's Singapore Centre for Environmental Life Sciences Engineering, is working with Assistant Professor Sanjay Chotirmall, from NTU's Lee Kong Chian School of Medicine, to understand the role of the air microbiome (which includes tiny organisms such as bacteria and fungi) on the lung.

An earlier study that Prof Schuster supervised found that humans breathe in between 100,000 and one million microorganisms a day.

Typically, a healthy person would be able to clear these organisms through the body's defence system.

But problems arise when the individual has a lung disease, such as asthma or chronic obstructive pulmonary disease, where these defences are compromised and the patients become more susceptible to infection and inhaled pollutants.

Prof Chotirmall said scientists are still at a preliminary stage of understanding the true role of the air microbiome on the lung .

He added: "We are actively researching this specific question by prospectively assessing the air microbiomes in the homes of patients with chronic respiratory illness and following their disease course."

This work, said Prof Chotirmall, is being done in collaboration with multiple different hospitals across Singapore through The Academic Respiratory Initiative for Pulmonary Health led by NTU's Lee Kong Chian School of Medicine.

"The collaborative programme aims to align strategic academic expertise across Singapore in a formal way to benefit Singaporeans suffering with lung disease through research," he told The Straits Times.

## **WILDLIFE, BIODIVERSITY AND INFECTIOUS DISEASES**

The WHO also said that there is evidence that increasing human pressure on the natural environment may drive disease emergence.

"More generally, most emerging infectious diseases, and almost all recent pandemics, originate in wildlife, and there is evidence that increasing human pressure on the natural environment may drive disease emergence," said the WHO.

Strengthening health systems and improved surveillance of infectious disease in wildlife, livestock and humans, as well as greater protection of biodiversity and the natural environment, should reduce the risks of future outbreaks of other new diseases, it added.

In an interview with The Straits Times in January, Professor Peter Piot, a Belgian microbiologist who co-discovered the Ebola virus, had cited dengue as an example of an infectious disease that could be affected by climate change.

"Mosquitoes that transmit dengue need a certain temperature," he said. "Before, the mosquitoes could not survive in countries that are far from the equator. But now with climate change, they can.."

In 2009, a study published in the Nepal Health Research Council's journal found the dengue-spreading *Aedes aegypti* mosquito in Kathmandu, Nepal's capital, for the first time. Its authors pinpointed climate change as the major culprit.

## **LESSONS FOR CLIMATE CHANGE**

The WHO said that the Covid-19 pandemic and climate change were two different threats.

"The Covid-19 pandemic is a public health emergency of international concern, which has claimed lives, and severely disrupted communities. Climate change is a gradually increasing stress that may be the defining public health threat of the 21st century," it said.

But they offer similar learning points for the global community.

These include ensuring access to the "environmental determinants of health" such as clean air, water and sanitation, as well as safe and nutritious food. These are essential protection against all health risks, said the WHO, which also estimated that avoidable environmental risks cause about a quarter of the global health burden.

Other common lessons include taking early action to save lives; to reduce the toll on lives and economies, and tackling social and economic inequality, which often manifests in unequal health risks.

Said the WHO: "When faced with public health threats of a global scale, such as Covid-19 or climate change, we are only as strong as our weakest health system."