



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY

Friday

20190115

Health burden

India's children face lifelong health burden of climate change: Lancet (The Tribune: 20190115)

<https://www.tribuneindia.com/news/health/india-s-children-face-lifelong-health-burden-of-climate-change-lancet/860707.html>

India's children face lifelong health burden of climate change: Lancet

The Lancet Countdown on Health and Climate Change is a comprehensive yearly analysis tracking progress across 41 key indicators.

Climate change will damage the health of an entire generation of children, particularly in India, due to food shortages, infectious diseases, floods and deadly heatwaves, unless there are immediate cuts to fossil fuel emissions, according to a major new report published in The Lancet journal on Thursday.

The Lancet Countdown on Health and Climate Change is a comprehensive yearly analysis tracking progress across 41 key indicators.

If the world follows a business-as-usual pathway, with high carbon emissions and climate change continuing at the current rate, children born today will face a world that will be on average over 4 degrees Celsius warmer by their 71st birthday, threatening their health at every stage of their lives, the reports notes.

The annual project is a collaboration between 120 experts from 35 institutions, including the World Health Organisation and World Bank.

The authors noted that climate change is already damaging the health of the world's children, and is set to shape the well-being of an entire generation unless the world meets Paris Agreement targets to limit warming well below 2 degrees Celsius.

Poornima Prabhakaran, co-author of the report, noted that few countries are likely to suffer from the health effects of climate change as much as India, with its huge population and high rates of healthcare inequality, poverty, and malnutrition.

“While the report highlights the effects of climate change on people of all age groups, here what we are trying to do is to bring the focus back on children, because there is a sense of urgency about the issue,” the professor at New Delhi’s Public Health Foundation of India told PTI.

“For every child who is born today, the future will be decided by the changing climate,” she said.

In India, she noted, diarrhoeal infections, a major cause of child mortality, will spread into new areas, whilst deadly heatwaves, similar to the one in 2015 that killed thousands of people in the country, could soon become the norm.

While the government has launched many initiatives and programmes to address a variety of diseases and risk factors over the past two decades, this report shows the public health gains achieved over the past 50 years could soon be reversed by the changing climate.

The energy landscape will have to change drastically, and soon, for the world to meet its UN climate goals and protect the health of the next generation, the report warns.

Nothing short of a 7.4 per cent year-on-year cut in fossil CO2 emissions from 2019 to 2050 will limit global warming to the ambitious goal of 1.5 degrees Celsius, it says.

“Children are specifically more vulnerable to the health risks of a changing climate. Their bodies and immune systems are still in a developing stage, leaving them more susceptible to disease, pollution and environmental pollutants,” Prabhakaran explained.

Nick Watts, executive director of The Lancet Countdown, added, “The damage done in early childhood is persistent and pervasive, with health consequences lasting for a lifetime.”

“Without immediate action from all countries to cut greenhouse gas emissions, gains in wellbeing and life expectancy will be compromised, and climate change will come to define the health of an entire generation,” Watts said in a statement.

The report notes that harvests will shrink as temperatures rise, threatening food security and driving up food prices.

Infants and small children are among the worst affected by malnutrition and related health problems such as stunted growth, weak immune systems, and long-term developmental problems, say authors of the report.

Also, children will be particularly susceptible to infectious diseases such as dengue that rising temperatures and changing rainfall patterns will leave in their wake.

Nine of the 10 most “hospitable years” for dengue transmission have occurred since 2000. Around half the world’s population is now at risk.

The report also points out that through adolescence and into adulthood, young people are poised to suffer the most damage as their lungs are still developing, making them prone to worsening asthma, and an increasing risk of heart attacks and stroke.

As global CO₂ emissions from fossil fuels continue to rise (up 2.6 per cent from 2016-2018), energy supply from coal is increasing (up 1.7 per cent from 2016-2018), reversing a previous downward trend, while premature deaths related to PM_{2.5} fine particulate matter remain stagnant at 2.9 million worldwide.

Later in life, a child born today will face increased risk from severe floods, prolonged droughts, and wildfires. In 152 out of 196 countries, an increasing number of people have been exposed to wildfires since 2001-2004—with a financial toll per person 48 times larger than flooding.

India alone saw an increase of more than 21 million exposures, and China around 17 million, resulting in direct deaths and respiratory illness as well as loss of homes, according to the report.

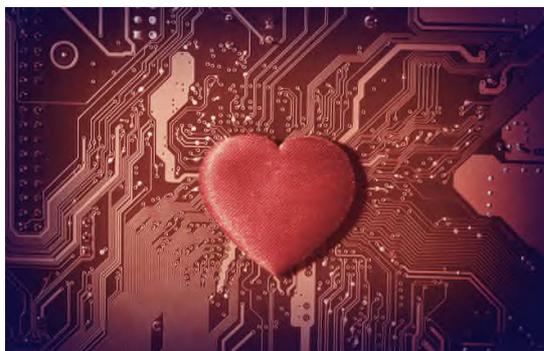
Despite the scale of the challenge, the report offers some reason for cautious optimism—growth in renewables accounted for 45 per cent of total growth in power generation in 2018, 27 per cent from wind and solar power.

“To dramatically reduce emissions by 2050, and to meet multiple Sustainable Development Goals, India must transition away from coal and towards renewable energy. It will also need to enhance public transport, increase use of cleaner fuels, and improve waste management and agricultural production practices,” Prabhakaran said. — PTI

Artificial intelligence

Artificial intelligence can predict life expectancy of heart failure patients: Study (The Tribune: 20190115)

<https://www.tribuneindia.com/news/health/artificial-intelligence-can-predict-life-expectancy-of-heart-failure-patients-study/860705.html>



Researchers have developed a new artificial intelligence (AI) tool that can predict the life expectancy of heart failure patients, an advance that may allow clinicians to make more informed decisions while caring for heart patients.

The researchers, including those from the University of California (UC) at San Diego in the US, said while predicting mortality is important in patients with heart failure, current strategies for evaluating this risk are only modestly successful and can be subjective.

As part of the study, published in the journal *European Journal of Heart Failure*, the researchers developed a machine learning algorithm based on de-identified electronic health records data of nearly 6,000 heart failure patients at UC San Diego Health in the US.

They developed a risk score that determined low- and high-risk of death by identifying eight variables collected from the majority of patients with heart failure.

These variables include blood pressure during heart relaxation, the amount of white blood cells, albumin, haemoglobin, platelets, and urea and nitrogen in the blood, and the level of creatinine—a chemical waste product from amino acid breakdown that is excreted via urine, the study noted.

Using these inputs, the researchers said, the newly developed model could accurately predict life expectancy 88 per cent of the time, and performed substantially better than other popular published models.

“This tool gives us insight, for example, on the probability that a given patient will die from heart failure in the next three months or a year,” said Eric Adler, co-author of the study from UC San Diego.

The researchers also tested the model’s effectiveness using de-identified patient data from UC San Francisco in the US, and a database derived from 11 European medical centres.

“It was successful in those cohorts as well. Being able to repurpose our findings in independent populations is of utmost importance, thus validating our methodology and its results,” said study co-author Avi Yagil from UC San Diego.

The researchers, however, added that the study needs further validation with more tests on larger groups of people. — PTI

E-cigarettes

E-cigarettes may be more harmful for heart than tobacco (The Tribune: 201901115)

<https://www.tribuneindia.com/news/health/e-cigarettes-may-be-more-harmful-for-heart-than-tobacco/860266.html>

India’s children face lifelong health burden of climate change: Lancet

Artificial intelligence can predict life expectancy of heart failure patients: Study

Stress hormone controls your body clock 24/7

E-cigarettes may be more harmful for heart than tobacco

Electronic nicotine delivery systems, including devices such as e-cigarettes, may be just as harmful to the heart, if not more, than traditional cigarettes, according to a study.

The findings come at a crucial time, as reports of lung-related e-cigarette injuries are increasing, even while many distributors continue to claim that using e-cigarettes are safe, and can help tobacco cigarette smokers kick the habit, the researchers said.

“What makes e-cigarettes so harmful to the heart and lungs is not just nicotine,” said senior author Florian Rader, from Smidt Heart Institute at Cedars-Sinai in the US.

“It’s the completely unknown bucket of manufactured products used to form vapours that is likely causing the most harm. This is what we believe is underlying the current public health problem,” Rader said in a statement.

The researchers compared healthy, young-adult smokers aged 18 to 38 who were regular users of e-cigarettes or tobacco cigarettes.

They then measured participants’ blood flow to the heart muscle-focusing on a measure of coronary vascular function-before and after sessions of either e-cigarette use or cigarette smoking, while participants were at rest and also after they performed a handgrip exercise which simulates physiologic stress.

In smokers who used traditional cigarettes, blood flow increased modestly after traditional cigarette inhalation and then decreased with subsequent stress, the researchers found.

However, in smokers who used e-cigarettes, blood flow decreased after both inhalation at rest and also after handgrip stress, they said.

“Our results suggest that e-cigarette use is associated with coronary vascular dysfunction at rest, even in the absence of physiologic stress,” said Susan Cheng, director of Public Health Research at the Smidt Heart Institute.

“These findings indicate the opposite of what e-cigarette and vaping marketing is saying about their safety profile,” Cheng said. PTI

Artificial intelligence can predict life expectancy of heart failure patients: Study

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The views expressed in the Comments section are of the individuals writing the post. The Tribune does not endorse or support the views in these posts in any manner.

Air Pollution (The Asiann Age: 20190115)

<http://onlinepaper.asianage.com/articledetailpage.aspx?id=14102779>

Air pollution claimed over 5L lives in India, claims report

New Delhi, Nov. 14: More than five lakh people died prematurely in India in 2016 due to dangerous levels of outdoor air pollution and over 97,000 of them died after being exposed to pollutants from coal burning, a new report revealed on Thursday.

The Lancet Countdown 2019 on health and climate change also cautioned that the impact of air pollution in India will worsen if the country does not shift from coal-based energy.

It emphasised on rapidly decreasing coal use to zero, saying it was crucial to meeting the commitments of the Paris

Agreement.

"Total energy supply from coal increased by 11 per cent in India from 2016 to 2018 and out of over 5.29 lakh premature deaths in 2016 due to dangerous levels of outdoor fine particulate air pollution (PM2.5), over 97,400 deaths were from coal.

"The energy landscape will have to change drastically and nothing short of a 7.4 per cent year-on-year cut in fossil carbon dioxide emissions from 2019 to 2050 will limit global warming to the more ambitious goal of 1.5 degree Celsius," the report, authored by 35

institutions worldwide, said.

It said coal phase-out is essential, not only as a key measure to mitigate climate change, but also to reduce morbidity and mortality from air pollution.

"Coal continues to be the second largest contributor to global primary energy supply (after oil) and the largest source of electricity generation (at 38 per cent, compared with gas, the next highest at 23 per cent)," the report said, adding that most of the growth in total primary energy supply (TPES) of coal has been in Asia,

Over 97,000 died after being exposed to pollutants from coal burning, data said, adding impact of air pollution will worsen if country does not shift from coal-based energy

notably China, India and Southeast Asia.

Overall, carbon dioxide emissions from fossil fuels have risen by 2.6 per cent from 2016 to 2018, the report said.

Another global study from Switzerland held earlier this year, revealed that

China and the US may be the largest producers of coal power, but power plants in India take the highest toll in the world when it comes to health as coal-fired power plants produce more than just carbon dioxide, which contributes to global warming.

Coal burning also releases particulate matter, sulphur dioxide, nitrogen oxide and mercury — thus, damaging the health of many people around the world.

According to Lancet, "Concerningly, the previous downward trend in coal supply has reversed

with a 1.7 per cent increase recorded in total primary energy supply from 2016 to 2018."

The report also talks about heatwaves limiting the labour capacity of various countries.

"Temperature rise and heatwaves are increasingly limiting the labour capacity of various populations. In 2018, 133.6 billion potential work hours were lost globally; 45 billion more than the 2000 baseline and southern areas of the USA lost 15-20 per cent of potential daylight work hours during the hottest month of 2018," the report said.

Environmental Health

Flood, fire and plague: climate change blamed for disasters (The Indian Express: 20190115)

<https://indianexpress.com/article/world/flood-fire-and-plague-climate-change-blamed-for-disasters-6119896/>

While politicians argue, concern is growing about the impact on the health of a warmer world.

People, animals, environment are all interconnected: Dr Jane Goodall

Fighting the Climate Crisis: A conference on health & sustainability looks at ways to heal the climate

Somalia struggles after worst flooding in recent history

climate change, venice floods, venice floods news, australia wild bushfire, china plague, world news

People wade through water in a flooded St. Mark's Square in Venice, Italy, Wednesday, November 13, 2019. (AP Photo/Luca Bruno)

Extreme floods in Venice, fires in Australia and even an outbreak of plague in China have been attributed to climate change this week, while researchers have warned that global warming could saddle future generations with life-long illness.

Venice declared a state of emergency on Wednesday after "apocalyptic" floods swept through the lagoon city, flooding its historic basilica and inundating squares and centuries-old buildings.

“This is the result of climate change,” city mayor Luigi Brugnaro said on Twitter.

City thoroughfares were turned into raging torrents, stone balustrades were shattered, boats tossed ashore and gondolas smashed against their moorings as the lagoon tide peaked at 187 cm (6ft 2ins).

It was the highest since the record 194 cm set in 1966, but rising water levels are becoming a regular threat to the tourist jewel.

“Venice is on its knees,” said Brugnaro. “The damage will run into hundreds of millions of euros.”

On the other side of the world, parts of Australia have been ravaged by wild bushfires this week, with four people killed and communities forced to flee the flames.

climate change, venice floods, venice floods news, australia wild bushfire, china plague, world news

In this image made from video, forest trees are on fire in Hillville, New South Wales state, Australia, Wednesday, November 13, 2019. (Australian Broadcasting Corporation via AP)

Since 2016, parts of northern and inland New South Wales, along with southern Queensland, have been in drought that the Bureau of Meteorology says is being driven, in part, by warmer sea-surface temperatures affecting rainfall patterns.

Shiv Sena sits at table with Congress, NCP for a common agenda

S Jaishankar at RNG Lecture: Real obstacle to India’s rise not barriers of world but dogmas of Delhi

India vs Bangladesh 1st Test: Virat Kohli out for a duck

Air temperatures have also warmed over the past century, increasing the ferocity of droughts and fires.

But links between climate change and extreme weather events have become a political football in Australia.

The coal industry-supporting government accepts the need to cut emissions while arguing that stronger environmental action would cripple its economy.

That pits the country against its Pacific island neighbours which are particularly susceptible to warmer temperatures and rising seas.

Simply put: Review pending, scope widened in Sabarimala verdict

Globally, concern about effective action has surged since US President Donald Trump abandoned the international Paris Accord on climate change and took steps to dismantle environmental protections.

Trump and Brazilian President Jair Bolsonaro are among the world’s only leaders who publicly question the science of climate change, despite devastating fires in their countries – in California and the Amazon basin – that environmentalists at least partly blame on global warming.

The leaders' stance has cast a shadow over global efforts to bend the rising curve of greenhouse gas emissions as governments prepare to meet in Madrid next month for a fresh round of UN negotiations over the implementation of the Paris accord.

Plague

While politicians argue, concern is growing about the impact on the health of a warmer world.

The risks extend beyond the threat of disease spreading among survivors in the aftermath of storms such as Cyclone Idai that ravaged Mozambique in March, or Hurricane Dorian that tore through the Bahamas in September.

Scientists say climate change has made such storms more intense, fuelling even worse conditions when they make landfall than in the past. But they also are discovering other ways in which rising temperatures contribute to making people ill.

In China, health officials have reported a rare outbreak of pneumonic plague after two cases were confirmed this week in Beijing.

The two were infected in the province of Inner Mongolia, where rodent populations have expanded dramatically after persistent droughts, worsened by climate change, state media said.

An area the size of the Netherlands was hit by a "rat plague" last summer.

The wider implications for health are sobering.

The Lancet medical journal published a study this week saying climate change was already harming people's health by increasing the number of extreme weather events and exacerbating air pollution.

A warmer world brings risks of food shortages, infectious diseases, floods, and extreme heat.

If nothing is done, the impacts could burden an entire generation with disease and illness throughout their lives, researchers said.

"Children are particularly vulnerable to the health risks of a changing climate. Their bodies and immune systems are still developing, leaving them more susceptible to disease and environmental pollutants," said Nick Watts, one of those who led the Lancet Countdown on Health and Climate Change study.

Air Pollution

Foul air a slow poison for Delhi lungs round the year (Hindustan Times: 20190115)

<https://epaper.hindustantimes.com/Home/ArticleView>

AIR POLLUTION WORSENS

463

Delhi's average Air quality index (AQI) for the previous 24 hours at 4pm on Thursday



SANCHIT KHANNA/HT

SHROUDED IN SMOG

Delhi received diffused sunlight while a layer of clouds and smoke formed a toxic combination. Low wind speed too didn't help disperse pollutants

WHAT TO EXPECT TODAY

Delhi is likely to wake up to marginally better air even as AQI is expected to remain in the 'severe' category for the fourth consecutive day, according to Safar

2 MORE WEEKS FOR A BREATHER?

The share of PM2.5 due to farm fires is expected to come down on Friday. However, rain in Haryana & Punjab may extend the stubble-burning season to up to two weeks

DELHI HC LASHES OUT

On Thursday, Delhi high court pulled up the government and civic authorities, saying there is lack of will to implement measures for reducing pollution in the Capital



Khanna/HT

Smog engulfed Delhi on . Sanchit

People in Delhi were exposed last year to pollution levels 11 times higher than what is considered safe by the World Health Organization, an analysis of average PM_{2.5} particle concentrations showed, suggesting the crisis was not limited only to pre-winter months when the levels reach concentrations up to 45 times as high as the global standards and become a talking point.

According to Central Pollution Control Board (CPCB) data, Delhi's annual average PM 2.5 (particulate matter of 2.5 micron size) last year was 115 microgram per cubic metre while the WHO recommends this be kept under 10 micrograms per cubic metre.

PM_{2.5} are ultra-fine particles roughly 3% of the diameter of an average human hair and lead to the most harmful of health effects, including respiratory distress and cardiovascular conditions, that have been linked to millions of premature deaths around the world every year.

"The WHO guideline is 10 micrograms per cubic metres for a reason. The levels we are recording round the year are not safe at all. That needs to be understood by policymakers," Sagnik Dey, associate professor at IIT Delhi.

Till November 14 this year, the average is 97.7 micrograms per cubic metre based on data from the CPCB's continuous monitoring stations. This cannot be compared with the CPCB's average for last year because it may not have considered the same number of stations to calculate the average. The chronic health effects begin at annual mean concentrations are as low as 11-15 micrograms per cubic metre, according to the WHO's air quality guideline document.

Each time there is a severe spike in air pollution level as has been for the last couple of days when PM 2.5 concentrations ranged from 250 to 450 micrograms per cubic metre, people worry for their health and rush to wear masks or opt to stay indoors. Health impacts can be curbed only if the annual average concentrations is reduced drastically through various interventions.

The WHO has devised intermediate targets for countries that are higher than the 10 micrograms per cubic metre, which "have been shown to be achievable with successive and sustained abatement measures", says the WHO air quality guideline document.

The first and most lenient target is 35 micrograms per cubic metre, which is associated with significant deaths in the developed world; the second is 25 micrograms per cubic metre that would reduce health risks from long-term exposures by 6% as compared to the first goal. The toughest target is 15 micrograms per cubic metre.

India's national air quality standards were devised in 1982, revised in 1994 and again in 2009, when the annual average standard was set at 40 micrograms per cubic metre and a 24-hour standard of 60 micrograms per cubic metre.

"The IIT Kanpur team did an extensive study on health impacts from pollution around the world. The WHO guideline was also considered. But in India, the background pollution levels are so high that even if we stopped all vehicles, industries etc, we may not be able to meet the WHO guideline. Our topography is such that there is a lot of windblown dust. WHO guidelines were developed based on European conditions," said B Sengupta, who was the member secretary at CPCB when the 2009 standards were notified.

"The satellite data shows that pollution levels have kind of stabilised in Delhi but they have definitely not come down and the annual average remains 110+ micrograms per cubic metres, which is extremely high. Our data also indicates that annual PM 2.5 concentrations came down around 2002 after CNG was introduced in public transportation, but started rising 2005 onwards," said Dey.

“Health evidences show that most of the health effects of air pollution — premature deaths and illness — occur at a level that is much lower than the annual average level we record in Delhi. Multisector action plan has to reduce year-long exposure to meet health based guidelines,” said Anumita Roychowdhury, executive director, Centre for Science and Environment.

The State of Global Air 2019, which makes a direct link between air pollution concentrations and premature mortality, said that air pollution was the fifth largest risk factor for premature deaths in 2017. It said there was a causal relationship between exposure to ambient PM2.5 and ischemic heart disease, cerebrovascular disease (stroke), diabetes, lung cancer, chronic obstructive pulmonary disorder, and lower-respiratory infections (in particular, pneumonia).

Spikes are equally important to be controlled because a PM10 concentration of 150 micrograms per cubic metre would translate into roughly a 5% increase in daily mortality, according to the WHO.

Experts hope that the National Clean Air Programme of the Centre launched last year, which aims to reduce PM2.5 pollution by 20 to 30% over 2017 levels by 2024 in 102 cities, is strictly enforced. As of today, only 102 city action plans have been developed but they are yet to be implemented, with the plans lacking regional focus and being limited to the municipal limits of each city.

Fresh Air

It's a shame...we are not able to give you fresh air 'Teachers' message on Children's Day Schools were shut due to rising air pollution and festivities were cancelled (Hindustan Times: 20190115)

<https://epaper.hindustantimes.com/Home/ArticleView>

What would have been a day full of games and lively interaction with teachers was turned into a dull occasion for school children across the national capital on Thursday.

As pollution levels soared in Delhi, the government had ordered schools to remain closed on November 14 and 15 — leading to cancellation of all Children's Day celebrations.

“I am sitting in my office and looking sadly at all the balloons and streamers that were put up to welcome you on your special day. The school should have been resonating with your laughter,” said Sanghamitra Ghosh, principal of Mother's International School in an email to her students.

“It is a shame that we have been compelled to close the school because we are not able to give you fresh air to breathe! I do hope you will learn from the mistakes that the older generation made and grow up to be more conscious citizens caring for our environment,” she wrote.

Several students from different parts of the capital said they spent a “dull and boring” Children's Day at their homes since they were not allowed to step out due to the plummeting air quality index (AQI).

In India, Children's Day is celebrated on November 14 to mark India's first Prime Minister Jawaharlal Nehru's birthday.

“In our school, we are given chocolates and we have discussions on Nehru’s life. Today, only my father gave us a chocolate,” said Anushka Sharma, a class 9 student at Mount Abu Public School, Rohini. “This time around we were looking forward to some fun activities planned by our teachers.”

“We generally have informal games, poetry recitations, and interactions with our teachers. At least one of them would be dressed up as Jawaharlal Nehru. It is so much fun. It is ironic that we have to spend Children’s Day indoors,” said Veer Khanna, a class 10 student at The Shri Ram School Aravalli.

The official Facebook page of The Shri Ram Schools also published a message for their students calling Thursday “darkest day in our recent history”.

“We have failed to provide them (children) with clean air, the most basic of rights. With a pen in one hand and an inhaler in the other, our children continue writing letters. They continue to march on the streets, breathing in smoke equivalent to 40 cigarettes a day in the hope that someone may take notice. But is anyone really listening?”the statement read.

Students from across the country also wrote messages to Prime Minister Narendra Modi with #BachonKiMannKiBaat. In one of the messages, a student Ishan Mahant said, “I used to enjoy soccer earlier but now I can only enjoy it on TV. I cannot play outside because the air is too toxic to breathe in.”

Alisha Wankhade, 9, a student from Gurugram sought PM’s help. “Dear Prime Minister, Namaste, Happy Children’s Day. Today, we were supposed to have fun at school. But schools are closed due to pollution and we are stuck at home. Some of my friends are getting sick, including me.”

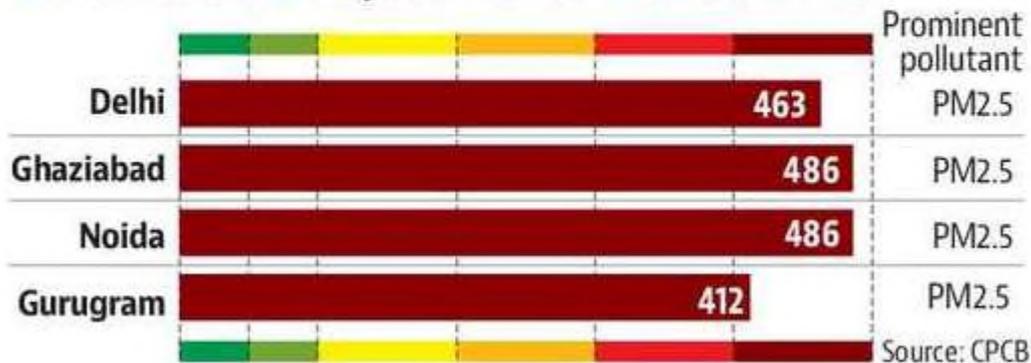
Air Quality Index

Delhi’s air in emergency zone for third straight day (Hindusttan Times: 201901115)

<https://epaper.hindustantimes.com/Home/ArticleView>

Air Quality Index

■ Good 0-50
 ■ Satisfactory 51-100
 ■ Moderate 101-200
■ Poor 201-300
 ■ Very Poor 301-400
 ■ Severe 401-500



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New Delhi : A blanket of haze and smoke enveloped Delhi for the third consecutive day on Thursday as pollution levels remained above the ‘emergency’ zone for more than 48 hours.

It was the third day when Delhi received diffused sunlight while layer of clouds and smoke formed a toxic combination. But even as government pollution monitoring agencies said air quality was likely to improve on Friday, it would not be much of a relief.

According to Central Pollution Control Board’s (CPCB) officials, a significant improvement is expected only over the weekend. The Delhi government had on Wednesday ordered shutting down of schools till November 15, as air quality was likely to deteriorate further.

The air quality index (AQI) in Delhi, according to CPCB’s 4 pm bulletin, was 463 on Thursday, as against 456 the previous day.

The PM 2.5 levels remained above 300µg/m³ for over 48 hours. The PM 2.5 levels had started spiking on Tuesday around 12pm and continued to rise on Wednesday reaching up to a high of 506ug/m³ at 3am. There was a marginal dip during the day but the levels started spiking again, touching 505ug/m³ on Thursday at 12 am. After 5 pm on Thursday, the levels starting falling and were recorded at 335ug/m³.

As per Indian standards, the safe limit of PM 2.5 levels is 60µg/m³. The PM10 (coarse dust) level has also been inching closer to 500µg/m³, while the safe limit is 100µg/m³.

Prolonged exposure to either particulate matter is known to cause respiratory distress and symptoms of asthma. Ultra-fine PM2.5 in particular can penetrate internal organs and cross the blood-brain barrier and cause damage.

“All measures under the emergency category are already in place. As per the weather forecast, we are hoping it will improve slightly on Friday,” said Sunita Narain, member, Supreme Court-mandated Environment Pollution (Prevention and Control) Authority.

On Thursday, fresh contribution from stubble burning to overall pollution in Delhi was 13%. But the cumulative contribution was nearly 30% because the wind was not strong enough to blow away the pollution particles. Usually, the last day’s pollution gets dispersed, says a statement by System of Air Quality and Weather Forecasting and Research (SAFAR), the pollution forecasting wing of the union Ministry of Earth Sciences (MoES).

slight relief expected

According to scientists at the India Meteorological Department (IMD), slight improvement is expected from the night of November 14 while wind speed is expected to pick up to 12-15 kmph. Cloud cover is expected to reduce, allowing more sunlight to reach the surface in comparison to the past few days. The period between November 15 and November 18 is likely to be relatively better in terms of air quality.

The average speed was 5-6 kmph on Thursday, not favourable for dispersion of pollutants. A consistent wind speed of about 10-15 kmph is required for dispersion of pollutants.

“The cloud cover is likely to reduce on Friday, as the existing western disturbance will pass. We are expecting significant improvement in wind speed on November 16 when it could increase up to 25 kmph. On November 19, however, it may dip again to 8-10 kmph,” said Kuldeep Srivastava, head, regional weather forecasting centre, IMD.

Another senior IMD scientist said, “Air quality is likely to remain in the lower end of ‘severe’ zone on Friday. Any significant improvement is expected only on November 16.”

However, experts said, this will not be the end of peak pollution period at least for this time of the year. The pollution levels will keep fluctuating till winter sets in. Pollution levels peak in Delhi in two waves — October-November and December– January.

According to D Saha, former head of the CPCB’s air quality lab, “Pollution levels will keep fluctuating till winter completely sets in. The transition period from monsoon to winter has varying wind pattern, which combined with pollutants already stagnated in the atmosphere, lead to deterioration of air quality.”

Pollution an additional stress

Pollution an additional stress for heart patients (Hindusttan Times: 201901115)

<https://epaper.hindustantimes.com/Home/ArticleView>

Delhi's silent killer

Air pollution is also a major risk factor for several cardiac diseases, especially heart attack

Understanding particulate matter (PM)

Particles less than 10 microns in size. They penetrate the respiratory tract

HAIR

Size of a hair is 50-70µm



PM 10

Particulate matter with a diameter of 10 microns. Safe limit is 100 micrograms per cubic metres of air

PM 2.5

Particles with a diameter of 2.5 microns or less. Safe limit is 60 micrograms per cubic metres air

- Small particulate matter in the air can enter the lungs and blood stream and increase risk of heart attacks, strokes, and arrhythmias or irregular heart beat
- People over the age of 60, people with existing heart conditions, and those with other co-morbid conditions like hypertension and diabetes are at a higher risk
- Pollution led to one in eight deaths in India in 2017
- It reduced the life of Indians by 1.7 years in 2017
- Heart diseases cause of 23.8% of all pollution related life years lost in 2017

Protect yourself from air-pollution

Check the pollution levels: Before stepping out of our house, you can use one of the many apps that give you information on the air quality in your city. Prepare accordingly.

Wear a mask: If you are stepping out when the air quality is high, cover your nose and mouth with an air-filter mask. Don't use surgical masks – ask for N95 or N99 masks.

Go for sunshine walks/run: On smoggy mornings and late evenings, avoid high-intensity outdoor exercise.

Avoid busy roads: Emissions from vehicle exhaust is one of the most common pollutants. So, avoid walking or exercising near busy roads and when possible.

Driving on a busy road: Roll up your windows when you are driving on a busy road or there is a traffic jam. Also, use the recycle air feature in your car instead of the air vents to minimise the level of pollutants within the car.

Avoid construction sites: Dust from construction sites is a major polluter, so avoid exercising around places with construction activity. Keep your doors, windows shut if there is construction going on near your house.

Winter had been a nightmare for 27-year-old Bilal Ahmed for almost two years.

Bilal, who had lost around 85% of his heart function and had been waiting for a transplant, became breathless and had chest pains every once in a while. But the number of times he had to visit the hospital emergency went up every time the pollution levels spiked in the city.

More than half of Bilal's nearly 15 yearly visits to the emergency department of All India Institute of Medical Sciences (AIIMS) were during the months when the pollution levels were high.

"The pollution levels in the city troubled me a lot; every ten to fifteen days, I would end up in the emergency with chest pains and breathlessness. I got a little better only when the doctors gave me some injection," said Ahmed, who underwent a heart transplant at AIIMS in March this year.

He had dilated cardiomyopathy, a condition where the heart chamber enlarges and weakens reducing the heart's ability to pump blood.

"When a patient is in heart failure, their heart and lungs are already under a lot of stress. A spike in pollution levels puts more stress on the organs and aggravates the symptoms of patients suffering from such conditions," said Dr Sandeep Seth, the doctor who treated Bilal and a professor of cardiology at AIIMS.

For patients like Bilal, whose condition cannot be reversed, heart transplant is the only option. "I could barely do anything when I was waiting for a transplant. Moving around felt like a huge task. Even during my initial consultation with a cardiologist, I was told that I would need a transplant because there was hardly any heart function left," said Bilal, who runs a saloon in Pitampura

Every year, almost 10,000 people in the country need a heart transplant, but only 150 to 200 receive it because of a shortage of organs. There is a severe shortage of all organs – only 8,000 of the two lakh in need of a kidney transplant get it and almost 1,800 of nearly 80,000 in need of liver transplant get it. In India, the rates of organ donation is very low – only 0.8 per million population.

To promote organ donation, the Organ Retrieval and Banking Organisation at AIIMS felicitated the families of organ, tissue, and whole body donors on Wednesday.

Air pollution is also a major risk factor for several cardiac diseases, especially heart attack.

"It is well known that pollution increases the risk of heart attack and stroke, along with respiratory ailments. The link between air pollution and conditions like hypertension and diabetes is also well known, which are risk factors for several heart diseases," said Dr Sharma.

A study published in Lancet Global Health last year shows that ischaemic heart disease lead to 23.8% of all pollution related disability-adjusted life years (DALYs) or the number of years lost due to ill-health attributable to pollution. The study showed that Indians would live 1.7 years more on average if there was no air pollution.

"When ORBO was set up, the deceased donation activity was negligible in Delhi. ORBO started facilitating organ donation, started a brain death donor registry, and carried out mass awareness. Now, we have a real-time mandatory notification of all brain dead patients and also round the clock availability of transplant coordination staff. We are the first institute to have started it," said Dr Aarti Vij, head of ORBO.

Plague in China

Plague in China: One of 2 persons infected is in critical condition (Hindusttan Times: 20190115)

<https://epaper.hindustantimes.com/Home/ArticleView>

Beijing: One of the two patients diagnosed with the highly infectious pneumonic plague and undergoing treatment at a Beijing hospital is critically ill, local authorities said on Thursday, adding that the condition of the second patient was stable.

Both were infected in the Inner Mongolian province and sent to Beijing in an ambulance, state news agency Xinhua said in a report.

State media quoted health officials as saying the risk of an outbreak of pneumonic plague, which could prove fatal if left untreated, is minimal and all required precautions were being taken.

“Two pneumonic plague patients have been under proper treatment in Beijing, local health authorities said on Thursday. One patient is in stable condition, and the other is critically ill but without further deterioration, according to the Beijing Municipal Health Commission,” the Xinhua report said.

As many as 11 top experts have been drawn in from various hospitals to form a guidance group.

The WHO said Chinese health authorities had notified them of the two cases and shared relevant information.

High pollution levels - plague

High pollution levels continue to plague the Capital (The Hindu: 20190115)

<https://www.thehindu.com/news/cities/Delhi/high-pollution-levels-continue-to-plague-the-capital/article29977079.ece>

AQI remains in ‘severe’ category for second consecutive day

Air quality in the city continued to be in the ‘severe’ category for the second consecutive day, precipitated by dense clouds and stalled winds. Schools in the

Measles

Back from the brink (The Hindu: 20190115)

<https://www.thehindu.com/opinion/op-ed/back-from-the-brink/article29974912.ece>

The nearly year-long measles outbreaks in the U.S. offer lessons for India

On October 3, 2019, the U.S. just about managed to retain its measles elimination status declared nearly 20 years ago. A month earlier, New York State

Health Emergency (Navbharat Times: 201901115)

<http://epaper.navbharattimes.com/details/74640-71364-1.html>



सबसे बड़ी हेल्थ इमरजेंसी झेल रही दिल्ली

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Photos : Sunil Katara

■ **नई दिल्ली** : इस नवंबर में दिल्ली-एनसीआर प्रदूषण की सबसे बड़ी हेल्थ इमरजेंसी झेल रहा है। एन्यूआई सिस्टम आने के बाद 2017 में सबसे लंबी हेल्थ इमरजेंसी नवंबर में 56 घंटों की हुई थी। गुरुवार शाम 7 बजे तक नवंबर का यह रिकॉर्ड टूट चुका था। अब भी हेल्थ इमरजेंसी जारी है। पिछले पांच सालों का आंकलन बता रहा है कि यह नवंबर राजधानी वालों के लिए प्रदूषण के लिहाज से बेहद खतरनाक रहा है। ऐसी स्थिति इसलिए भी है, क्योंकि इस बार प्रदूषण लगातार कई कई घंटे तक इमरजेंसी के स्तर पर बना रहा है।



सीपीसीबी के अनुसार 1 से 14 नवंबर के बीच इस साल अब तक दिल्ली 4 दिन इमरजेंसी स्तर पर रही है। नवंबर की शुरुआत ही हेल्थ इमरजेंसी से हुई। जब एन्यूआई 484 पर पहुंच गया था। इसके बाद 3 नवंबर को 5 सालों के दौरान दुसरा सबसे प्रदूषित दिन दिल्ली वालों ने झेला। इस दिन एन्यूआई 494 के स्तर तक पहुंचा। 1 से 4 नवंबर तक दिल्ली ने लगातार जानलेवा प्रदूषण झेला। 2017 की बात करें तो 1 से 6 नवंबर तक एक भी दिन गंभीर स्तर का प्रदूषण नहीं रहा। इमरजेंसी की तो नौबत ही नहीं थी। इसके बाद स्थितियां तेजी से बदली। 7 से 13 नवंबर के बीच दिल्ली को गंभीर और इमरजेंसी स्तर के दिन मिले। इस दौरान जो सबसे लंबी इमरजेंसी चली वह 56 घंटों की थी।

पांच सालों की तुलना करें तो 2018 में नवंबर के शुरुआती 14 दिन सबसे साफ रहे हैं। उस साल राजधानी में एक भी दिन इमरजेंसी के हालात नहीं रहे। जबकि 5 दिन गंभीर श्रेणी का प्रदूषण रहा। लेकिन इसमें भी एन्यूआई 423 से ऊपर नहीं गया। अहम बात यह है कि 5 सालों के दौरान नवंबर के दिनों में महज एक दिन सामान्य स्तर का प्रदूषण दिल्ली वालों ने झेला और वह भी 2018 में 4 तारीख को, जब एन्यूआई 171 पर पहुंचा था। हालात पर काबू पाने के लिए सभी एजेंसियां लगातार प्रयास कर रही हैं।



ऑड-ईवन के बीच गुरुवार को दिल्ली में ऐसा दिखा ट्रैफिक और पर्युशन का नजारा

2017 में 56 घंटे की सबसे लंबी हेल्थ इमरजेंसी का टूटा रिकॉर्ड



पंजाब में घने बादलों से बढ़ा दिल्ली का प्रदूषण

■ **विस, नई दिल्ली**: आखिर दिल्ली कब तक इस जहर में घूटती रहेगी? यह सवाल अब बच्चों से लेकर बुजुर्गों तक को परेशान कर रहा है। प्रदूषण का स्तर ऐसा है कि इर आदमी खुद को बीमार महसूस कर रहा है। एयर क्वालिटी इंडेक्स 400 से ज्यादा बना हुआ है। गुरुवार को ऐसा नजारा दिखा, जो कई साल से नहीं दिखा था। स्मॉग की चादर इतनी गहरी थी कि लोगों को सुबह 9 बजे भी अपनी

गाड़ियों की लाइट जलानी पड़ी। सुबह 8 बजे दृश्यता महज 500 मीटर पर सिमट गई। दिन भर भी उसमें सुधार नहीं हुआ। यह महज 600 से 800 मीटर तक बनी रही। सफर के अनुसार, दिल्ली-एनसीआर में प्रदूषण का स्तर गंभीर है। पाराली जलाने की केवल 69 घटनाएं सामने आईं

इस समय मौसमी सिस्टम सक्रिय है। इसकी वजह से घने बादल छाए हुए हैं। इस वजह से दिल्ली में भी प्रदूषकों के ऊपर जाने की क्षमता काफी कम हो गई है। हवा की गति भी अभी कम है। इसी वजह से प्रदूषण जानलेवा स्तर पर बढ़ा है। वहीं, सफर के अनुसार, 13 नवंबर को पाराली जलाने की 69 घटनाएं सामने आईं

हैं। हालांकि काफी अधिक संभावना है कि बादलों की वजह से सेटेलाइट इमेज सही नहीं आ पाई हो। सीपीसीबी के एयर बुलेटिन के अनुसार, दिल्ली का एयर इंडेक्स 463 रहा। देश में सबसे प्रदूषित जिले गाजियाबाद और नोएडा रहे, जहां एन्यूआई 486 रहा। वहीं, भिवाड़ी में एयर क्वालिटी इंडेक्स 450, फरीदाबाद में 437, ग्रेटर नोएडा में 467, गुरुग्राम में 412 और पलवल में 465 रहा।