

Greenenergy a green concern
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AIR POLLUTION

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FROM EDITOR'S DESK

Out of many changes made in our day-to-day life during Covid, one of the major one was wearing mask all the time. Though it is necessary measure to curb Covid, we now realise the importance of breathing pure air and how good was life before 'masks'. So, we can now imagine how difficult life is for people living in areas with highly polluted air. There are many reasons for this air pollution, some which can be worked upon, some which are considered for economy, but we must understand there is no excuse for harming our eco system for the sake of 'development'.

This issue deals with the problem of Air Pollution. You will also get acquainted with the current situation of Delhi, which is considered most polluted city. So lets know more about it and think about what we can do from our side to make sure to have no damages in future.

- MS. ARATI PATIL

UNBREATHABLE DELHI



Delhi is one of the world's most polluted cities, with a deadly combination of industrial and vehicle pollution, as well as smoke from agricultural fires, accumulating in the sky above its 20 million residents each winter.

The air quality in Delhi, the capital territory of India, according to a WHO survey of 1,650 world cities, is the worst of any major city in the world.

For years, the Delhi government has pledged to improve the city's air quality. Despite a Supreme Court injunction, the burning of agricultural waste in Delhi's neighbouring states contributes significantly to the city's pollution levels every winter.

In October 2018, India's Ministry of Earth Sciences issued a research article attributing nearly 41 percent to automobile emissions, 21.5 percent to dust, and 18 percent to industry.

The director of the Centre for Science and Environment claimed that the Society of Indian Vehicle Manufacturers is campaigning "against the study" because it is "inconvenient" to the automobile sector.

Air pollution is projected to kill over 2 million people in India each year, making it the country's fifth leading cause of death. According to the WHO, India has the highest death rate from chronic respiratory disorders including asthma in the world.

Poor air quality in Delhi permanently harms the lungs of 2.2 million youngsters, or 50% of all children.

RECENT NEWS

According to NEW18, Delhi's air quality saw an improvement on 7th December 2021 morning to

settle in the 'poor category'. The Air Quality Index (AQI) in the city read 268 at 9.05 am. The AQI in Gurgaon and Greater Noida was recorded at 258 and 215 respectively. Neighbouring Faridabad (256) and Noida (247) also recorded their air quality in the poor category.

An AQI between zero and 50 is considered "good", 51 and 100 "satisfactory", 101 and 200 "moderate", 201 and 300 "poor", 301 and 400 "very poor", and 401 and 500 "severe". Delhi's air quality was recorded in the "very poor" category on 6th December 2021.



Causes of poor air quality in Delhi

- 1. Badarpur Thermal Power station was a major source of Delhi's air pollution.**
- 2. Motor vehicle emissions**
- 3. Fire in Bhalswa landfill**
- 4. Heavy metal-rich fire crackers**
- 5. Mist emissions from the wet cooling towers**
- 6. Fires on agricultural land**
- 7. Exhaust from diesel generators**
- 8. Lack of active monitoring and political priority.**
- 9. Dust from construction sites**
- 10. Burning garbage and illegal industrial activities in Delhi.**



Health effects

Air pollution in Delhi has caused worse health effects such as breathlessness, chest constriction, irritation in eyes, asthma, allergy, lung cancer, etc.

Control Measures

Following control measures are proposed in order to reduce air pollution level in Delhi:

- 1. Smog towers will be installed in the city to purify and clean the air.**
- 2. The Pusa Bio-decomposer will help farmers harvest crops to prevent stubble burning.**
- 3. All combustion engined vehicles will be upgraded to BS6 emission standards.**

Long- term measures taken to reduce air pollution in Delhi

The Supreme Court of India banned the sale of firecrackers in Delhi.

Badarpur power plant was permanently shut down on 15 October 2018.

Unknown Facts

Current PM 10 level and PM 2.5 level are 283 and 517 respectively.

Be a part of solution, not pollution because if we don't reduce air pollution, it will kill us.

"Pollution is the forerunner of perdition."

– John Trapp



Delhi AQI (Air Quality Index) at danger mark--US Embassy.

- MS. VEDANTHI JOSHI

AGRICULTURAL AIR POLLUTION

Agricultural pollutants are major source of air pollution. Nitrogen is a primary building block for plants, and healthy soil uses nitrogen efficiently. But under mono-cropping, soil becomes depleted of nutrients, so farmers try to regenerate the soil, which has lead to the invention of synthetic nitrogen in the 20th century. Synthetic Nitrogen has removed this limiting factor and allowed for a boom in chemical-intensive-industrial farming practices.

Synthetic forms of nitrogen are different in some key ways from the nitrogen occurring naturally in our atmosphere. Naturally occurring nitrogen (N₂) is more difficult for plants to use, it requires specific bacteria for nitrogen fixation. But synthetic fertilizer is made up of nitrogen and hydrogen based ammonia (NH₃) that can be used by plants directly. Transforming N₂ into NH₃ through

chemical processes is resource intensive, and this form of nitrogen is also more prone to react with other things in the environment, not just plants.

When fertilizer is applied at high volumes excess nitrogen makes its way into the atmosphere, which can become nitrous oxide, a potent greenhouse gas, or nitrogen oxide, which contributes to ground-level smog.

Agricultural is the dominant anthropogenic source of ammonia (NH_3) which enters the air as a gas from heavily fertilized fields and livestock waste. It then combines with pollutants from combustion that are mainly nitrogen oxides (NO_x) and sulphur (SO_2) from traffic and industry, and leads to the formation of so-called secondary particles or aerosols, which is no more than 2.5 micrometers across i.e about 1/30 the width of a human hair.

These particles can penetrate deep into lungs, causing heart or pulmonary diseases and are said to account for at least 3.3 million deaths each year globally.

Agriculture releases large quantities of carbon dioxide through the burning of biomass, mainly in areas of deforestation and grasslands. Agriculture is also responsible for up to half of all methane emissions. Though it persists for a shorter time in the atmosphere, methane is about 20 times more powerful than carbon dioxide in its warming action and is therefore a major short-term contributor to global warming. Irrigated rice farming is the other main agricultural source of methane, accounting for about a fifth of total anthropogenic emissions. Current annual anthropogenic emissions are around 540 million tonnes and are growing at around 5 percent per year.

❖ **Measures to reduce greenhouse gas emissions:**

- **Removal of subsidies and introduction of environmental taxes on chemical fertilizers and energy inputs**
- **Improvement of fertilizer use efficiency**
- **Development of rice varieties emitting less methane**
- **Improved management of livestock waste**
- **Restoration of degraded lands**
- **Improvement of crop residue management**
- **Expansion of agroforestry and reforestation**

- MS. BAKSHISH Z.



GREEN TOONS



GREEN-O-PEDIA

Did You Know That?

1. Inhaling air pollution takes away at least 1-2 years of a typical human life.
2. During a heavy traffic jam, pollutants outside can seep into your car, making the air inside your car 10 times more polluted than typical city air.
3. The climate change that is caused due to air pollution results in the change of the season of pollination. This, in turn, harms the ecological balance of the earth.



4. Children's IQ could also turn out to be deteriorated with excess exposure to air pollutants.
5. Deforestation is one of the major causes of air pollution too. With a decreased number of plants and trees to absorb the harmful carbon dioxide emissions for the purpose of photosynthesis, the extent of air pollution increases manifold.

Infrastructure development, a mere illusion,
Luxury leads destruction is the conclusion
Every energy source, gives rise to emission,
Curbing pollution, must be our mission....

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