

Air pollution & AQI

According to a study report 2019, out of the 30 most polluted cities of the world 21 cities were in India. 140 million people in India breathe air that is 10 times more polluted than the safe limits set by WHO. The contribution of different sectors in pollution are as follows:

1. industrial pollution 51%
2. vehicular pollution 27%
3. crop burning 17%
4. Fireworks 5%.

According to a study almost 2 million Indians die premature deaths annually due to Higher air pollution. Now the causes of pollution in cities and rural areas are different. The various sources described above are relating to the cities. In rural India the main contributors of pollution are Biomass burning. This is done primarily for the purpose of cooking and keeping warm during winters. As we already know that burning of Crop Residue that is also known as parali burning particularly during autumn and spring contributes a lot towards pollution in big cities especially Delhi.

Now coming to the greenhouse gases, the gases which are responsible for the Global Warming. Although the per capita production of greenhouse gases in India is comparatively low but as a whole India contributes a large amount of greenhouse gases. India is the third largest producer of these gases. Due to continuous exposure of the various polluting gases, Indians have their lungs 30% weaker than the lungs of European people. Several measures have been taken in India to reduce the air pollution. In **1981 the air (prevention and Control) pollution Act was passed**. In 2015 through an initiative by the Government of India and IIT Kanpur for the purpose of monitoring of air pollution **AQI or air quality index** has been assigned. (AQI एक सूचकांक है जिसके द्वारा आम जनता को वातावरण में प्रदूषण के स्तर के विषय में सूचित किया जाता है।) The national clean air programme has also been launched. This program endeavours to reduce the PM 2.5 and PM 10 in India by 20 to 30% by the 2024 considering 2017 as the base year.

PM 2.5 means particles whose diameter is less than 2.5 micrometre. PM 10 means particles whose diameter is 10 micrometre. PM 2.5 is considered more harmful than PM 10 because being smaller in size they may reach deeper inside the lungs.

For determination of AQI, **eight** type of pollutants are taken into consideration. These are :

PM 10

PM 2.5

Ozone

Sulphur dioxide

Nitrogen dioxide

Carbon monoxide

Lead

Ammonia

Each of these pollutants has a national air quality standard which is set by the EPA (Environmental Protection Act) to protect public health. The scale range is from **0 to 500**.

- **Dark green**--- good (0 – 50)
- **Lightgreen**----satisfactory(51-100) **yellow** -- moderate (101 –200)
- **Orange** --- poor (201- 300)
- **Red** ---very poor (301-400)
- **Maroon** ---Severe (401-500)

Measures taken by Government of India to reduce air pollution:

In the year 2019 the **National clean air programme (NCAP)** was launched. The target of this program is to reduce air pollution by 20 to 30% by the year 2024 in 122 worst affected cities of India. Routine monitoring of four major air pollutants are done by n NCAP. These are Sulphur dioxide, oxides of Nitrogen, PM10 and SPM (suspended particulate matter). Besides this, wind speed, direction of wind, relative humidity and temperature are also measured, The readings are taken regularly, twice a week. 308 monitoring stations have been established for this purpose in 115 towns and cities across India in 25 states and four union territories. The affects of NCAP actions have been observed. The pollution levels in some cities have gone down particularly cities like Pune, New Delhi etc. Sulphur dioxide level in the air is decreasing gradually due to the removal of sulphur from diesel. Pollution levels are also decreasing because of the the increased availability of CNG (compressed natural gas). More and more CNG filling stations are being established. Government of Delhi has introduced the odd /even number rule for the vehicles used by commuters in Delhi. In order to reduce the air pollution, Government of India has made a goal for the introduction of more and more electrically powered vehicles. Besides this strict enforcement of **BS6** standards is also done. Any vehicle which is older than 15 years or who's emissions are below BS6 emission standards shall be banned from running on the road. The GOI has also targeted to reduce CO2 emission by 20% by the year 2030 and to reach zero emissions levels by the year 2075.

Besides this a change in lifestyle by public at large is also expected. People should avoid excessive use of private vehicles. Public transport should be used more often. Cycling and walking should be promoted.