



**"AIR POLLUTION CAUSES ABOUT 1.2 MILLION DEATHS EVERY YEAR IN INDIA"**  
**"AIR POLLUTION RISES ABOUT 13% IN THE PAST 5 YEARS IN THE COUNTRY"**

These facts, commonplace in newspapers in the recent times are indicators of the increasingly rising Air Pollution levels in our country, an inevitable yet alarming environmental menace that has assumed gigantic significance in the current times.

There's nothing quite like opening the door and breathing fresh, clean, air—but how clean is the air we are breathing right now? **Air pollution** is a huge problem—and not just for people living in smog-choked cities like Delhi, which happens to be the most polluted city in the world: but also through such things as global warming and damage to the ozone layer, it has the potential to affect us all. And it is affecting us all in an extremely detrimental manner.

Often defined as - "Introduction of harmful substances including particulates and biological molecules into Earth's atmosphere. It may cause diseases, allergies or death in humans; it may also cause harm to other living organisms such as animals and food crops, and may damage the natural or built environment", it has come to become one of the worst environmental problems faced by mankind in the 21st century. In fact, indoor air pollution and poor urban air quality are listed as two of the world's worst toxic pollution problems in the 2008 Blacksmith Institute World's Worst Polluted Places report. According to the 2014 WHO report, air pollution in 2012 caused the deaths of around 7 million people worldwide, an estimate roughly matched by the International Energy Agency.

Air Pollution is Generally Caused by Toxic Air Pollutants that are released in the environment from various industrial, automobile and other emissions that have not been filtered and purified for release in the environment. In order to understand the causes of Air pollution, several divisions can be made. **Primarily air pollutants** can be caused by primary sources or secondary sources. The pollutants that are a direct result of the process can be called primary pollutants. **Secondary pollutants** are the ones that are caused by the inter mingling and reactions of primary pollutants. Smog created by the interactions of several primary pollutants is known to be as secondary pollutant.



## **AIR POLLUTION- EFFECTS**

Air Pollution adversely affects both Plants and Animals. The Effects of Air Pollution have been enumerated below—

1. **Respiratory and heart problems:** The effects of Air pollution are alarming. They are known to create several respiratory and heart conditions along with Cancer, among other threats to the body. Several millions are known to have died due to direct or indirect effects of Air pollution. Children in areas exposed to air pollutants are said to commonly suffer from pneumonia and asthma. Carbon monoxide, for example, by driving oxygen out of the bloodstream, causes apathy, fatigue, headache, disorientation, and decreased muscular coordination and visual acuity. Human beings chronically exposed to SO<sub>2</sub> have higher incidence of cough, shortness of breath, bronchitis, colds of long duration and fatigue, amongst others.
2. **Global warming:** Another direct effect is the immediate alterations that the world is witnessing due to Global Warming. With increased temperatures worldwide, increase in sea levels and melting of ice from colder regions and icebergs, displacement and loss of habitat have already signaled an impending disaster if actions for preservation and normalization aren't undertaken soon.
3. **Acid Rain:** Harmful gases like nitrogen oxides and sulfur oxides are released into the atmosphere during the burning of Fossil Fuels. When it rains, the water droplets combines with these air pollutants, becomes acidic and then falls on the ground in the form of acid rain. Acid Rain can cause great damage to human, animals and crops.
4. **Effect on Wildlife:** Just like humans, animals also face some devastating effects of air pollution. Toxic chemicals present in the air can force wildlife species to move to new place and change their habitat. The toxic pollutants deposit over the surface of the water and can also affect sea animals.
5. **Depletion of the Ozone Layer:** Due to unregulated emissions of CFC's in the Atmosphere, the Ozone Layer that protects us from the Harmful UV Rays of the sun is also rapidly depleting. This can increase the amount of ultraviolet radiation reaching the earth, where it damages crops and plants and can lead to skin cancer and cataracts. The Montreal Protocol of 1987 required that



developed nations signing the accord not exceed 1986 CFC level This depletion has been caused largely by the emission of chlorofluorocarbons (CFCs) from refrigerators, air conditioners, and aerosols.

### **SOLUTIONS AND REMEDIES**

The damage already caused cannot be undone. However, some steps and remedies can ensure that we do no further harm to our environment and damage it than it already is. Some steps are enumerated below--

1. **Use public mode of transportation:** Encourage people to use more and more public modes of transportation to reduce pollution. Also, try to make use of car pooling. If you and your colleagues come from the same locality and have same timings you can explore this option to save energy and money.
2. **Conserve energy:** Switch off fans and lights when you are going out. Large amount of fossil fuels are burnt to produce electricity. You can save the environment from degradation by reducing the amount of fossil fuels to be burned.
3. **Emphasis on clean energy resources:** Clean energy technologies like solar, wind and geothermal are on high these days. Governments of various countries have been providing grants to consumers who are interested in installing solar panels for their home. This will go a long way to curb air pollution.

Several attempts are being made worldwide on personal, industrial and governmental levels to curb the intensity at which Air Pollution is rising and regain a balance as far as the proportions of the foundation gases are concerned. This is a direct attempt at slacking global warming. We are seeing a series of innovations and experiments aimed at alternate and unconventional options to reduce pollutants. Air Pollution is one of the larger mirrors of man's follies, and a challenge we need to overcome to see a tomorrow.

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