



AIR POLLUTION – EFFECTS AND WAYS TO CURB IT

“In 2013, a report by Global Burden of Disease (GBD) said that outdoor air pollution was the 5th largest killer in India. According to a World Health Organization (WHO) study, Delhi has surpassed Beijing and is currently the most polluted city in the world. This puts its people at a dangerous risk of respiratory diseases.”

Diwali, a time of celebration and known particularly for its essence of fire-crackers as a mark of festivity is what you can say worked as an eye-opener in India this year. Post the festive season, people largely in North India, especially Delhi faced harsh effects where people faced the brutality of causing harm to the environment. The air was polluted to a level where people were wearing masks outside homes, poor visibility and severe cases of citizens being hospitalised due to respiratory diseases. Seldom do we realize the results of our actions and hence goes the saying, ‘you reap what you sow’. This year we have witnessed a particularly bad winter due to heavy air pollution. With the constant news updates, I realized what a serious threat this posed to our health and environment. As we all know and going by the definition, “Air pollution is caused by introduction of harmful substances including particulates and biological materials into Earth’s atmosphere. It causes diseases, allergies or death in humans, it can also cause harm to living organisms such as animals and food crops, and may damage the natural or built environment”. Human activity and natural processes generates air pollution. 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.^[i] The definition itself is an enough reason as to its effects and why we need to curb it. I shall explain more in detail below the effects and how we as can curb it.

Effects (That we common citizens mostly ignore)

Per the 2014 WHO report, air pollution in 2012 caused the deaths of around 7 million people worldwide. The substance can be solid particles, liquid droplets, or gases. A pollutant can be of natural origin or man-made. Pollutants are classified as primary or secondary. Primary pollutants are usually produced from a process such as ash from a volcanic eruption. Other examples include carbon monoxide gas from motor vehicle exhaust, or the sulfur dioxide released from factories. The WHO estimated in 2014 that every year air pollution causes the premature death of some 7 million people worldwide. India has the highest death rate due to air pollution. India also has more deaths from asthma than any other nation according to the WHO.^[ii] in 2013, air pollution was estimated to kill 500,000 people in China each year.



Air pollution also results in agricultural damage for example In India in 2014, it was reported that air pollution by black carbon and ground level ozone had cut crop yields in the most affected areas by half in 2010 when compared to 1980 levels. Air pollution causes loss to the economy as Air pollution costs the world economy \$5 trillion per annum because of productivity losses and degraded quality of life, according to a joint study by the World Bank and the IHME at the University of Washington.

These productivity losses are caused by deaths due to diseases caused by air pollution. One out of ten deaths in 2013 was caused by diseases associated with air pollution and the problem is getting worse. Therefore, we have to take an action against air pollution so that we can resolve the issues at the earliest.

Solution:

Technically, The alternatives for air pollution are:-

- Combustion of fossil fuels for space heating can be replaced by using ground source heat pumps and seasonal thermal energy storage.
- Electric power generation from burning fossil fuels can be replaced by power generation from nuclear energy.
- Motor vehicles driven by fossil fuels, also affects urban air pollution, can be replaced by electric vehicles.^[iii] There are various air pollution control technologies and strategies available to reduce air pollution. At its most basic level, land use planning is likely to involve zoning and transport infrastructure planning. In most developed countries, land-use planning is an important part of social policy, ensuring that land is used efficiently for the benefit of the economy and population, as well as to protect the environment. Because a large share of air pollution is caused by combustion of fossil fuels such as coal and oil, the reduction of these fuels can reduce air pollution drastically. Most effective is the switch to clean power sources such as solar power, hydro power and wind power which don't cause air pollution.^[iv] Efforts to reduce pollution from mobile sources includes primary regulation expanding regulation to new sources such as cruise and transport ships, farm equipment, and small gas-powered equipment such as string trimmers, chainsaws, and snowmobiles, increased fuel efficiency (such as through the use of hybrid vehicles, conversion to cleaner fuels or conversion to electric vehicles. A very effective means to reduce air pollution is the transition to renewable energy. According to a study published in 2015 the switch to 100 percent renewable energy in the United States would eliminate about 62,000 premature mortalities per year and about 42,000 in 2050, if no biomass were

used. This would save about \$600 billion in health costs a year due to reduced air pollution in 2050, or about 3.6% of the 2014 U.S. gross domestic product. [v] To conclude we need to take the problem of air pollution seriously as it is us children who will bear the ill effects of a hazardous environment.

But, these ways to curb air pollution has very few ways in which we can contribute. Most of the efforts need to be taken by the government to implement these strategies and most of them are long term measures to curb it. We also must contribute in whichever way possible to fight it. This year, the government in Delhi did take an initiative by the Odd-Even Scheme for reducing the pollution on the roads. Now commenting on whether it was successful or not is highly debatable but it did help control and keep pollution at a check. However, we as common citizens must realize the impact of our actions on the environment. As a country, we should take a stand and ban the burning of crackers on Diwali. That itself, can ensure taking measures to resolve the growing issue. I understand that is not enough but for me, creating an awareness of an issue is what helps the most to resolve it. And we, as youths of the nation must strive towards a cleaner environment, make people aware and fight it because we might not realize it's effects right now but generations later will have to struggle with our wrong doings and simple disregard for the environment we live in

BIBLIOGRAPHY:

[i] https://en.wikipedia.org/wiki/Air_pollution

[ii] <http://www.affairsclooud.com/9-10-people-world-breathing-polluted-air/>

[iii] <http://www.peoplesdailyng.com/health-effects-of-air-pollution/>

[iv] <https://rylishae.files.wordpress.com/2013/01/air-pollution2.doc>

[v] <http://pollutionblogger1.blogspot.in/2014/06/reduction-eforts.html>

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