NOVEMBER 2015 • Vol. 1 • Issue 6
MONTHLY • Pages 32
₹ 200

RNI Title Code: DELENG 18939; Published on: Every month; Posted at Nehru Place Sorting Office, New Delhi on every 1st week of the month

THE AWARE CONSUMER

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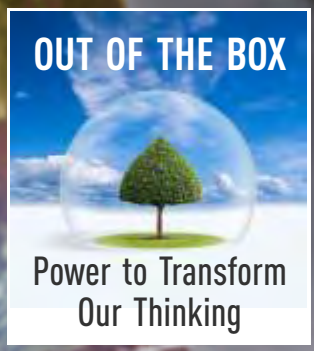
TOXICITY
who is responsible?

THE LAST MILE
Make Earth GREEN to Breathe clean



Comprehensive Study
AIR POLLUTION

IN FOCUS
Air Quality and Us

PLUS ROUND UP • MY MARKET • THE PRESCRIPTION

OUR BUSINESS is PATIENT SAFETY.

Partnership for

SAFE MEDICINES INDIA

SAFEMEDICINESINDIA.*in*

VIEW  POINT

BEJON KUMAR MISRA | bejonmisra@consumerconexion.org

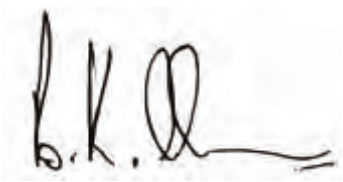
Let's make the Air-Fair

Today air pollution is responsible for more than 400,000 premature deaths in our country every year, as well as allergies, respiratory and cardiovascular diseases which result in extra medication, hospitalization and many more things.

THE AWARE CONSUMER has taken the initiative to educate people about the ill-effects of airpollution. The present day atmosphere is quite different from the natural atmosphere, i.e. much before urbanization and industrial revolution. Today air pollution is responsible for more than 400,000 premature deaths in our country every year, as well as allergies, respiratory and cardiovascular diseases which result in extra medication, hospitalization and many more things. The Global Burden of Disease Report has ranked outdoor air pollution as the fifth leading cause of death in India and indoor air pollution as the third leading cause. According to WHO 2014 database for ambient air pollution, India's capital was the most polluted city among 1600 cities in the world.

The natural emissions and human activities together contribute to air pollution. The government has taken a major step in monitoring air quality by starting National Air Quality Index and setting in-time data public for 11 cities. The next step should be for health emergencies on a daily basis, going to their AQI levels. In 2015, Ministry of Health and Family Welfare reported that if no action is taken, the ambient concentration of fine particulate matter (PM2.5) from transport sources in the country is expected to double by 2030.

Environmental worries like poor air quality need more attention. Today government is taking countless steps to control indoor and outdoor air pollution at the central and state level. However, there is still considerable room for one to improve the effectiveness and efficiency of the management of air pollution resources. The energy conservation and strategic objectives can help in maintaining our natural eco-system. We need more study, more observation, more discussion and more public awareness. We need to protect the environment to protect ourselves. Otherwise, our health continues to be at risk.



“Consumer Rights Are Our Fundamental Rights, IT is our Duty to ensure we are not shortchanged”

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12 | Comprehensive Study: Air Pollution?

Air pollution is the introduction of the biological molecules and other pernicious materials into the atmosphere causing disease and deaths to living organisms. A comprehensive study of factors affecting our environment.

HORIZONS

IN FOCUS

THE AWARE CONSUMER
UNLOCKING CONSUMER POTENTIAL
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NOVEMBER 2015 • Vol. 1 • Issue 6

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The AWARE CONSUMER
is printed and published by
Bejon Kumar Misra
at F - 9, Second Floor, Kailash Colony,
New Delhi - 110048 and printed at
M/s. Spectrum Printing Press (P) Ltd.,
Shed No. 23, Computer Complex,
DSIDC Scheme I, Okhla Phase II,
New Delhi - 110020

Place of Publication: E - 45, Ground Floor,
Greater Kailash Enclave - I, New Delhi-110048

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Total number of pages - 32, Including Covers

BENGT RITTRI, FOUNDER & CEO OF BLUEAIR

THEY SAID IT

Mr. Bengt Rittri said he was 'horrified by the conclusions of Greenpeace report following analysis of NASA satellite data that said while China was now improving its air pollution levels, the reverse is true in India where contamination has steadily increased to record high levels'.

ROUNDUP

Physical Defilement of Air

THE DEGRADATION in the properties of air around us gradually turns our mind to study about the major issues of physical defilement of air. One of the most vital elements to live on this planet is air. However, today the air is polluted to such an extent that we must consider ways to fight it out. Thus, it is important to study the causes of physical and chemical contamination of air.

Today we know that the air is not what it should be. The variation in the natural physical, chemical and biological particle or other harmful materials into the earth's atmosphere is causing damage to living organisms such as Humans, animals and food crops. The quality of air can be decreased from anthropogenic or natural sources. In other words, pollutant is the substance that alters the natural nature of any element and modifies its natural properties leading to Pollution. Due to this, stratospheric ozone depletion gets a hot plate while discussing Air pollution and has been recognized as a threat to human health as well as Earth's Ecosystem.

Here, the physical defilement of air refers to the introduction of discarded materials into the environment. The physical pollution is what we might refer to as trash and is a result of direct human actions. In other words, nature itself does not produce any physical pollution. For example, a fallen tree will decay and eventually reunite with Soil. However, industrial or manufacturing process does not naturally degrade and cause pollution. For example: buried waste and organic matter decompose to release methane gas, carbon dioxide and other harmful gases which ultimately leads to Air Pollution.

DATA BRIEFING

India's capital Delhi was the most polluted city among 1600 cities in the world.

Cause, Effect and Solution

AIR POLLUTION mainly triggered in two ways. They are: (1) Fumes (2) Dust. Fumes comprise of substances which can include vapors, gases, smoke and odors while Dust is the Dry particles.These can be emitted in a number of ways, such as Manufacturing processes, particularly thoseunits which uses chemicals and smoke, causes Air pollution. Today, most of the industry can cause some sort of air pollution if they are not running properly. Some industry is causing predominantly threat to air pollution, for example: Manufacturers, Construction, Transportation, Vehicle Repairs, Welders, Mines and Quarries, Laboratories and many more.

The main sources of air pollution include:

- Emission from burning fuels.
- Burning materials in the open.
- Dust and Fumes.
- Air pollutant which can be harmful to human health from office equipment such as copiers and printers.

Effects of air pollution in and around

Air pollution has a great influence on the environment in various ways. Emissions of Greenhouse gases contribute to climate change and ozone layer depletion. Air pollution also adds acidity to rain, which can have several adverse effects on humans and the environment, such as cause damage to buildings, land, fresh water and sea water, wildlife and plants. A number of risks to human health are associated with air pollution. Those who are open to the poor air quality can face an increased risk of exacerbating a wide range of illnesses which include lung and breathing problems, skin damage, cancer and so on.

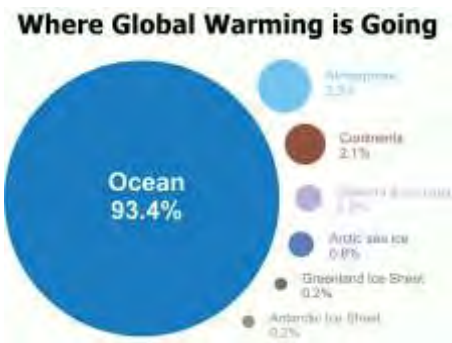
In today's era, the world is leading and so the air pollution. In this industrial age, it is difficult to say that we can come over it completely, but everyday choices can help reduce air pollution. The government needs to develop some guidelines for air quality and ordinances to limit emissions in an effort to control pollution. On an individual account, one can reduce their contribution to the pollution problem by various ways. They may support carpooling and prefer public transportation while one can use energy-efficient light bulbs and appliances or otherwise reducing electricity use will reduce the pollutants released in the production of electricity, which creates the majority of air pollution. One of the major solutions to air pollution is to, one must follow the concept of Reduce, Reuse and recycle. Adding clean Energy technologies like solar, wind and geothermal energy which certainly reduce air pollution.

Resolution to increasing pollution

MORE THAN 7 million premature deaths are annually linked to the air pollution, from which 3.7 million are particularly caused by urban outdoor air pollution. Many studies on human health have concluded that environmental stress is a major factor for morbidity and has a negative impact on the quality of life especially in urban areas. Among all the airborne pollutants like Sulfur oxide, Nitrogen oxide, Carbon monoxide, and Ozone, there has been a growing attention to study particulate matters (PM2.5 and PM10) due to their significant adverse impact on human health. In urban environments, this measure is closely linked to modern traffic conditions and huge amount of industrial emissions.

The established method for monitoring air pollution, in most countries, is through the use of static air pollution monitoring stations. These reference stations provide highly accurate measurements from a limited number of specially selected sites, which should be representative of different types of locations (National Air Quality Monitoring Programme), NAMP – in India. The NAMP network consists of 342 operating stations covering 127 cities in 26 states and 4 union territories.

The World Health Assembly (WHA), the World Health Organization's (WHO) governing body in Geneva recently described air pollution as “the world's single biggest environmental health risk”. The WHO urges its member states to develop air quality monitoring systems and health issues to improve observation for all illness related to air pollution. At the closing Assembly meeting, WHO Director, Dr. Margaret Chan confirmed that next year-WHO would propose a roadmap for an “enhanced global response” to air pollution by the health sector.



There are certain things one can do to maintain air quality. The foremost thing to curb air pollution is energy conservation. One can also promote clean cooking, efficient lighting and fuel technologies. Strong collaboration among all sectors at a local and national level related to air pollution policies is important to resolve air pollution.

Air pollution on CLIMATE CONTROL

It has become an important concern considering today. We all need an integrated approach to address air pollution and climate change if the society desires to slow down the rate of climate change and to protect lives and its ecosystems. Today there is an increasing recognition that the problems of air pollution and climate control need to be treated together. This act can be performed by the proper incorporation of the science and the community. Taking together the air pollution and climate control provides a unique opportunity to simultaneously achieve both air quality and climate strategy goals in the near-term, but would only be operative in the long-term if continued action to reduce long-lived greenhouse gases, notably carbon dioxide and methane. Air pollution can have adverse effects on human health and ecosystems and has an impact on the Earth's climate. The energy from the sun reaches the Earth's surface, it absorbs some of this energy and the rest of it gets radiated back to space as heat. Atmospheric greenhouse gases like carbon dioxide (CO2) and methane (CH4) can trap this energy and prevent the heat from escaping back which ultimately makes the planet warm and leads to Global Warming. The temperature of Earth's surface totally depends upon the incoming and outgoing energy from space. The warming of the climate is undeniable and the most witnessed are rising in global average temperatures since last century is very likely due to the anthropogenic increase in greenhouse gas concentrations. There is compelling evidence that today many fundamental measures of climate are changing and many of these changes are linked to the accumulation of greenhouse gas in the atmosphere. Therefore, climate control measures must be taken to mitigate greenhouse gas emissions (such as increasing energy efficiency, switching fuels, shifting technologies) could tip to decrease the increase emissions of air pollutants. In order to be active, harmonized air pollution and climate control solutions require the effective arrangement of local, national, regional and international mitigation strategies that we can have "win-win" benefits for air quality and climate.

The Air-We Breathe in

THE EARTH IS wrapped closely in a thin blanket of air and we say it as Atmosphere which allows creating a shield protection to maintain Earth environment. This atmosphere protects Earth burning up objects like meteors from space and makes living on Earth is Safe. The atmospheric shield has its major constituent is ozone, the tiny molecule of oxygen reunite together to gain energy to form O3 (ozone gas molecule). The atmospheric shield protects us from harmful Sun rays which cause Sunburn. So, the atmosphere is a mixture of gases, which helps to make a living on Earth that is on land or in the sea. The atmosphere is thickest near the surface of the Earth giving oxygen to the livings that we breathe in. However, nowadays it is not as simple as it is making us think that what we breathe in. As in increasing today industry and another business has a great significance of releasing more gases into the atmosphere from burning fuels and heat our homes, including some natural causes like volcano eruption and forest fire all giving us unhealthy gases that we do not want or desire for sure. The air gives life to all on land or in the sea, which includes you and me, so need to understand and learn more about the air and so we are here. Moving further, we need to understand the natural composition of the air. The composition of oxygen in the air is 210000ppm.

Typical Composition of Inhaled (clean) and Exhaled Air

Substance	Inhaled air (%)	Exhaled air (%)
Nitrogen	78.0	78.0
Oxygen	21.0	16.0
Argon	0.9	0.9
Carbon dioxide	0.0390	4.0
Water vapor	variable	variable

We all are very much clear that oxygen is a savior gas and we need to maintain its quality. The inhaled oxygen is absorbed by the blood, the dissolved oxygen reacts with the food (present in the body) to produce energy and heat. The waste product of the metabolism of oxygen is carbon dioxide and water. Although today due to human activities and little of the natural extent the quality of air is not the same because of additional pollutant basically air pollutant. Today issue of air pollution is acute everywhere.

The major air pollutants are:

- Carbon monoxide, CO (interferes oxygen carrying capacity of blood, nausea→unconsciousness→death; indoor CO more dangerous of: charcoal grills, stoves etc.)
- Ozone, O3 (extremely reactive, inhalation damages lung tissues, retinal damage, cataracts, affect plants,)
- Sulfur oxides SO3, SO2 (includes smog dissolves in moisture to form an acid and cause pulmonary disease, lower respiratory infections, and cancers)
- Nitrogen oxides NO, NO2 (interact with atmospheric moisture to form an acid and cause damage to lungs, cerebrovascular disease)
- Particulate matter, PM 1.2 (affects the lungs; tiny solid or liquid particles).

“Let's Not Fall Victims to Fraud Be Aware”

Bhopal Tragedy

More than three decades, it was on the night of 2 Dec- 3 Dec 1984 at the Union Carbide India Limited (UCIL) pesticide plant in Bhopal, Madhya Pradesh. Over 500,000 people were exposed to the methyl isocyanate (MIC) gas and other chemicals. The toxic substance spilled out from the pesticide factory turned the city into a vast gas chamber. The city literally turns into the cremation grounds. It was India's first major industrial disaster and the nightmare that still has no end. Residents ran on the street of suffocating gas clouds. Victims arrived at hospitals; breathless and blind. The pulmonary, cardiac, cerebral, neurological and immune system got affected who merely survived. Thirty years later, there is no ending of what occurred that crucial night, but because our reaction has been incomplete and callous. Until today, nobody knows the health impact of MIC and how to treat patients exposed to the gas. The chemicals dumped in and around the premises of UCIL, contaminating the water that people drink. All this could have been accomplished if proper information about the chemical leakage is given at the proper time. Even today Indian Council of Medicine Research (ICMR) in Delhi says that the "exact causative agent of the Bhopal Gas Disease is unknown". Why? The disaster took the lives of around 5000 people and there were around 500000 cases of fetal injury due to the exposure of poisonous gas. One study by the Delhi non-profit Centre for Science and Environment (CSE) and the Central Pollution Control Board (CPCB), controversy has erupted-whether or not the contamination has spread through groundwater. Most studies suggest that the surrounding groundwater found contaminated near the UCIL site with benzene and HCH isomers because of dumping of waste. This tragedy had an immense impact on the ill-fated city and its people. It had created a difference to the way that chemical and hazardous waste management need to be reinforced world widely, such as safety precautions mandated and for environmental management strengthened. Even today in India we continue to see industrial accidents-Hazardous waste are piling up in many parts, contaminating land and water and endangering lives. We need to find the methods to remediate these toxic sites at the earliest to prevent such disaster. EPA is India's first legislation that gave the authority to the Centre to issue direct orders to close, prohibit or regulate any industry. EPA has been translated into a range of Central rules and regulations, laying down pollution norms and setting rules for the management of hazardous waste. In the last three decades, the government still stressed to establish the responsibility of UCIL and the people who lost their lives and continue to suffer today.

Comprehensive Study

AIR POLLUTION

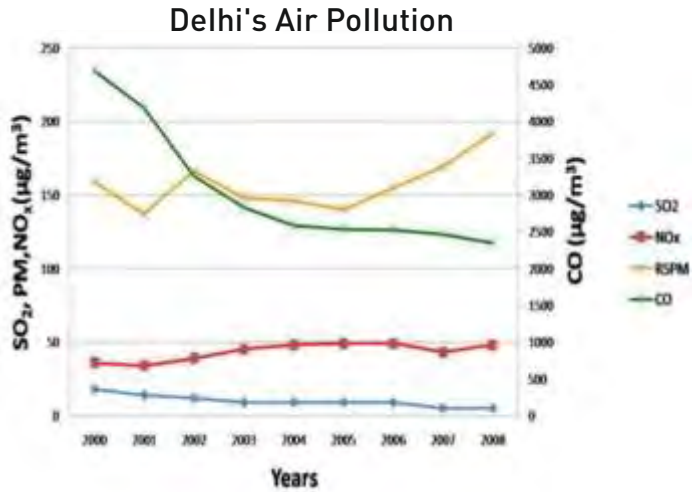
Air Pollution is a very complex societal problem and has been known since ages. It is defined as the introduction of the biological molecules, harmful particulates or any other pernicious materials into the atmosphere, causing disease, death, and damage to living organisms such as plants, animals, human beings or any other natural environment. The atmosphere is a very complex natural gaseous system which consists of a number of layers that differ in the composition, pressure and temperature.

Air pollution is caused by various pollutants (primary or secondary) emitted from various sources like volcano, industries, nuclear power plants, transportation etc.

As listed by Eurotract Project, there are 6 "criteria" pollutants:

1. Total Suspended Particles Matter (PM10, PM2.5, etc.), PM can exist either in liquid or solid form, and includes smoke, dust, aerosols etc.
2. Sulfur Dioxide (SO2)
3. Nitrogen Oxides (NO and NO2)
4. Carbon Monoxide (CO)
5. Ozone (O3)
6. Lead (PB)

Below is a graph showing the almost general concentration of these criteria pollutants in Delhi, India.

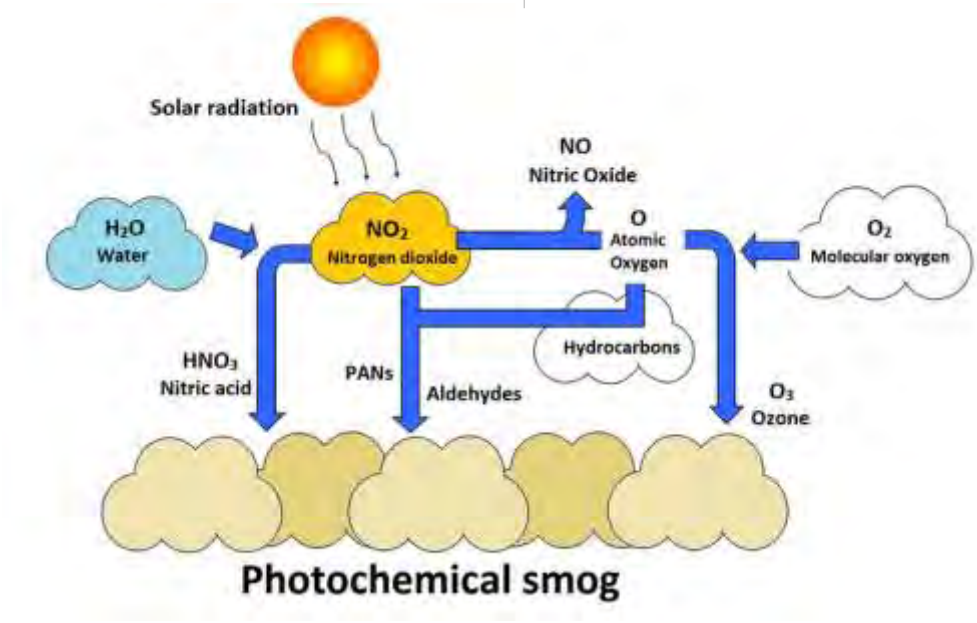


Urban and Regional Smog

The word smog was coined by Dr. Henry Antoine Des Voeux in his research paper, “Smoke and fog” for a meeting of the public health congress. The July 26, 1905 edition of the London newspaper Daily Graphic quoted Des Voeux, "He said it required no science to see that there was something produced in great cities which was not found in the country, and that was smoky fog, or what was known as 'smog.' Photochemical Smog is defined as the chemical reaction of the sunlight, nitrogen oxide, and volatile organic compounds present in Earth's atmosphere, which on reaction leaves some air borne particles and ozone. Photochemical smog is a condition that develops when primary pollutants interact under the influence of sunlight to produce a mixture of hundreds of different and hazardous chemicals known as secondary pollutants.

One of the natural causes of the photochemical smog is the volcanic eruption. An erupting volcano emits high levels of Sulfur Dioxide, which in turn is one of the key components to the creation of Smog.

In typical urban areas, at least half of the smog precursors come from cars, buses, trucks, and other motor vehicles. Major smog occurrences often are linked to heavy motor vehicle traffic, high temperatures, sunshine, and calm winds. Weather and geography affect the location and severity of smog. Because temperature regulates the length of time it takes for smog to form, smog can form faster and be more severe on a hot and sunny day. When temperature inversions occur (warm air stays near the ground instead of rising) and winds are calm, smog may stay trapped over your city for days. As traffic and other sources add more pollutants to the air, thesmog gets worse. Smog is often moresevere away from the pollution sources because the chemical reactions that cause smog occur in the atmosphere while the reacting chemicals are being moved by the wind.



Severe smog and ground-level ozone problems exist in many major cities, including much of California from San Francisco to San Diego, the mid-Atlantic seaboard from Washington, DC, to southern Maine, and over major cities of the South and Midwest. To varying degrees, the majority of U.S. cities with greater than 250,000half million populations have experienced problems with ground level ozone.

Agricultural Emission

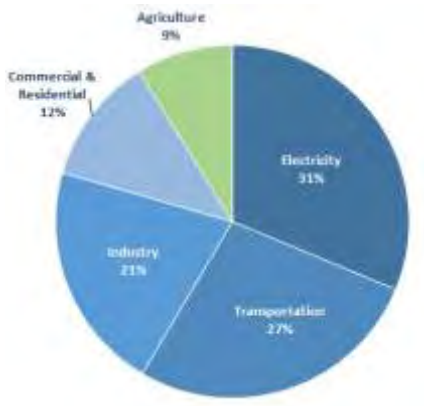
Some of the agricultural activities, such as cultivation of crops and livestock of food, contribute to the emission in different ways. Enteric Fermentation (Production of methane) is one of the processes that account from agricultural emission. The process of enteric fermentation represents one third of the total emission from the agricultural sector.

Various agricultural particles lead to the emission and production of nitrogen oxide (N2O). The activities that produce N2O from agricultural lands range from fertilizer application to methods of irrigation and tillage. The type of management accounts for the half of the emissions from the Agricultural Sector.

The management of the manure from the livestock also account for the production of Methane (CH4) and N2O. The amount of exposure to oxygen and the methods of manure storage canaffect theproduction of greenhouse gases. The type of management accounts for about 12% of the total greenhouse gas emissions from the Agriculture Sector in United States. The very small amount of methane and N2O is produced by the burning process of crops and crop residues.

Total Emissions in 2013 = 6,673 Million Metric Tons of CO2 equivalent

*Land Use, Land-Use Change, and Forestry in the United States is a net sink and offsets approximately 13% of these greenhouse gas emissions..



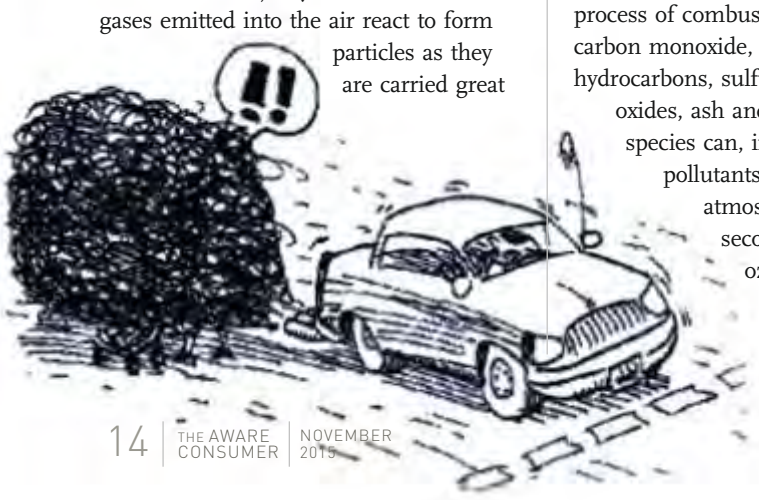
According to the survey, the global agricultural emissions have increased 8 percent from 1990 to 2010. And the emissions are projected to increase 15 percent above the given 2010 level by 2030. The expected amount will be nearly 7.5 billion tons per year. Agricultural emissions will be greatest in areas of Asia and Saharan Africa. The effect will be driven mainly because of the population growth and changes in dietary preferences.

LUCF (Land use change and forestry) accounts for 4 percent of the total global emissions in 2010. Parts of this emission are firmly connect to agriculture and forestry. The result is of deforestation caused by land enhancement for farms.

Changes in farming practices and food demand may offer big opportunities to reduce agricultural emissions.

Visibility Degradation

The Visibility Degradation is probably one of the most noticeable factors of air pollution. Visibility degradation is caused by the absorption and scattering of light by particles and gases in the atmosphere. The process of scattering impacts on the visibility of an object, in terms of distance by reducing the amount of light transmitted from source of light. While there are some factors that impact on how the object is viewed. Air pollution that causes haze comes from a variety of sources. These include power plants, factories, and cars and trucks. Natural sources can include windblown dust and soot from wildfires. Some haze-causing pollutants are directly emitted into the air. The vast majority are formed when gases emitted into the air react to form particles as they are carried great distances from the source of the pollution.



To increase the visibility of four different episodes viz. Long range transport with dust storm, long range transport with frontal pollution, River dust, and stagnant weather, multiple linear regression was applied using different influential variable of temperature, relative humidity, wind speed, PM2.5 (Particle matter with an aerodynamic diameter < 2.5 micron), PM 2.5-10, SO2, NO2 and NO as independent variables. The result showed that PM2.5 was the most important contributor to reduced visibility followed by PM2.5-10.

Transportation

The combustion of fossil fuels produce the energy that translates into motion. The process of combustion involves incomplete carbon reactions, unburned hydrocarbons and other elements present in the fuel. Pollutants of different molecular numbers are produced by the process of combustion which include carbon monoxide, soot, liquid vaporized hydrocarbons, sulfur oxides, nitrogen oxides, ash and lead. All of these species can, in turn act as primary pollutants and can react in the atmosphere to form secondary pollutants, ozone, and other harmful pollutants.

The share of fossil fuels used in the sector varies from region to region. According to the recent study of six cities of developing countries, it was found that the share of usage of fossil fuel in the sector ranged from 4 to 35%.

Lead, various types of particulate matter, ozone (formed from atmospheric reactions of oxides of nitrogen [Nox] and volatile organic compounds [VOCs]), various toxic VOCs, nitrogen dioxide, carbon monoxide, ammonia and sulfur dioxide are pollutants produced by transportation sector and can adversely affect the health of living beings. The pollution so caused can damage crops, farmlands, forests, lakes, rivers, streams, coastal waters and bio-systems. The damage is mainly because of the acidification, eutrophication and migratory ozone.

The development of a strategies to reduce the emission of the transport involve the selection of a coherent set of measures which, taken together, will reduce the emissions of transport pollutants. The measures can be targeting the vehicles and fuels used and maintenance practices within the sector, technology-oriented, or they can be behavioral, seeking to reduce (or prevent increases in) the amount of activity of the most polluting vehicles. They may also focus on systemic aspects of the transport system–ways in which the transport network influences either the aggregate amount of vehicle use or the emissions intensity of individual vehicles.

Clean Air Act - Regional Visibility Degradation at a Glance

Cause of Haze	Solutions
Dust Emissions	Dust control, windbreaks
Poor smoke management	Proper smoke management
Wind erosion	Maintain surface residue/cover
NOx emissions	Proper maintenance and operation of combustion sources
Ammonia emissions	Proper nutrient and manure management
VOC emissions	Reductions in pesticide use

Central Pollution Control Board (CPCB)

CPCB along with the State Pollution Control Board is together responsible for the proper execution of law and prevention of environmental pollution.

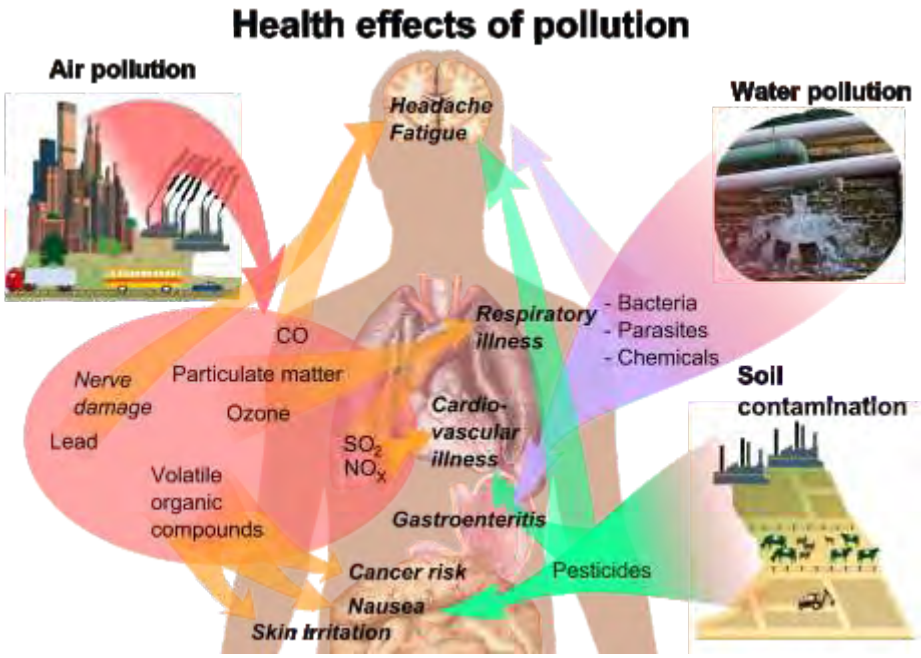
THE CENTRAL POLLUTION Control Board (CPCB) is an Indian legislative organization, constituted in September 1974 under the Water (Prevention and Control) Act. Further, The CPCB was assigned to the Powers and functions under the Air (Prevention and Control) Act in 1981. The CPCB provides technical services to the Ministry of Environment and Forests under its provision of the Environmental (Protection) Act, 1986. CPCB has its headquarters in New Delhi with seven zonal offices at Bengaluru, Kolkata, Shillong, Bhopal, Lucknow, Vadodara and Agra.

CPCB along with the State Pollution Control Board is together responsible for the proper execution of law and prevention of environmental pollution. The prime function of CPCB is to coordinate the activities of the State Pollution Control Board by providing technical assistance and guidance. It also resolves disputes among them. It is the

supreme organization in India in the field of pollution control. It promotes the air quality improvement and preventions of air pollution in the country.

Functions of the CPCB at National Level

- Provide guidance to the Central and State Government over prevention and control of water and air pollution and its improvement.
- Plan and cause to be executed a nationwide program for the prevention, control or abatement of water and air pollution.
- Coordinate the activities of the State Boards and resolve disputes among them.
- Provide technical assistance and guidance to the State Boards, carry out and sponsor investigations and research relating to problems of water and air pollution, and for their prevention, control or abatement.
- Plan and organize training of persons engaged in program for prevention, control or abatement of water and air pollution.
- Organize through mass media, a comprehensive mass awareness program on prevention, control or abatement of water and air pollution.
- Collect, compile and publish technical and statistical data relating to water and air pollution and the measures devised for their effective prevention, control or abatement.
- Disseminate information in respect of matters relating to water and air pollution and their prevention and control.
- Lay down, modify or annul, in consultation with the State Governments concerned, the standards for stream or well, and lay down standards for the quality of air.
- Establish or recognize laboratories to enable the Board to perform and functions as and when prescribed by the Government of India.



The various nationwide programs are carried out by the CPCB for the ambient air quality monitoring known as National Air Quality Monitoring Program (NAMP). Under NAMP, major air pollutants are Sulfur Oxides, Nitrogen Oxides, Suspended Particulate Matter and Respirable Suspended Particulate Matter.

Environment Pollution Control Authority (EPCA)

The Environmental Pollution (Prevention and Control) Authority (EPCA) is constituted from the sub- sections (1) and (3) of section 3 of the Environmental (Protection) Act, 1986 for the National Capital Region (hereafter referred to as the Authority) by the Central Government. The EPCA has the power to take action for protecting and improving the quality of the environment by preventing, controlling and abating environmental pollution.

The Authority shall exercise the following powers and perform the following functions for protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution, namely:-

i. Standards for the quality of the environment in its various aspects.

ii. Standards for emission or discharge of environmental pollutants from various sources.

iii. Restriction of areas in which any industries, operations or processes or class of industries or processes shall not be carried out or shall be carried out subject to certain safeguards.

iv. Procedures and safeguards for the prevention of accidents which may cause environmental pollution and remedial measures for such accidents.

v. Procedures and safeguards for the handling of hazardous substances.

1. The Authority shall have the power to take up matters as mentioned above, on the basis of complaints made by any individual, representative body or organization functioning in the field of environment. Such complaints may be against any individual, association, company, public undertaking or local body carrying on any industry, operation or process.
2. The Authority shall, for controlling vehicular pollution, take all necessary steps to ensure compliance of specified emission standards by vehicles including proper calibration of the equipment for testing vehicular pollution, ensuring

compliance of fuel quality standards, monitoring and coordinating action for traffic planning and management.

3. The Authority shall, for ensuring maintenance of the specified ambient noise standards, have the power to issue directions under section 5 of the said Act, including banning or restricting any industry, process or operation emitting noise.
4. The Authority shall deal with environmental issues pertaining to the National Capital Region which may be referred to it by the Central Government.
5. The Authority shall monitor the progress of the action plan drawn up by the Ministry of Environment and Forests on pollution in Delhi as contained in the 'White Paper on Pollution in Delhi with an Action Plan', issued by the Central Government on 3rd December, 1997.
6. The Authority shall exercise the powers of entry, inspection, search and seizure under section 10 of the said Act, in respect of any action to be taken under sub-paragraph (1) of the paragraph 2 of this Order.
7. The Authority shall exercise the power to take samples under section 11 of the said Act, in respect of any action to be taken under sub-paragraph (1) of paragraph 2 of this Order.
8. The Authority shall exercise the powers under section 19 of the said Act, for making complaints against offenses under the said Act and for non-compliance of directions issued by it under sub-paragraph (1) of paragraph 2 of this Order.
9. The Authority shall have jurisdiction over the National Capital Region as defined in clause (f) of section 2 of the National Capital Region Planning Board Act, 1985 (2 of 1985).
10. The foregoing powers and functions of the Authority shall be subject to the supervision and control of the Central Government.
11. The Authority shall furnish a progress report about it activities at least once in two months to the Central Government.
12. The Authority shall have its headquarters in National Capital Region.
13. .
14. (1). Notification of the Government of India in Ministry of Environment and Forests number S.O.704(E), dated the 9th October, 1996 consisting the Environmental Impact Assessment Authority for the National Capital Region shall stand superseded (expect in respect of things done or omitted to be done before such supersession) from the date of publication of this Order.

(2). Any matter which relates to the powers and functions enumerated in this Order, and pending with the Environmental Impact Assessment Authority shall stand transferred to the Environment Pollution (Prevention and Control) Authority for the National Capital Region constituted under this Order.
(3). Any matter specifically not falling within the scope and jurisdiction of the Authority as so constituted shall be dealt with by the statutory authorities concerned.

The Ministry of Petroleum and Natural Gas, which was directed by National Green Tribunal to check adulteration of petrol and diesel at petrol pumps across Delhi-National Capital Region (NCR), has told the green panel that the laboratories of Central Pollution Control Board (CPCB), Delhi Pollution Control Committee (DPCC), are not equipped to detect impurity of these fuels.

Indian Pollution Control Association

The Indian Pollution Control Association (IPCA) is a non-profitable, non-government organization entitled with the Central Pollution Control Board at the national level. The IPCA established in the year 2001. The IPCA provides environmental services related to solid waste management and creating environmental awareness. IPCA inspires proper recycling of the local solid wastes and industrial waste management for the benefit of the nation's economy and environment sustainability. In 2008, IPCA established a recycling center for the manufacturing of the recycled products made from recyclable and recycled materials. In 2011, IPCA launched Environmental Technologies and Machines & Equipment for the waste recycling industries.

Indian Association for Air Pollution Control

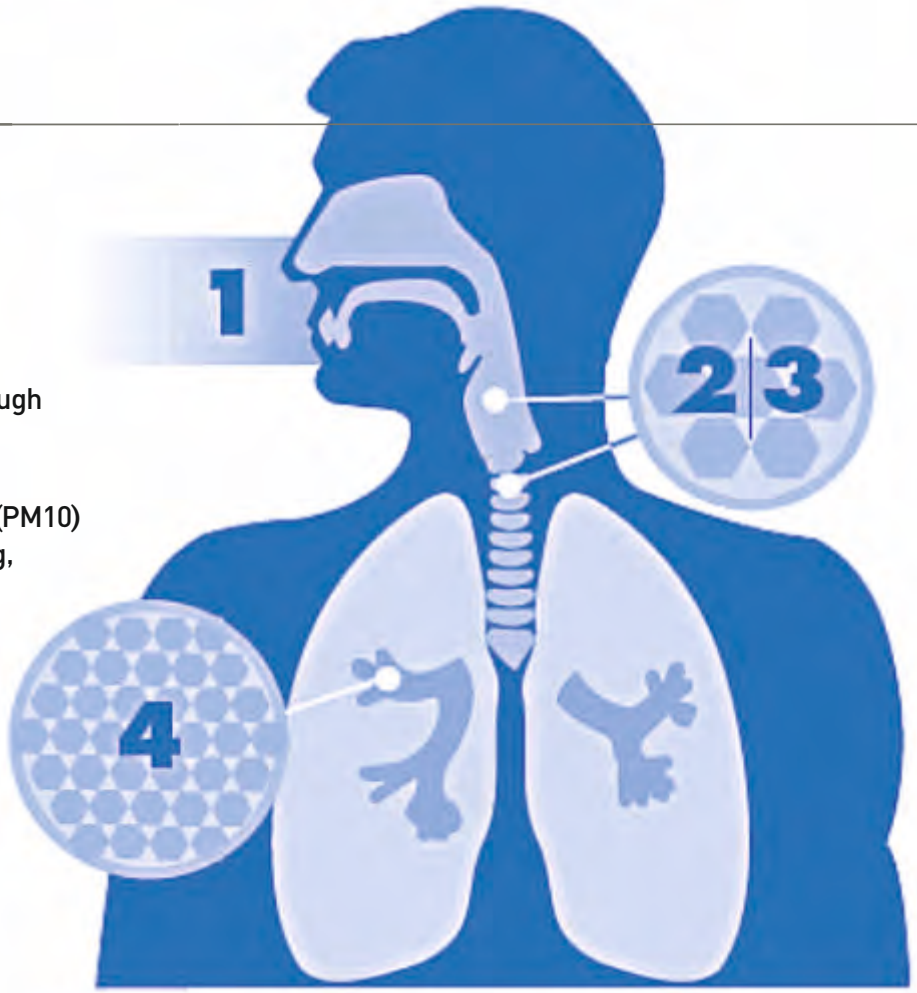
The Indian Association for Air Pollution Control is an organization established in 1976 by some concerned environmentalist at BHU-Varanasi. The IAAPC shifted its headquarters to Delhi in 1981, entitled with the Central Pollution Control Board to advise the government on the increasing Air pollution and its Monitoring, Control and Management. The IAAPC organized several programs, workshops, seminar and journals on air pollution and its prevention.

How Particulate Matter Enters Our Body

1 Particulate matter enters our respiratory (lung) system through the nose and throat.

2|3 The larger particulate matter (PM10) is eliminated through coughing, sneezing and swallowing

4 PM2.5 can penetrate deep into the lungs. It can travel all the way to the alveoli, causing lung and heart problems, and delivering harmful chemicals to the blood system.



Air Quality and Us

THE STUDY OF Air Quality (AQI) is demanding today because of the increasing Air pollution. AQI helps to understand the air which surrounds us. The greater the value of AQI, the higher the level of pollution there is. Poor Air Quality affects the health. Ozone is primarily summertime and particulate matter, also known as PM is in winter. These two pollutants are the cause of concern. The given illustration is an example of how PM enters our body.

Today, everyone is affected due to some kind of pollution borne symptoms such as cough, watery eyes and many more. This is the case even for the healthy ones. It has become a challenge to fight all risks. The risk of getting affected totally depends upon the pollutant type and its concentration, also the duration of exposure to the polluted air. The high level of air pollution can cause immediate cardio, pulmonary and respiratory damages. The Air Quality gets worst in the afternoon and early in the evening because of the increased level of volatile organic compounds and oxides of nitrogen and sulfur, which reacts with sun's ultraviolet rays to form Ground-level ozone causing respiratory disorders. The particulate matter is basically the complex mixture of dust and smoke which is emitted in an environment at an enormous rate from various sources such as construction work, agriculture, industries and transportation.

The most vulnerable health problems due to air pollution are as follows:

- Cardio Diseases – such as coronary artery disease or congestive heart failure
- Lung Disease – such as asthma, bronchitis
- Wheezing, chest pain, dry throat, headache or nausea
- Reduced resistance to infection
- Weakened athletic performance

Children & Air pollution

Air pollution has many adverse effects on both adults and children. Children are more susceptible to air pollution than adults. In the last few decades, the incidence of airborne diseases has grown rapidly. Cardiopulmonary perhaps is the most important disease of this incidence. In many health research studies, they were treated as small adults, but this is not really true. There are differences between adults and children in the ways that they respond to air pollution. For example: while indulged in physical activities, children tend to breathe-in about 20 – 50% more air. Adults, when exposed to low-level air pollution are noticed to have severe headaches, soreness, etc. while children on the other

hand easily ignore these symptoms with their preoccupied play activities.

The World Resources Institute has a few words to say on this, "Because they breathe at a higher rate than adults, children are exposed to greater levels of pollution on their smaller body weight and are generally more sensitive to their effects on a pound-for-pound basis." This is why children are more sensitive to air pollution than that of adults. Several major researches suggest that children have something going on in their lungs even though they don't cough or feel discomfort. Symptoms are often considered warning signals and can be used to trigger protective behavior. Children neither perceive these warning signals nor take caution to their activities. World Health Organization published a review of studies on children's health on air pollution.

The following are some important findings of the review:

- The early childhood periods are vulnerable times when the lungs are more sensitive to injury by air pollutants. Exposure during these periods reduces the maximal functional capacity.
- Children having chronic lung diseases are at a greater risk of adverse effects from air pollution.
- Evidences on the adverse effects of air pollution on different pregnancy outcomes and infant health.
- Significant adverse effects are observed on the development of the nervous system and children's behavior because of Environmental contamination such as industrial waste like lead and metal particles.

We need to act now as there is no tomorrow to postpone our children suffering. Last year saw 3.5 million reported cases of acute respiratory infection by India's National Health Profile. So, it can be clearly seen that air pollution is no more about just numbers.

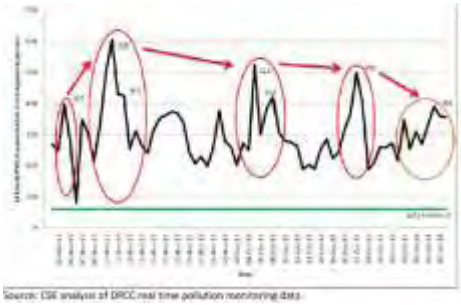
Odd n even formula in Delhi

The Delhi government recently launched ODD and EVEN formula for its ambitious road-rationing plan to check the air pollution in the national capital. The enforcement of Odd and Even rule is to curb the unbridled pollution in the national capital as many other countries did. However, Delhi government has a host of exemptions, including two-wheeler, women drivers, top politicians and emergency vehicles. This formula will not be applicable to CNG/LPG and electric vehicles. Though the government has introduced this formula on a trial basis for 15 days only and for a limited duration the air pollution has resulted in lower than previous. The right way to approach the problem of pollution is to strengthen the public transport system and the last-mile connectivity. During winter, cold temperature and lower mixing height of air help pollution to build up quickly. According to National air quality index, there has not been a single good air quality day this winter. The implementation of odd and even action helps arrest the overall pollution levels, which are five to six levels up than the standard. To protect public health, the government must ensure such activities. The odd and even action certainly brings some immediate relief in checking air pollution. The peak pollution during odd and even scheme has been at the lowest as compared to the previous episodes. This proves reduced traffic volume has

Below is the Air Quality index, issued by the Government of India

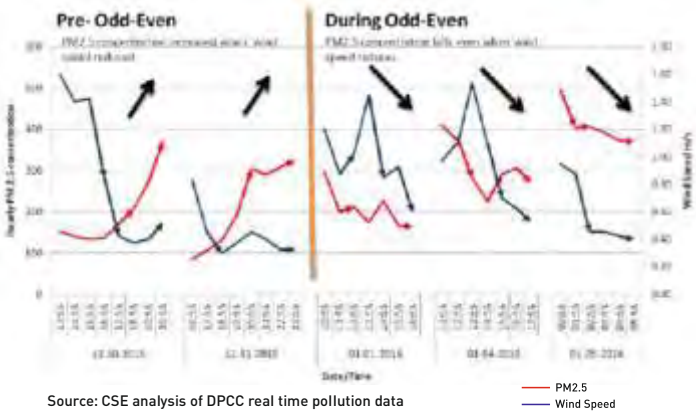
AQI	Remark	Color Code	Possible Health Impacts
0-50	Good		Minimal impact
51-100	Satisfactory		Minor breathing discomfort to sensitive people
101-200	Moderate		Breathing discomfort to the people with lungs, asthma and heart diseases
201-300	Poor		Breathing discomfort to most people on prolonged exposure
301-400	Very Poor		Respiratory illness on prolonged exposure
401-500	Severe		Affects healthy people and seriously impacts those with existing diseases

arrested the topping of air pollution. Drop in the intensity of smog episodes illustrated below with graphs:



Source: CSE analysis of DPCC real time pollution monitoring data

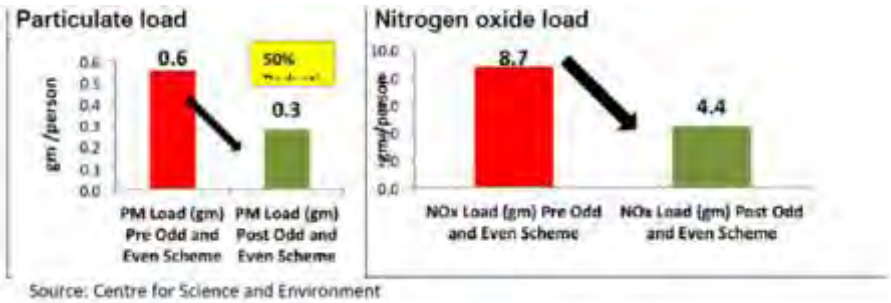
The second graph shows the particulate matter decreased during odd and even scheme checking air pollution.



Source: CSE analysis of DPCC real time pollution data

During this formula, it is observed that the pollution load from cars are lower; per capita emission of car users is also down. The Particulate matter, nitrogen oxide and sulfur oxide load from vehicles have undergone substantially during odd and even scheme by 40 percent. This indicates reduced exposure to toxic pollution from vehicles on roads and close to the roadside. This scheme further contributed to the reduction in exposure to toxic fumes.

The graph shows the reduction in per capita emission of PM and NOx due to carpooling during odd and even scheme:



Source: Centre for Science and Environment

Government control strategies

Over the last few decades, there have been frequent alarms from the environment, awakening us to preserve our planet. For this the environmentalist is taking drastic measures by ensuring that the administration is accountable to clean the toxic air in and around. Studies have shown that the emissions from the industries, construction sites, and transportation are the major account for rising air pollution levels and smog. The Air (Prevention and control of Pollution) Act was enacted in 1981 further amended in 1987 to provide better prevention, control and abatement of air pollution in India. For the proper regulations of the Act, the government has established the governing bodies on both central and state level. There are several agencies at the central level such as:

- Ministry of Environment and Forests
- Central Pollution Control Board
- Environment Pollution Control Authority
- Ministry of Petroleum and Natural Gas
- Ministry of Road Transport and Highways
- Other Central Ministries/Agencies
- R and D Centers and other Institutions

On the other hand, there are agencies at the State level for the monitoring of air pollution, such as:

- Department of Environment
- Pollution Control Board/Committees
- Local Bodies/Authorities

There are several control agencies working to mitigate the air pollution. Air Quality Standards have been notified (1982 &1994) and Air Pollution control areas declared. Emission Standards have also been notified for Industries Vehicles (in-use & new). Fuel quality improvements, (Coal, gasoline & Diesel)Relocation of polluting industries, phasing out older polluting vehicles, introduction of mass rapid transportation and new and in-use vehicles developed up to year 2010 are the roadmap for control of emission. Also is the use of Alternative fuel (CNG/LPG/Ethanol petrol/Biodiesel, Hydrogen, etc.). The government has also set up some control strategies for the industries like Thermal Power Plant such as:

- Ash utilization time frame laid down (26% utilization)
- Enforcement of PM Emission Standards (70% complaint)
- Mandatory use of beneficial coal
- Promotion of clean coal technologies. (FBC, PFBC, IGCC, etc.)
- Tall stack dispersion

Control strategies and policies issued by the central government for the Oil refineries.

- Control of SO2 emission by using high-efficiency SRU, adequate stack height & low sulfur fuels.
- SO2 emission standards being revised and NOx and VOC standards to be introduced.
- Leak Detection and Repair Program to reduce fugitive emissions.

Initiatives were taken to control the air pollution from the small-scale industries, such as making the fixed Brick kiln and using of spray water near stone crusher.

Recently the Government of India has issued the National Air Quality Index for the proper monitoring of air pollution in India. While the Delhi state government followed an alternative as checking Air pollution with Odd and Even scheme; PM Modi suggested that India's 'age –old traditions' could be used to tackle air pollution and saves our Heritage for the future generations.

What's in the air?

YOU CAN SENSE what you can't see; just like you know when someone's cooking fish around. Tiny molecules of the smell float around in the air and are detected by our nose. We detect them easily as these odors are familiar to us. However, the contamination like carbon dioxide and others are odorless and hard to detect. We don't sense everything that is present in the air.

Breathing is something we do subconsciously. We aren't always thinking about it, but that doesn't give a pass to ignore issues of air quality. Knowing what's in the air is the most essential as knowing anything around us. Incidentally, poor air quality has been linked to multiple death cases, increasing cardiovascular diseases, lung diseases and cancer. Thus, we must learn to stay safe and healthy.

Today, there is a huge amount of contamination in the air that makes it polluted. Pollutants in the air are so tiny that it is hard to observe with the eye. In order to stay healthy, we need to understand the pollutants which pollute the air:

OZONE

The main source of ozone is when the nitrogen oxides (burning of fossil fuels) and volatile organic compounds get mixed in the sunlight. The major component of smog is found in the lower atmosphere. The long-term exposure to high-level ozone can cause asthma, sore throats, coughs, uneven breathing and premature death. Ozone can cause damage to plants and crops.

CARBON MONOXIDE

The main emission of carbon monoxide into the atmosphere is from transportation when the engines are damaged or are not serviced. The excess amount of CO deprives the body from getting enough oxygen, thus causing a headache. Higher concentration may give you a heart disease.

LEAD

The burning of gasoline releases lead into the atmosphere, which is why now we observe unleaded at gasoline stations. However, airborne lead still originates from industrial sources & lead paints. The ill effects of lead include memory loss, kidney problems and heart strokes.

PARTICULATE MATTER

This is the name given to the tiny matters in the air. They are basically the dust and fine particles released from burning fuels and wastes. As they are tiny, they enter into the lungs & can cause cell damage, asthma and respiratory diseases like tuberculosis.

ARSENIC

Commercial and industrial activities release inorganic Arsenic- which is the dangerous kind. Sometimes it's found in drinking water or soil. In lesser doses, it damages the nervous, gastrointestinal and reproductive system and is strongly associated with lung cancer.

ASBESTOS

The Asbestos gets released in the atmosphere from the clutches and brakes of vehicles or deteriorating buildings like insulations. Long term exposure can cause asbestosis, suffocation and lung cancer.

BENZENE

Tobacco smoke, gas station and motor vehicle exhausts are all the common sources of benzene exposure. Benzene is used to make glues, plastics nylons and paints. It can reduce the number of red blood cells causing Anemia.

METHANE

In an airless environment, Methane is in plenty where plant or animal matter is decomposing. Landfill and mines are the common sources of methane. At a high level, it leads to suffocation and is also as explosive at a concentration of 5% or higher.

SULFUR DIOXIDE

The largest source of sulfur-dioxide comes from fossil fuel combustion emissions; mostly at power plants and other industrial facilities. Exposure to oxides of sulfur worsen respiratory and heart diseases.

Other than these, we must learn to manage the indoor smoke which releases harmful gases, like cyanide, benzene, formaldehyde, methanol, acetylene, ammonia, carbon monoxide and nitrogen oxide. Air filters and purifiers can remove harmful toxins and particles from the air, thereby further reducing the risk.

Toxicity: who is responsible?

EVERY MORNING, especially in winters you barely are able to see anything. For years, people have never questioned the quality of air. The World Health Organization measured the air quality levels in 1600 cities around the world in 2014 and foundIndia's capital city 'New Delhi' has the most toxic air. Recently, the World Health Organization declared air pollution to be one the most dangerous environmental carcinogens. New Delhi has the highest concentration of Particulate Matter, also called PM2.5. The WHO's PM2.5 permissible standards for humans is 10. These particulate matters are 10 micrometers or smaller, which are present in the indoor and outdoor pollution. PM2.5 are particularly dangerous to human health as they are invisible and small enough to lodge in the human lungs causing several chronic lungs or heart diseases and premature death. Around six lakh people in India die prematurely each year because of air pollution, which is the fifth leading cause of death in the country, while 35000 deaths occur only in the capital city.

The assessment from the various sources showed that high-level pollution is caused due to vehicle emissions, burning of fossil fuels and industrial emissions. One of the major factors contributing to air pollution in Indian cities is increasing number of vehicles. The inadequate public transport system witnesses the huge increase in personal vehicles. According to road transport ministry data, road space in India has increased at an annual rate of 2.5% compared to an over 10% increase in vehicular population. The increasing diesel vehicle demand is probably increasing the amount of nitrogen oxide in the atmosphere. The government today is taking several measures to check air pollution and to improve the air quality. Recently, Prime Minister Narendra Modi launched National Air Quality Index for the proper monitoring of air pollution levels in major cities. The data from the government's monitor reveals that pollution levels are off the charts in many cities. The NAQI data shows that most cities across India exceeded the pollution level standards. The data below shows that the pollution level in Indian cities has beaten the toxic levels of Beijing and other Chinese cities, indicating levels that are at least ten times higher than WHO standards, making airpollution certainly a national emergency.

The data provided by the NAQI portal suggested that control strategies needtodevelop an immediate program nationwide to reduce the pollution level mainly PM2.5 and PM10.

The Greenpeace data suggest that the air quality in several cities of India has worse air than any other cities around the world and yet we remain unsure in spotting this pollution disaster.

"Indian cities are witnessing a rapid increase in air pollution and untamed motorization," wrote Anumita Roy Chowdhury, head of the clean air program at the Centre for Science and Environment in New Delhi.

The WHO officials are calling for greater awareness of the health risks caused by urban air pollution and both execution of effective pollution reduction policies and close monitoring of the situation in the cities worldwide. We need to reduce the pollution from all sources, but vehicles and industries need special monitoring as they emit more toxic fumes into the atmosphere. We should become 'responsible consumers' while buying the products. We must join environment-conscious awareness activities in our community. The government needs to strongly actto curb the air pollution by regulating certain rules like Delhi Government's Odd and Even Formula and reduce its widespread health effects.

Little changes serve you for a better tomorrow

There are some ways to prevent air pollution. Changing daily routine and certain living patterns in the most convenient way, that doesn't have any side-effects on our usual lifestyle. About half of the air pollution account for either automobile emissions or from industries, which suggest that little less driving and smarter driving as well as energy conserving will cut air pollution and eventually improve air quality. Making small changes in lifestyle can help in reducing air pollution. We just need to opt for three simple' R' – REDUCE, REUSE, and RECYCLE.

REDUCE

- Waste management- Try to decrease more of our household and office wastes.
- Stay simple.
- Choose disposable products.
- Share with friends.
- Borrow from a neighbor.
- Reduce purchasing.
- Choose canvas or jute bags.

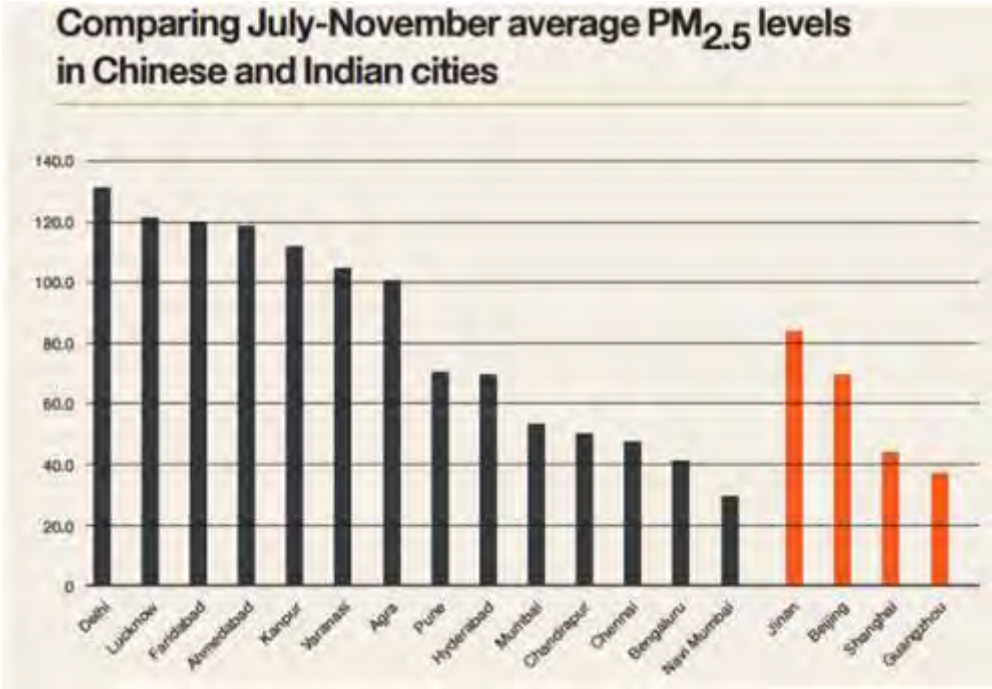
REUSE:

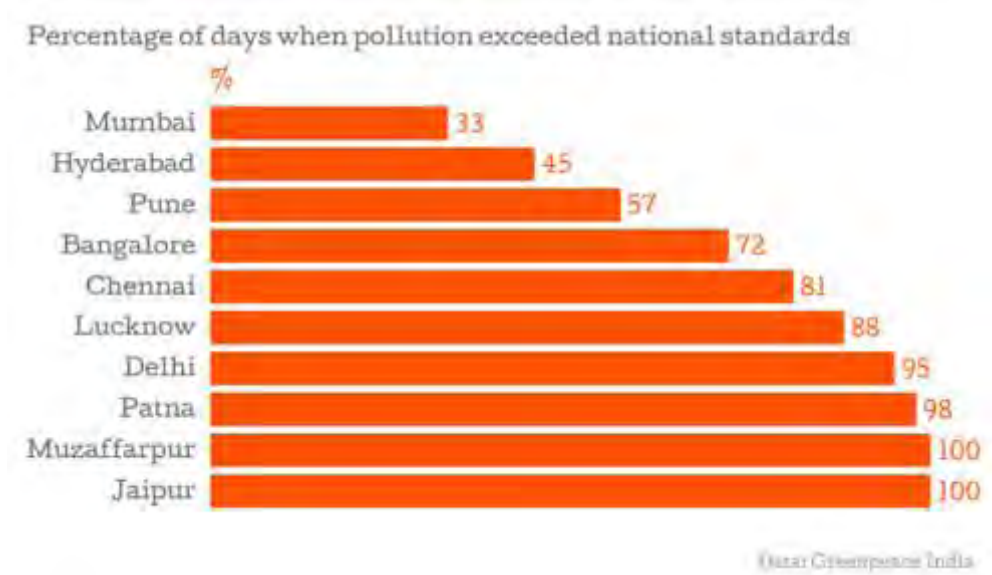
- Go to garage sales.
- Reuse products like food containers, plates, shopping bags etc.
- Donate your used products.
- Create less trash.
- Choose durable products.
- Pick used books or from the library.
- Buy or sell used products.
- Stay thrifty.

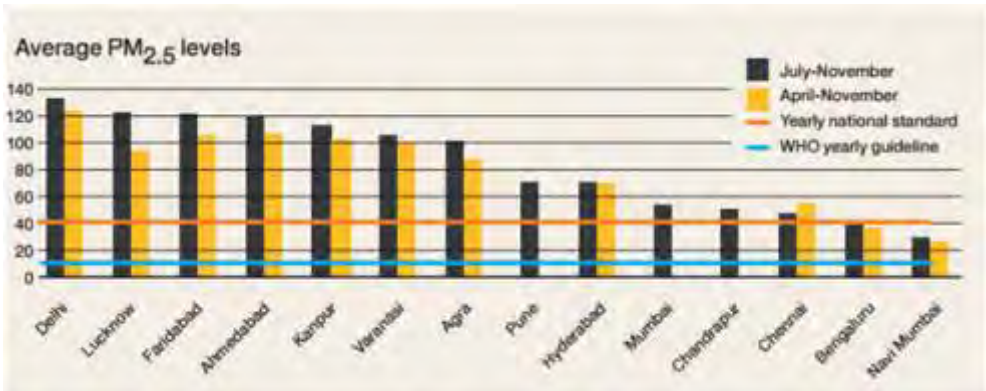
RECYCLE:

- Recycling of plastic and glass materials.
- Go for sustainable packaging.
- Choose recycled products while purchasing.
- Give useless CDs, DVDs, cellphones and batteries to the recycle centers.
- Choose vermicomposting rather than fertilizers and pesticides.
- Management of toxic substances at the hazardous waste facility.

These are some little changes which not only help us make our environment cleaner and healthier, however, save our money too.







“CLAIM YOUR
Consumer Rights Now
An Aware
CONSUMER
is a Protected Consumer”

Make Earth Green to Breathe clean

GLOBAL WARMING, rising energy costs and other environmental concerns are front-page news today and eco-friendly living means, conserving natural resources whenever and however we can. Considering today, Breathing and Air pollution always comes side by side. Air pollution is not only a threat to human health, but to other creatures and our eco-system as well. Our Earth's environment has a protective layer of gases known as Atmosphere. It gets polluted by human activities or by natural sources. The natural sources account for volcanic eruptions and storms while human activities seem countless today. This includes pollutants as chemicals, toxic gases, and particulate matter. Every year we celebrate World Environment Day, with plans in mind to save our planet and the eco-system. We need to ask ourselves "Will we really execute our plans?" We need to act for the health of our planet and so, for our existence. It may seem like the act of one person won't make a difference, but it does. It is time to come together and take some honest steps to reduce the amount of pollution. We need to adopt the habit of Reuse and Recycle. The common source of air pollution is the burning of fossil fuels from the industries and thermal power plants. We need to reduce our reliance on electricity and to use the alternatives such as solar energy to save our planet. Emissions from transportation is another big source of air pollution which has led to global warming. In order to save our planet's environment, we need to use public transportation and adopt the nature of carpooling. We need to usecleaner fuels and more fuel-efficient products in order to combat increasing air pollution. Factories can use control devices like Scrubbers on smoke stacks to trap the particles and thermostats that aid in energy conservation. Making the planet green also turns out when we focus ourselves in doing the activities like sustainable wooden flooring and nontoxic paints to our home. Simple changes in everyday life can be the key mantra for healthier, safer and a greener planet. To never let anyone smoke in indoor premises and in public places is one way to combat air pollution. Planting more trees as they are also an integral part of the ecosystem. Planting trees not only help us in protecting from air pollution but also check on land and water pollution. Local groups have been setup for creating awareness in order to control the air pollution. Vote and support towards good government policies and regulations that promote healthy air and reduces the amount of air pollution in the atmosphere. Simple things can make the difference, so in order to keep our planet Green to breathe Clean we need to customize our habit with some new Do's- Reduce, Recycle and Reuse.

Planting trees not only help us in protecting from air pollution but also check on land and water pollution.

POOJA KHAITAN

Risk of Asthma Epidemic

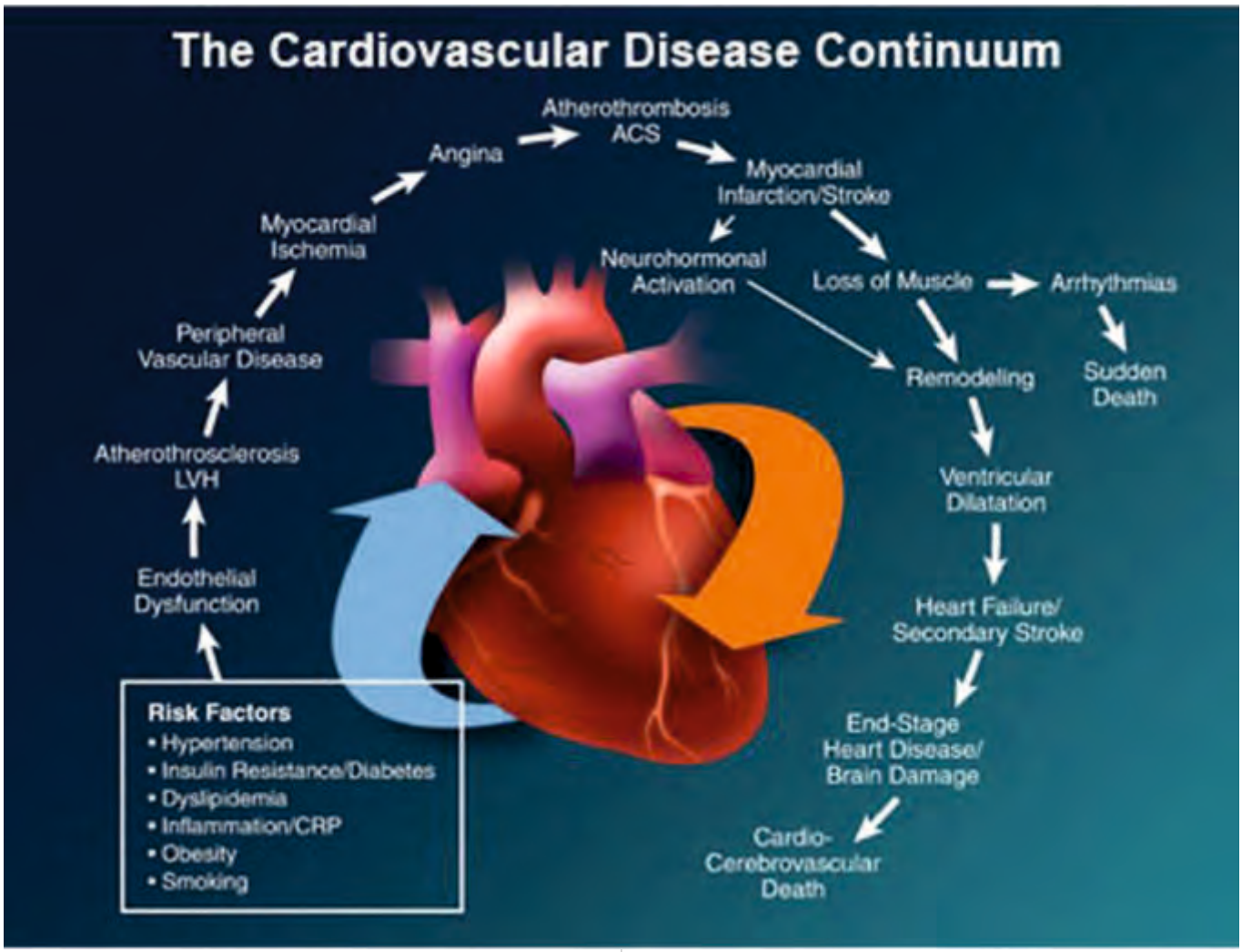
Air pollution can cause bronchitis, chronic obstructive pulmonary disease and lung cancer other than asthma.

ASTHMA IS A serious chronic lung disease that appears to be rising because of increasing air pollution. The incidence of asthma has increased in children and adults over the last decades. Asthma causes breathing problems as the muscles tighten around the airways; because of this lungs get less air and reduce its function. The inner lining of the airways becomes inflamed and swollen. Attacks can be described by feeling chest pain, coughing, and wheezing. However, air pollution as the major cause of asthma is under investigation, but it definitely can trigger. The impact of air pollution is severe when high levels of both indoor and outdoor pollution combine together. The airborne particles, sulfur oxides, nitrogen oxides and ozone cause various respiratory irritations and accelerates asthma episode. Long-term exposure to air pollution can cause bronchitis, chronic obstructive pulmonary disease and lung cancer other than asthma. It is difficult to avoid air pollution, but measures can be followed to reduce the risk.

Some measures to reduce the effects of high pollution levels are:

- Use reliever inhaler when necessary.
- Manage the amount of time spent outside.
- Keep indoors properly ventilated.
- Practice morning exercise when air quality is better.
- Avoid messy traffic.
- Avoid smoky situations.
- Go for ozone-reducing air filters.

Better air quality index in the surroundings could help us in maintaining healthy lungs.



Stimulation to Cardiovascular Disease

We often see that air pollution may cause lung disease, but in fact, it is cardiovascular diseases that have the major adverse health effects. The term cardiovascular disease includes all diseases of the heart and blood vessels. Ambient air pollution and particulate matters (PM) are the major avoidable heart risk factors - like smoking and obesity. These particulate matters stop blood vessels, relaxing and contracting, which increases the risk of clots and heart attacks. Increasing pollution is a heavy toll on cardiovascular health. People need to take steps to protect themselves from breathing heavy pollution and to check air pollution. Cardiovascular disease results in initiating immense suffering and premature death. Pollution also leads to heart inflammation causing chronic cardiovascular problems. Research suggested that particulate matter, related to fuel combustion is so tiny that they aren't screened properly and rapidly enters inside the human body. These particulate matter, then begins to irritate the blood vessels around the heart. The World Health Organization reported that air pollution causes 3.7 million deaths worldwide. The World Health Organization sets the safe outdoor exposure limit for PM2.5 at an average of 25 micrograms per cubic meter of air over a 24 hour period. A number of studies have been assessing that air pollution and cardiovascular disease has resulted in probing the change in blood pressure. Both air pollution and increased blood pressure can contribute to a higher risk of cardiovascular disease. People living in the heavily polluted areas should opt for proper ventilation systems since outdoor air pollution can pierce indoors. People with heart disease should avoid long time outdoor exposure when the traffic pollution is likely to be high. We want to reduce the risk factors such as smoke and exposure to air pollution. Air pollution is an unavoidable public health issue, causing cardiovascular diseases worldwide. We need to avoid such situations.

Power to Transform Our Thinking

AIR QUALITY is usually thought of as something that is present outdoor. Needless to mention, we spend ninety percent of our time indoors & poor indoor air quality can have several ill effects on our health. Chemicals found in paints, furniture and flooring contain mostly the volatile organic compounds. Indoor air pollution involves exposures of carbon dioxide and other pollutants carried by indoor air or dust, which includes various gases, household products and solvents, building materials (asbestos, lead), outdoor indoor allergens (cockroach and mouse droppings), tobacco smoke.

In some instances, outdoor air pollution can make its way to your room through open windows, doors, and ventilations. Outdoor air pollution involves exposures that take place outside of the built environment such as fine particles produced from the burning of fossil fuels and gasoline, nitrogen oxides, sulfur oxides, carbon monoxide, chemical vapors, ground-level ozone and tobacco smoke. As the world's resources continue to suffer from overuse and the effects of human activity, it is essential to understand the causes and effects of pollution. Indoor air quality can be managed by making sure that a building is well-ventilated and cleaned regularly to prevent the buildup of agents like dust and mould. Proper monitoring of air quality index helps to reduce outdoor air pollution in addition to avoiding heavy traffic and smoke. Climate change and Global warming are the spotlight which arises due to increased air pollution.

Proper monitoring of air quality index helps to reduce outdoor air pollution in addition to avoiding heavy traffic and smoke.

Some Tips to enhance the Indoor air quality:

- Minimize the use phenols and chemicals.
- Lawn care: Use organic method.
- Avoid vinyl flooring and wall covering rather use Non-PVC wall and floor

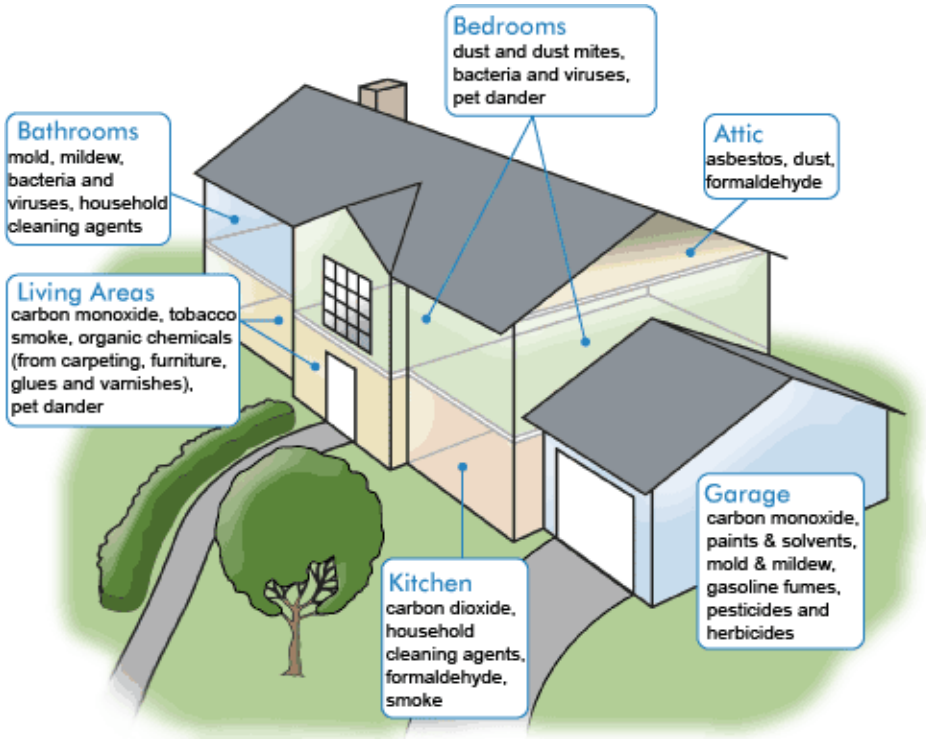
coverings.
- Choose to solid woods and formaldehyde-free insulation during construction or renovating of home.
- Avoid acetone nail remover. Choose fragrance free products.

We need immediate attention from local and global agencies, along with every citizen to take responsibility while coping with an increasing toxic environment.

Let's begin with new DO's

When we talk about pollution, we are talking about the ill effects of pollution. Most cities in India are under the extreme threat of air pollution. It is time to create a better surrounding. Simple air pollution solutions are needed to enhance our health and improve air quality. Air pollution is caused when the harmful chemicals combine in our atmosphere from various sources. Most common is the emission of carbon dioxide, nitrous oxide, methane, sulfur and chlorofluorocarbons (CFCs).

These poisonous chemicals are released from vehicles, planes, power plants, factories, agricultural activities, decomposing wastes and many other activities that involve burning of fossil fuels. As pollution in the air worsens, our surroundings becomemore contaminated which causes various health issues. Each of us can protect our environment by checking the amount of pollution in various ways, such as:



- Avoid using the harmful chemicals, let's begin with natural ones.
- Avoid purchasing products having excess packing.
- Install air purifiers.
- Focus on reuse and recycle of materials.
- Conserve energy.
- Support Organic farming instead of fertilizers and pesticides.
- Use air conditioners only if necessary.
- Join carpooling, prefer public transportation.
- Use renewable energy sources like solar, wind and geothermal
- Prefer energy-efficient products.
- Support new technology that focuses on emission control.
- Plant more trees.
- Support government policies on air pollution.
- Use LPG/PNG gas appliances and not charcoal ones.
- Paint with brushes instead of sprayers.
- Keep solvents in airtight containers.

These solutions can be easily adapted to make large contributions towards improving our surroundings.

Where can consumers have their say about policies and legislation, about their needs and requirements, about products and services, about genuine and fraud companies? We provide you the platform to share with our readers your experiences.
Write to us: bejonmisra@consumerconexion.org

Extend Your Commitment to Community Action

Every day we make choices that reduce or can reduce air pollution. Individuals, neighborhoods, and communities are closely linked & a portion of community pollution comes from each individual. Communities as a whole have the responsibility to put curbs on air pollution caused mainly by the use of motor vehicles, burning of fossil fuels, burning of woods for domestic use and land clearing. Few sources of community air pollution are:

- Conserve energy- turn off electronic appliances and lights.
- Focus on recycling and reuse of plastics, paper, and glass bottles as it conserves energy and emissions.
- Replace wood stoves often.
- Plant more trees.
- Choose energy star products and appliances.
- Choose efficient vehicles.
- Carry jute or canvas bags for shopping.
- Use alternative energy as solar, wind and geothermal.
- Avoid tobacco smoking in public places.
- Use of alternative transportation as public transit, cycling, carpooling and walking.
- Avoid burning of vegetative matter.
- Avoid burning of plastics, garbage and tires.

Communities and local bodies need to take actions to address air quality and climate change challenges. They need to work for creating a livable and sustainable community through greener transportation and proper management.

– Pawan Khanna, Kolkatta

Some major steps that communities can do:

- Promoting awareness of energy conservation in community offices.
- Reduction of greenhouse gas.
- Improving the public transportation system.
- Encouragement to low-pollution vehicles.
- Proper management of Smog.
- Proper setting of laws over vehicle exhaust and industrial smoke.
- Activities to make local bodies greener and healthier.

– Rakesh Srivastava, Lucknow

Time for A Green Lifestyle

Today, increasing air pollution is putting millions of lives in danger. Emerging countries like India, are among the most affected as we can observe it in the air. Urbanization is growing at its peak and cities have become more populated. Population growth has already led urban expansion beyond the limits, creating the environmental problems, impacting the human health.

The urban migration is increasing the air pollution because of the growing lifestyle that includes cars, air conditioning, and other facilities. While air pollution becoming really hazardous, it is important for us to find sustainable solutions. According to the World Health Organization, around the world, each one among eight deaths accounts to air pollution. One simple solution for green lifestyle is creating a large-scale plantation on building rooftops. The vision of green lifestyle is by creating beautiful and healthy environments in and around for all to enjoy.

The vision includes:

- Creating a surrounding having clean air and energy saving programs
- Introduction of programs for green solutions and future services
- Become more aware of resources
- Change in travel habits
- Choose locally grown products.
- Lessen the use of Harmful Chemicals
- Choose 3R- Reduce, Recycle, Reuse
- Stop Littering
- Create Awareness.

– Smithi Sehgal, Delhi

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Printed, published & owned by Bejon Kumar Misra, Printed at M/s. Spectrum Printing Press (P) Ltd., Shed No. 23, Computer Complex, DSIDC Scheme I, Okhla Phase II, New Delhi - 110020 and Published at E - 45, Ground Floor, Greater Kailash Enclave - I, New Delhi-110048, Editor: Bejon Kumar Misra