



ENVIS CENTRE, CHANDIGARH

# NewsLetter

P a r y a v a r a n - P a t r a

## Chandigarh State of Environment



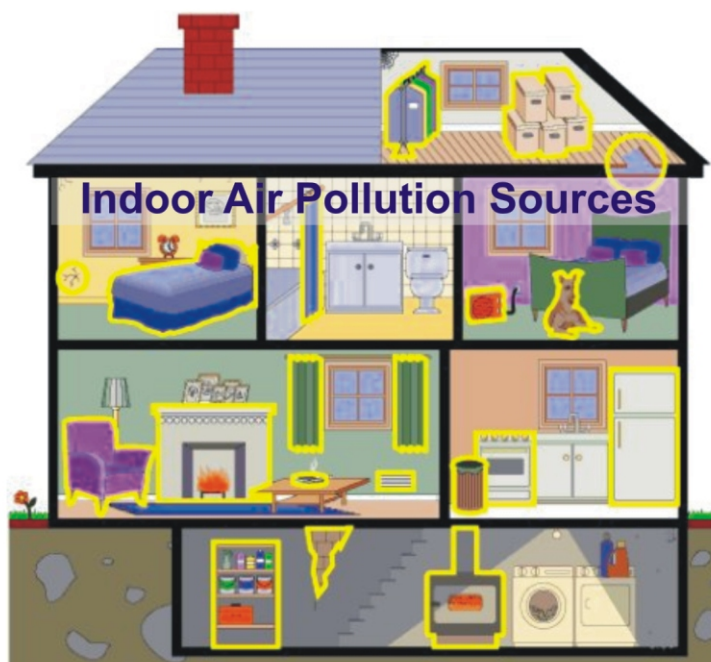
### EDITORIAL



Air, a factor without which the life is not possible on the planet, is protective covering of the earth. It has the share for all existing. Oxygen is taken by animal kingdom and CO<sub>2</sub> is taken by plants which in turn provide more oxygen. But air is getting polluted day by day. The balance of healthy air is weakening. With every cutting of plants human is killing the natural and the only one oxygen generator. Adding more to the mix, extravagant habits of the world has resulted in dry natural resources and high demand. Vehicles are major source of air pollution in Chandigarh. Thousands

of private vehicles are being added to the transport system every year but the confined area of Chandigarh is not increasing. Hence, the load of emissions is added to present conditions only. If we are not stopping it right here right now, it would be very difficult to survive for the next generation and even our generation would have to struggle at later stage. SPM and RSPM levels are ever increasing. Farmers are repeatedly requested not to burn the leftover in fields and motorists are encouraged to use public transportation. Efforts have brought cheers statistically but yet we have miles to go. Also, please take care of indoor air pollution. It can be dangerous than outdoor air pollution.

Additional Director, Environment



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## Paryavaran Patra

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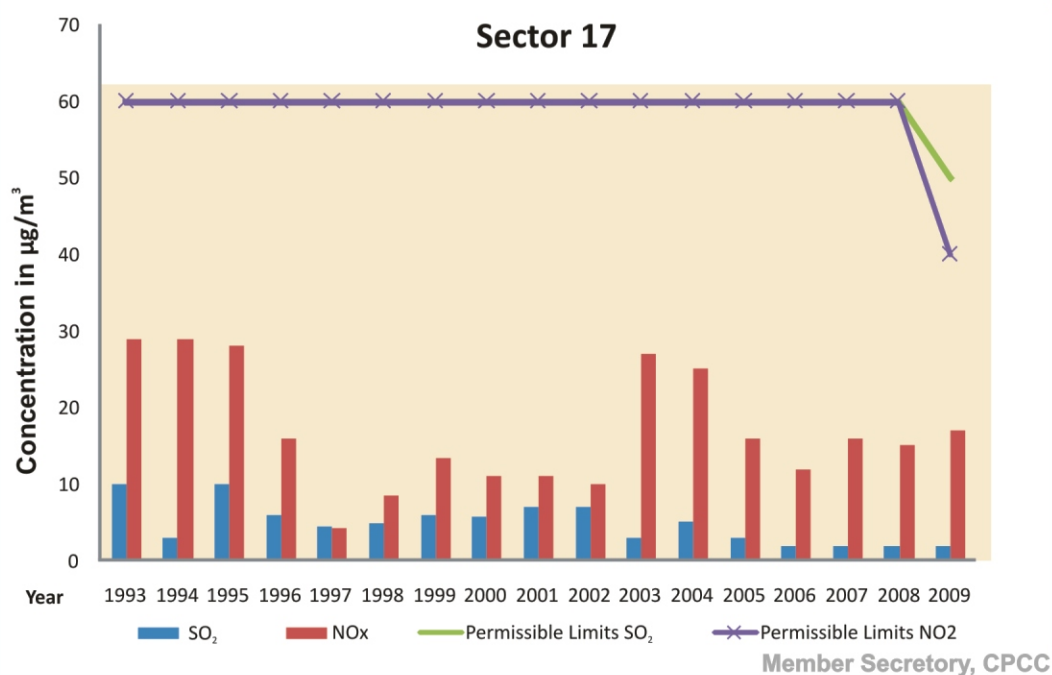
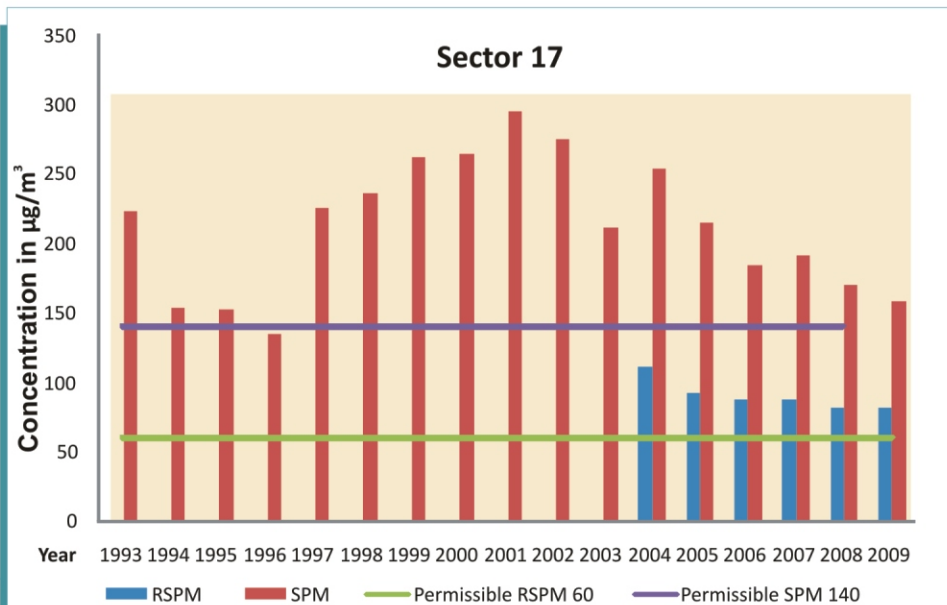
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## Air

Air is clear gas around the earth protecting it from harmful rays of Sun and making earth livable. It has no color and smell but weight and pressure. Air is a mixture of 78.03% nitrogen, 20.99% oxygen, 0.94% argon, 0.03% carbon dioxide, 0.01% hydrogen, 0.00123% Neon, 0.0004% helium, 0.00005% krypton, 0.000006% xenon.

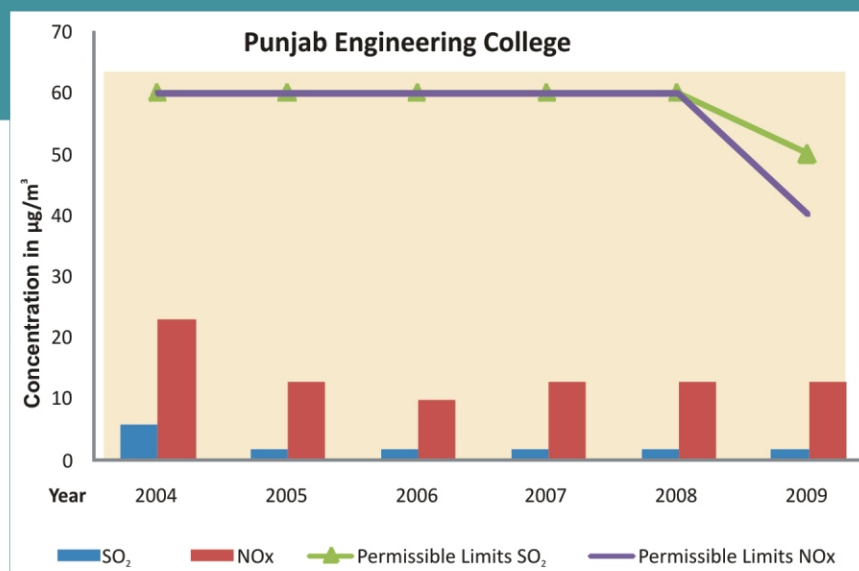
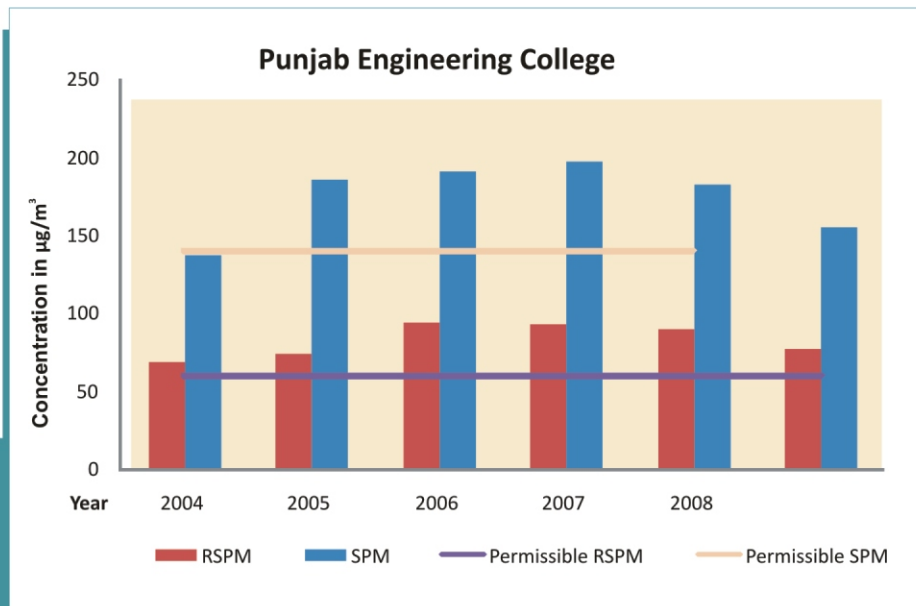
Human inhale the oxygen and exhale the carbon dioxide which is used by the plants to produce oxygen again. Wind refers to moving air. Air is polluted by various pollutants which contribute to global warming.



Member Secretary, CPCC

Air Quality of Sector 17 Chandigarh

## Air Quality of PEC Chandigarh



Member Secretary, CPCC

## Air pollution

Any introduction of any matter that disturbs the natural balance of atmosphere resulting in harms or discomfort for short or long time is air pollution.

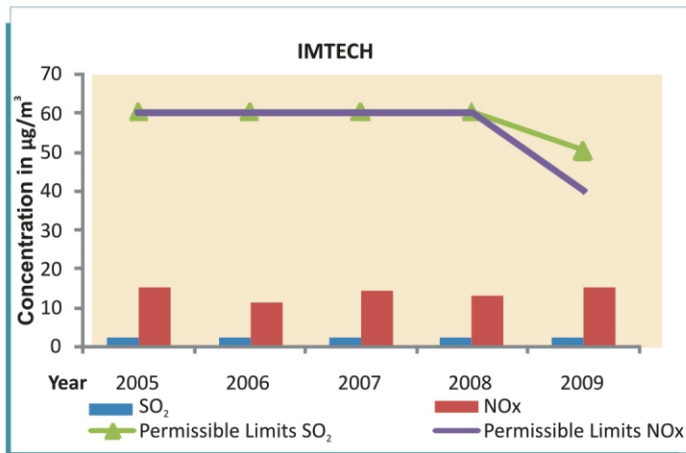
Any factor contributing in the air pollution is known as air pollutant. Ozone, the life protecting covering, is depleting due to air pollution causing many types of allergies and other diseases.

Pollutants can be primary i.e. directly emitted from a process or secondary i.e. by product of primary pollutants. Some can be listed in both the categories.

All the countries across globe have initiated the pollution control strategies and national and international levels. The basics of the strategies are reduce, reuse, and recycle. It aims at efficient use of fuel and curb the wastage



## Air Quality of IMTECH Chandigarh



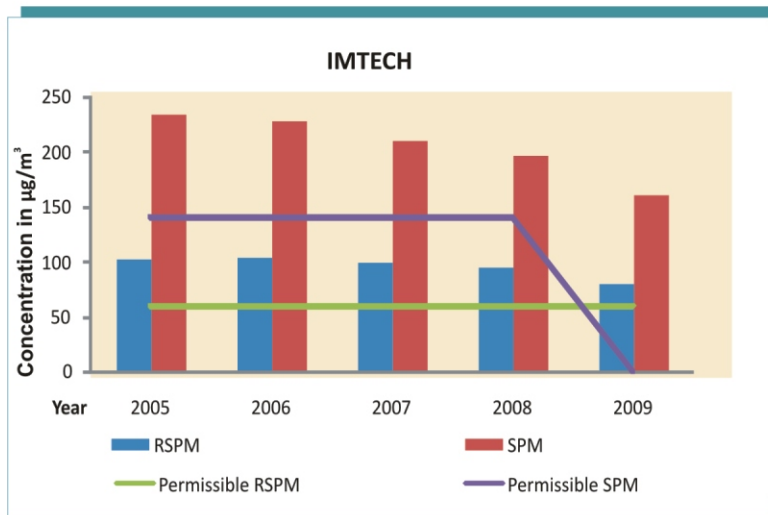
## Human Respiration

The exhaling air contains 4.4% carbon dioxide and 17% oxygen. That is why mouth to mouth respiration saves life in emergency.

Atmospheres with oxygen concentrations below 19.5 percent can have adverse physiological effects, and atmospheres with less than 16 percent oxygen can become life threatening.

## Oxygen Percentage in Air and its Effects

- 20.9-23.5 percent: Maximum permissible oxygen level. No effect.
- 20.9 percent: Percentage of oxygen found in normal air. No effect.
- 19.5 percent: Minimum permissible oxygen level. No effect.
- 15-19 percent: Decreased ability to work strenuously. May impair coordination and may induce early symptoms with individuals that have coronary, pulmonary, or circulatory problems.
- 12-15 percent: Respiration and pulse increase; impaired coordination, perception, and judgment occurs.
- 10-12 percent: Respiration further increases in rate and depth; poor judgment and bluish lips occur.
- 8-10 percent: Symptoms include mental failure, fainting, unconsciousness, an ash-colored-face, blue lips, nausea, and vomiting.
- 6-8 percent: 8 minutes - 100 percent fatal; 6 minutes - 50 percent fatal; 4-5 minutes - recovery with treatment.
- 4-6 percent: Coma in 40 seconds, convulsions, respiration ceases - death.

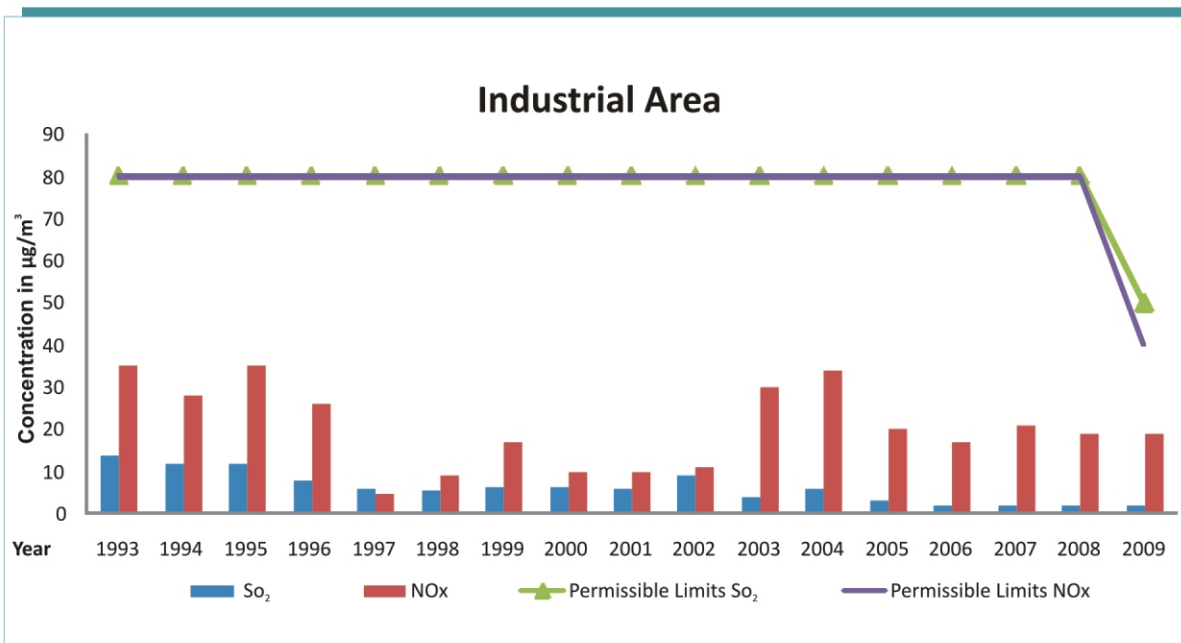
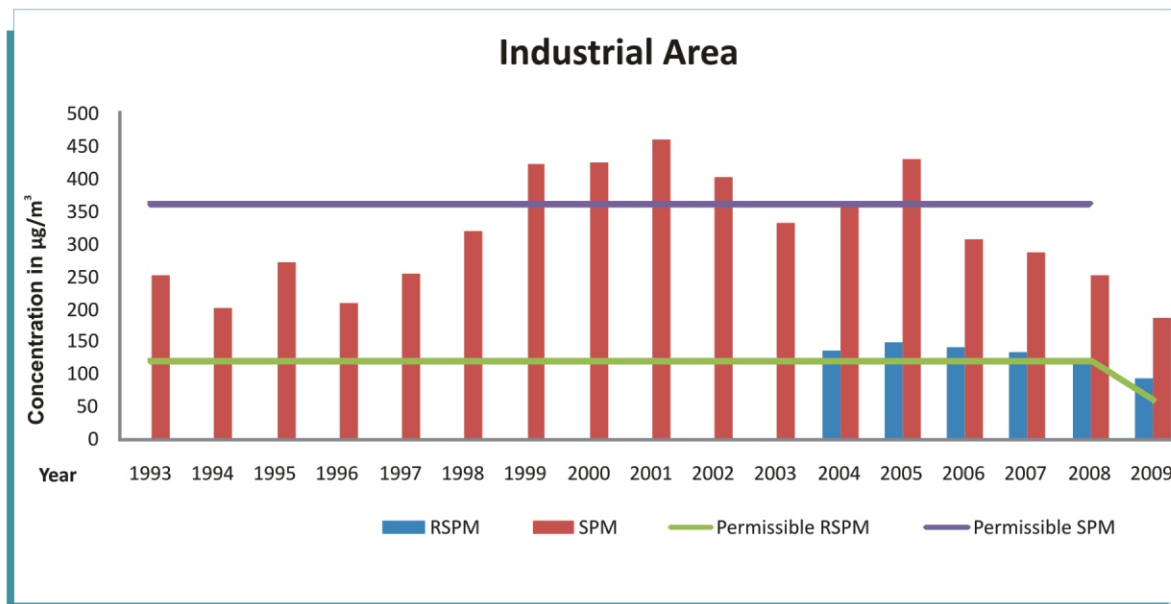


Member Secretary, CPCC

<http://www.newton.dep.anl.gov/askasci/zoo00/zoo00755.htm>

## What You Can Do

- Learn about the cause and effect
- Try to make efficient use of every use of fuel
- Act on basics i.e. reduce, reuse, and recycle
- Discuss and seek the solutions to prevent pollution
- Report and act against the cause of pollution



Air Quality of Industrial Area Chandigarh

#### Particulate Matter

Member Secretary, CPCC

Solids or liquids distributed in ambient air are recognized as particulate matter. It refers to particles, dust, mist, vapors, or smoke. Particles can be categorized into two broad categories:

##### a. Dispersion Originated

Originated from grinding, atomization, natural dispersion, wind erosion etc. e.g. dust

##### b. Condensation Originated

Build up from molecular dimension after heating and cooling e.g. fumes

##### Mist (Dispersion & Condensation Originated)

Generated from liquid by mechanical actions, evaporation and/or condensation of vapors generated from Industrial processes, spraying, electroplating etc.

## Particulate Matter

### Suspended Particulate Matter (SPM)

With diameter less than  $100\text{ }\mu\text{m}$  SPM tend to remain suspended in the atmosphere for the longer period of time. Natural sources of particulate matter include volcanic emissions, soil dust, sea salt, and smoke etc. Human contributes by burning fossil fuels and other emissions from industrial activities. Hydrocarbons also may results in particulate matter upon reacting to form condensed products.

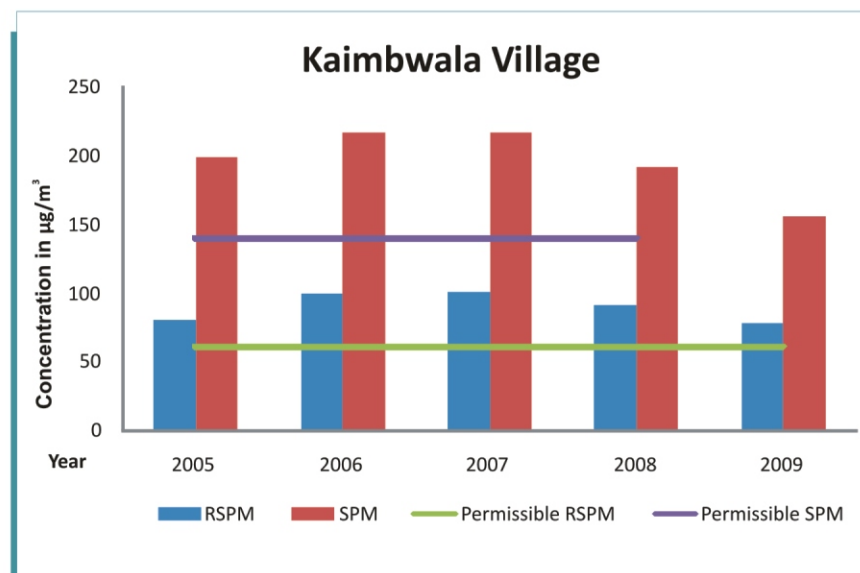
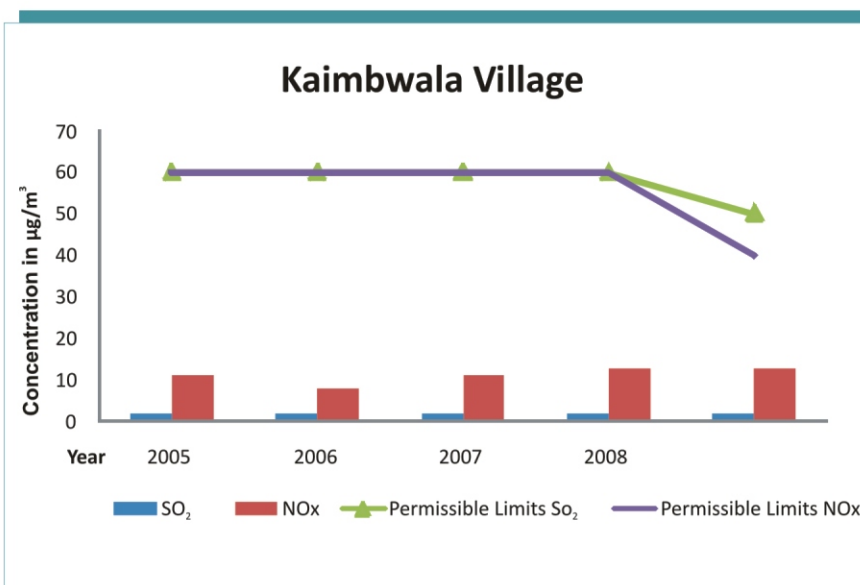
Suspended particulate matter lowers the visibility and affects the population directly or indirectly.

### Respirable Suspended Particulate Matter (RSPM-PM10)

These particles become threat to human health because of their small enough to inhale size. With diameter less than  $10\text{ }\mu\text{m}$  RSPM remain suspended in air and may be inhaled and get into the respiratory tract and pulmonary system of human beings. RSPM originates mostly from burning. It also may be because of agglomeration of aerosols, gas particles, and conversion from gas to particles. Sources of RSPM include road dust, windblown dust, agriculture, construction and fireplaces. It is also formed during the incomplete combustion of fuel.

### Fine Particulate Matter (RSPM - PM2.5)

Having diameter less than  $2.5\text{ }\mu\text{m}$ , fine particulates are usually formed by condensation of vapors. These are small enough to sidestep the protection of nose and penetrate alveoli. Later this gets deposited in the upper respiratory tract. It originates from fuel combustion in motor vehicles, industrial activities, and agricultural burning. It may take several weeks residing in air before settling down to earth. Rain helps it settling down but in turn gets polluted.







Dear Information Seeker,

ENVIS CENTRE, Chandigarh furnishes you with the services to collect and disseminate information related to environment of Chandigarh. To share information with us you are requested to fill up the form given below.

Your feedback is valuable to us and will be highly appreciated



- Name \_\_\_\_\_
- Designation \_\_\_\_\_
- Department \_\_\_\_\_
- Address \_\_\_\_\_
- \_\_\_\_\_ City \_\_\_\_\_
- State \_\_\_\_\_ Country \_\_\_\_\_ Pin \_\_\_\_\_
- Phone \_\_\_\_\_ Fax \_\_\_\_\_
- Email \_\_\_\_\_

Your views on scope of improvement :

- Interest Area \_\_\_\_\_

I would like to have information on following :



### ENVIS CENTRE TEAM

**Mr. Santosh Kumar**  
(Director, Environment)

**Mr. P.J.S. Dadhwal**  
(Project Coordinator)

**Er. Arun Bansal**  
(Sr. Programme Officer)

**Mr. Surinder Kumar**  
(Data Entry Operator)

### Affects of Air Pollution

☼ Air pollution is affecting every individual of the planet directly or indirectly. The affects can be classified as short term affects and long term affects:

☼ **Short term affects:** irritation to the eyes, nose, throat, and other respiratory organs etc. short term affects are due to exposure to polluted air for short term e.g. in traffic jam. It may aggravate medical conditions like asthma and may result in causality in severe cases.

☼ **Long term affects:** Long term exposure to higher concentration of pollution may lead to lung cancer, heart disease, and chronic respiratory disease etc. It also may damage nervous system. Long term affects also include indirect cost of treatment and cure. It is estimated that polluted environment adversely affects the productivity and hence loss in long term.

### How to reduce it

- ☼ Don't burn anything which can be recycled or decomposed
- ☼ Use bi-cycle or be pedestrian
- ☼ Don't lit up tobacco as it also cause toxins in air
- ☼ Groups like farmers must be taught about the air quality deterioration if they burn leftover in the fields
- ☼ Local level measures may help reducing the global problem. So, don't wait for government only to find a solution.
- ☼ Develop green areas around and teach children to respect the plants
- ☼ Make community groups or NGOs to initiate a radicle change
- ☼ Stop using devices which damages air qualities like layer of ozone



SPO, ENVIS, Chandigarh

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