


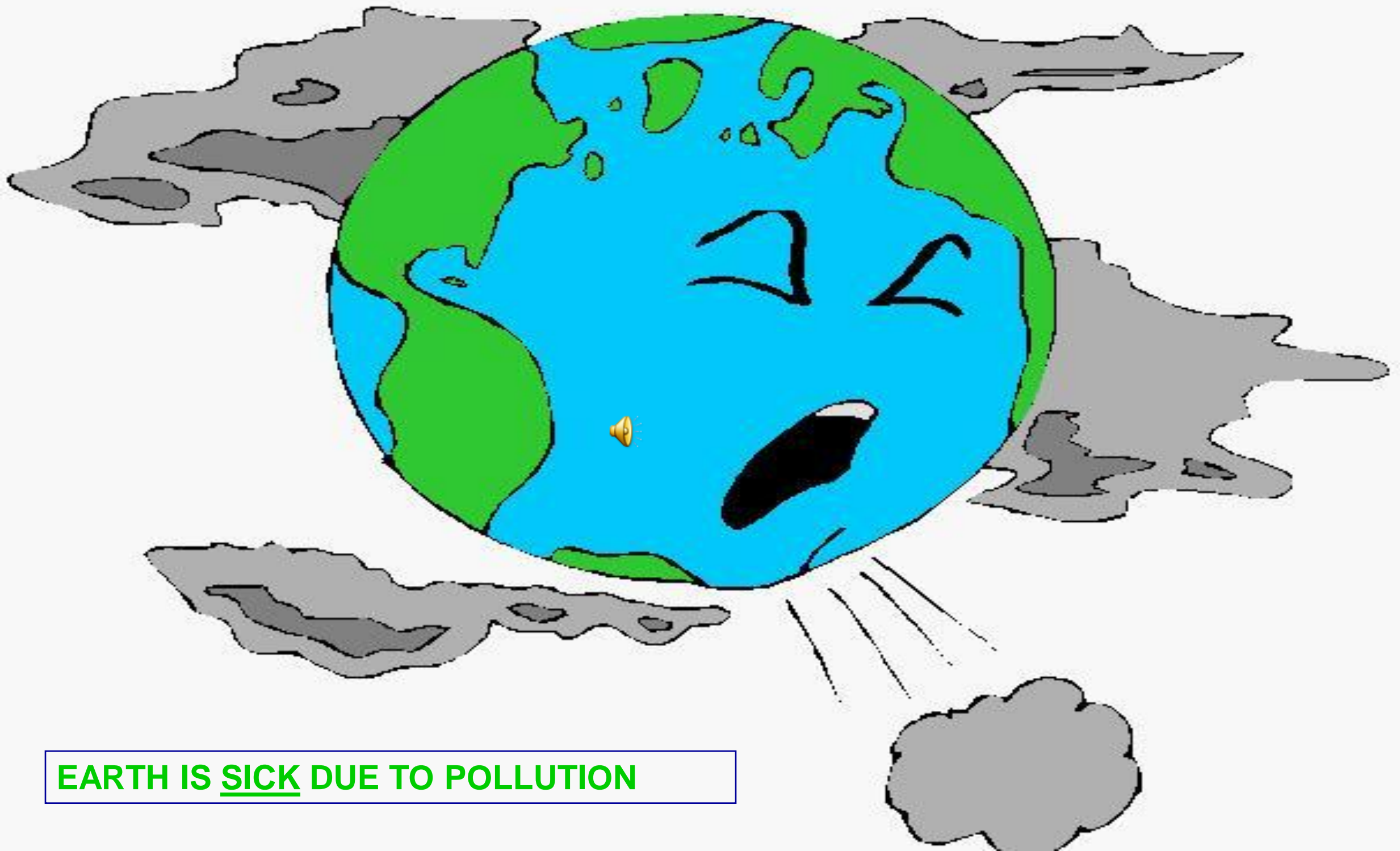
# POLLUTION



Pollution occurs when any form of impurity is introduced into a clean source. It is most often used in an environmental concept like air or water pollution. There are mainly four types of pollution air, water, soil and land.

Pollution can come in 4 different types affecting different types of areas in the world. Air pollution affects the air, water pollution affects the water and marine life, land pollution  affects the land destroying life and the environment and there is also noise pollution that can affect our hearing.

Pollution is dangerous. It effects everything from land to water, air, noise and more. Really pollution is just muck. Harmful substances cause by everything. Pollution kills, so reduce it. China is the most polluted country in the world.



**EARTH IS SICK DUE TO POLLUTION**



# Pollution and it's types



**THE 4 TYPES OF POLLUTION ARE:**

**AIR POLLUTION**

**WATER POLLUTION**

**NOISE POLLUTION** 

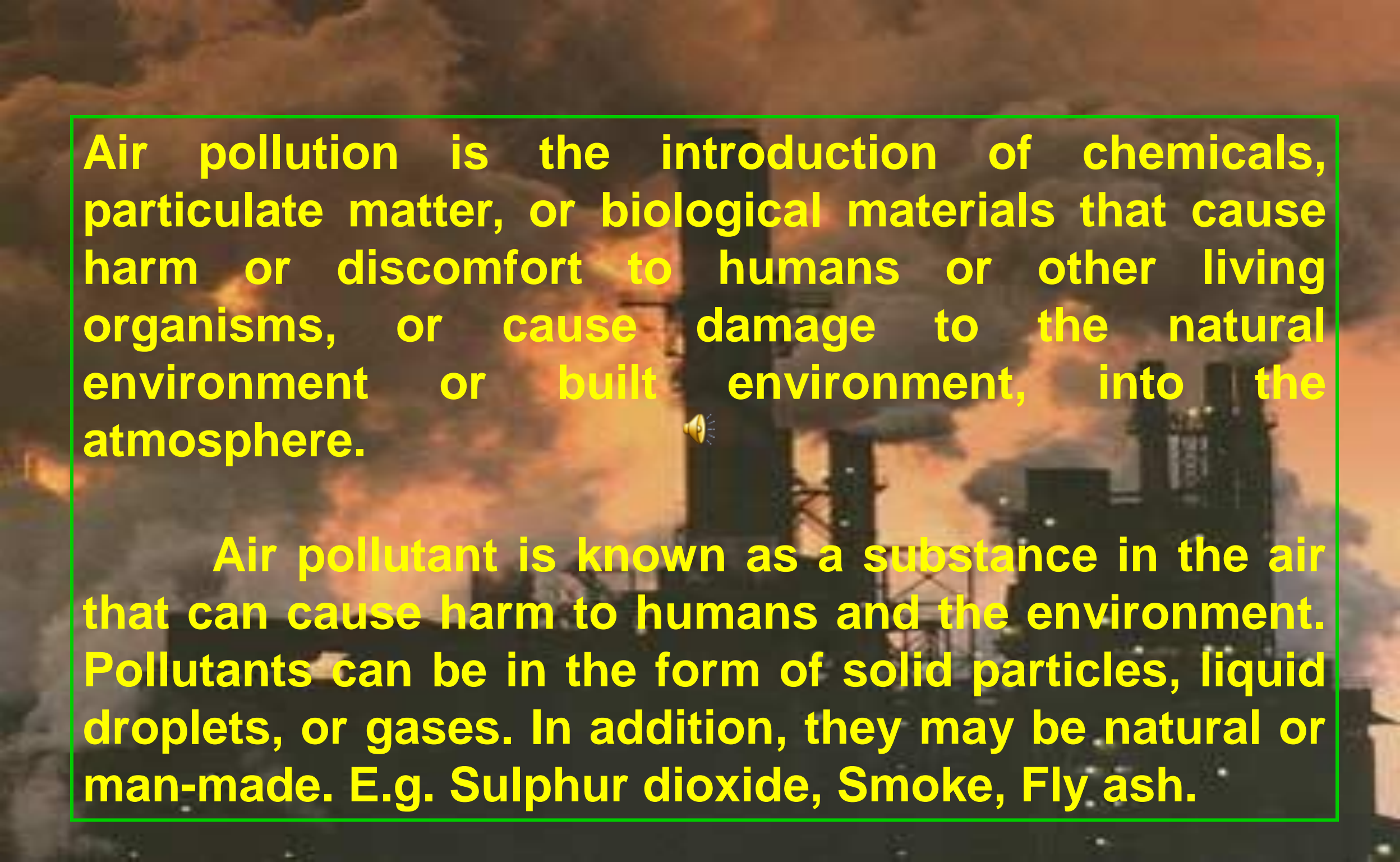
**LAND POLLUTION**

**IN THE FOLLOWING SLIDES, THESE TYPES OF POLLUTION ARE  
EXPLAINED IN DETAILS.**



# AIR POLLUTION

The image features a prominent title 'AIR POLLUTION' in a large, bold, sans-serif font. The text is filled with a vertical gradient from bright yellow at the top to a deep red at the bottom, and is outlined in white. A small, golden bell icon is positioned on the stem of the letter 'L'. The background is a photograph of a multi-lane highway filled with a dense line of vehicles, including trucks and cars, stretching into the distance. The sky is filled with heavy, grey clouds, and the overall atmosphere is hazy and overcast, suggesting a scene of significant air pollution.



**Air pollution is the introduction of chemicals, particulate matter, or biological materials that cause harm or discomfort to humans or other living organisms, or cause damage to the natural environment or built environment, into the atmosphere.**

**Air pollutant is known as a substance in the air that can cause harm to humans and the environment. Pollutants can be in the form of solid particles, liquid droplets, or gases. In addition, they may be natural or man-made. E.g. Sulphur dioxide, Smoke, Fly ash.**





# CAUSES

1. **Carbon dioxide** is one of the main pollutants that causes air pollution. This is because, although living beings do exhale carbon dioxide, this gas is harmful when emitted from other sources, which are caused due to human activity. An additional release of carbon dioxide happens due to various such activities. Carbon dioxide gas is used in various industries such as the oil industry and the chemical industry. The combustion of fossil fuels and the harmful effects of deforestation have all contributed towards the same. Scientists have now therefore identified carbon dioxide as one of those elements that have contributed to global warming.

2. **The combustion of fuels in automobiles**, jet planes etc all cause the release of several primary pollutants into the air. The burning of fossil fuels in big cities which is seen at most factories, offices and even a large number of homes, it is no wonder that air pollution is increasing at an alarming rate. The release of other harmful gases all adds to the state that we see today. Although carbon dioxide plays an important role in various other processes like photosynthesis, breathing an excess of the same also causes harmful effects towards one's health.

3. **Carbon monoxide** is another such gas which, although was present in the atmosphere earlier, is now considered to be a major pollutant. An excess of the same has a harmful effect on our system. There are many reasons why carbon monoxide can be released into the atmosphere as a result of human activities. This is also produced due to any fuel burning appliance and appliances such as gas water heaters, fireplaces, woodstoves, gas stoves, gas dryers, yard equipments as well as automobiles, which add to the increased proportion of this gas into the atmosphere.

4. **Sulfur dioxide** is yet another harmful pollutant that causes air pollution. Sulfur dioxide is emitted largely to the excessive burning of fossil fuels, petroleum refineries, chemical and coal burning power plants etc. Nitrogen dioxide when combined with sulfur dioxide can even cause a harmful reaction in the atmosphere that can cause acid rain.

5. **Nitrogen dioxide** is one more gas that is emitted into the atmosphere as a result of various human activities. An excess of nitrogen dioxide mainly happens due to most power plants seen in major cities, the burning of fuels due to various motor vehicles and other such sources, whether industrial or commercial that cause the increase in the levels of nitrogen dioxide.






# EFFECTS

The effects of air pollution on humans are fatal and life threatening. WHO statistics report that over 2 million people succumb to the fatalities attributed to air pollution. Consistent exposure to the pollutants leads to the development of:

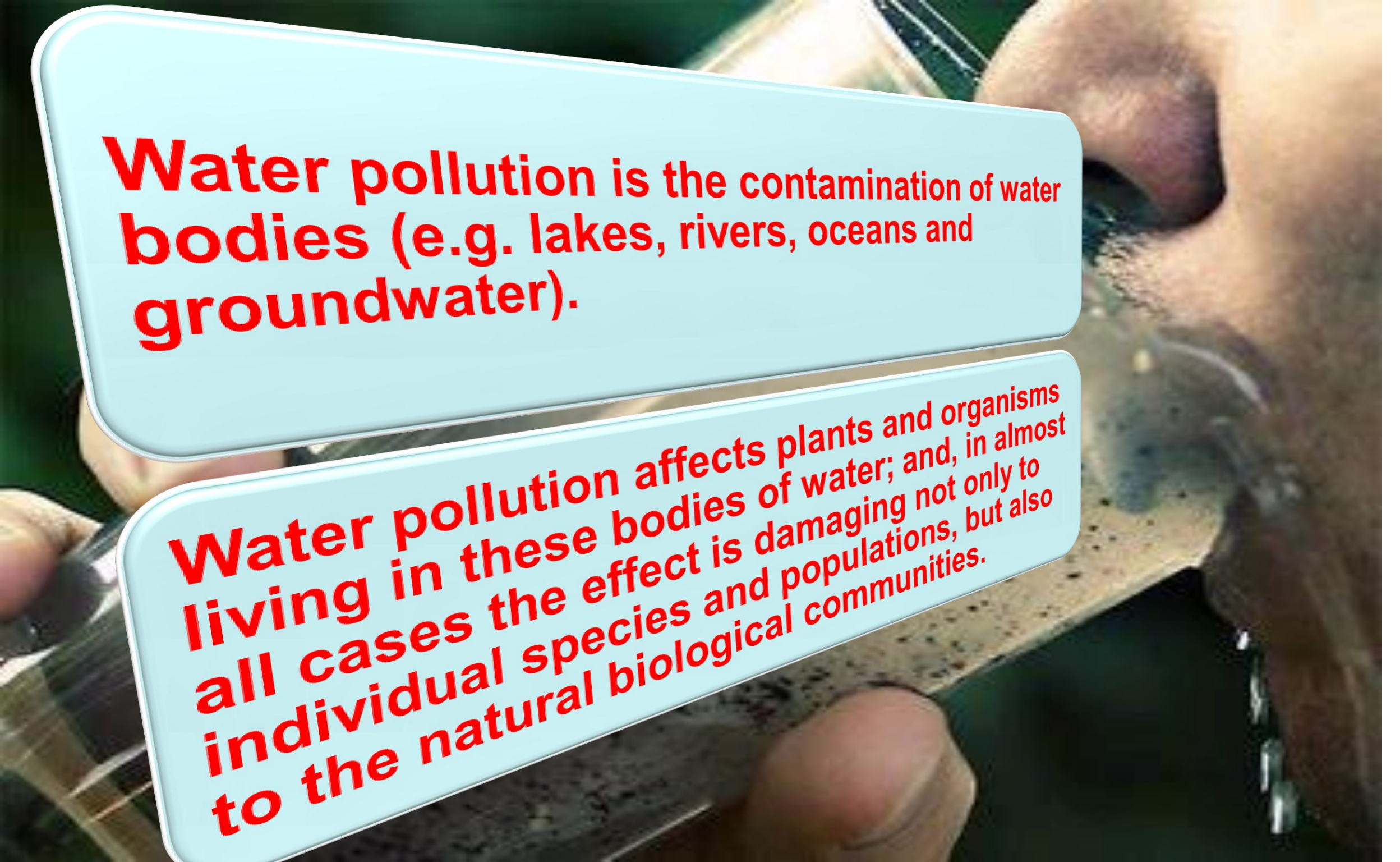
1. Premature mortality
2. Heart attack
3. Asthma
4. Difficulty in breathing
5. Wheezing and coughing
6. Cystic fibrosis
7. Chronic obstructive pulmonary disease
8. Chronic bronchitis

Poisonous gases get trapped into our atmosphere and cause **Global Warming**. Air pollution has also caused a hole in our ozone layer that allows the ultra-violet rays of the sun to enter the earth's atmosphere that can cause diseases like **skin cancer**.

A photograph of a concrete pipe discharging water into a stream. The water is turbulent and white with foam as it falls from the pipe. The surrounding area is lush with green grass and vegetation. The text 'WATER POLLUTION' is overlaid in a large, bold, gradient font across the center of the image.

# WATER POLLUTION





**Water pollution is the contamination of water bodies (e.g. lakes, rivers, oceans and groundwater).**

**Water pollution affects plants and organisms living in these bodies of water; and, in almost all cases the effect is damaging not only to individual species and populations, but also to the natural biological communities.**



# CAUSES

**There are several causes of water pollution –**

- 1. organic**
- 2. inorganic as well**
- 3. municipal**
- 4. industrial**
- 5. agricultural.**

**The causes of water pollution may be due to direct and indirect contaminant sources. The former are effluent outputs from refineries, factories, waste treatment plants. Fluids of differing qualities are emitted to the urban water supplies. However, still pollutants can be found in the water bodies. Contaminants can also be divided into inorganic, organic, acid/base and radioactive.**

The major sources of water pollution are as described below.

**Discharge** of contaminated and/or heated water that has been used for industrial purposes. The surface runoff from farms, construction sites or other impervious surfaces. The improper disposal of solid wastes like littering on a localized scale. Addition of excessive nutrients by runoff containing detergents or fertilizers called as **eutrophication**. The geology of aquifers where groundwater is abstracted. Maltreated sewage discharged in a wrong manner. Slash and burn farming practice is a component in shifting cultivation agricultural systems. **Radioactive substances** from nuclear power plants and industrial, medical and scientific use are also contributive. Uranium and thorium mining and refining are some of the examples. Heat is a leading cause as it results in the death of several aquatic organisms. A discharge of cooling water by factories and power plants lowers the temperature of the water bodies. **Oil pollution** is very harmful for coastal wildlife. Oil spreads on huge areas to form oil slicks.

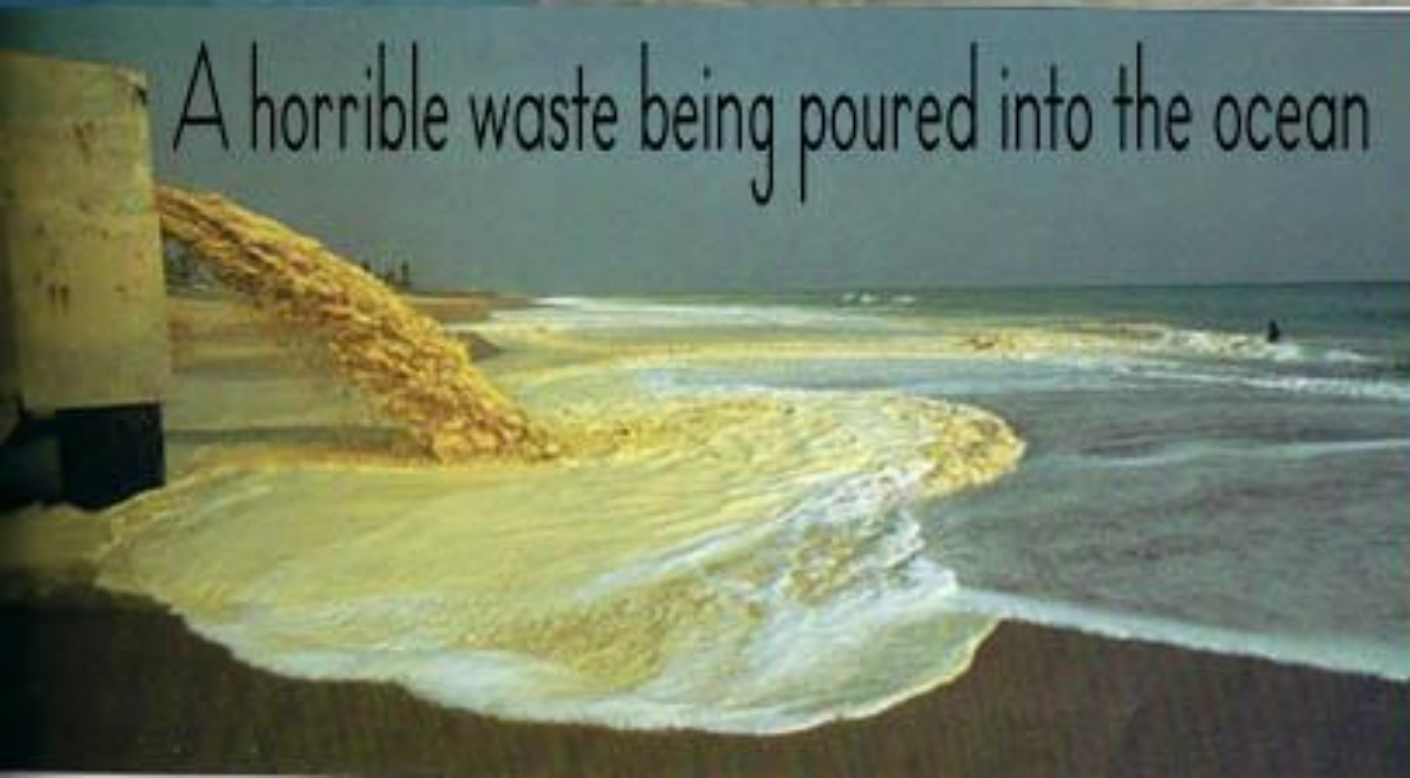
Nicole L.

# Water Pollution

YOU can help!



An oil tanker sinking



A horrible waste being poured into the ocean



An oil Spill on fire



# EFFECTS

1) The **food chain** is damaged. When toxins are in the water, the toxins travel from the water the animals drink to humans when the animals' meat is eaten.

2) **Diseases** can spread via polluted water. Infectious diseases such as typhoid and cholera can be contracted from drinking contaminated water. This is called microbial water pollution. The human heart and kidneys can be adversely affected if polluted water is consumed regularly. 3) Acid rain contains sulfate particles, which can harm fish or plant life in lakes and rivers.

3) Pollutants in the water will **alter the overall chemistry** of the water, causing changes in acidity, temperature and conductivity. These factors all have an affect on the marine life.

4) **Altered water temperatures** (due to human actions) can kill the marine life and affect the delicate ecological balance in bodies of water, especially lakes and rivers.

# NOISE POLLUTION



**Noise can be defined as an unwanted or undesired sound. Decibel is the standard unit for measurement of sound. Usually 80 db is the level at which sound becomes physically painful. And can be termed as noise. Humans, animals, plants and even inert objects like buildings and bridges have been victims of the increasing noise pollution caused in the world. Be it human or machine-created, noise disrupts the activity and balance of life. While traffic dons the cap of being the largest noise maker throughout the world, there are many others that add to it, making our globe susceptible to its effects. The effect of noise pollution is multi-faceted and inter-related. In the following lines, we have provided some of the causes and effects of noise pollution.**



# CAUSES

Traffic noise is the main source of noise pollution caused in **urban areas**. With the ever-increasing number of vehicles on road, the sound caused by the cars and exhaust system of autos, trucks, buses and motorcycles is the chief reason for noise pollution.

People living beside **railway stations** put up with a lot of noise from locomotive engines, horns and whistles and switching and shunting operation in rail yards. This is one of the major sources of noise pollution.

Though not a prime reason, industrial noise adds to the noise pollution.

**Machinery, motors and compressors** used in the industries create a lot of noise which adds to the already detrimental state of noise pollution.

Plumbing, boilers, generators, air conditioners and fans create a lot of noise in the buildings and add to the prevailing noise pollution.

**Household equipments**, such as vacuum cleaners, mixers and some kitchen appliances are noisemakers of the house. Though they do not cause too much of problem, their effect cannot be neglected.



# EFFECTS

**Deafness**, temporary or permanent, is one of the most prevalent effects of noise pollution. Mechanics, locomotive drivers, telephone operators etc all have their hearing impairment.

**Fatigue** caused is another effect of noise. Due to lack of concentration, people need to devote more time to complete their task, which leads to tiredness and fatigue.

Noise pollution acts as a **stress** invigorator, increasing the stress levels among people.

Sometimes, being surrounded by too much of noise, people can be victims of certain diseases like blood pressure, mental illness, etc.

Noise pollution indirectly affects the vegetation. Plants require cool & peaceful environment to grow. Noise pollution causes poor quality of crops.

Animals are susceptible to noise pollution as well. It damages the nervous system of the animals.

Noise indirectly weakens the edifice of buildings, bridges and monuments. It creates waves, which can be very dangerous and harmful and put the building in danger condition.



# LAND POLLUTION

A photograph of a large landfill site. In the background, a yellow bulldozer is visible, pushing a large pile of trash. The foreground is filled with various pieces of waste, including a green trash bin, metal mesh fencing, and scattered debris. The sky is clear and blue.

**Land pollution the action of environmental contamination with man-made waste on land. Americans generate five pounds of solid waste every day, furthermore creating one ton of solid waste each year. In an average day in the United States, people throw out 200,000 tons of edible food and throw 1 million bushels of litter out of their automobiles. The main human contributor to pollution are landfills. Approximately half of our trash is disposed in landfills. Only 2% of our waste is actually recycled.**







# CAUSES

**Increase in urbanization.** More constructions means increase in demand for raw materials like timber. This leads to the exploitation and destruction of forests. There is more demand for water.

**Domestic waste.** Every single day, tons and tons of domestic waste is dumped ranging from huge pieces of rubbish such as unused refrigerator to fish bones. If all these wastes are not disposed of properly, the damage they can do to the environment and humankind can be devastating.

**Agricultural activities.** Besides domestic waste, pesticides and herbicides used by farmers to increase crop yields also pollute the land when they are washed into the soil.

**Industrial activities.** Industrial activities also are a contributing factor to land pollution. For example, in open cast mining, huge holes are dug in the ground and these form dangerously deep mining pools. Heaps of mining waste are left behind and these waste often contain several poisonous substances that will contaminate the soil.

# EFFECTS

1. **exterminates wildlife**

2. **acid rain** kills trees and other plants.

3. vegetation that provides **food and shelter is destroyed.**

4. **it can seriously disrupt the balance of nature**, and, in extreme cases, can cause human fatalities.

5. **pesticides can damage crops, kill vegetation, and poison birds, animals, and fish.** Most pesticides kill or damage life forms other than those intended. For example, pesticides used in an effort to control or destroy undesirable vegetation and insects often destroy birds and small animals. Some life forms develop immunity to pesticides used to destroy them.

# POLLUTION IN 'KOLKATA'



'KOLKATA'

POLLUTION IN



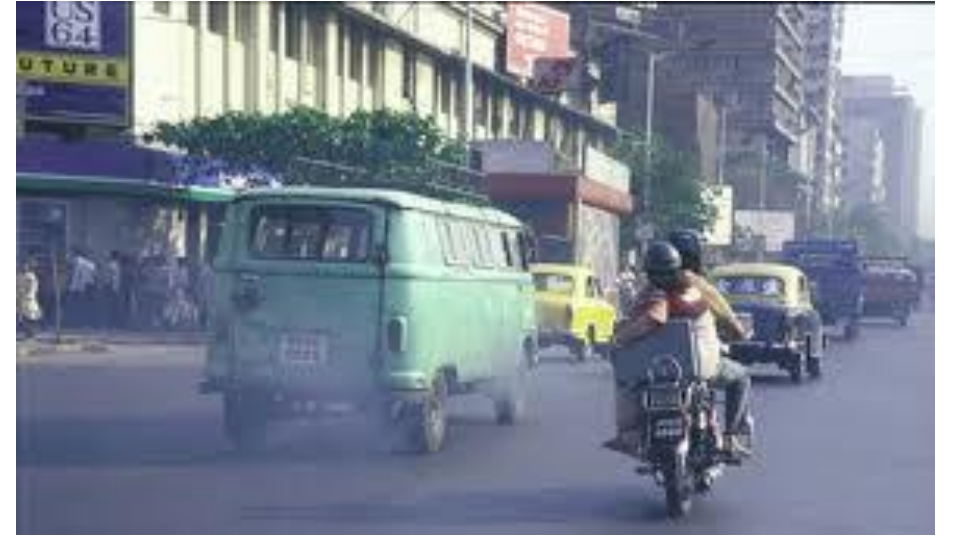
Kolkata is the most polluted city of India. There are a number of reasons for pollution in Kolkata. We, in Kolkata have the highest number of asthma patients and heart patients than anywhere else in the country.

More than 18 persons per one lakh people in Kolkata fall victim to lung cancer every year, compared to the next highest 13 per one lakh in Delhi.

Roadside hawkers, shop owners, traffic policemen, auto-rickshaw drivers, rickshaw-pullers and others who spend long hours on the road are the most vulnerable to these diseases.

Environmentalists feel that nearly 80 per cent of the buses and trucks and nearly half of the taxis and auto-rickshaws will have to be pulled off the roads to clean the city's air, which is not an easy task to accomplish.

We need immediate introduction of CNG or LPG-driven buses, strict monitoring of auto-rickshaws which run on adulterated fuel and withdrawal of old buses belching toxic fumes.



# ANALYSIS

## 1. SPM (Microg/M3)

Ahmedabad 328  
bangalore 208  
Chandigar 120  
Chennai --  
Delhi 202  
Guwahati 203  
Hyderabad --  
Kolkata 107  
Lucknow 357  
Mumbai 129

## 2. SO<sub>2</sub> (Microgram/m<sup>3</sup>)

Ahmedabad 2  
bangalore 15  
Chandigar 7  
Chennai --  
Delhi 8  
Guwahati 18  
Hyderabad --  
Kolkata 4  
Lucknow 11  
Mumbai 5



# ANALYSIS

NO<sub>2</sub> (Microgram/M<sup>3</sup>)

Ahmedabad 31

Bangalore 17

Chandigarh 19

Chennai --

Delhi 24

Guwahati 23

Hyderabad --

**Kolkata 46**

Lucknow 27

Mumbai 8

# CHIEF POLLUTANTS (AIR)

1. Auto rickshaws running on adulterated fuel or katatel
2. Buses which are more than 15 years old
3. Taxis which don't meet standards set in kolkata
4. Usage of cheap fuel which is a mixture of katatel and diesel

# CHIEF POLLUTANTS (WATER)

- People of slums doing their daily chores in ponds
- Neglecting of maintenance of water bodies
- Pouring of waste of factories into the Hooghly



# CHIEF POLLUTANTS (SOIL)

1. No place to dump waste ,which is why it lies open and pollutes everywhere
2. Failure to implement ban on plastic bags

# THE PROBLEM OF KATATEL

Katatel is an adulterated fuel for auto rickshaws. It comprises of petrol, kerosene and naphtha. In spite of high court injunction and State Government ban it is still being sold across the city and auto's use the same as a fuel which is contributing significantly to city's pollution levels.

Two stroke autos which ply on katatel pollute a lot, which is why the hon. Calcutta high court issued a directive to the government to convert all two stroke autos to the lesser polluting four stroke autos.

# THE PROBLEM OF KATATEL

This same problem affected Delhi, our capital but they completely converted all two stroke autos to four stroke. The WB govt. said that they had no opposition which was not letting them convert two four stroke autos but they have. The quote on the next slide proves that they are just making excuses for what they have not been able to accomplish

Two-stroke autos running on adulterated petrol (*katatel*) pump noxious pollutants into your bodies and diesel combustion completes the pollution cycle. It's a combination that is not only foul but also fatal



Satish Kumar, 55, hit the streets with a vengeance the day the Supreme Court order to switch to CNG took effect in Delhi in 1998. “I even threw stones at officials,” he recalled, steering his four-stroke auto from Pandara Road towards India Gate. “But once we realised that we would gain more than we would lose, the transition wasn’t difficult.”

Under pressure from the apex court, the Sheila Dixit government made it clear to the auto operators that neither protests nor political pressure — like in Calcutta, the Opposition had sided with the two-stroke brigade — would stop it from implementing the order.

It offered every auto owner an “easy loan” with a repayment term of 10 years to purchase a CNG three-wheeler.

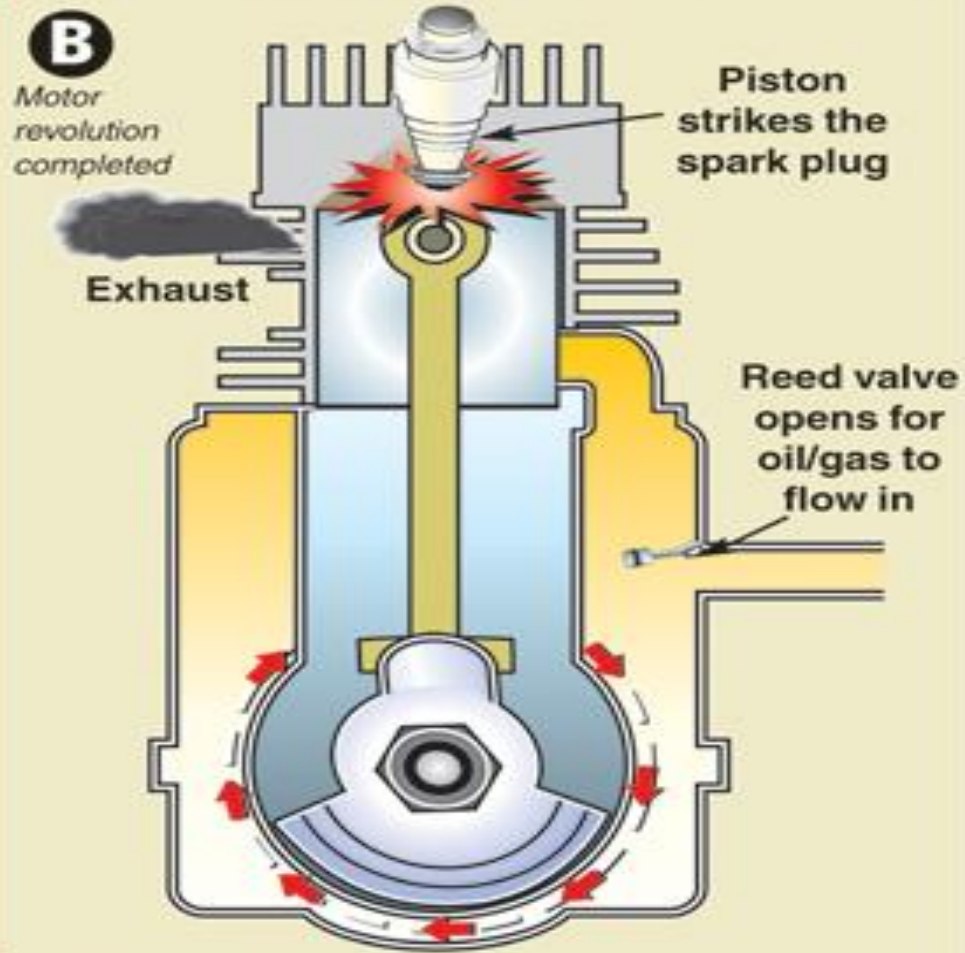
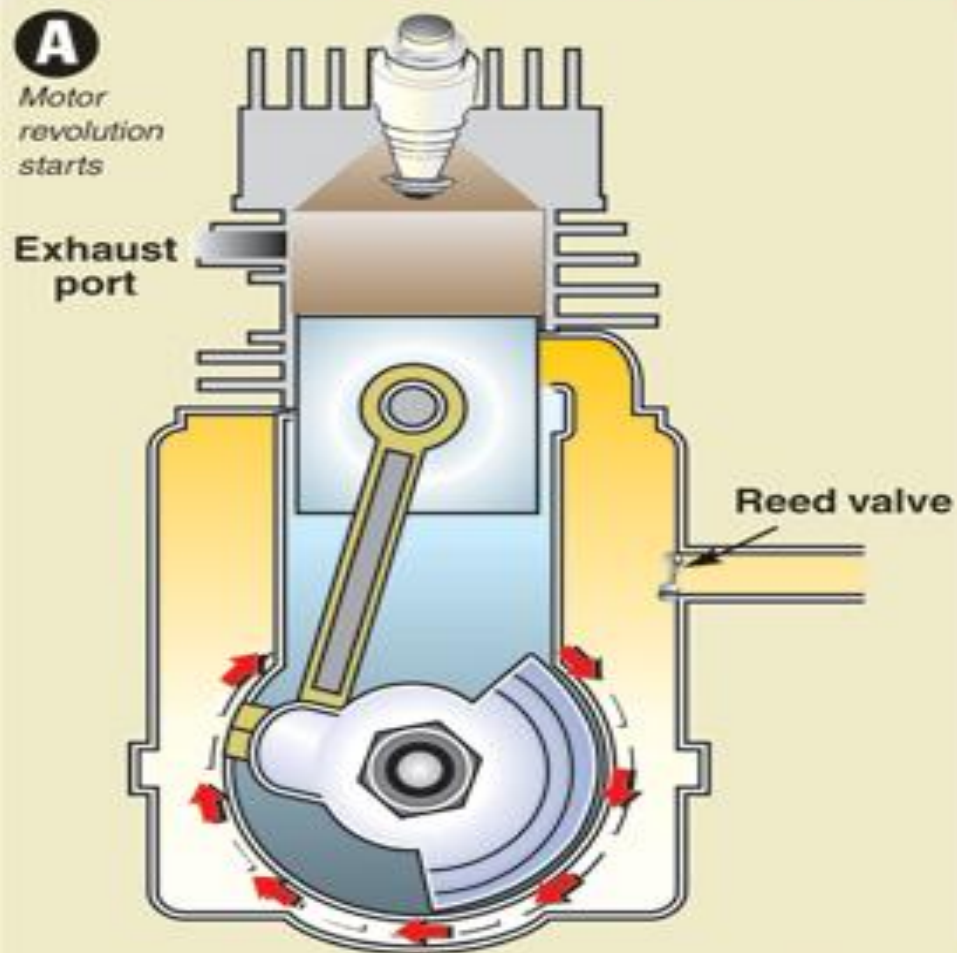
The government also promised not to revise the fare structure despite CNG being cheaper than petrol and diesel. The two-stroke strategy worked. The unions fell in line, auto operators who bought new three-wheelers started earning more and the Delhi air became cleaner.

“The government’s practical approach was the reason why auto owners did not oppose the switch,” said Anumita Roychowdury, the associate director of the Centre for Science and Environment.

There was serious trouble when the CNG outlets were few and far between but once that was sorted out, it was a smooth ride.

Calcutta now has only 12 LPG outlets; they too are grossly underutilised

# ANATOMY OF A TWO-STROKE ENGINE



A two-stroke engine produces twice the power of a four-stroke one with the same effort. So, why do most automobiles have four-stroke engines?

- Two-stroke engines age a lot faster
- Two-stroke engines pollute

### How does pollution occur?

The spark plug fires once in every revolution (see illustration B). Pollution occurs from two sources, the first being the combustion of oil. The oil makes

all two-stroke engines smoky to some extent, and a badly worn two-stroke engine can emit huge clouds of oily smoke. Each time a new charge of air/fuel is loaded into the combustion chamber, part of it leaks out through the exhaust port. That's why you see a sheen of oil around any two-stroke exhaust. The leaking hydrocarbons from the fresh fuel, combined with the leaking oil, are a threat to the environment.



**WHEN WILL THIS STOP??**







# **POLLUTION PREVENTION**

With everyone going green lately or talking about it, it is important to know different ways to stop pollution. Pollution comes in many forms and most likely people are mostly aware of pollution that involves smog and big factories burning coal.

Pollution has a big impact on earth and in our every day lives. Many products and activities we do are involved in the soiling or saving of our planet and each person acting responsibly can make a difference. Finding ways to stop pollution as a personal everyday goal can add up if each person tried at least one everyday.

Start small, **recycling trash** by sorting it out and re-use items. Newspapers, magazines and cardboard can be recycled to make new paper products. Plastic bags and plastic water or soda bottles can also be recycled; these can be made into cloth like products such as tote bags and even t-shirts.

Use empty coffee cans, coffee jars, baby food jars and other assorted jars for garage item storage like nails, screws nuts and bolts or even clothes pins.

Our **organic trash**, that is mostly biodegradable like egg shells, leftover foods, vegetable peels, and fallen tree leaves can be stored in special containers to be turned into compost to later be used as a fertilizing agent for the garden. This greatly reduces the amount of trash you throw away each and every day.

Among the ways to stop pollution there are things we may not think make a big difference but really do. For the sake of water and electricity, take shorter showers, wash bigger loads of laundry and occasionally air dry clothes instead of using a dryer. Hot summer days are heavy with air conditioning use; why not air dry clothes to save some money and our planet. **Turn off the lights, computers and fans when not home** and set the energy saving modes on some of your electrical appliances that may have that option.

Some of our **electronic devices** come with special telephone numbers or websites to inform us as to how to recycle these when we no longer need or use them. Pollution and ways to stop pollution come in many ways but it takes each person to make a difference.





# Made By :-



Name- B.Grahith pai.

Date of birth -6<sup>th</sup> February 1997.

Class -8<sup>th</sup>

Institution- The Bhawanipur Gujarati Education society school.

My Fathers name -Gokuldas Pai

Occupation -Chief manager Of The Karnataka Bank Ltd.

Mother's name - Shalini pai.

Occupation- Home maker.

We are four members in our family.

# Made By :-



Name - Karan Shah.

Date of Birth - 24<sup>th</sup> December 1996.

Class- 8<sup>th</sup>

Institution- The Bhawanipur Gujrati Education society school.

Fathers name - Rajesh shah.

Occupation- Businessman.

Mother's name - Jayshree shah.

Occupation – Home maker.

We are six members in our family.



**THE END**