

Text 04**Air pollution**

Pollution is the introduction of harmful materials into the environment. These harmful materials are called pollutants. Pollutants can be natural, such as volcanic ash. Forms of energy such as sound, heat or light can also cause pollution. They can also be created by human activity, such as trash or runoff produced by factories. Pollutants damage the quality of air, water, and land. Pollution, even in minuscule amounts, impacts the ecological balance. Pollutants can make their way up the food chain and eventually find their way inside the human body.

Air pollution refers to the release of harmful contaminants (chemicals, toxic gases, particulates, biological molecules, etc.) into the earth's atmosphere. This type of contamination can be caused by burning material (fossil fuels). Fossil fuel emits harmful gases such as sulfur dioxide (SO₂), and carbon monoxide into the air. One of the biggest causes of air pollution is sulfur dioxide, which is emitted through the combustion of fossil fuels such as coal, petroleum for energy in power plants, and other industry combustibles. Cars and factories produce other common pollutants, including nitrogen oxide, and hydrocarbons. These chemicals react with sunlight to produce smog, a thick fog or haze of air pollution. The smog is so thick in Linfen, China, that people can seldom see the sun. Smog makes breathing difficult, especially for children and older adults. The government of Hong Kong, for example, will warn people not to go outside or engage in strenuous physical activity (such as running or swimming) when smog is very thick. When air pollutants such as nitrogen oxide and sulfur dioxide mix with moisture, they change into acids. They then fall back to earth as acid rain. Wind often carries acid rain far from the pollution source. Pollutants produced by factories and power plants in Spain can fall as acid rain in Norway. Acid rain can kill all the trees in a forest. It can also devastate lakes, streams, and other waterways. When lakes become acidic, fish can't survive. In Sweden, acid rain created thousands of "dead lakes," where fish no longer live.

Various processes take place during agricultural activities such as the emission of ammonia, which is one of the most dangerous gases in the atmosphere, also overuse of insecticides, pesticides, and fertilizers. Farmers also set fire to the fields and old crops to clear them up for the new cycle of sowing. According to reports, burning to clean up fields pollutes the air by emitting toxic pollutants.

Sometimes, air pollution is visible. A person can see dark smoke pour from the exhaust pipes of large trucks or factories, for example. More often, however, air pollution is invisible. Polluted air can be dangerous, even if the pollutants are invisible. It can make people's eyes burn and make them have difficulty breathing. It can also increase the risk of lung cancer.

Sometimes, air pollution kills quickly. In 1984, an accident at a pesticide plant in Bhopal, India, released a deadly gas into the air. At least 8,000 people died within days. Hundreds of thousands more were permanently injured.

Natural disasters can also cause air pollution to increase quickly. When volcanoes erupt, they eject volcanic ash and gases into the atmosphere. Volcanic ash can discolor the sky for months. After the eruption of the Indonesian volcano of Krakatoa in 1883, ash darkened the sky around the world. The dimmer sky caused fewer crops to be harvested as far away as Europe and North America. Volcanic gases, such as sulfur dioxide, can kill nearby residents and make the soil infertile for years. Mount Vesuvius, a volcano in Italy, famously erupted in 79, killing hundreds of residents of the nearby towns of Pompeii and Herculaneum. Most victims of Vesuvius were not killed by lava or landslides caused by the eruption. They were choked, or asphyxiated, by deadly volcanic gases.

The effects of air pollution vary based on the kind of pollutant. But generally, the impact of air pollution ranges from: Increased risk of respiratory illness and cardiovascular problems. Increased risk of skin diseases. May increase the risk of cancer. Global warming. Ozone depletion. Hazards to wildlife.

I- PART ONE FROM THE TEXT

1. What do pollutants mean?

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2. What are the types of pollutants? Give an example of each type.

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3. Define air pollution.

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4. What are the causes of air pollution?

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5. What are the types of air pollution?

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6. How is the smog produced? And what are its consequences?

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7. Name the harmful pollutants responsible for polluting the environment.

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8. What are the consequences of air pollution?

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II- PART TWO

1. Is air pollution mainly a local problem or can it travel long distances?

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2. Select the correct answer.

- 1- Which of the following are the consequences of air pollution?

- a- Respiratory problems and health issues in humans.
- b- Acid rain leading to soil and water pollution.
- c- Increased biodiversity in affected areas.
- d- Enhanced agricultural productivity due to elevated carbon dioxide levels.

- 2- Which of the following air pollutants is primarily responsible for the formation of acid rain?

- A. Carbon monoxide
- B. Methane
- C. Sulfur dioxide
- D. Nitrogen dioxide

- 3- Smog is:

- a- Ozone and smoke
- b- Vehicular pollutant
- c- Fog and smoke
- d- Fog and ozone

3. It is not easy to control air pollution, but it will require some simple steps. Talk about it in a paragraph.