

POLLUTION

& Its impact on ecosystems



Ecosystem pollution occurs when harmful substances, such as plastics, chemicals, and heavy metals, contaminate the air, water, and land, affecting wildlife and natural habitats. Human activities have altered 75% of the Earth's land surface and 66% of marine ecosystems (IPBES, 2022).

Pollution disrupts natural balances, endangering plants, animals, and humans. Below are key areas where pollution creates long-term damage

Types of Pollution:

1. Air Pollution

Harmful emissions from vehicles, industries, and fossil fuel combustion.



2. Water Pollution

Contamination of water bodies by chemicals, waste, and pathogens.



3. Soil Pollution

Degradation of land due to toxic chemicals and improper waste disposal.



Key Pollutants

- **Particulate Matter (PM2.5, PM10):**

Fine particles in the air that penetrate the lungs and bloodstream.

- **Heavy Metals (Lead, Mercury):**

Toxic elements found in polluted water and soil.

- **Endocrine Disruptors:**

Chemicals like BPA that interfere with hormonal functions.

Globally, pollution is responsible for 9 million premature deaths annually, with an economic cost of € 4.6 trillion.

These challenges impact our daily lives...

- Compromising the quality of the air we breathe, the water we drink, and the food we consume.
- The result is a heightened risk of health problems and a decline in overall environmental quality.

Who suffers the most?

- **Wildlife:** Over 1 million species face extinction due to pollution and habitat destruction (IPBES, 2023).
- **Indigenous Communities:** Many live in environmentally vulnerable areas and rely on threatened ecosystems for survival.
- **Future Generations:** If pollution continues at its current rate, biodiversity loss could cost the global economy \$2.7 trillion annually by 2050 (WEF, 2022).



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