



General Studies-3; Topic: Conservation, environmental pollution and degradation, environmental impact assessment.

Impacts of Pollution

Introduction

- Pollution is still the largest existential threat to human and planetary health and jeopardises the sustainability of modern societies.
- Pollution caused nearly **nine million deaths in 2019**, or about **one in six deaths worldwide**.
- This number had effectively unchanged since the last such analysis in 2015 by the Lancet Commission on Pollution and Health.

Impact of various kinds of pollution

- **Air pollution:**
 - Some 570,000 children under age five die from respiratory infections, **attributable to indoor and outdoor air pollution, and second-hand smoke** each year.
 - air pollutants such as **short-lived climate pollutants including black carbon and ground level ozone** cause climate change and affect ecosystems.
- **Land and soil pollution:**
 - Humans and wildlife living near former industrial sites and some reclaimed lands are at potential risk of continued exposure to pollution if sites are not decontaminated properly.
 - Land and soil pollution is an increasing concern with the growth in demand for land for food production and housing.
- **Water Pollution:**
 - Polluted water is more likely to host disease vectors, such as **cholera**.

- The main impacts are changes to habitats and ecosystems, especially wetlands; the loss of **aquatic biodiversity; changes in species composition, ecosystem functioning and service provision.**
- **The spread of waterborne diseases; changes in the productivity of food chains.**
- **Marine and coastal pollution:**
 - Nutrient loads into coastal areas rose by between 10 per cent and 80 per cent between 1970 and 2000.
 - **This increased eutrophication and hypoxia, hindering tourism, and negatively impacting economic livelihoods.**
 - The associated harmful algal blooms can cause acute poisoning as well as **liver and colorectal cancers.**
 - At least **500 dead zones have been recorded** in coastal areas **around the world.**
 - **Oil from spills nearshore** can have locally devastating impacts on the environment.
 - Radioactive waste leaked into the ocean is also an important source of pollution.

Impact on health of people of low- and middle-income countries

- **Lack of expertise:**
 - Many low and middle-income countries lack basic information about the **location, severity and potential risks of “pollution hotspots”.**
 - Without such information, it is **difficult to prioritize challenges**, allocate resources and implement solutions to protect drinking water supplies and farmland.
 - The problem persists with significant economic implications for **High-income countries.**
- **Children affected:**
 - **Lead** is one of the most harmful heavy metals, especially to young children, because it can build up in the body over time and **cause severe, long-term effects.**
- **Mortality cost:**
 - Mortality costs from outdoor air pollution are projected to rise to about US\$ 25 trillion by 2060 in absence of more stringent measures.
- **Pollution transfer:**
 - Nations have exported their wastes to low-income nations in the garb of recycling.

Way Forward

- **The implementation of the Paris Agreement** on climate change will be a major step forward in tackling air pollution.
- **The Convention on Biological Diversity’s Aichi Biodiversity Targets** call for a decrease in pollution and demands specific actions on excess nutrients.
- Educate and inform people about what they can do to reduce air pollution.
- Put out public health messages on the metro, buses, billboards, and radio to help change public behaviour.
- **Raise and enforce emission standards.**
- **Improve public transportation and traffic management.**
- Build, repair, and reclaim the sidewalks for pedestrians and not for parking and vending, so people can walk more often, including to nearby bus stops and metro stations.
- **Penalize big and non-compliant polluters:**
 - Like Beijing, ban the sale and registration of all new private diesel vehicles in Delhi.
 - Provide 24×7 power across the NCR to minimize genset use; ban diesel gensets and promote CNG gensets.
 - Spot-check fuel pumps for adulteration.
- **Reduce road and construction dust** by changing how our urban surface infrastructure is built.
- There is a need for a massive, rapid transition away from all fossil fuels to clean and renewable energy.