



NOISE POLLUTION

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Noise pollution

- **Noise** - any unwanted sound that may adversely affect the health and well-being of individuals and masses.
- **Noise pollution** is considered to be **any unwanted sound** (electromagnetic signal) that affects the health and well-being of humans and other organisms.
- A low sound is pleasant and harmless.
- A given sound can appear to be music for someone and noise for another one, depending on loudness, duration and mood.

Noise pollution

- Noise (La. **nausea=seasickness**) is the physical form of pollution. It is not harmful to air, soil and water but affects animals and humans.
- Humans have a hearing range called the **audible range**.
- The audible range depends upon the **frequency and loudness of sound**. For a person with normal hearing, frequency ranges from **20 to 20,000 Hz** and loudness ranges from **0 to 120 dB**.
- Sound is measured in decibels (dB). A decibel value above 80 is considered to be noise pollution.

Sources of noise pollution

- 1. Industrialization:** Most industries use **big machines** which are capable of producing noise. Apart from that, various equipment like **compressors, generators, exhaust fans, and grinding mills** also participate in producing noise.
- 2. Poor Urban Planning:** In most of the developing countries, poor urban planning also plays a vital role. **Congested houses, large families sharing small space, parking lots, street noise, honking, and commercial zone** leads to noise pollution which disrupts the environment of society.

Sources of noise pollution

3. **Social Events:** Whether it is marriage, parties, pub, disc or place of worship, people normally defy rules set by the local administration and create a nuisance in the area.
4. **Transportation:** A large number of vehicles on roads, aeroplanes, and trains produce heavy noise.
5. **Construction Activities:** Construction activities like mining, construction of bridges, dams, buildings, stations, roads, flyovers.

Sources of noise pollution

6. **Household Chores:** Gadgets like TV, mobile, mixer grinder, pressure cooker, vacuum cleaners, washing machine and dryer, cooler, air conditioners
7. **Fireworks:** Firework is a common thing during various fairs, festivals and cultural ceremonies. Apart from air pollution, the intensity of their sound creates noise pollution.
8. **Agricultural Machines:** Tractors, thrashers, harvesters, tube wells, powered tillers etc.

Sources of noise pollution

9. **Defence Equipment and launching of satellites:** A lot of noise pollution is added to the atmosphere by **artillery, tanks, launching of rockets, explosions, exercising of military airplanes and shooting practices.**
10. **Miscellaneous Sources:** The **automobile repair shops, railway stations** etc. are other sources of noise pollution.

Impact of noise pollution on Humans & Animals

- The second-largest Environmental Cause of Health Problems like **heart issues**. Too much noise means the heart is also disturbed and ends up beating faster, increasing blood pressure.
- Loud noise can cause **hearing impairment**, which can even result in permanent hearing loss.
- **Tinnitus** - the sensation of sound in the absence of an external sound source.

Impact of noise pollution on Humans & Animals

- Noise can **deter sleep** because of its psychological effect.
- Loud noise **dulls the brain** and contributes to a lower response rate by the brain.
- Too much noise means a disturbance of peace, which may lead to **annoyance or anger**. People in this state tend to have constant headaches, which may even intensify if the noise is continuous.
- **Reduction in Feeding Patterns** of animals

Control measures

1. **Control at the Receiver's End-** For people working in noisy installations, ear-protection aids like earplugs, ear-muffs, noise helmets, headphones etc. must be provided to reduce occupational exposure.
2. **Suppression of noise at the source –**
 - (a) Designing, fabricating and using quieter machines to replace the noisy ones.
 - (b) Proper lubrication and better maintenance of machines.
 - (c) Installing noisy machines in soundproof chambers.

Control measures

3. **Acoustic Zoning** - There should be silence zones near residential areas, educational institutions and hospitals.
4. **Sound Insulation at Construction Stages-** by using sound absorbing materials, acoustical tiles, sound insulation etc.
5. **Planting of Trees-** Green muffler scheme
6. **Legislative Measures-** Minimum use of loudspeakers and amplifiers especially near silence zones. Banning pressure horns in automobiles.

Ambient air quality standards in respect of noise as per the Noise Pollution (regulation and control) Rules, 2000

Area Code	Category of Area	Limits in Day Time	dB Night Time
A	Industrial	75	70
B	Commercial	65	55
C	Residential	55	45
D	Silence Zone	50	40

Thank You