NOISE POLLUTION

INTRODUCTION:

Noise pollution is a major problem in cities around the world. Noise is defined as unwanted sound.Environmental noise consists of all the unwanted sounds in our communities except that which originates in the workplace. Environmental noise pollution, a form of air pollution, is a threat to health and well-being. It is more severe and widespread than ever before, and it will continue to increase in magnitude and severity because of population growth, urbanization, and the associated growth in the use of increasingly powerful, varied, and highly mobile sources of noise. It will also continue to grow because of sustained growth in highway, rail, and air traffic,which remain major sources of environmental noise. In factory workplace workers are exposed to high noise due to machinery in routine. The potential health effects of noise pollution are numerous, pervasive, persistent, medically and socially significant.

SOURCES OF NOISE POLLUTION :

Industrialization:

Most of the industries use big machines which are capable of producing noise. Apart from that, various equipment's like compressors, generators, exhaust fans, grinding mills also participate in producing noise.

Poor Urban Planning:

In most of the developing countries, poor urban planning also play a vital role. Congested houses, large families sharing small space, parking lots, street noise, honking, commercial zone leads to noise pollution which disrupts the environment of society.

Social Events:

Noise is at its peak in most of the social events. Whether it is marriage, parties, pub, disc or place of worship, people normally defy rules set by the local administration and create nuisance in the area. People play songs on full volume and dance till midnight which makes the condition of people living nearby pretty worse.

Transportation:

Large number of vehicles on roads, aero planes, trains produce heavy noise. The high noise leads to a situation wherein a normal person lose the ability to hear properly.

Construction Activities:

Construction activities like mining, construction of bridges, dams, buildings, stations, roads, flyovers take place in almost every part of the world. These construction activities have to be continued to meet the demand of ever increasing Population. It also creates noise pollution.and there are many other sources of pollution also there.

Effects of noise pollution

Human response to noise varies from man to man according to age and temperament. It may vary even in the same individual from time to time because of change in health, fatigue and other conditions.

The effects of noise on human beings are as under:-

Auditory effects:

It includes deafness or auditory fatigue. Deafness or impaired hearing: Prolonged exposures to noise lead to gradual deterioration of internal ear and subsequently hearing loss or deafness. It may occur due to continuous exposure to noise level of more than 90 dB. It may be temporary or permanent. Explosions or other high intensity sounds can also cause immediate deafness by rupturing the ear drums or damaging the cochlea. Many time hearing loss is attributed to occupation. Auditory fatigue: It is defined as a temporary loss of hearing

after exposure to sound. Continuous humming sound such as whistling and buzzing in the ears.

Non auditory effects:

These are:-

Irritation and annoyance:

Noise, sometimes, leads to emotional disturbances and makes people loose their temper. It can interfere with proper rest and sleep. Annoyance seems to increase with the loudness of the sound. Work efficiency: It has been observed that noise reduces the efficiency of work.

Physiological effects: It includes dilation of the pupils, paling of skin, tensing of voluntary muscles, diminishing of gastric secretions, increase in diastolic blood pressure and the sudden injection of adrenalins into blood stream which increases neuromuscular tension, nervousness, irritability and anxieties. It can adversely affect the development of unborn babies. Other health effects: Noise is also associated with headache, giddiness, sweating, nausea, fatigue, difficulty in breathing, disturbed sleep pattern, psychological stress.

Steps to Control Noise pollution

Noise pollution can be effectively controlled by taking the following measures:

Control at receiver's end: For people working in noisy installations, ear-protection aids like ear-plugs, ear-muffs, noise helmets, headphones etc. must be provided to reduce occupational exposure.

Suppression of noise at source: It can be achieved by following methods:

- Designing, fabricating and using quieter machines to replace the noisy ones.
- Proper lubrication and better maintenance of machines.
- Installing noisy machines in sound proof chambers.

- Covering noise-producing machine parts with sound-absorbing materials to check noise production.
- Reducing the noise produced from a vibrating machine by vibration damping i.e. making a layer of damping material (rubber, neoprene, cork or plastic) beneath the machine.
- Using silencers to control noise from automobiles, ducts, exhausts etc.

Acoustic Zoning:

There should be silence zones near the residential areas, educational institutions and above all, near hospitals. Zoning of noisy industrial areas, bus terminals and railway stations, aerodromes etc. away from the residential areas i.e. increasing the distance between source and receiver. Sound Insulation at Construction Stages: It reduces the chances of noise nuisance in future.
Some of these measures could be:
(a)The space/cracks that get left between the door and the wall should be packed with sound absorbing material.
(b) Sound insulation can be done by constructing windows with double or triple panes of glass and filling the gaps with sound absorbing materials.
(c) Acoustical tiles, perforated plywood etc. can be fixed on walls, ceilings, floors etc. to reduce noise (especially for sound proof recording rooms etc.)

Planting of Trees:

Green muffler scheme involves planting green trees and shrubs along roads, hospitals, educational institutions etc. to reduce noise to a considerable extent. Trees like Ashoka, Neem, Tamarind are good for this purpose.

White noise:-

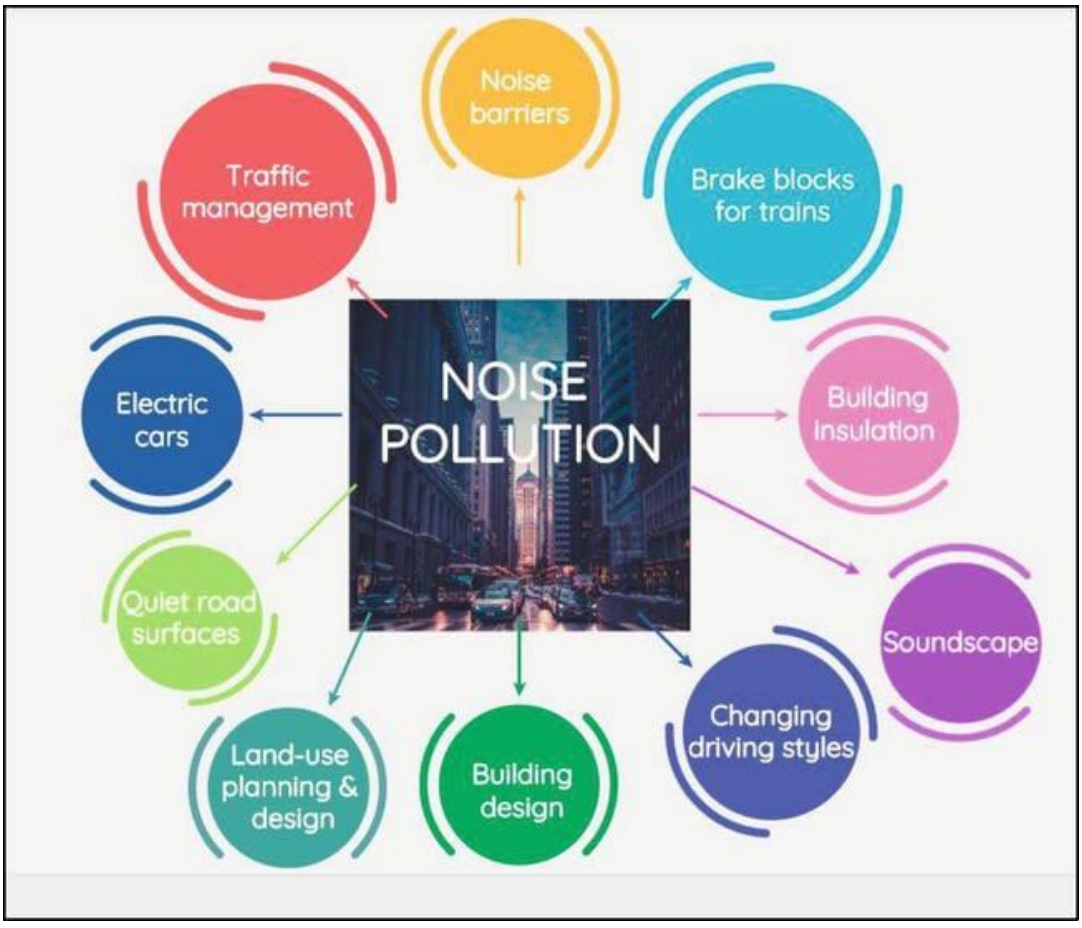
It is a special type of sound signal which is used to mask background sounds. White noise helps to mask out sounds

which might otherwise prevent one from either falling asleep or waking up whilst asleep.

Legislative Measures:

Strict legislative measures need to be enforced to curb the menace of noise pollution. Noise standards (Table) should be strictly followed. Minimum use of loudspeakers and amplifiers especially near silence zones. Banning pressure horns in automobiles. Albeit, noise has been considered as pollutant under Air act and The noise pollution (regulation and control) rules(2000) have been framed under Environment protection act. But still people need to be educated about harmful effects of noise. .

OVERVIEW :



CONCLUSION :

_Among those researching the effects of noise pollution is Michel Andre, a bioacoustics researcher in Spain who is recording ocean sounds using instruments called hydrophones. His project, LIDO (Listening to the Deep Ocean Environment), collects data at 22 different locations. Back in the lab, computers identify the sounds of human activities as well as 26 species of whales and dolphins. The analysis aims to determine the effects that underwater noise is having on these animals. Andre hopes his project will find ways to protect marine animals from the dangers of ocean noise.