

NOISE POLLUTION AND THE WAY OUT

Noise may not seem as harmful as the contamination of air or water, but it is a pollution in itself and a big problem that affects human health and can contribute to a general deterioration of the quality of the environment. Noise is undesirable and unwanted sound. All sound is not noise. It may be considered as music to one person and may be noise to another. Noise is defined as 'unwanted or offensive sound that unreasonably intrudes into our daily activities'. Sound is measured in a unit called the decibel (dB). The permitted noise level is 125 decibels as per the Environment Protection Rules 1999.

There are numerous sources of noise but it may be broadly classified into two classes which is indoor and outdoor. Outdoor noise sources include: Industries/factories, vehicular movements such as car, motor, truck, train, motor cycle, aircrafts, trains. Others include construction work, defence equipment, explosions, playing of loudspeakers during various festivals etc. The higher the speed of an aircraft the greater the noise pollution. The invention of supersonic aircrafts has added more noise for people who live near aerodromes. Meanwhile for indoor noise sources we have loudly played radio or music systems, and other electronic gadgets etc.

Noise pollution has so many effects unknown to so many persons. Some of these effects are emotional or psychological in nature these include irritability, anxiety and stress. Lack of concentration and mental fatigue is another significant health effects of noise. Also it has been observed that the performance of school children in comprehension tasks is poor when schools are situated in busy areas of a city that suffer from noise pollution. Also noise interferes with normal auditory communication, it may mask auditory warning signals and hence increases the rate of accidents especially in industries. Furthermore the effects can range in severity from being extremely annoying to being extremely painful and hazardous. Noise lowers workers efficiency and productivity and higher accident rates on the job. In addition physical damage to the ear and the temporary hearing loss often causes what is called Temporary Threshold Shift (TTS). People suffering from this condition will be unable to detect weak sounds. However, hearing ability is usually recovered within a month of exposure. Permanent loss of hearing, usually called Noise Induced

Permanent Threshold Shift (NIPTS) represents a loss of hearing ability from which there is no recovery.

Below a sound level of 80 dB, hearing loss does not occur at all. However temporary effects are noticed at sound levels between 80 and 130 dB. About 50 percent of the people exposed to 95 dB sound levels at work will develop NIPTS and most people exposed to more than 105 dB will experience permanent hearing loss. A sound level of 150 dB or more can physically rupture the human eardrum and >180dB can kill a person. In additions to hearing losses, excessive sound levels can cause harmful effect on the circulatory system by raising blood pressure and altering pulse rates.

With all these effects of noise on both human and the environment, there are control techniques which can reduce noise especially from the source: Make sure that all openings are acoustically sealed. Noise, like water rushes out through any cracks or openings. Muffling vehicles and machinery to reduce the noise. In industries, different types of absorptive material can be used to control interior noise. Noise reduction can be done by using rigid sealed enclosures around machinery lined with acoustic absorbing material. Isolating machines and their enclosures from the floor using special spring mounts or absorbent mounts and pads and using flexible couplings for interior pipelines also contribute to reducing noise pollution at the source. Blocking the path of noise: through construction of temporary/permanent barriers: Planting of trees around houses can also act as effective noise barriers. Highly absorptive interior finish material for walls, ceilings and floors can decrease indoor noise levels significantly. Using highly absorptive interior finish material for walls, ceilings and floors can decrease indoor noise levels significantly.

Protect the ears from damage by using of earplugs and earmuffs. Specially designed earmuffs can reduce the sound level reaching the eardrum by as much as 40 dB.

Apart from these, making legislation, educating and creating awareness in the people is one of the effective ways of controlling noise pollution for example ban on loud speakers from 10 pm to 6 am.

Reducing the Noise Levels from Domestic Sectors: The domestic noise coming from radio, tape recorders, television sets, mixers, washing machines, cooking operations can be minimized by their selective and judicious operation. Usage of carpets or any absorbing material is another way to minimize the noise generated from falling items in the house.

In conclusion we can solve the problem of noise pollution by being actively aware of the adverse effects of noise on our health and how it can be potentially dangerous to both our physical and mental health. And also by playing our role in ensuring the reduction of noise we produce or contribute to the environment.