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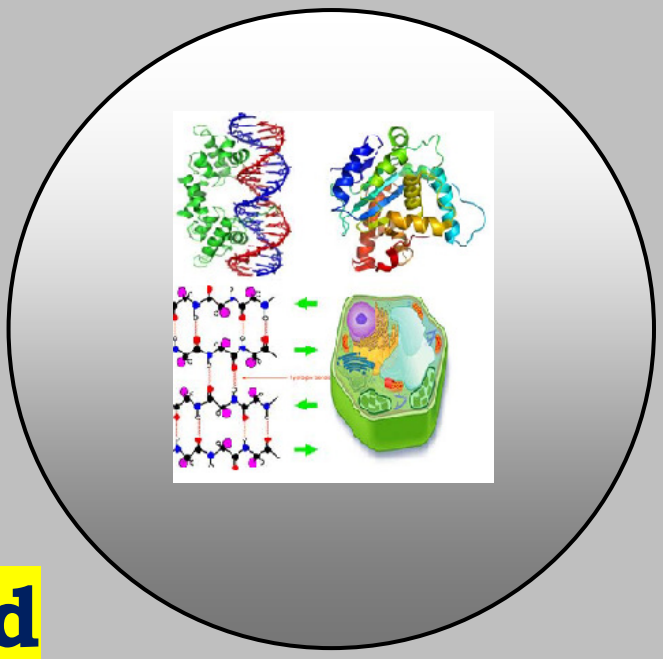

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REVIEW ARTICLE

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Noise Pollution and its Defenselessness to Populace

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ABSTRACT

Noise Pollution causes certain diseases in human. It attacks on the person's peace of mind. The noises are recognized as major contributing factors in accelerating the already existing tensions of modern living. These tensions result in certain disease like blood pressure or mental illness etc. In the city, the main sources of traffic noise are the motors and exhaust system of autos, smaller trucks, buses, and motorcycles. This type of noise can be augmented by narrow streets and tall buildings, which produce a canyon in which traffic noise reverberates. In this manuscript, noise pollution and its adverse impacts are delineated precisely.

Keywords: Decibel, Industrialization, Urbanization, NIHL, IITR, EML, Locomotives, Aircrafts, Earth movers and Musical sounds

INTRODUCTION

The present generation and the coming generations have to solve three grave problems, namely, population poverty and pollution if they have to survive. Pollution being the most dangerous problem likes cancer in which death is sure but slow. Environment pollution is assuming dangerous proportions all through the globe and India is not free from this poisonous disease. This is the gift of modern living, industrialization and urbanization. Unless timely action is taken we have a forbid and bleak future for the world. The word noise is derived from the Latin term nausea. It has been defined as unwanted sound, a potential hazard to health and communication dumped into the environment with regard to the adverse effect it may have on unwilling ears (Chauhan and Chauhan, 2009). Noise is defined as unwanted sound.

Sound, which pleases the listeners, is music and that which causes pain and annoyance is

noise. At times, what is music for some can be noise for others. Noise can be described as sound without agreeable musical quality or as an unwanted or undesired sound. Thus noise can be taken as a group of laud, non harmonious sounds or vibrations that are unpleasant and irritating to ear (Field, 1993).

A decibel is the standard for the measurement of noise. The zero on a decibel scale is at the threshold of hearing, the lowest sound pressure that can be heard, on the scale acc. To smith, 20 db is whisper, 40 db the noise in a quiet office. 60 db is normal conversation, 80 db is the level at which sound becomes physically painful. The Noise quantum of some of the cities in our country indicate their pitch in decibel in the nosiest areas of corresponding cities, e.g. Delhi- 80 db, Kolkata - 87,Bombay-85, Chennai-89 db etc. Noise pollution like other pollutants is also a by- product of industrialization, urbanizations and modern civilization. Broadly speaking, the noise pollution has two sources, i.e. industrial and non-industrial. The industrial source includes the noise from various industries and big machines working at a very high speed and high noise intensity. Non- industrial source of noise includes the noise created by transport/vehicular traffic and the neighborhood noise generated by various noise pollution can also be divided in the categories, namely, natural and manmade. Most leading noise sources will fall into the following categories: roads traffic, aircraft, railroads, construction, industry, noise in buildings, and consumer products (Milius, 2007).

Noise level is measured in terms of decibel (dB) which is the unit of measurement of intensity of sound. A noise of zero dB on the decibel scale represents the faintest sound audible to human ear while that of 180 dB shows the sound of large rocket engine. In general, noise above 70 dB is harmful to human beings. In India noise pollution is growing in recent years due to increase in industrial, urban, transport and construction activities. A number of studies have revealed that noise pollution is a greater menace in most of the million cities of India characterized with high traffic density and industrial activities. However, the level of pollution varies in accordance with the location, time, population density and functions of the city (Fuller et al, 2007).

NOISE POLLUTION ZONES AND CLINICAL MANIFESTATIONS

The study of Kanpur , Mumbai and Chennai have revealed common features, i.e. high noise level in the areas located close to aerodromes, railway stations, bus terminals, industrial establishments, busy markets, high density traffic routes and high population density clusters. Loudspeakers and traffic noise is the great nuisance in the Indian cities. The level of pollution increases during festivals, cultural programmes, elections, national festivities and victories and traffic jams. Most of our cities have higher level of noise pollution than the permissible limit of 60-70 dB. Delhi (89 dB), Kolkata (87 dB), Mumbai (85 dB), Chennai (82 dB), Kochi (80 dB), Madurai (75 dB), Nagpur (75 dB) and Thiruvananthapuram (70 dB) may be cited as examples. A study by the Environmental Monitoring Laboratory (EML) of the Indian Institute of Toxicology Research (IITR), Lucknow, has shown that noise level is higher than 90 dB near Hazrat Ganj crossing, King George Medical College, Nur Manzil, Royal Hotel crossing, Gol Darwaza, Naka Hindola, Charbagh Railway Station, Lalkuan, Aminabad and Sadar crossing.

Continuous and prolonged exposure to noise pollution causes several disorders and ailments in human beings which ranges from mild annoyance, mental tension, headache, fatigue, irritation, high blood pressure, stomach trouble, psychological problems, low working efficiency, and traffic accidents to permanent deafness (Rosenhaul et al., 1990). According to a study conducted in five southern cities including Chennai, Coimbatore, Madurai, Kochi and Thiruvananthapuram to find out the Noise Induced Hearing Loss (NIHL) among the workers in the textile, automobile, oil, fertilizers and chemical industries, one out of every four workers suffered from incurable NIHL. Further in these cities about 10 per cent of the people' such as traffic constables and pavement vendors, who were exposed to traffic noise, also had NIHL. About 60 per cent of the students in the age-group of 5-10 years living in industrial areas, railway stations and other areas of high intensity noise cannot concentrate on their studies.

Living in a house on a noisy highway can give you more than a headache. The constant din from the traffic can make you prone to heart attack. Danish researchers have found that long-term exposure to residential traffic noise significantly increases the chances of heart attack in a person. Their study, published in *PLoS ONE*, found that for every 10-decibel increase in noise, risk of heart attack goes up by 12 per cent. The effect of noise pollution on heart was found to be independent of the effect of air pollution. The experts did not spell out the exact relation between traffic noise and heart attacks, but made a few guesses. They said noise might cause an increase in stress level and induce sleep disturbances, which over the years can translate into a heart condition. For their study, the researchers examined 57,000 people between the age of 50 and 64 years from two of the Denmark's largest cities—Copenhagen and Aarhus. They kept track of many aspects of the participants' health, like diet and physical activity along with data on places they lived over a 20 years

period. Using residential address history, exposure to road traffic noise and air pollution from 1988 to 2006 was estimated for all participants. The researchers found that 1,600 people suffered their first heart attack during the study period (Rosin and Olin, 1965). They figured out a strong link between noise and heart attacks even when other triggers of heart problems like high BMI, low consumption of fruits and vegetables, smoking and use of alcohol were considered in the statistical analysis. People should practice yoga and other physical exercises that can reduce the stress produced by traffic noise. Now-a-days , the problem of low flying military aircraft has added a new dimension to community annoyance, as the nation seeks to improve its nap-of the earth aircraft operations over national parks, wilderness areas , and other areas previously unaffected by aircraft noise has claimed national attention over recent years. The noise from locomotive engines, horns and whistles, and switching and shunting operation in rail yards can impact neighboring communities and railroad workers. For example, rail car retarders can produce a high frequency, high level screech that can reach peak levels of 120 dB at a distance of 100 feet, which translates to levels as high as 138, or 140 dB at the railroad worker's ear.

The noise from the construction of highways, city streets, and buildings is a major contributor to the urban scene. Construction noise sources include pneumatic hammers, air compressors, bulldozers, loaders, dump trucks (and their back-up signals), and pavement breakers. Although industrial noise is one of the less prevalent community noise problems, neighbors of noisy manufacturing plants can be disturbed by sources such as fans, motors, and compressors mounted on the outside of buildings Interior noise can also be transmitted to the community through open windows and doors, and even through building walls. These interior noise sources have significant impacts on industrial workers, among whom noise- induced hearing loss is unfortunately common. Apartment dwellers are often annoyed by noise in their homes, especially when the building is not well designed and constructed. In this case, internal building noise from plumbing, boilers, generators, air conditioners, and fans, can be audible and annoying. Improperly insulated walls and ceilings can reveal the sound of-amplified music, voices, footfalls and

noisy activities from neighboring units. External noise from emergency vehicles, traffic, refuse collection, and other city noises can be a problem for urban residents, especially when windows are open or insufficiently glazed. Certain household equipment, such as vacuum cleaners and some kitchen appliances have been and continue to be noisemakers, although their contribution to the daily noise dose is usually not very large (Jesús et al., 2005).

Noise has always been with the human civilization but it was never so obvious, so intense, so varied and so pervasive as it is seen in the last of this century. Noise pollution makes men more irritable. The effect of noise pollution is multifaceted and inter related. The effects of Noise Pollution on Human Being, Animal and property are as follows.

Regarding the impact of noise on human efficiency there are number of experiments which print out the fact that human efficiency increases with noise reduction. A study in India suggested that reducing industrial booths could improve the quality of their work. Thus human efficiency is related with noise. For better quality of work there should be concentration, Noise causes lack of concentration. In big cities, mostly all the offices are on main road. The noise of traffic or the loud speakers of different types of horns divert the attention of the people working in offices.

Because of Noise Pollution, people cannot concentrate on their work. Thus they have to give their more time for completing the work and they feel tiring. There should be cool and calm atmosphere during the pregnancy. Unpleasant sounds make a lady of irritative nature. Sudden Noise causes abortion in females. The effect of nose on audition is well recognized. Mechanics, locomotive drivers, telephone operators etc. All have their hearing. Impairment as a result of noise at the place of work, Physicist, physicians & psychologists are of the view that continued exposure to noise level above. 80 to 100 db is unsafe, loud noise causes temporary or permanent deafness. Now is well known to all that plants are similar to human being. They are also as sensitive as man. There should be cool & peaceful environment for their better growth. Noise pollution causes poor quality of crops in a pleasant atmosphere. Noise pollution damages the nervous system of animal. Animal looses the control of its mind. They become dangerous. Loud noise is very dangerous to buildings, bridges and monuments. It creates waves which struck the walls and put the building in danger condition. It weakens the edifice of buildings.

CONCLUSION

We have made the law relating to noise pollution but there is need to creating general awareness towards the hazardous effects of noise pollution. Particularly, in our country the people generally lack consciousness of the ill effects which noise pollution creates and how the society including them themselves stand to beneficiary preventing generation and

emission of noise pollution. The target area should be educational institutions and more particularly school. The young children of impressionable age should be motivated to desist from playing with firecrackers, use of high sound producing equipments and instruments on festivals, religious and social functions, family get-togethers and celebrations etc. which cause noise pollution. Suitable chapters can be added into text books, which teach civic sense to the children and teach them how to be good and responsible citizen which would include learning by heart of various fundamental duties and that would obliviously include learning not to create noise pollution and to prevent if generated by others. Holding of special talks and lectures can be organized in the schools to highlight the menace of noise pollution and the role of the children in preventing it. For these purposes the state must pay its role by the support and cooperation of non-government organizations (NGOs) can also been listed.

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