Study of Noise level at Ravivar Karanja in Central Part of Nashik City during Normal days and Diwali festival days.

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ABSTRACT

Environmental noise is increasingly becoming a community concern internationally considerable efforts have been made over about the last four decades to reduce noise impacts from transportation sources. Noise is a sound that is unwanted or disrupts one's quality of life. The lot of noise in the environment, it is termed as noise pollution. it disturbs the normal activities such as working, sleeping, and during conversations Community noise, or environmental noise, is one of the most common pollutants Community noise includes the primary sources of road, rail and air traffic, industries, construction and public works and the neighborhood (WHO, 1999).

Most of the area in the Nashik city of Maharashtra are congested and densely populated. City consist of the combinations of old and new structure. Because of heavy traffic, urbanization, migrants of peoples from village to town for their civil work with vehicles and residential has been increased noise level. We noted noise level by decibel meter at different time of the day in the interval of 2 hours at main commercial area Rravivar Karanja in Nashik. Noise level is notably high at this location as compared to prescribed standard of pollution control Board. The present study investigate that noise level during rush hours in the evening is comparatively higher than the noise level than other time in a day . The narrow roads , no plantation cover, design of buildings with no proper spacing and acoustic design consideration. We conclude that public awareness and public environmental education is essential to safeguard natural environment and to control pollution. Peoples showed be aware about importance of human health and environment protection Act.1986.

KEY WORDS: Noise pollution, Noise data, decibel meter, Environment projection Act.1986.

INTRODUCTION

Noise is derived from the Latin word "NIVSEA' means unwanted sound. It is undesired. Unpleasant, unexpected, irritant and source of stress. Sound is measured in decibel (dB). It is a logarithmic scale invented by engineers of the bell telephone network in 1923 and named in the honor of the inventor of Telephone Alexander Graham Bell (1847-1922) Audio Engineering Society recommends that a space be used dB A. In India it is often written as dB (A).

Sound is produced by vibration in air pressure. Sound may be pleasant as well as unpleasant, vibrating sound reaches our ears and we hear the sound. The unwanted sound (Loud sound) irritates ear and human health and it is known as noise. Humans can not hear all sound. The frequency range below 20 Hz is called infrasonic and above 20 KHz is called Ultrasonic. Loudness, and pitch and quality three characteristics of sound. Loudness is measured in decibel (dB).

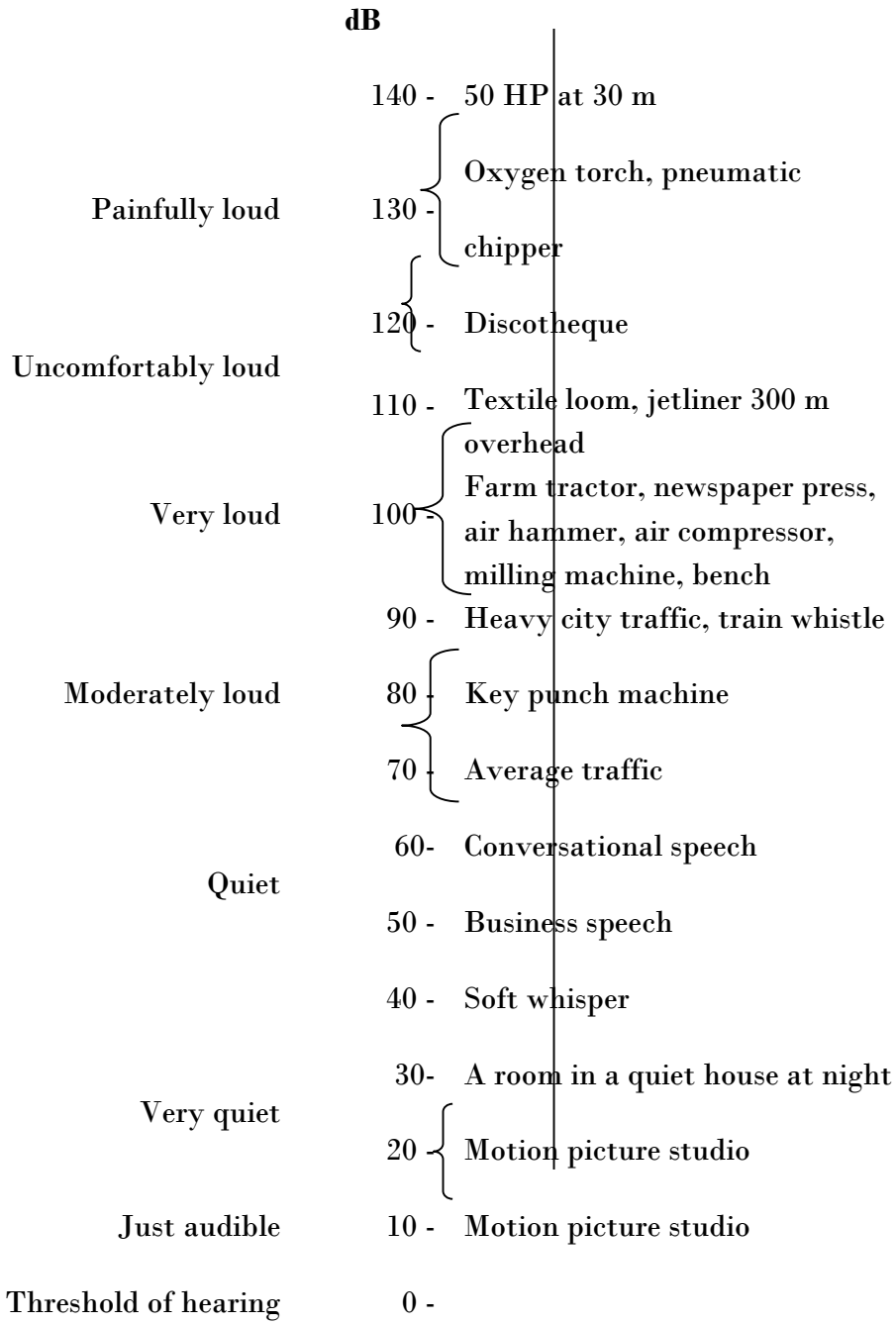
Human ear can hear sound between frequency range 20 Hz to 20 KHz. The speech zone lieu in the range of 500 to 2000 Hz. The human ear is most sensitive in the range of 2,000 to 5,000 Hz. Noise has been recognized as ambient air pollutant. Standards in this regard are laid down under Environment (protection) Rules, 1986 and under the model rules of the factories Act. 2948.

Noise pollution is one of the major problems faced by the people of Nashik City in populated area or in commercial area . A rapid growth of population, uncontrolled urbanization, rural urban migration, industrialization, road transportation, traffic jamming, civil work and machinery, human activities in festivals & cultural programme and unnecessary use of loudspeakers, loud musical systems, harsh sounds of vehicle horns, barking of dogs are the major source & contributors in noise pollution.

Effects of Noise Pollution : Noise affects health both by physiologically and psychologically Hearing loss, damage of ear, hearing deafness increasing systolic & diastolic blood pressure reduction in birth weight of baby, premature birth skin resistance alteration headache, neurological disorder, respiratory modification loss of memory hyper tension cardiovascular constriction are the physiological effects and annoyance anxiety fatigue, tension, tear, lack of concentration change in behavior interference in communication task inference in

performance reduction in work efficiency loss of sleep, cause of irritation, frustration, depression and birds, increases in heart beat rate causing respiratory difficulties in animals and birds, general stress, reaction changes the behaviors of bird, abandonment of territory, loss of ability to produce.

NOISE POLLUTION



LEGAL PROVISION

According to Report of WHO to the UN Conference on environment, out of all environmental problems noise is easiest to control. It is controlled by law & awareness of people. Constitution of India provides in Article 48A the provision of environment protection improve the environment and to safeguard the forest and wildlife of the country. Article 51(A) (G) which says that every citizen shall have the duly to protect and improve the natural environment including forest, lakes, rivers and the wildlife. In India number of legislation have been enacted for the protection and preservation of environment. The important legislation Act were framed as Environment Protection Act.1986. under which noise pollution, regulation and control rules 2000 have been framed. Now noise has been recognize as a pollutant and the production and use of high sound intensity firecrackers have been banned. The Central pollution control board (CPCB) committee has recommended permissible noise level for different locations as given be Table.

Area Code	Category of Area/Zone	Limitations in Day time (dB)	Limitations in Night time (dB)
A	Industrial Area	75	70
B	Commercial Area	65	55
C	Residential Area	55	45
D	Silence Zone	50	40

When sound level reaches 140 dB our ears are hurted and long exposure to noise results in permanent damage to ears and even at 85 dB (A) can cause hearing loss begins. The noise level 120 dB (A) is known as threshold of pain, a level 140 dB (A) is very harmful and causes permanent hearing deafness and 150 dB (A) could kill the person. The international reference pressure level of 2×10^{-5} Pa is the average threshold of hearing. A survey by Central Pollution control Board (CPCB) shown in Delhi, the noise level in most places exceeds the permissible limits, similarly a survey and study of Maharashtra Pollution Central Board (MPCB) shown that people in residential commercial, industrial and silence zone of Mumbai too suffers from high levels of noise

pollution. Pinkle and Koppen (1948) showed that there is a sharp decline in auditory acuity rise in fasting blood sugar and increases fatigue. According to Kryster (1970) noise causes heart out put to decrease with greater fluctuation in an arterial blood pressure, Johnson and Hansin (1977) in one of their studies found that systolic and diastolic blood pressures were significantly higher in industrial workers because of continuous exposure to noise. Shetyle et al (1982) had estimated that noise level in crowded places in Mumbai was almost double that of residential standards. J.K. Datta (2005) was found that sound level lies within a range of 65-83 dB or above in different places of Burdawan town. West Bengal. P. Bhatia (1995) showed that noise level 100 dB (A) was increased blood pressure and pulse rate. According to De (2000) 65 dB noise level at distance of one meter affect human heart while 125 dB gives sensation of pain in the ear. D Banerjee (2007) estimated increase in noise level in Asansol during Kali Puja Festival.

Noises harm the body and mind both. Effects of noise pollution are auditory and non-auditory; Number of researchers & investigators discussed the impact of noise pollution on human health and behavior. World Health Organization (WHO) suggested that the people should aware and everyone should know the impact of noise pollution on human health.

introduction of Study Area : Ravivar Karanja is a prime location of Nasik. city It is considered as central place of Nasik. It is crowed area large and small scale market shopers and traders are working in this place hence most of the people from entire district and across the city are come at this place for all kind of purchasing of all kind of goods.

materials and methods : Noise levels were monitored at Ravivar Karanja area of Nashik. This study was conducted during normal days and festival days. The noise levels were observed with sound level meter YF-20 having low range 40-80 (A) and high range 80-120 dB (A) in 2 Hours intervals at each location average noise levels were recorded. The sound level meter consists of capacitance microphone calibration with signal generator amplifier, weighing network and display, indicator meter. Noise sampling being done between 10.00 to 22.00Hrs at night time. All readings were taken at height of 1.5 meters from ground level . The data noted is tabulated in table.

TABLE – 1 SOUND LEVEL INFORMATION OF RAVIVAR KARANJA

(NORMAL DAY)

Sr. No.	Time in Hrs	Noise Level in dB (A)
1	10.00 to 12.00	45
2	12.00 to 14.00	50
3	14.00 to 16.00	50
4	16.00 to 18.00	55
5	18.00 to 20.00	60
6	20.00 to 22.00	65

TABLE - 2 SOUND LEVEL INFORMATION OF RAVIVAR KARANJA DURING DIWALI FESTIVAL DAY

Sr. No.	Time in Hrs	Noise Level in dB (A)
1	10.00 to 12.00	60
2	12.00 to 14.00	65
3	14.00 to 16.00	60
4	16.00 to 18.00	65
5	18.00 to 20.00	70
6	20.00 to 22.00	70

The comparative results of noise survey for festival days and normal days in Ravivar Karanja area shows that noise pollution level during festival days significantly high than Normal days. During festival days most

of the people are reaching to the Ravivar karanja for shopping purpose so the noise level increases as compared to normal day's noise level. During both days noise level is notable high as compare to standard data prescribed by Central Pollution Control Board. To control noise level the easiest control measure is public awareness and public environmental education. It is duty of every citizen that obey rules and regulation and safeguard protect the natural environmental and step should taken to reduce noise and overall pollution.

Conclusion:

In this paper we conclude that the noise level is increased during festival days as more people are coming at the location that we have chosen for study. The sources, effects, assessment of noise level and offers suggestions for controlling the noise level are also discussed. To avoid the high noise level implementation of good noise control policy and to increase people's awareness by public education and an active participation of schools & colleges in public places. The need of increase funds for environmental policy and educational programme. The future development plan should be considered with adequate plantation, walkways and underground roads at road crossings, use of insulation and sound absorbing materials in construction is essential.

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