A study of Noise level in Trimbakeshwar and Igatpuri Town belonging to Nashik District in Maharashtra State during Normal 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 such as road and rail traffic

Sound that is unwanted or disrupts one's quality of life is called as noise. When there is 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 tehsils in the Nashik district of Maharashtra are congested and densely populated. Tehsils having the combinations of old and new structure. Because of heavy traffic, urbanization, migrants of peoples from village to tehsil for their civil work with vehicles and residential has been increased noise level. We were mentioned noise level by sound level meter at different locations of Trimbakeshwar and Igatpuri tehsil Noise level is notably high at different location as compared to prescribed standard of pollution control Board at both tehsils, but the present study investigate that noise level in Trimbakeshwar tehsil is comparatively lower than the noise level in Igatpuri tehsil. Also Handloom industry in Igatpuri Tehsil, this is achieved because well noise more than as in Trimbakeshwar. Planned development of Trimbakeshwar tehsil, roads are widened, more plantation, less population are the main reasons for less noise.

We suggest that public awareness and public environmental education is essential to safeguard natural environment and to control pollution. Public awareness should be done about importance of human health and environment protection Act.1986.

KEY WORDS: Noise pollution, Noise data, sound level meter, peoples awareness Environment projection Act.1986.

INTRODUCTION

Vibration in air pressure produce sound. 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. We can not hear all sound. Human ear can hear sound between frequency range 20 Hz to 20 KHz. 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).

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)

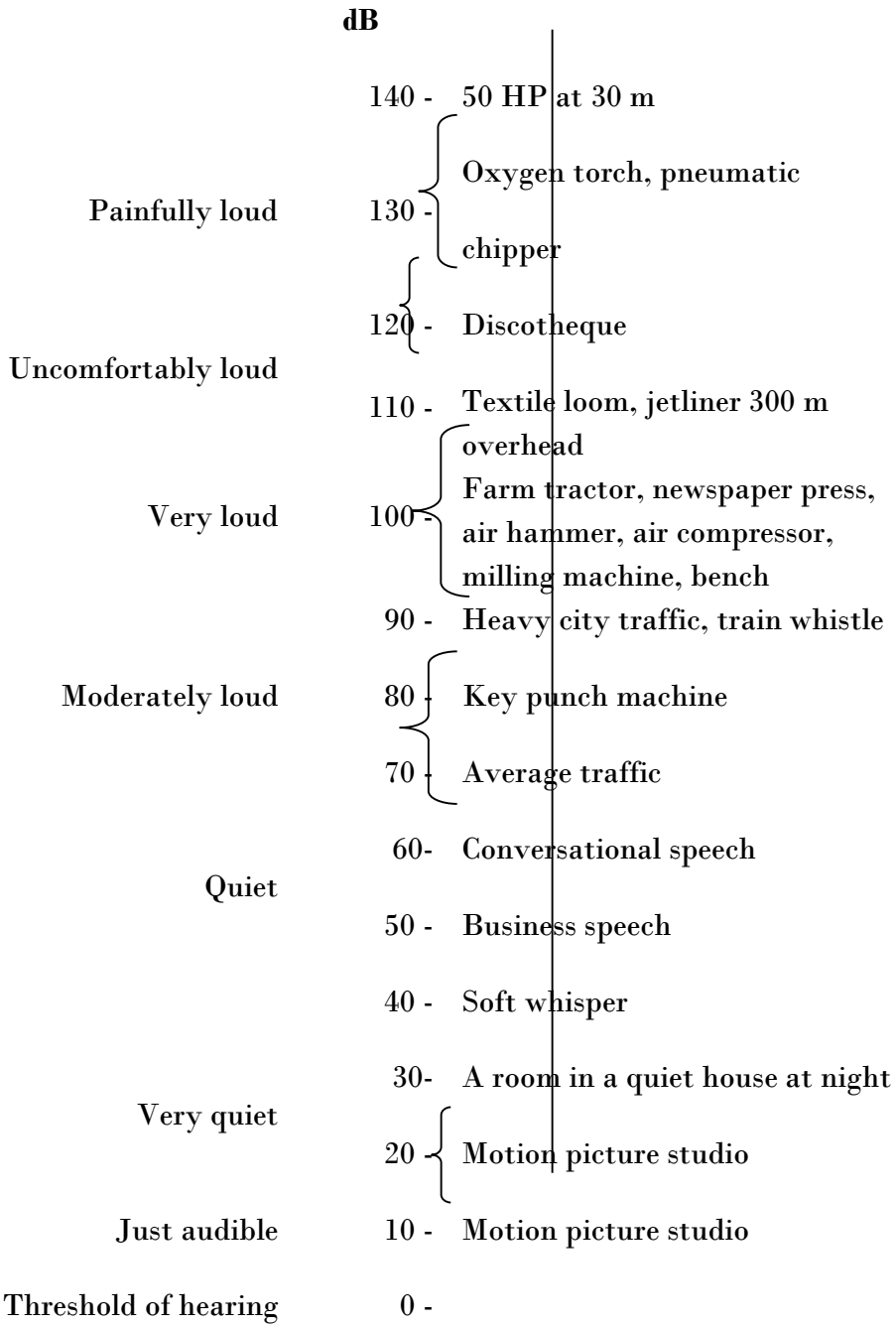
The speech zone lieu in the range of 500 to 2000 Hz. The human ear is most sensitive in the range of 2,000 to 5,000 Hz. Noise has been recognized as ambient air pollutant. Standards in this regard are laid down under Environment (protection) Rules, 1986 and under the model rules of the factories Act.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

Noise pollution is one of the major problems faced by the people of Igatpuri tehsil in Nashik district . A rapid growth of population, uncontrolled urbanization, rural urban migration, industrialization, r 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.

LEGAL PROVISION

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. The following chart shows variation of Noise level

NOISE POLLUTION



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 tehsil. 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.

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.

introduction of Towns : Trimbakeshwar have history of Pilgrims. Trimbakeshwar is situated nearly 25 km away from Igatpuri and 20 Kms from Nashik City .It is the Place of Lord Shiv Shankra and Origin of Godavri river Every 12 Years Kumbmella has been organized from 5000 of years all rushmunis and Shivbhakt are gathered here It is belonging in the range of Nasik District

Igatpuri is situated nearly 40 km away from Nashik. It is a town situated in western gat mountains of Maharashtra. It is located on Central Railway , it is crowed railway junction It is one of the hill station in Maharashtra. Dhamma Giri Academy for Meditation is situated in the town. Kalasubai the highest peak of Maharashtra is located in Igatpuri.

MATERIALS AND METHODS: 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 2-5 minute intervals at each location average noise levels were recorded. All readings were taken at height of 1.5 meters from ground level and more than 3 meters away from roads. The sound level meter consists of capacitance microphone calibration with signal generator amplifier, weighing network and display, indicator meter. The data noted is tabulated in table.

Noise levels were monitored at different locations of Trimbakeshwar & Igatpuri. It was monitored both on normal working days. T Noise sampling being done between 18.00-22.00 Hrs. at night time.

TABLE – 1 SOUND LEVEL INFORMATION OF MAIN AREAS IN TRIMBAKESHWAR (PEAK HOURS)

Sr. No.	Location in Trimbakeshwar	Noise Level in dB (A)			
		Morning	Afternoon	Evening	Night
1	Brahma Valley College Area	48	67	60	47
2	Nagar Parishad Area	57	55	55	42
3	Trimbakeshwar Tahsil Office	55	57	50	45
4	Shiva Temple area	60	72	73	68
5	Kushavart area	62	65	68	64
6	Bus Stand Inside	58	75	73	60
7	Bus Stand Out Side	55	70	69	57
8	Bramhagiri area	58	60	55	40
9	Ambedkar Chouk	50	60	65	45

TABLE - 2 SOUND LEVEL INFORMATION OF MAIN AREAS IN IGATPURI
(PEAK HOURS)

Sr. No.	Location in Igatpuri	Noise Level in dB (A)			
		Morning	Afternoon	Evening	Night
1	Inside Railway Station	85	90	89	82
2	Outside railway station	80	85	86	55
3	Vipshyana centre area	35	40	30	35
4	Bus Stand Inside	55	60	65	40
5	Bus Stand Outside	40	60	65	45
6	Nagar Parishad Area	40	55	60	40
7	Phule Nagar	45	50	55	50
8	Post Office Area	40	50	55	40
9	Railway HospitalArea	40	50	50	35

The comparative results of noise survey for normal days in Trimbakeshwar & Igatpuri Tehsil shown that noise pollution level in Igatpuri in significantly high than Trimbakeshwar. In Commercial zone and residential zone in both tehsil noise levels are near by equal reduction of noise level in Trimbakeshwar because of road winding, good plantation cover and over all developments there is need of same development in Igatpuri tehsil. In Igatpuri city railway junction is in tehsil and frequency is railway traffic is more and hence the noise level is high in that particular area. In both tehsils in commercial area and other specific zones noise level is notably high compared 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 have briefly discussed the causes s, effects, assessment of noise level and offers suggestions for controlling the noise level. It is found that the noise level in Igatpuri is Comparatively high than in Trimbakeshwar this is because of Railway junction.There is urgent need to implement 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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