



RESEARCH ARTICLE

NOISE POLLUTION STUDY ATMHASWADYATRAMAHOTSAV, 2016 MAHARASHTRA, INDIA.

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Abstract

The unwanted or disturbing sound is called as noise. This reported study shows noise quality of firing the crackers at “MhaswadYatraMahotsav- 2016”, which held every year at Mhaswad, Dist. Satara in Maharashtra. The noise level due to bursting of crackers is measured by using standard method. For present study ten different sites were selected as noise monitoring sites on “Palakhi Marg” and noise of crackers was noted at ten different timings with the interval of half an hour in each recording. The result concluded that, in the residential zone and silence zone at night condition, the noise level exceeded the prescribed standard level of 65 dB as per the Noise Pollution (Regulation and Control) Rules, 2000.

In the present study, the average noise level at all the recorded timings was found to be above the prescribed limits of Central Pollution Control Board (CPCB).

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Introduction:-

Noise pollution is a major concern throughout the world. Noise pollution in different areas is coming from wide variety of sources. Noise is an unpleasant and unwanted sound which is indeed annoying and harmful too. Its effects are more directly on the receiver i. e. Man. It is said that “you may forgive noise but your body will never” (Agrawal and Yadav, 2013). Noise pollution damagingly affects the human being leading to loss of hearing as well as mental stress (Jhanwar, 2016). Although noise pollution is not fatal to human being but its effects cannot be overlooked. Noise causes stress reactions, increased blood pressure, sleep disorders, some hormonal changes and general quality of life (Bhat, 2003). The effect of noise has been studied in humans by different workers (Belojevic *et al*, 2008; Babisch, 2000 and 2005; Lundberg, 1999). At present noise pollution is considered to be one of the key problems that has numerous hazardous effects on environment which deals with cost of society (Martin *et al*, 2006).

Indian festivals are traditionally celebrated by song and dance in large groups. During festival loudspeakers, bursting of crackers produce intermittent and high frequency impulse noise (Concha-Barrientos *et al*, 2004). Diwali is an important festival when lot of crackers are used in almost every part of the country (Singh and Joshi, 2010). Mhaswad is famine and low rainy area which is traditionally known for Lord Siddhnanthyatra. This yatra festival is celebrated for one month starting from ‘laxmipoojan’ of Diwali and ends in kartik month of Marathi year. This yatra is a celebration of marriage ceremony of God Siddhnanath and Goddess Jogeshwari. Traditionally there is a faith that when God and Goddess pass in their “palakhi”, citizens are trying to stop that “palakhi” in front of their houses. To stop the “palakhi” peoples are using to burst the fire crackers and thus there is a competition in the peoples for bursting crackers. Traditionally it is called as “Diwali Maidan”.

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In the present investigation, an attempt has been made to monitor the noise created by bursting of crackers in “Diwali Maidan”.

Working Area:-

The present work has been carried out at the “Palakhi Marg” at Mhaswad City, Tal. Man, Dist. Satara. This “Palakhi Marg” begins from Shri Siddhanth Temple and passes from main market area and ends back to Shri Siddhanth temple.

Material and Method:-

The present study was conducted at ten different timings during the “Palakhi Marg” in “Diwali Maidan”. The ambient noise level was monitored with the help of sound level meter during 8 pm to 12.30pm. Precaution was taken to avoid echo or resonance of sound by selecting suitable distance from the crackers. Readings were taken after every half an hour interval. Ambient sound levels were compared with that of the standards prescribed in the Environment Act, 1981 and standards of CPCB (Tripathi, 1999). As well as the noise limits given by, The Noise Pollution (Regulation and Control) Rules, 2000 were used to compare the noise levels in areas under study.

Table 1:- Noise standards for ambient noise level

Sr. No.	Area Code	Category of Area/ Zone	Sound Level Limit at Day Time (dB)	Sound Level Limit at Night Time (dB)
1)	A	Industrial Area	75	70
2)	B	Commercial Area	65	55
3)	C	Residential Area	55	45
4)	D	Silence Zone	50	40

Source: Lad *et al* (2012)

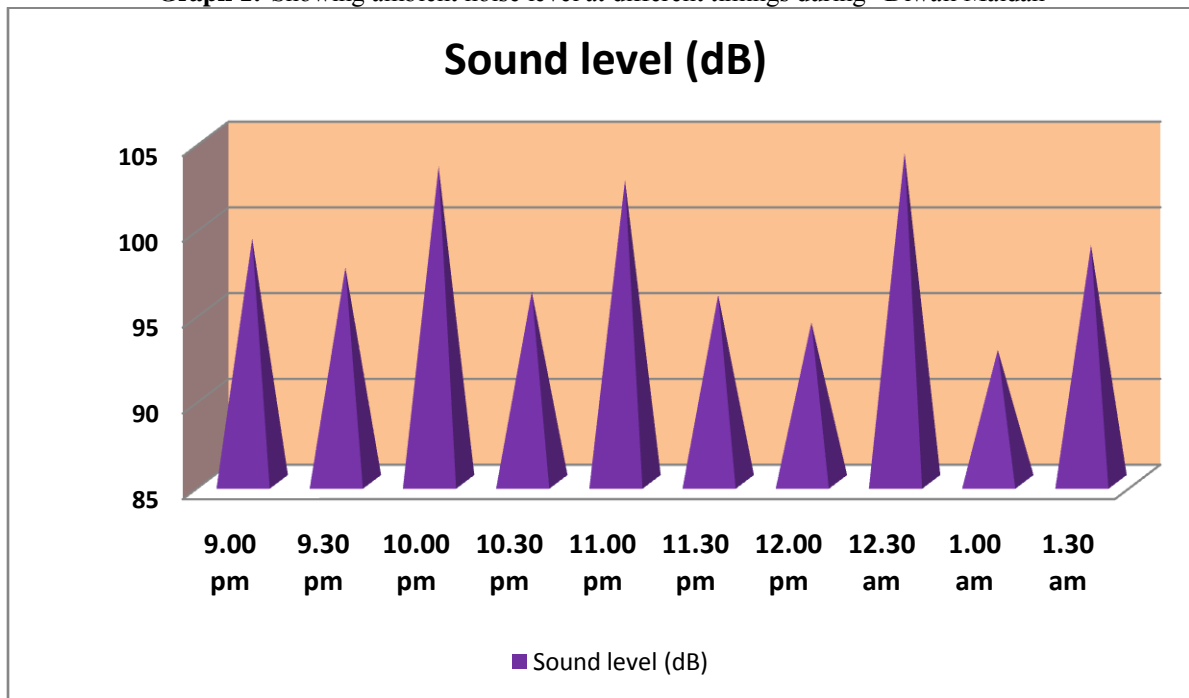
Result:-

The results of ambient noise pollution monitored in the YatraMahotsav at Mhaswad have been summarized in table 2.

The ambient noise level noted at all the monitored sites was very high as per given by the CPCB. The “Palakhi Marg” is having silence zone, which is also showing ambient noise level more. The highest ambient noise level recorded was 104.2 at 12.30 am which is very high than the recommended noise level at night.

Table 2:-Noise level in different zones of “Palakhi Marg” at Mhaswad city in “Diwali Maidan”.

Zone	Names of the sites	Time	Sound level (dB)
Residential	Mhaswad Main Peth	9.00 pm	99.2
		9.30 pm	97.5
		10.00 pm	103.4
Silence	Hospital and Bank	10.30 pm	96.1
		11.00 pm	102.6
		11.30 pm	95.9
Residential	BajarPeth	12.00 pm	94.3
		12.30 am	104.2
		1.00 am	92.7
		1.30 am	98.8

Graph 1:-Showing ambient noise level at different timings during “Diwali Maidan”**Discussion:-**

In the present study, the average noise level at all recorded timing was 98.47 dB which is found to be above the prescribed limits of CPCB (Central Pollution Control Board, New Delhi) during the “Yatra Mahotsav” day at 2016. This average recording of ambient noise level at residential and silence zone during night conditions is very high. In the beginning of “Palakhi” noise level is above the average which is slightly declined in the silence zone but again inclined at residential zone at last phase.

According to Mishra *et al* (2017), the ambient noise level increased due to different human activities during Bhopal VigyanMela 2016. The study report of Patel and Bhawe (2014), shows increased noise level due to bursting of crackers during diwali festival. The noise level during festive and non-festive days in Haridwar city were measured and compared by Sharma and Joshi (2010) which is found to be very high during Diwali season. At different parts of Meerut city on the night of Diwali festive, noise pollution was studied by Singh and Joshi (2010), which shows extreme ambient noise level during Diwali. A study report of Pathak *et al* (2008) showed traffic noise became main reason of headache, high BP and other stresses among the peoples in the working places at Varanasi city. In Bareilly metropolitan city, the noise level was slightly higher than the prescribed limit of the Central Pollution Control Board (Gangware *et al.*, 2006).

Conclusion:-

The present study is an attempt to assess the level of ambient noise pollution during the particular day of “Diwali maidan”. Peoples in the residential area were suffered from this high levelled noise pollution. Noise pollution affects and damages the human being leading to loss of hearing as well as mental stress. Efforts are made through this article to make the citizens aware about the preliminaries of noise pollution and its hazardous effects.

Recommendations:-

- Proper supervision should be followed to make sure that cracker seller in and around Mhaswad, following the noise standards set for crackers.
- There should be ban on noisy crackers during “Yatra Mahotsav” in and around Mhaswad.
- A separate area to be made available to the peoples for firing of crackers by the municipal corporation.
- The time limit should be given for bursting of the crackers which should be strictly followed by the citizens.

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