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STUDY OF NOISE POLLUTION FOR THREE CONSECUTIVE YEARS DURING FESTIVAL SEASONS IN VISAKHAPATNAM CITY, ANDHRA PRADESH (INDIA)

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Abstract:

The Present paper deals with monitoring of noise pollution at different places of Visakhapatnam City (India) on the night of Deepawali & Dec 24th night (Christmas), Dec 31st night (New Year) festivals. Visakhapatnam is an industrial and sea port city located on the east coast of India. A hospital (RCD hospital), residential area (Lawson's Bay colony), traffic zone (Jagadamba junction, Andhra Pradesh State Road Transport Corporation Complex junction and Seethammadhara junction) and Industrial Zone (Sea port) were chosen to monitor the noise levels. During the present study the noise levels were measured with the help of sound meter. The noise pollution is decreasing considerably for the last three years and it is recorded minimum in 2010 as compared to 2011 and 2012. The main reason of this decrement is the growing environment awareness in the people of Visakhapatnam City. Needless to say, students of most of the school in Visakhapatnam city now prefer to celebrate above mention festivals of lights without sound and smoke. The campaign for eco-friendly Deepawali is expected to catch on with people in Visakhapatnam city which has already demonstrated its commitment towards environment conservation. Mainly fire crackers are used during festivals. The present paper is an attempt to create awareness among the people of Visakhapatnam city about the bitter truth of fire crackers.

KEYWORDS:

Noise pollution, Festivals occasions, fire crackers, health hazards.

INTRODUCTION

Noise is an unwanted sound that may cause some psychological and physical stress to the living as well as non-living objects exposed to it 1. The increasing number of vehicles, musical instruments, small scale industries, and urbanization and human activities are the main source of noise pollution². Deepawali, Christmas, New Year is an important festival in India. It is celebrated by young and old, rich and poor throughout the country. During the Festival season a lot of crackers are used almost in every part of the country. This causes a lot of noise and air pollution. The crackers contain dangerous chemicals including arsenic, sulphur, magnesium, iron dust, aluminum dust etc. that are harmful and nervous system problems in human beings while birds and animals have to cope with the blasts and toxic smoke⁴. The massive amount of fire crackers used also contribute the particulate atmospheric pollution. The focus is to reduce noise and sound pollution that is intense during the festival days⁵. Exposure of excessive noise during pregnancy period may lead to a variety of problems in new born babies. Noise was used for torturing the

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dangerous criminals in China⁶. According to WHO noise must be treated as a major threat to human comforts.

India and all other countries are facing this environmental problem for a long period. Noise from fire cracker is one of the most important environmental problems. Mainly fire crackers are used in festive occasions in India and other countries. A large amount of fire crackers are used in Festivals. We should also discourage the use of fire crackers as child labour is employed in their manufacturing. Now three festivals celebrated with colours flowers, sweets and rangoli in India, U.K. Nepal, France, and Pakistan, Malaysia, Canada, Sri Lanka and Germany. Besides Festivals there are also other festivals during which noise and air pollution is observed⁷.

The present study is carried out in city area of Visakhapatnam District. Visakhapatnam District has an area of 990 sq.Km. Industrialization is going on at a very fast pace in this area with further prospects of expansion in the near future. Most of the industries in Visakhapatnam are located within a radius of 70km. From the heart of the city i.e. Jagadamba centre. Three places were selected from each zone which fall within the city area.

In the present paper an attempt has been made to compare the sound levels of 2010 with that of 2011 and 2012. A considerable decrease in noise pollution is noticed festival in Vishakhapatnam city for three consecutive years, i.e.2010, 2011 and 2012.

MATERIAL AND METHODS:

The ambient noise monitoring was carried out at different places of Visakhapatnam city on the night of three festivals during 1800 hrs to 2400 hrs. The monitoring was done for six hours during night of festivals. For this purpose three zones i.e. Commercial zone, Residential Zone and Silence Zone were selected within the city. The three important places from each zone were selected as sampling stations. These places were selected as sampling stations as they represent each zone for the purpose of ambient noise monitoring during Festival. All the sampling stations were within the city area. The noise levels were measured with the help of sound level meter. The ambient sound level were compared with that of the standards prescribed in Environmental Protection Rules, 1986 and standards of CPCB.

RESULTS:

The noise levels were measured with the help of sound level meter. It was observed that the level of noise pollution during the three festivals is much higher when compared with the standard limits⁸. The wind was blowing very slowly in N-S direction at the time of monitoring of noise levels. The sound levels recorded at different places in Vishakhapatnam city which comes under these zones are shown in the Table 1, 2 & 3 respectively.

Table 1: Noise Level (db) in Commercial Zone

S.No	Place	2010	2011	2012
1	Jagadamba Center	80	85	88
2	Allipuram	79	82	86
3	Kanchara Palem	81	85	87

Table 2: Noise Level (db) in Residential Zone

S.No	Place	2010	2011	2012
1	M.V.P Colony	85	86	87
2	Lawsons bay colony	80	82	85
3	Kirlam pudi layout	79	82	86

Table 3: Noise Level (db) in silence Zone.

S.No	Place	2010	2011	2012
1	104 area	65	79	83
2	Steel plant staff sectors	72	78	80
3	Advivaram	70	72	73

DISCUSSION:

The results show that there is an enhanced pressure of noise during Festivals when compared with standards limits. Excessive noise has an ability to cause psychological stress in human beings. The results were surprising in some residential areas particularly in M.V.P colony where maximum crackers are burned. The massive amount of fire crackers used during Festival also contribute to the particulate atmospheric pollution which cause many respirable diseases among human beings. In Commercial Zone maximum sound level of 88 decibel is observed in allipuram and in Residential Zone maximum sound level of 87 decibel is observed in M.V.P colony. In Silence zone maximum sound level of 83 decibel is observed in Cantt. Area During 2010 less Noise Pollution is observed as compared to 2011 & 2012. In M.V.P colony the sound level is reduced by 3 decibel and in Lawsons bay colony it is reduced by 2 decibel as compared to the last year. Maximum reduction in noise pollution is recorded in Cantt. Hospital area which is about 13 decibel less as compared to the last year. Sound level is recorded in Advivaram as in the last year i.e. 70 decibel.

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