

Noise Pollution during Navratri Festival in Anand, Gujarat, India.

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Anand city is the administrative centre of Anand District located in the state of Gujarat, India and has a population of 2,092,745. Assessment of noise pollution is an important task in the developing countries like ours which negatively affects the health standards of human beings. Navratri is celebrated with the playing of songs in loud speakers during night time, which ultimately increase the noise levels. This study is primarily focusing on the monitoring of noise pollution at various places of Anand city during Navratri festival.

Keywords: Noise, festivals, pollution, zones.

Introduction

India is well known for the diversity of its cultures. There are many festivals celebrated such as Dussehra, Navratri, Diwali, Eid, and Holi etc. Navratri is celebrated in India in the month of (Sep/Oct) from the Baithki (the First Day of Navratri) to the Navami (the Last Day of Navratri) i.e. usually the period of 9 days.

Noise is an unwanted and undesirable sound which results in annoyance and interference in normal life and communication^[1]. It has severe negative effects on citizens and environment. Auditory disorders are on rise among the citizens^[2]. Old age people and infants are suffering the most due to rise in noise pollution in day to day life. Noise is seen as rapidly rising problem to human well being. Various physical disorders due to higher noise include temporary deafness, headache and increase in blood pressure^[3]. Rise in cholesterol level causes contraction of blood vessels which increases the chances of heart attacks. Negative effects are caused due to exposure to excessive noise during pregnancy period, severe sleep disturbance, fatigue and irritation^[4].

Details of city and sampling site

Anand is a city and headquarter of the same name district in Gujarat, in the region known as Charotar. Situated at Latitude coordinate 22.554029 N and longitude coordinate 72.948936 E between Ahmedabad and Vadodara, with very dense transportation communications and very active commerce. There are over 630,000 people living in Anand and its suburb educational hub Vallabh Vidhyanagar. As most of the commute is found between Anand and Vallabh

Vidhyanagar hence the sites are selected such that the peak areas are covered.

The sites selected for taking noise level readings are;

1. Area 1, Sardar ground opp. Time cinema (Commercial zone)
2. Area 2, Amreshwar temple, Palika Nagar, (Residential zone)
3. Area 3, Heart killer Garba ground near Sanket India (Sensitive zone)
4. Area 4, Zydus Hospital main entrance (Sensitive zone)

Methodology

In this study noise levels were recorded at various times at various locations during festival of Navratri at night time. Instrument used for recording the noise level is digital sound level meter SL-1352. This instrument is used in the range of 30 – 180 dB (A). To carry out the study various locations of Anand city are selected for measuring the noise. The basic parts of a sound level meter include acoustic calibrator and a display reading in decibel. The readings have been taken from at least 1.5 m above the ground level and 1 to 1.5 meter far away from road edge, at the concerned location at an interval of 10 minutes^[5]. Along with that random survey was also carried out in the form of a questionnaire to highlight some common remedial measures.

Further, calculations have been done using the formula ^[6]

$$L_{eq} = 10 \log \sum_{i=1}^n 10^{L_i/10} \times t_i$$

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