

Analysis of Noise Pollution in Satara City And Technical Solutions to Reduce Noise Level

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Abstract- Noise is an unwanted sound which when goes to beyond the limit will create huge impact. In day today life there are many type of noises are produce in our environment or in our premises. This noise may be from the different industries, from airports, from railways, from vehicular traffic, festivals, speakers etc. when it goes above permissible limit it will harmful for all of us. Therefore it is very necessary that we need to identify and control the noise pollution before it goes beyond the limit and become harmful. This study is about the research work on noise pollution in Satara city and also it gives the solution to reduce noise level. This research provides recent noise level in Satara city. This study is also find out the health problems of people due to noise in the city which will show us that the effect of noise pollution on them. For that sample of 200 people are going to interview from selected locations and ask them about the health issues related with noise pollution.

This noise pollution increasing because of the development of cities, industrialization, development of roads, advance machineries. Although this development is necessary for the people but with this development we also need to focus on the environment which is very important.

Keywords- Noise pollution, Health issues, Environment, noise level, vehicular traffic.

I. INTRODUCTION

1.1 General:

Noise is unwanted sound which when goes beyond the limit it causes harmful effects on humans and also on the environment. As the population of satara increases day by day vehicles on road also increasing. Noise induced hearing loss if it is in very high frequency also it gives various health issues therefore it is very important parameter that we understand and control it. Due to urbanization, heavy industrialization this noise problem is increasing in the whole world. There are many types of noise present in the environment vehicular noise, industrial noise, various factories, machines, aircrafts,

loudspeakers, construction sites, excessive noise from neighbours like this. In this study we are going to find the traffic noise pollution and health issues related with that. Sound from truck, car, automobiles, motorcycles are the sources of traffic noise. Noise is measured in terms of decibel. Above 65db sound becomes noise. Above 80db it is annoying.

1.2 Effect of noise pollution:

Noise is very harmful for the environment as well as for humans and animals. Effects of noise pollution are very dangerous. Constant exposure of noise may lead to hearing loss. Noise effects on human health and behaviour enormously. Annoyance, hearing loss, lack of concentration, cardio vascular diseases etc these are some health issues obtained because of this noise. These effects may be long term effects or short term effects depends on intensity of noise. High level noise induced hearing loss. A very high level noise above 120db if continues fall in ears then it leads to hearing loss it damages sensitive parts in the ear. Concentration affected or decreases due to noise. Exposure of noise may decrease the concentration from reading, doing work, sleep. The workers which are working in the industries where noise is high are facing the cardio vascular problems. They also suffering from hypertension, stress, high blood pressure. Therefore this noise is very dangerous for us and we need to take the proper precautions to reduce the noise level.

1.3 Research significance:

In this research an efforts has made to calculate the current noise pollution status in the city due to vehicular traffic. Therefore from this research we get the current noise level of the city. Also we are going to take the interviews of 200 respondents to find out how much this noise is affecting on the people. After this we are going to discuss about the technical solutions to reduce the noise level.

1.4 Objectives:

1. To calculate the traffic noise from selected locations

2. Do the survey of respondents from that locations
3. Give the technical solutions to reduce the noise level

II. LITERATURE REVIEW

V. Krishna Murthy et al., (2007) studied about traffic noise pollution in Banepa city, Nepal. Ten locations were selected to take readings then they took the readings and also carried the health survey of the people. They observed very high noise level due to traffic vehicles causing health problems.

Mohzani Mokhtar et al., (2007) studied the effect of noise on industrial workers in Malaysia. They took three industries for their research: rubber, metal and paper industry. They did the survey of 120 people from each industry. They made a questionnaire of 37 questions related to the effect of noise on human health. The survey was conducted among the workers. It is obtained that people are suffering from physiological effect, hearing loss, psychological effect, sleep disturbance.

Aitbar Ali Abbasi et al., (2011) did the study on industrial noise pollution and its impact on workers in the textile based cottage industries. The survey was conducted to identify the health problems of the workers of the industry. The conclusion was given that the workers were facing mental and physical health problems.

Bhavan Tandel et al., (2011) studied the traffic noise pollution in Surat city, India. They analysed the current status of noise pollution in three major parts of Surat city and then they developed a model to analyse that parts. Then they suggested the solutions to reduce the noise. They concluded that the noise level was 105 times higher than permissible noise level in commercial zone. They observed that maximum noise was produced by 2-wheelers and three wheelers.

Debasish Pal and Debasish Bhattacharya (2012) studied on effect of road traffic noise pollution on human work efficiency. They took government offices, private offices and commercial business centres in Agartala city. They studied the pattern of traffic in the study area then they recorded the noise level in those areas. Response of individuals has been collected by survey and observed that there are people who are facing the problems like headache, less concentration, effect on work, stress, tiredness.

Mudjahid Farid et al., (2013) studied the various areas of Faisalabad, Pakistan to calculate the noise level. They took some spots for study and divided those into zones like commercial, industrial, silence, residential. They recorded the noise level in day time and night time. They concluded that

the maximum noise level was at day time and minimum noise level was at night time.

Awosusi Ajoke Olukemi & Akinture Isaac Olusola (2014) studied the health effect of noise pollution on the inhabitants of Nigeria. They did the survey of 250 participants and they observed that participants are aware of noise pollution and its effects.

Jyoti and Ajay Dahiya (2014) did the case study on traffic noise pollution in Delhi, India. They identified the traffic noise pollution in Delhi then they took the responses from the respondents to get the adverse effect of noise. 200 respondents were interviewed. They concluded that effect of hearing is the worst effect of traffic noise pollution.

J S Sudarsan and S Nithyanantham (2016) studied noise pollution at SRM university campus. He took the noise measurement at three times a day in the morning, afternoon and evening. Some locations are from outside the university and some are inside the university. He concluded that the noise level is high than the prescribed limit. Noise level is high at the morning session from 8-10 a.m. and also at evening session from 3-5 p.m.

III. METHODOLOGY

Before starting of project work various research papers were studied and it helps to understand the basics of the topic. Noise level meter is used to take the noise level readings. Four major roads of the city are needed to be found out to take the readings. These major roads must be full of traffic congested roads. After the selection of four roads we will take the readings on that roads. The timing of readings are 8-10 a.m., 12-2 p.m., 5-7 p.m. that is three times a day.

With the help of noise level meter instrument level of noise in the atmosphere is obtained. It gives the readings in decibel. After getting the readings impact on humans due to road traffic is found out. It is found out by doing the survey of people near the selected locations. By this survey we will get to know the health effects of noise on these respondents. After doing the survey technical remedies will be found out to reduce the vehicular noise pollution.

IV. CONCLUSION

As we seen, amongst all the noise pollutions traffic noise pollution is one of the important noise pollution because of increase in the amount of vehicles traffic is increasing enormously and this increase in traffic is lead to increase in the noise pollution. Therefore we need to take strong action to

reduce the traffic noise. The future scope of this dissertation is to get the current noise pollution status of the city which is very important. Then by taking the survey of the respondents we will get to know the impact on the humans due to this noise pollution. Then we will find the solutions to reduce the noise level.

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