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Environmental Impact of Noise Pollution during Ganesh and Durga Utsav in Sidhi City

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Abstract: ***Noise level was studied at various Ganesh and durgaUtsav Place in Sidhi City and it is concluded that the noise levels are elevated due to modern electronic devices such as D.J., Drums, and laud speakers. Due to this elevated noise levels there is interference in communication, mental unrestlessness, sleeplessness and also disturbance among youngersterwho have been indulge in study.***

Keywords: DurgaUtsav, Ganesh Utsav, Noise Pollution Sidhi City

1. Introduction

Noise pollution Problem is a common menace throughout the country. The noise levels during Ganesh Utsav and DurgaUtsav is increasing year by year and becoming worse.

The noise pollution, which affects, the mental ability, hearing capacity, physiological and psychological health, it also induced deafness. As it is well known that noise pollution created by the indiscriminate use of loudspeaker, D.J. Drums during festivals mostly all time during the year.

Measurement of noise level

Noise is measured in decibel dB (A), whereas a symbol represent logarithmic scale 'a' is compared to a fixed reference level 'r' and the "decibel" value is 10 log (a/r).

The human ear sensitivity is matched to the Simulations and 125 to 200 milliseconds fast response used to measure the noise level. The frequency of sound and the response to noise level is closely related. The type of frequency and time also related too. The environmental protection act 1986 laid down the noise level in different areas given in table-1

Table 1: Showing noise pollution limit

Category of area	Limit in dB leg		Area code
	Day time *	Night Time*	
Industrial	75	70	A
Commercial	65	55	B
Residential	55	45	C
Silence Zone	50	40	D

* Day time – 06.00 AM to 09.00 PM
* Night time – 09.00 PM to 06.00 AM

2. Material and Method

Survey was carried out during Ganesh Utsav and DurgaUtsav in the year of 2018. Noise level measurement monitored during 18.00 hrs to 24 hrs at a distance of about 50 meters to 100 meters around Ganesh Pandals and DurgaPandals.

The monitoring was done for a minimum period of 30 minutes. Following places covered during the survey, for Ganesh Utsav, the places in sidhi town taken for survey are (1) near kendriyavidyalaya (2) Near collectoratechauraha (3) hospital chauk (4) laltachauraha (5) samratchauraha (6) police line (7) Jamodichauraha (8) Gopaldas Road (9) Amha (10) Padara

For durgaUtsav following place taken for survey
(1) North karaundiya near Ramagovind palace. (2) South Karaundiya near poll factory. (3) Near Bus stand. (4) Near College tiraha (5) Near Vijay Filling station (6) Near Civil lines.(7) Collctoratechauraha (8) Near Sanjivini market (9) Near Ghandhichauk (10) Near kotwali(11) Amhatiraha(12) madariya(13) old Bus stand (14) laltachauk(15) Gopal Das Road

To measure the noise level sound level meter (SLM) type II was used whitch confirms to ICE 651 type II internal memory can keep up to 32000 records. It can be attached to the computer and user RS 332 interface for bidirectional communications. The instrument has range of 30-180 dB (A) to measure sound level meter was set back at the distance of 50 meter to 100 meters.

The noise level at various locations in the City separately during Ganesh Utsav and GurgaUtsav, recorded and shown in the table -2 and 3 all the values are in dB (A) and monitoring done from 1800 to 2400 hr.

Table 2: Sound level monitoring during Ganesh Utsav 2018

SNo.	Location	13 Sep.	14 Sep.	15 Sep.	16 Sep.	17 Sep.	18 Sep.	19 Sep.	20 Sep.	21 Sep.	22 Sep.	23 Sep.	24 Sep.
(1)	Near karaundiyavidyalaya	80.2	80.1	79.7	78.2	82.1	80.4	81.3	78.0	79.1	88.3	90.3	80.3
(2)	Near collectoratechauraha	74.8	75.0	78.0	79.3	80.2	77.3	78.2	77.1	80.2	80.5	90.5	88.4
(3)	Hospital chauk	81.3	80.2	77.0	76.0	75.3	74.0	78.0	80.2	81.3	80.3	92.3	88.1
(4)	Laltachauraha	78.8	80.1	74.3	71.7	78.3	80.1	81.2	77.5	78.3	80.1	90.4	88.4
(5)	Samratchauraha	70.5	71.4	72.3	73.4	73.3	70.7	76.4	77.5	77.4	77.3	85.3	82.2
(6)	Police line	75.2	74.1	74.8	76.2	78.2	78.1	77.9	70.7	68.7	69.7	80.3	78.1
(7)	Jamodichauraha	70.2	71.4	72.3	73.3	73.2	70.2	75.6	77.4	77.2	77.1	90.5	80.1
(8)	Gopal Das Road	65.5	66.3	69.3	69.2	68.4	69.2	70.3	71.5	72.4	70.7	85.3	80.2
(9)	Amha	75.6	70.2	68.1	60.3	58.4	53.4	50.4	57.3	59.6	58.4	80.8	78.4
(10)	padara	65.7	66.4	69.1	69.7	68.4	69.3	70.2	71.1	72.3	70.5	80.9	78.2

Table 3: Sound level monitoring during DurgaUtsav 2018

SN0.	Location	10 Oct.	11Oct.	12Oct.	13 Oct.	14Oct.	15 Oct.	16Oct.	17Oct.	18Oct.	19Oct.
(1)	North karaundiya near Ramagovind palace	80.0	78.2	77.3	78.3	80.2	79.3	78.4	77.8	78.2	92.7
(2)	South karaundiaya near poll factory	84.3	79.2	76.7	72.3	70.5	76.4	77.0	88.2	87.4	92.4
(3)	Near Bus stand	89.7	76.4	78.2	75.3	71.5	76.3	75.0	90.2	78.3	91.3
(4)	Near college tiraha	78.2	77.1	76.2	77.8	79.2	86.1	87.7	88.1	89.2	90.2
(5)	Near Vijay Filling Station	70.4	74.3	77.2	79.2	78.3	76.1	89.3	77.2	79.5	91.2
(6)	Near Civil lines	70.2	73.5	75.4	76.2	77.5	73.5	80.5	77.4	78.8	90.0
(7)	Collectoratechauraha	78.0	74.0	77.0	79.0	80.2	79.5	85.4	87.2	80.3	90.2
(8)	Near Sanjivini market	89.8	75.7	78.2	74.7	71.9	74.4	75.6	90.0	89.0	92.2
(9)	Near Ghandhichauk	75.5	69.8	70.2	71.3	72.8	74.2	76.3	79.2	77.8	89.8
(10)	Near kotwali	70.2	75.3	77.4	78.1	78.2	76.3	89.7	77.7	79.2	91.0
(11)	Amhatiraha	78.7	74.0	78.0	80.0	80.1	78.3	85.4	87.1	80.5	90.2
(12)	Madariya	77.3	78.5	85.4	78.3	77.8	75.5	88.3	80.1	85.4	89.9
(13)	Old Bus stand	89.7	75.4	78.2	74.4	71.8	74.4	75.6	90.2	89.3	92.1
(14)	Laltachauk	88.2	74.1	78.2	78.5	79.3	80.1	84.2	85.3	87.6	91.6
(15)	Gopal Das Road	78.0	75.0	73.3	78.5	80.4	79.6	80.5	85.4	87.5	90.3

Impact of noise pollution on Health

Human beingare greatly affected by noise which is physical, physiological and psychological.Due to continuous exposure to noise hearing threshold of a persons may shift temporarily or permanent which depends on the level of sound and the time of exposure toward sound. the tympanic membrane can also be damaged due to sudden loud noise from fire crackers. High noise level dilate blood vessels of the brain causing headache. It increase the heart beat, blood pressure and may cause pain in the heart. It can also affect digestive activity, eye strain and memory. High noise level causes fatigue and depression with considerable reducing the efficiency of a person, it also affect the sleeping order anxiety which result into instraining of senses and even repeating of low instensity sound adds to irritations. As it is shown in table – 4

From the data as shown is the table - 4 it is very clean that noise level above 60 dB substantially affecting the human being and above 90 dB its impact considerable affecting the hearing loss.

Table 4: Harmful effect of noise pollution

SNo.	Level (in dB)	Effect of Noise
1	Up to 23	No effect
2	30-60	Effects especially at upper ranges tress, tension psychological.
3	60-90	Psychological and vegetative illness, disturbance in stomach-gall function, pains in muscles, high blood pressure, and disturbance in sleeping.
4	60-120	Effect ontological (ear diseases)
5	Above 120	In long run painful effect.

3. Result with Discussion

The above whole study clearly observed that during Ganesh and DurgaUtsav ceremony, level of noise pollution became much higher when compared with the standard limit.

The sound level recorded at different location During Ganesh and DurgaUtsav in Sidhi town as shown in table-2 were surprising particularly in location 1 and 3 and during Durgautsav as shown in table -3 the location 1,3 and 14 where maximum Number of loudspeaker and D.J. was used.

It is observed that at all the location the sound level in much greater than the permissible limit (as shown in table-4) during Dirga Utsav period as compared to Ganesh Utsav.

4. Conclusion

Noise pollution is an environmental problem all over India during certain Utsav like, Ganesh and Durgapooja ceremony and this noise pollution causing negative impact on health. The people staying and exposed to noise level above 90 dB(A) should take precautionary measure to avoid noise induced hearing loss.

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