

AMBIENT NOISE QUALITY IN HYDERABAD DURING 2011-2014

Noise is derived from the Latin word “nausea” meaning ‘unwanted sound’ or sound that is loud, unpleasant or unexpected. Noise is usually classified as Occupational noise (i.e. noise in work place) or as environmental noise, which includes noise from traffic, playgrounds, sports, music etc (Concha Barrientos et.al, 2004). The noise measurements are expressed as Sound pressure Level (SPL), which is logarithmic ratio of the sound pressure to a reference pressure. The international reference pressure of 2×10^{-5} Pa is the average threshold of hearing for a healthy ear. Noise can affect human ear because of its loudness and frequency (pitch).

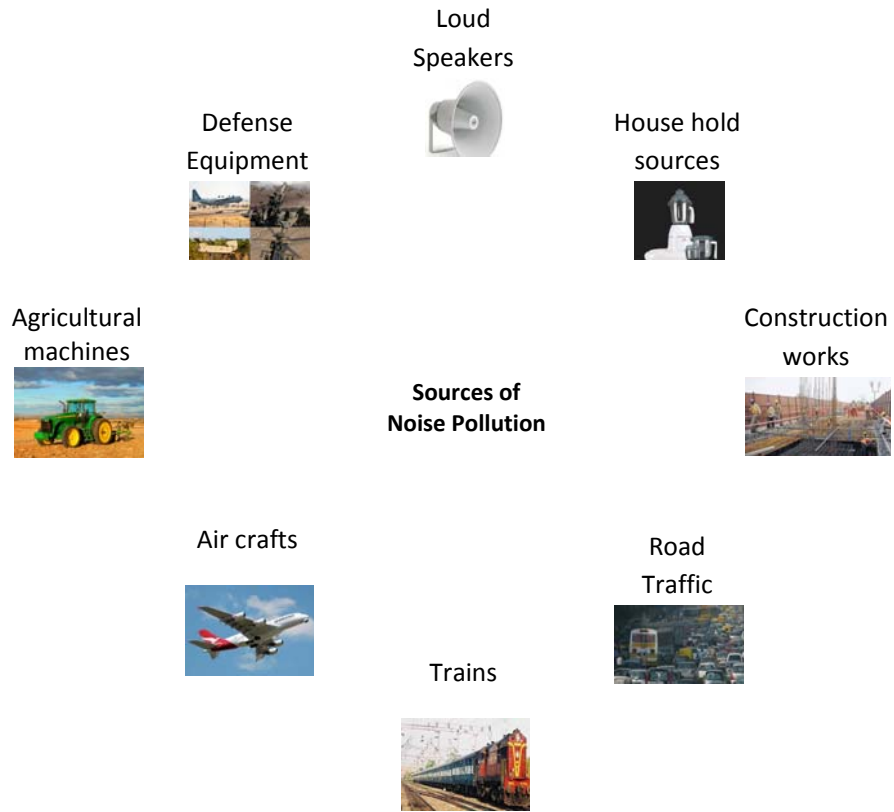
The World Health Organization (WHO) states that night noise exposure causes self reported sleep disturbance and noise induced sleep disturbance is viewed as a health problem. (Table 1).

Table 1 WHO Community Noise Guidance.

Environment	Critical health effect	Sound level	Time
		dB(A)	(hours)
Outdoor living area	Annoyance	50-55	16
Indoor dwellings	Speech intelligibility	35	16
Bed rooms	Sleep disturbance	30	8
School Classrooms	Disturbance of communication	35	During class
Industrial Commercial and traffic areas	Hearing impairment	70	24
Music through ear phones	Hearing impairment	85	1
Ceremonies and entertainment	Hearing impairment	100	

Source: [http: www.consultnet.ie](http://www.consultnet.ie)

Sources of Noise Pollution:



Noise measurement and Noise Standards:

The ambient noise levels can be monitored with the help of sound level meter (Figure 1).



Figure 1: Sound Level Meter

As per IS: 4594 – 1968. Noise levels are measured for 24 hours on hourly basis and expressed in decibel, dB (A). The Noise Pollution (Regulations control) Rules, 2000 has given noise limits for different areas and the Noise Pollution (Regulations and Control) Rules, 2000 is an amendment made by Government of India in the year 2010. The Noise standards are shown in Table-3.

Table 3: Noise Standards for Ambient Noise level

Area code	Category of Area	Day time dB (A) Leq	Night time dB (A) Leq
A	Industrial	75	70
B	Commercial	65	55
C	Residential	55	45
D	Silence zone	50	40

source: <http://cpcb.nic.in>

Day time means 6 am to 10 pm and Night time means 10 pm to 6 am. dB (A) Leq means time weighted mean average of the noise level in dB on a scale A, which is associated to the human earshot.

Ambient Noise Levels:

1. Abids (Commercial)

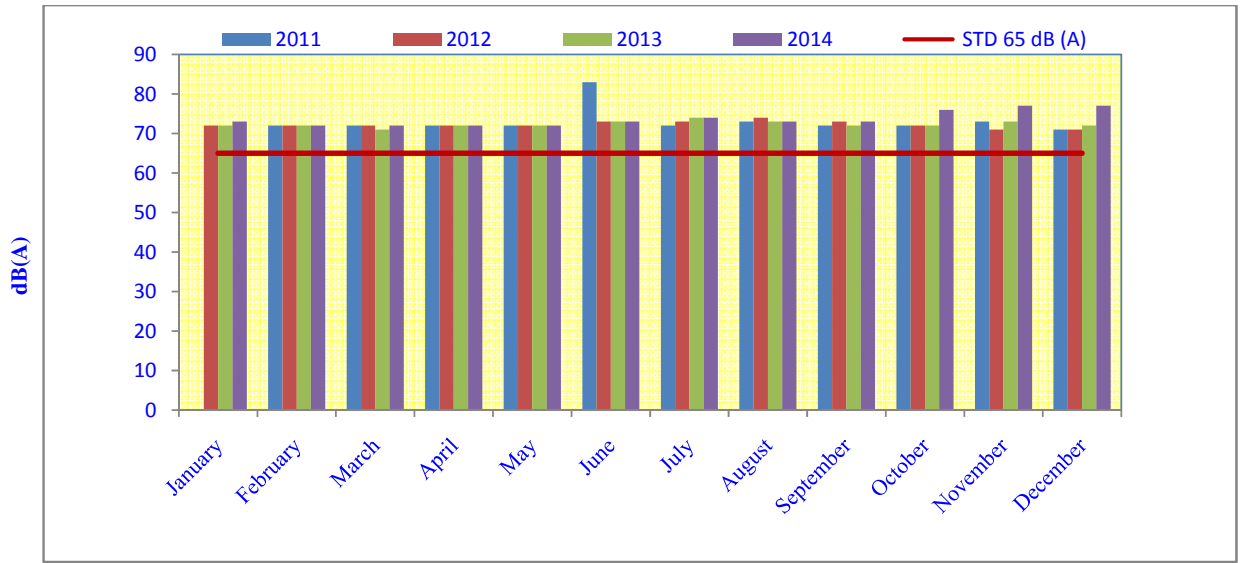


Figure 1: Day Time Ambient Noise levels in Abids

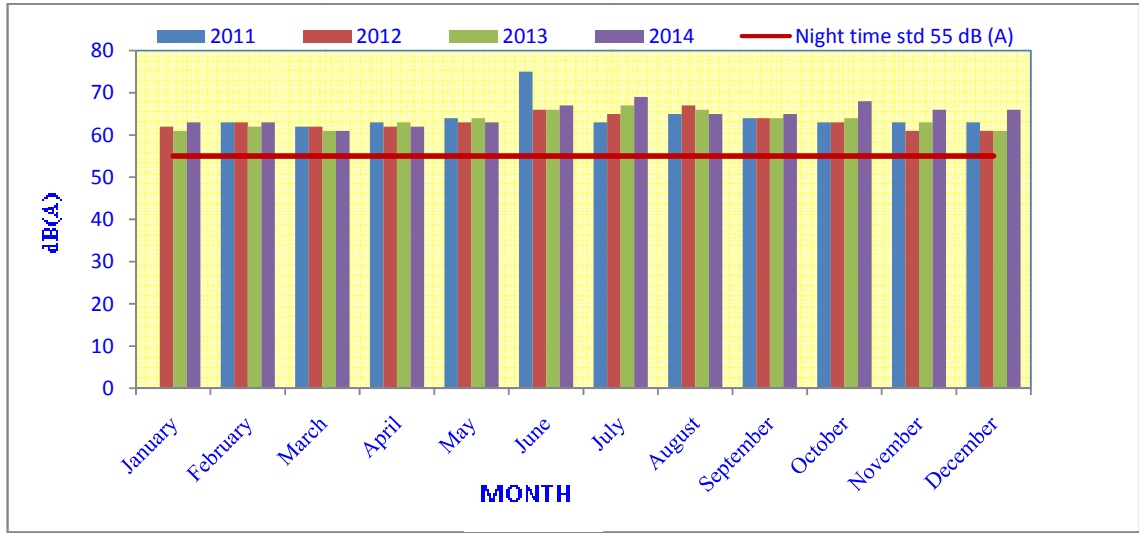


Figure 2: Night Time Ambient Noise levels in Abids

2. Jeedimetla (Industrial)

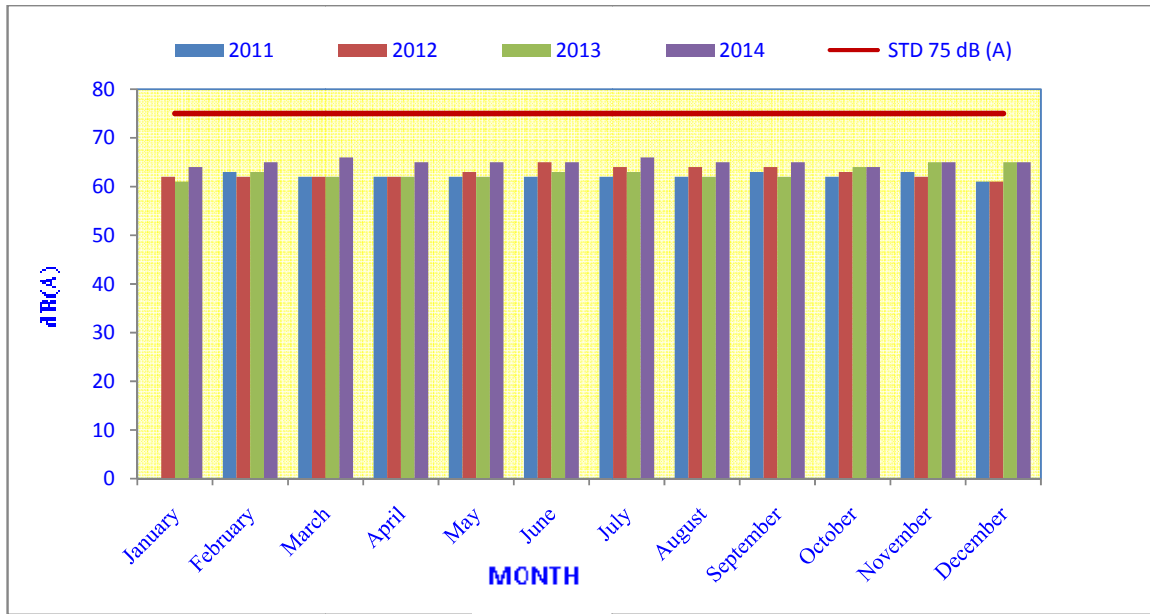


Figure 3: Day Time Ambient Noise levels in Jeedimetla

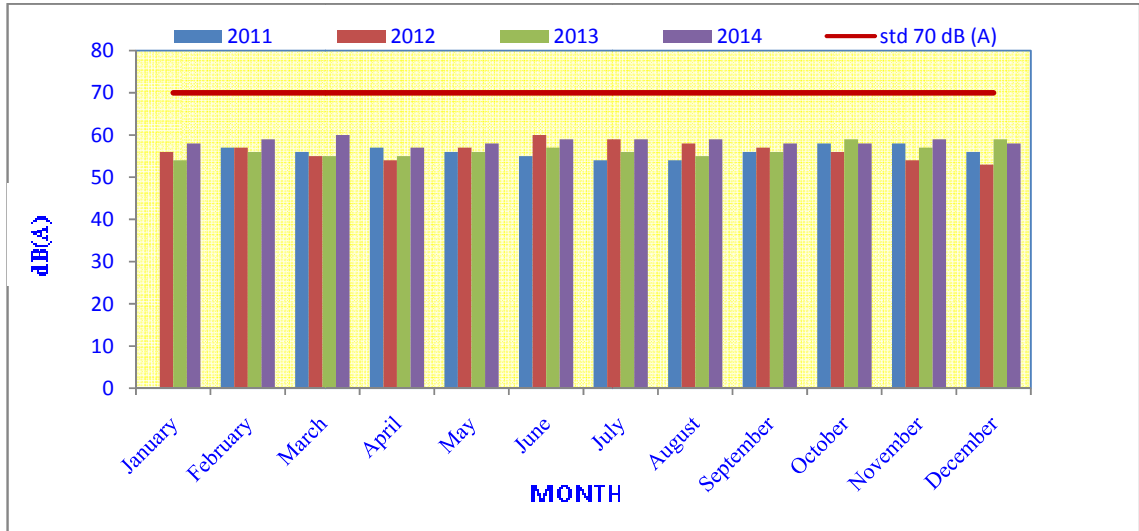


Figure 4: Night Time Ambient Noise levels in Jeedimetla

3. Jubilee Hills

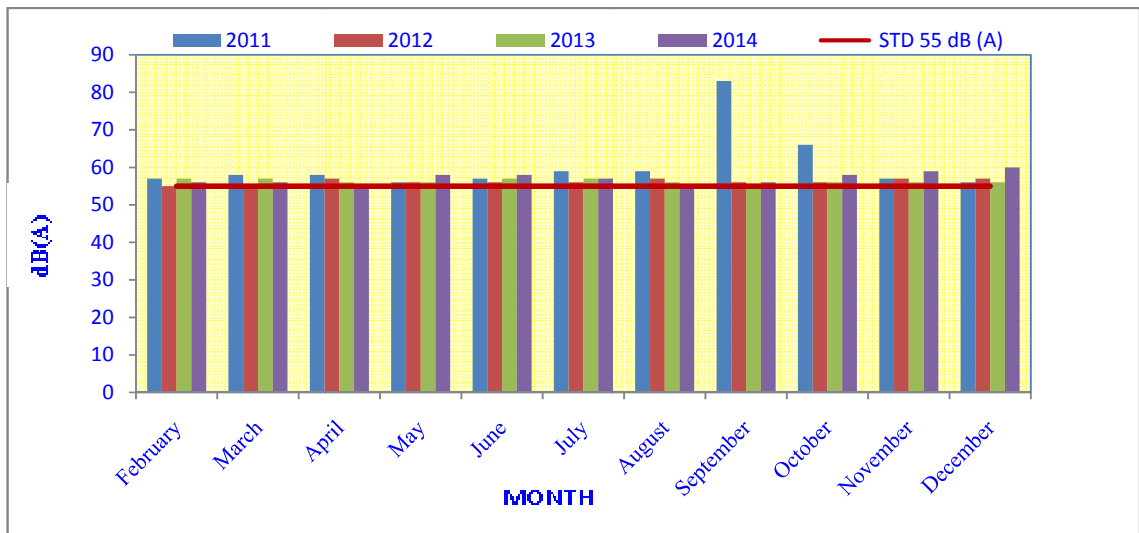


Figure 5: Day Time Ambient Noise levels in Jubilee Hills

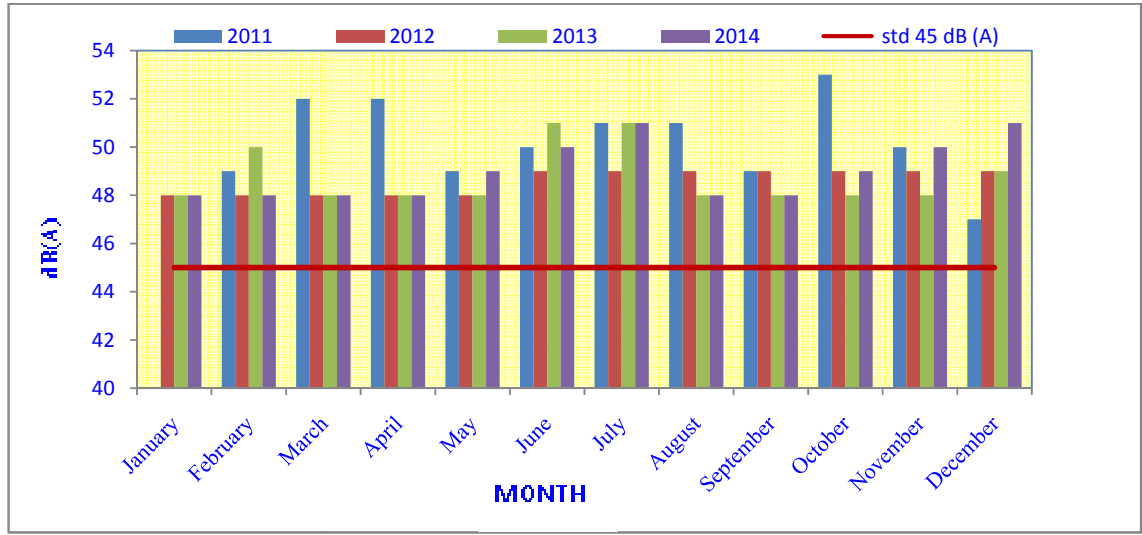


Figure 6: Night Time Ambient Noise levels in Jubilee Hills

4. ZOO (Sensitive)

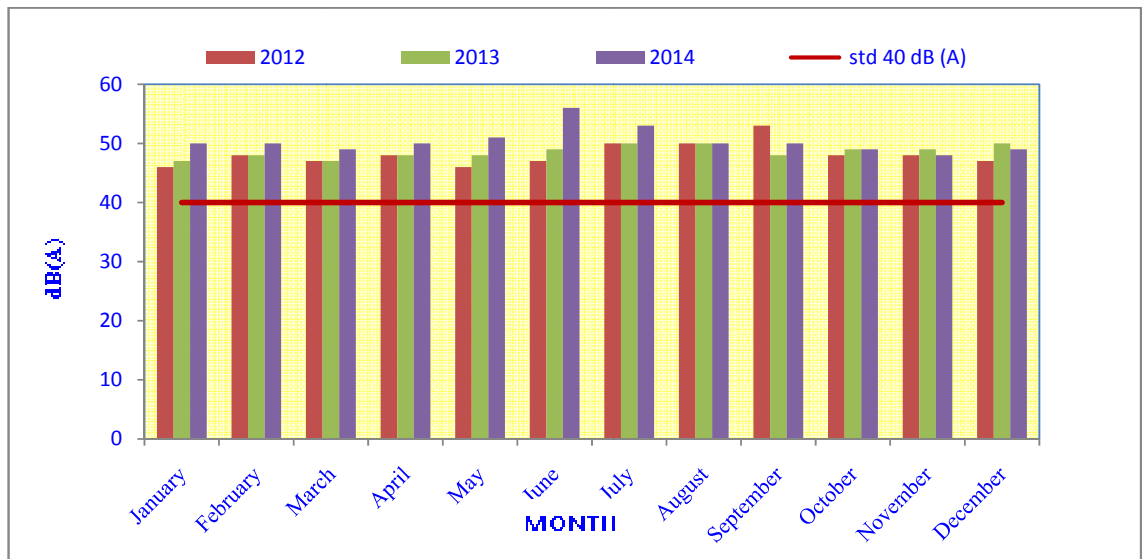


Figure 6: Day Time Ambient Noise levels in ZOO

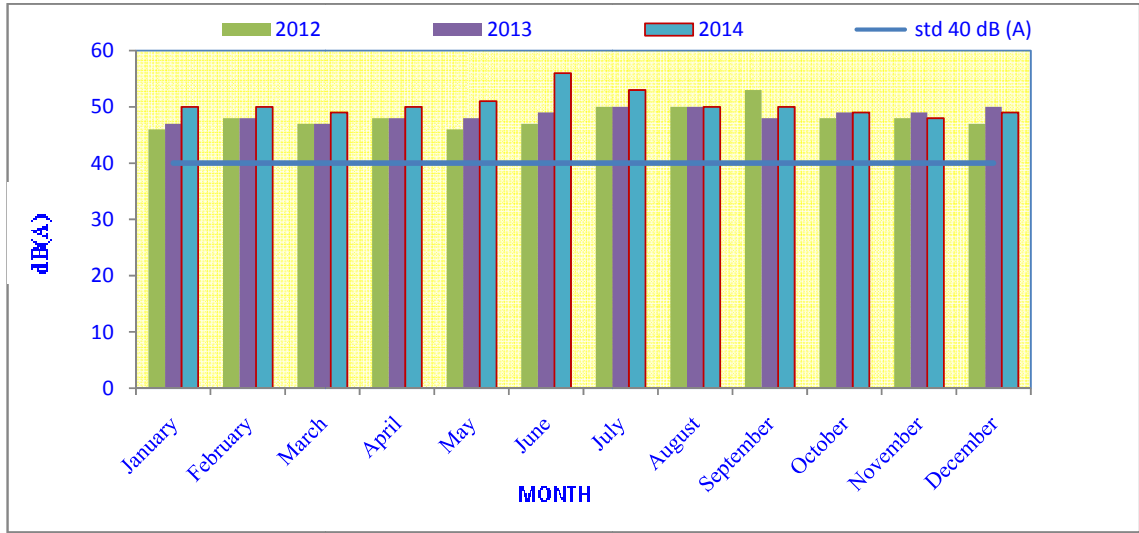


Figure 7: Night Time Ambient Noise levels in ZOO

5. Punjagutta (Commercial)

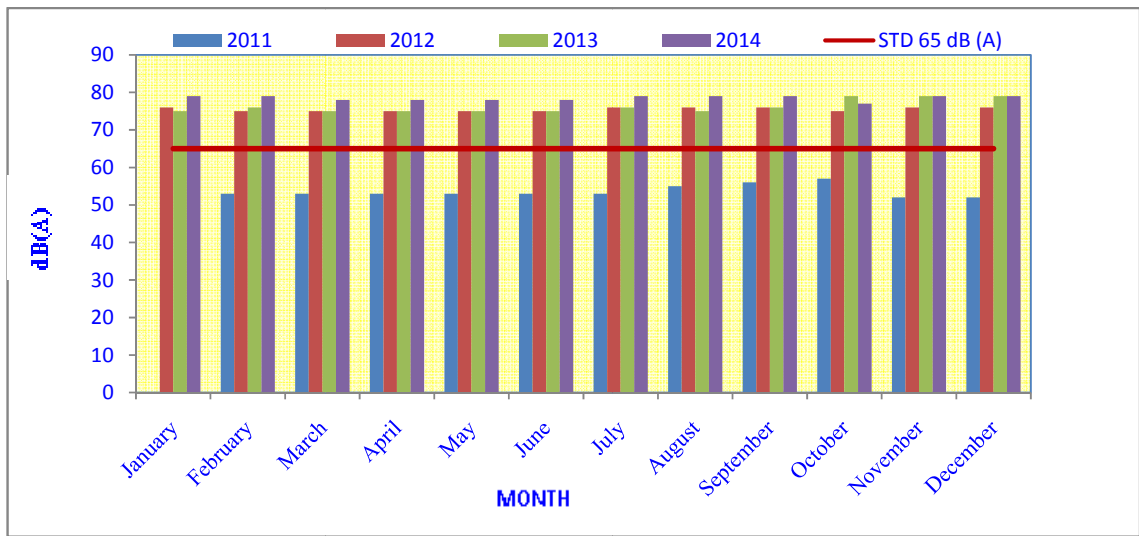


Figure 8: Day Time Ambient Noise levels in Punjagutta

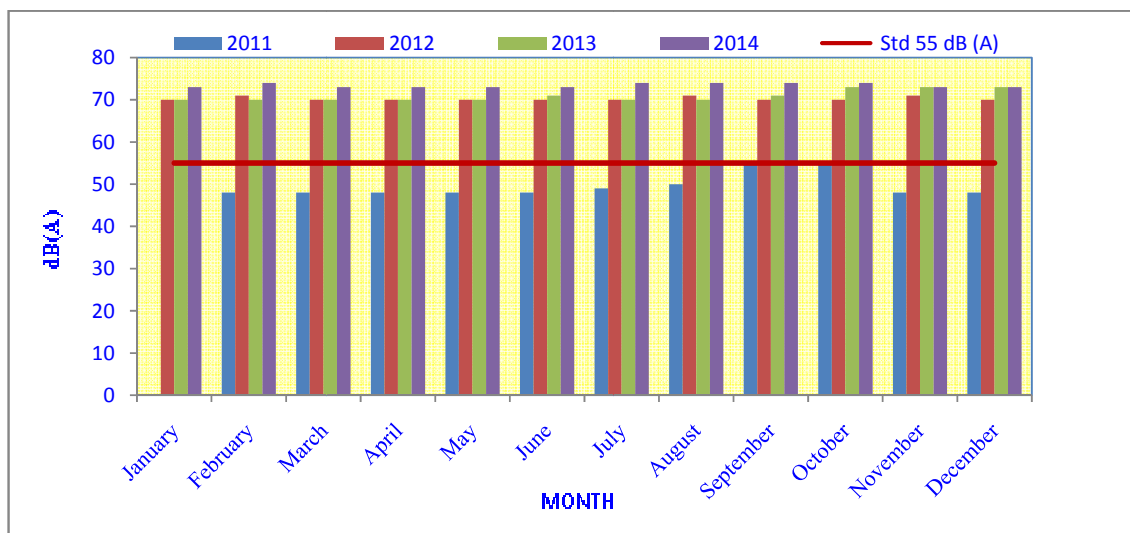


Figure 9: Night Time Ambient Noise levels in Punjagutta

Prevention and Control of Noise Pollution

Do's	Don'ts
Always maintain your motor vehicle and its exhaust silencer in proper condition	Avoid using horns except at emergencies.
Ensure that your Diesel Generator Set is provided with acoustic enclosure which gives a reduction of a minimum 25 dBA (as per the provisions of the Govt. of India notification GSR 371(E), dated May 17,2002.	Avoid use of multi toned/air horns in your vehicle.
Ask for copy of valid type approval certificate from the dealer while purchasing portable petrol/kerosene generator sets (as per Govt. of India notification viz. GSR 742(E), dated September 25, 2000, which prescribes noise standards for petrol/kerosene generator sets).	Do not install Diesel Generator Sets without prior approval of the competent authority, if required by local laws
Keep the volume of the loudspeaker or sound amplification system low so as not to annoy your neighbors .	Avoid use of loudspeaker in the open.
Ensure that the sound from your music system is played at volume which does not disturb your neighbor.	Do not use loudspeaker or any sound amplification system between 10:00 P.M. and 6:00 A.M., except in closed premises.
Play fire-crackers only outdoors in large open areas and community level.	Do not make your neighbor a captive listener to your music system.
Purchase only those fire-crackers that comply the noise standards as provided by the Govt. of India regulation GSR 682(E), dated October 5, 1999.	Do not play fire-crackers between 10:00 P.M. to 6:00 A.M.

Source: CPCB web site

References:

1. Concha. Barrientos, M.Campbell – Lendrum, D. and Steenland, K 2004. Occupational Noise, Assessing the Burden of Disease from work – Related Hearing Impairment at National and local levels. Environmental Burden of Disease Series, No.9, world Health Organization Protection of the Human Environment , Geneva: 1.
2. Ravindra . K , Mor S. , Kaushik CP. 2003 Short term variation in air quality associated with fire work events: a case study J. Env. Monit. S; 260 – 264.
3. Chirag Verma and Dhananjay K. Deshmukh . 2014 The ambient and noise quality in India during diwali festival : A Review. Recent Research in Science and Technology 2014, 6 (1); 203- 210.