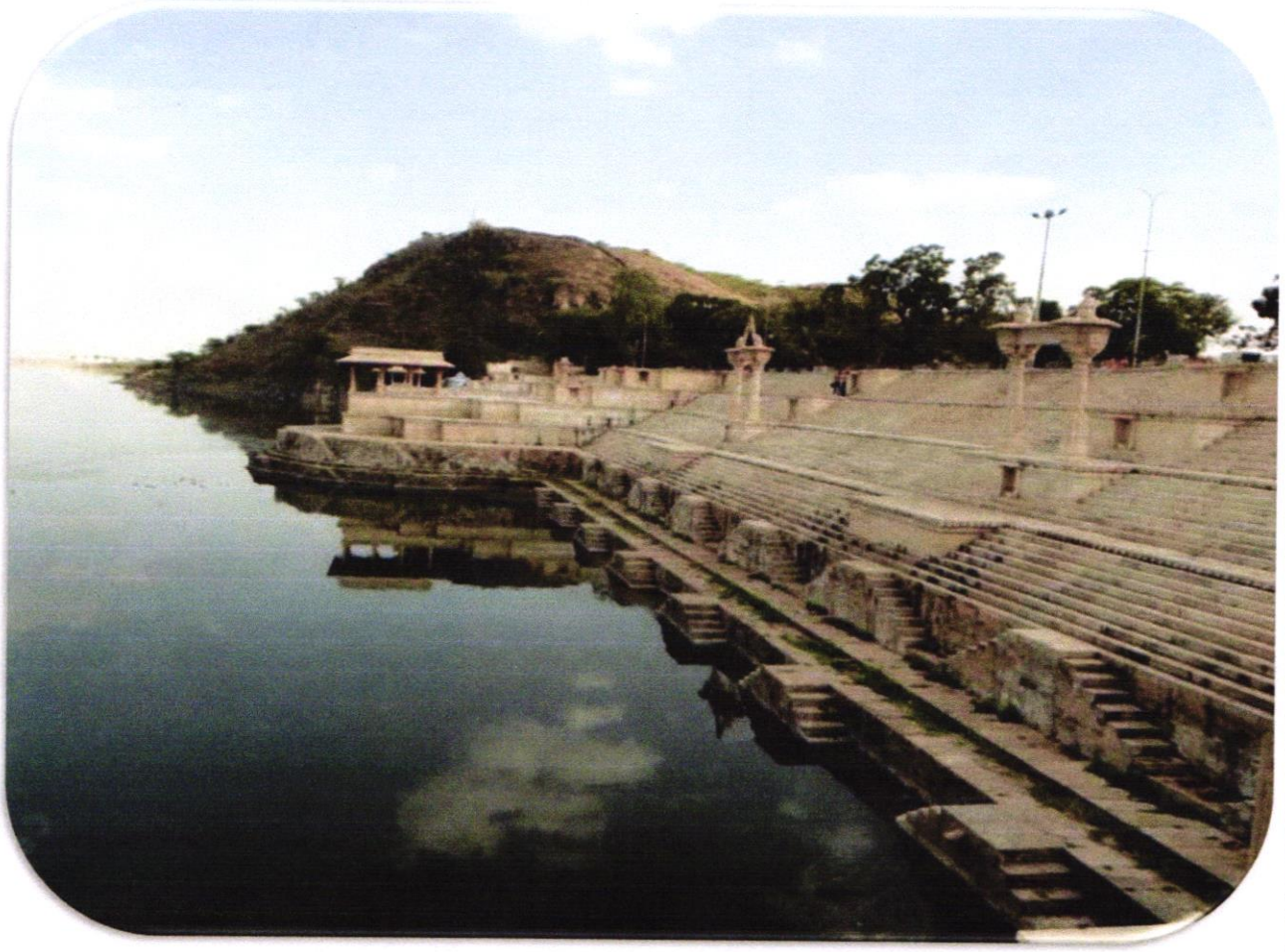
Status of Noise Level in Rajsamand City (From January to June, 2025)



Rajasthan State Pollution Control Board

INTRODUCTION :-

Sound is such a common part of everyday life that we rarely appreciate all of its functions. It provides enjoy-able experiences such as listening to music or to the singing of birds. It can alert or warn us for example with the ringing of a telephone, or a wailing siren. Sound canbe heard underwater too, just as in air. Whales are familiar with this and communicate with one another. Dolphins too have complex system of communication.

A sound source radiates power and this result in a sound pressure. Sound power is the cause. Sound pressure is the effect. An electric heater radiates heat into a room and temperature is the effect. Temperature is also the physical quantity that makes us feel hot or cold. The temperature in the room is obviously dependent on the room itself, the insulation, and whether other sources of heat are present. The relationship between sound power and sound pressure is similar. What we hear is sound pressure but it is caused by the sound power emitted from the source. The sound pressure that we hear, or measure with a microphone is dependent on the distance from the source and acoustic environment (or sound field) in which sound waves are present. This is in turn depends on the size of the room and the sound absorption of the surfaces. Sound may be defined as any pressure variation (in air, water or other medium) that human ear can detect. If variation in atmospheric pressure occur more rapidly i.e at least 20 times a second, then it can be heard and hence are called sound. Sound travels as small waves of pressure through air at a speed of about 740 miles per hour and what we hear are sound waves provided by vibrations of air molecules.

The word "noise" descends from the Latin word "nausea," meaning seasickness, or, more generally, any similar sensation of disgust, annoyance, or discomfort.

Noise is usually defined as unwanted sound pollutant which produces undesirable physiological and psychological effects in an individual, by interfering with one's social activities like work, rest, recreation, sleep etc. A sound might be unwanted because it is:

- Loud
- Unpleasant or annoying
- Intrusive or distracting

Usually the sound of a violin is referred to as music - is something pleasing. Depending on other factors, the sound may be perceived as noise.

Noise perception is subjective. Factors such as the magnitude, characteristics, duration, and time of occurrence may affect one's subjective impression of the noise. Noise is also considered a mixture of many different sound frequencies at high decibel levels.

Noise pollution refers to sounds in the environment that are caused by humans and that threaten the health or welfare of human or animal inhabitants.

The most common source of noise pollution by far, the one that affects the most people on the planet is motor vehicles. Aircraft and industrial machinery are also major sources. Additional noise pollution is contributedby office machines, sirens, power tools, and other equipment.

The response of ear to sound is very dependent on the frequency content of the sound. The ear has a peak response around 2.5 – 3 kHz and has a relatively low response at low frequencies.

Noise Rules

Central Government notified the Noise Pollution (Regulation and Control) Rules, 2000 as it ispublished in the Gazette of India, Extraordinary, Part-II –section 3(ii), vide S.O 123 (E) dated 14.2.2000 (amendment till 2017). In reference to abovementioned rules following responsibilities are vested with State Governments, District Magistrate, Police Commissioner, or any other officer not below the rank of Deputy Superintendent of Police:

1. Enforcement of Noise Pollution control measures and the due compliance of ambient air quality standards in respect of noise.
2. Restriction on the use of Loud Speakers/Public Address system.
3. Restriction on the use of Horns, Sound emitting construction equipment and bursting of Fire crackers.
4. Prohibition of continuance Music Sound or Noise.
5. Authority shall act on the complaint and take action against the violator in accordancewith the provisions of rules.
6. Disallowing sound producing instrument after 10 p.m to 6 a.m except in closed premises.
7. State Government may permit loud speakers or public address system in night hours(between 10.00 p.m. to 12.00 midnight) not exceeding 15 days in year.

Area Code	Category of Area/ Zone	Limit in dB(A) Leq*	
		Day Time	Night Time
A	Industrial Area	75.0	70.0
B	Commercial Area	65.0	55.0
C	Residential Area	55.0	45.0
D	Silence Zone	50.0	40.0

Ambient Air Quality Standards in Respect of Noise is notified under Noise Pollution (Regulation and Control) Rules, 2000.

Note:

1. Day time shall mean from 6 AM to 10 PM
2. Night time shall mean from 10 PM to 6 AM
3. Silence Zone is defined as areas up to 100 meters around such premises as hospitals, educational institutes and courts. The Silence Zones are to bedeclared by competent authority.
4. Mixed categories of areas may be declared as one of the four above mentioned categories by the competent authority.

*dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A which is relatable to human hearing.

A "decibel" is a unit in which noise is measured.

"A", in dB (A) Leq, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear.

Leq: It is energy mean of the noise level over a specific period.

Status of Noise Level in Rajsamand City (From January to June, 2025)

Background

In order to assess the impact of predominating Noise Level in Rajsamand City, Rajasthan State Pollution Control Board conducts study on Noise Level Monitoring in Rajsamand City at 4 different stations throughout the year. This report is compilation of results and observations of the study conducted from January to June, 2025.

The Noise level monitoring was conducted day time (6.00 AM to 10.00 PM) and night time (10.00 PM to 6.00 AM) for half hour interval at each location with sampling frequency of one second.

Monitoring Locations

In order to maintain uniformity in monitoring Residential, Commercial, Industrial and Silence Zone were selected in respect of Noise Standards prescribed under the provisions of Noise Pollution (Regulation & Control) Rules, 2000. The monitoring network consisted of a total of 4 monitoring locations in Rajsamand City.

Table :1 Monitoring Locations of Rajsamand City

S. No.	Details of Monitoring Locations in Rajsamand City	Category of Area/Zone	Latitude	Longitude
1.	Bus Stand	Commercial	25.055346	73.890231
2.	R.K. Hospital	Silence	25.023699	73.883896
3.	Vidya Niketan Sec. School, Krishna Nagar	Silence	25.063656	73.905148
4.	RIICO Industrial Area, Dhoinda	Industrial	25.035075	73.867658
5.	Kalal Wati Rajnagar	Residential	25.065317	73.873319

Monitoring Results

The comparative statement of noise level monitoring conducted in Rajsamand City is depicted below:-

Table :2 Comparative Statement of Noise Level Monitoring

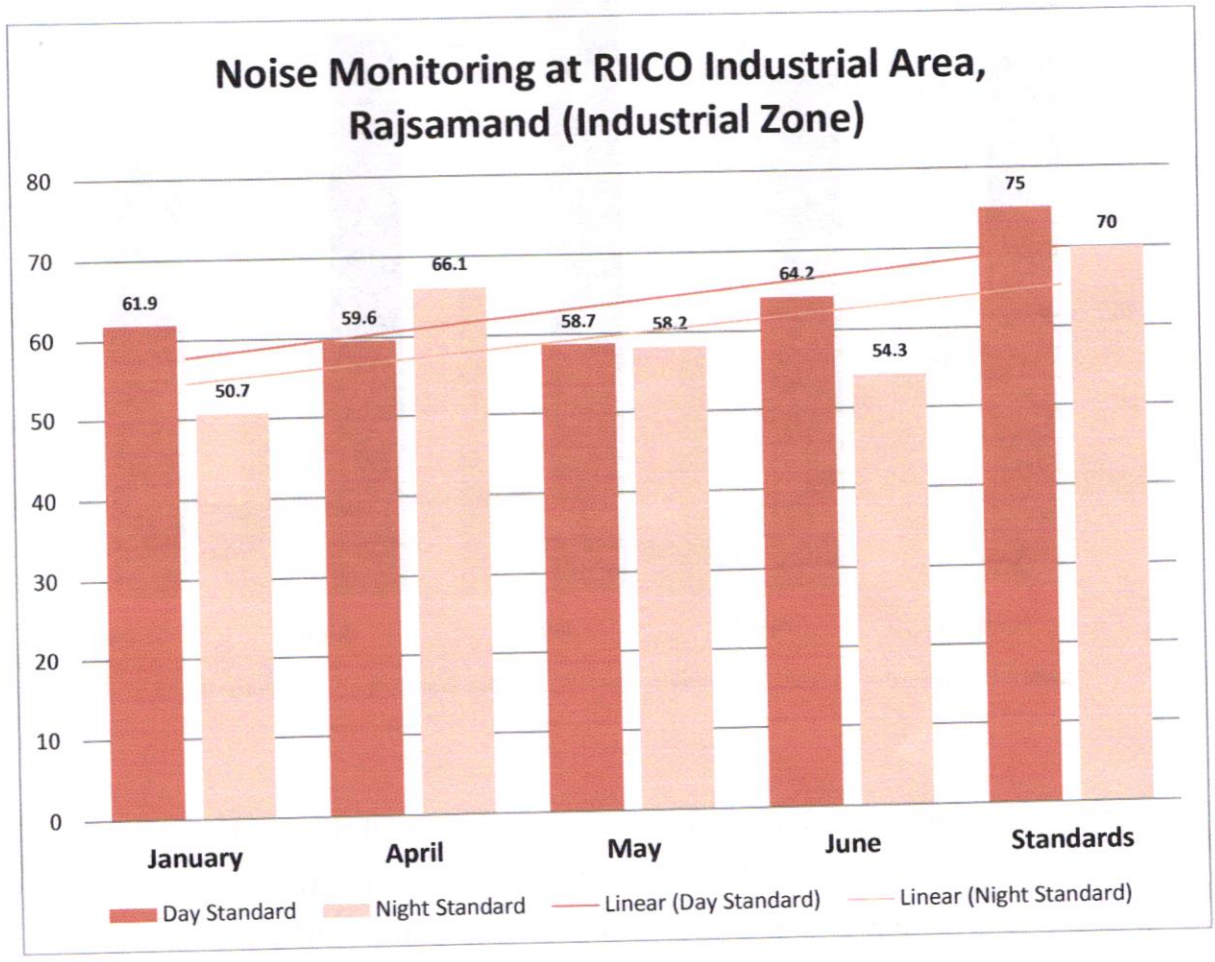
Monitoring Period 2025	Monitoring Locations									
	RIICO industrial area (Industrial)		Kalal wati rajnagar (Residential)		Bus stand (Commercial)		R.K. Hospital (Silence)		Vidya Niketan sec. school, krishna nagar (Silence)	
	Day	Night	Day	Night	Day	Night	Day	Night	Day	Night
January	61.9	50.7	64.5	52.3	63.5	69.6	59.9	72.2	34.4	65.6
February	-	-	-	-	-	-	-	-	-	-
March	-	-	-	-	-	-	-	-	-	-
April	59.6	66.1	56.8	59.7	70.6	73	59.2	53.6	56.2	54.7
May	58.7	58.2	66.0	66.2	60.7	54.6	59.1	56.7	53.1	56.9
June	64.2	54.3	61.7	52.0	71.2	59.7	63.8	57.3	71.0	54.2
Standards	***75.0***	***70.0***	***55.0***	***45.0***	***65.0***	***55.0***	***50.0***	***40.0***	***50.0***	***40.0***

Note: - In the month of February & March ambient noise monitoring was not carried out.

All values are in Leq. dB(A)

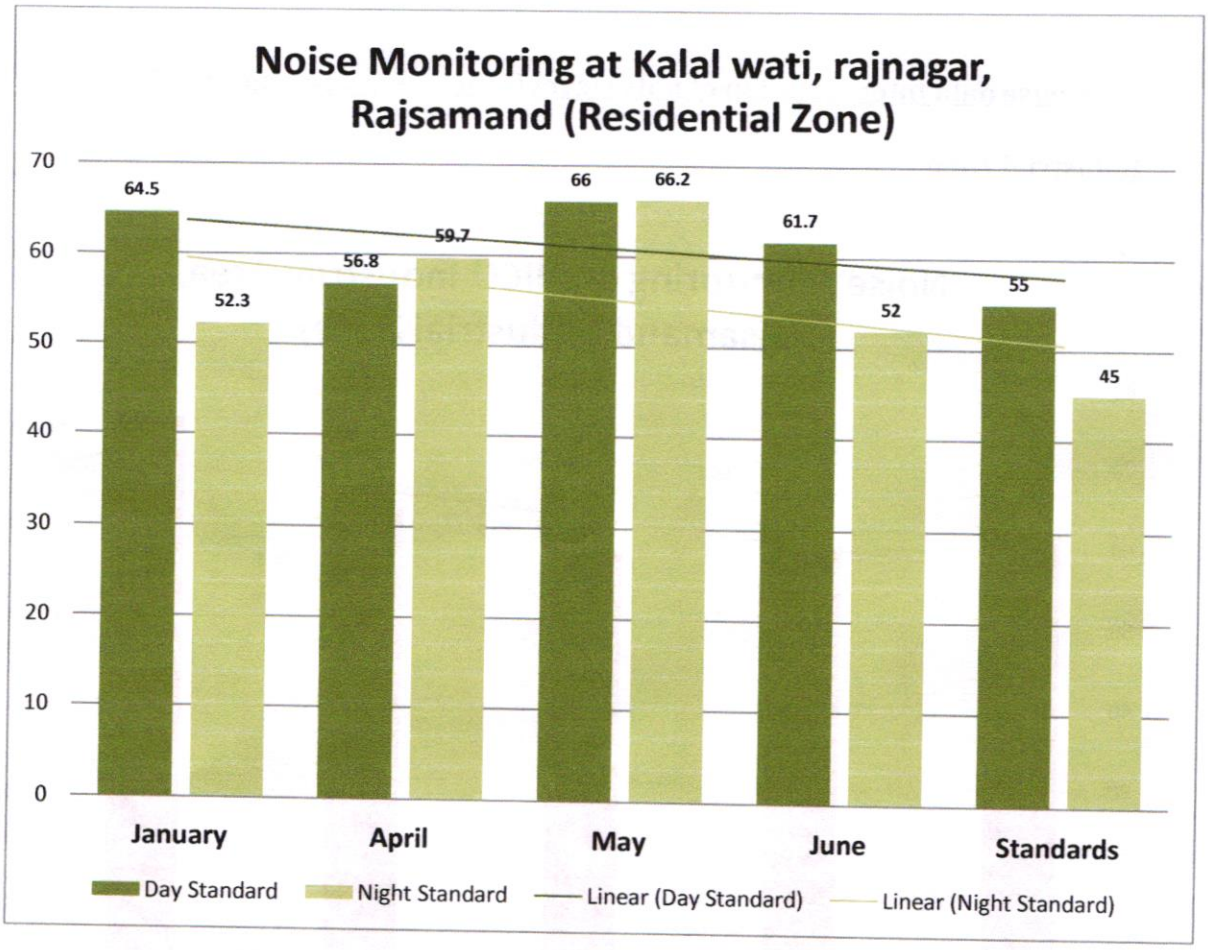
Zone wise data interpretation of noise level from January to June, 2025

Industrial Zone



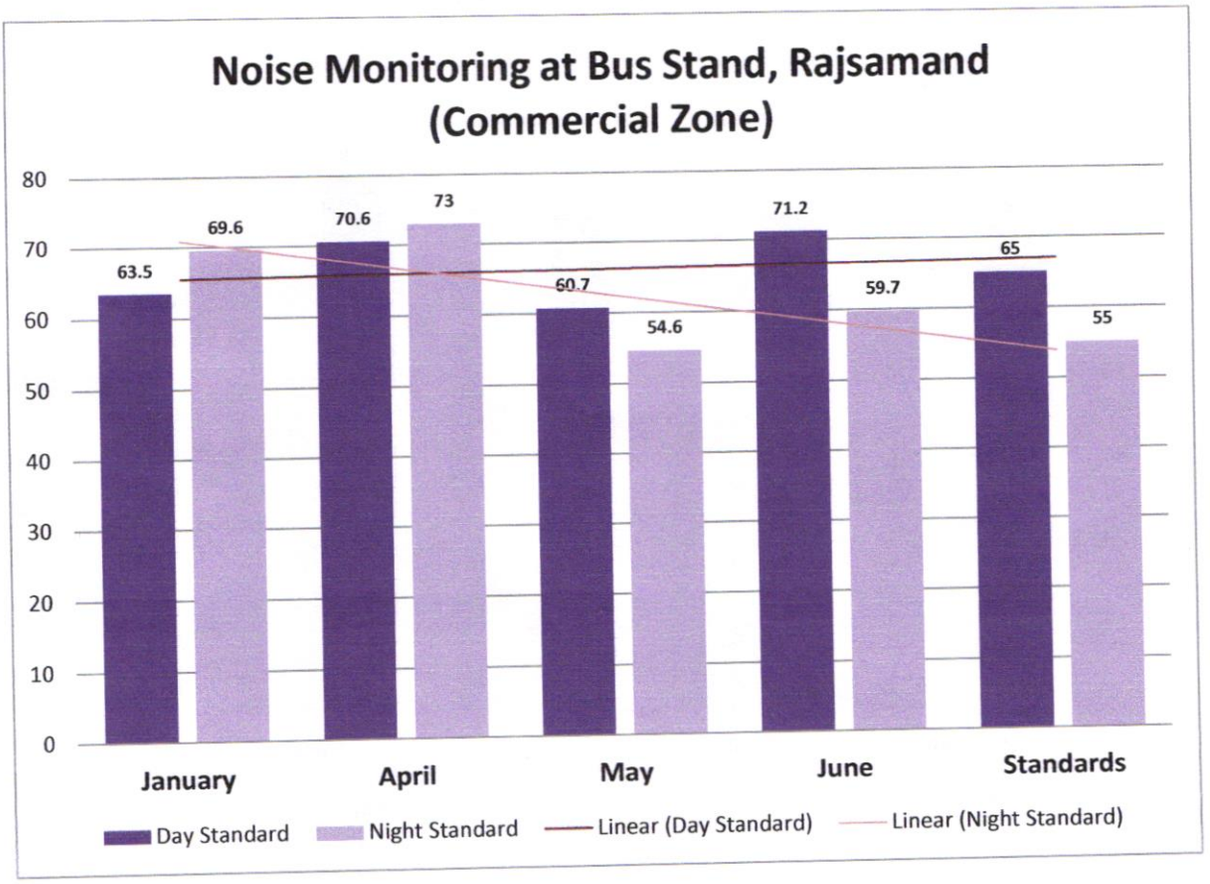
In industrial zone sound level ranges from 58.7 to 64.2 dB (A) during day time and 50.7 to 66.1 dB (A) during night time. **All the results were found within prescribed limit during day & night from January to June 2025.**

Residential Zone



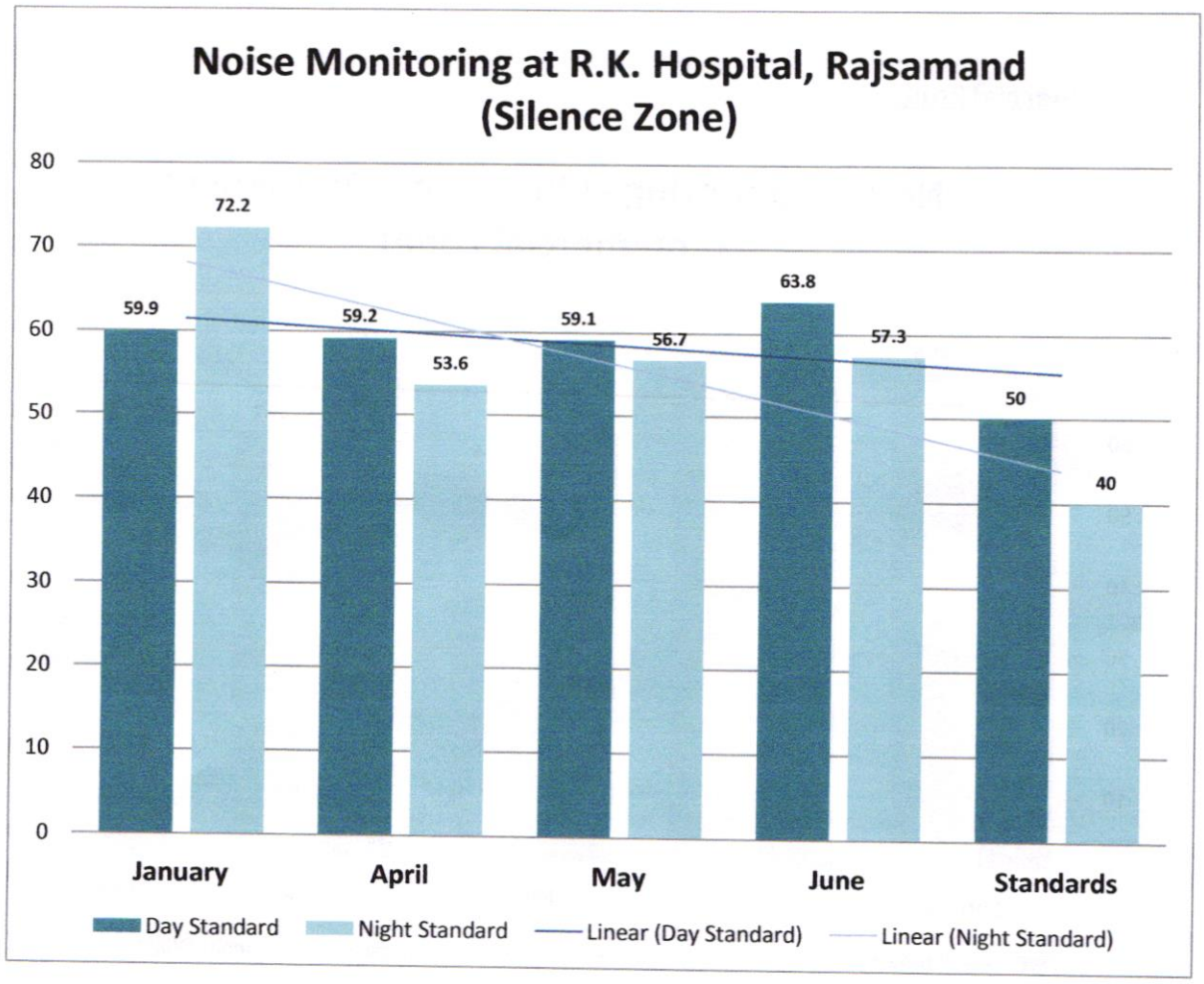
In residential zone sound level ranges from 56.8 to 66.0 dB (A) during day time and 52.0 to 66.2 dB (A) during night time. **100% exceedance of prescribed standards was observed during day and night time from January to June 2025.**

Commercial Zone



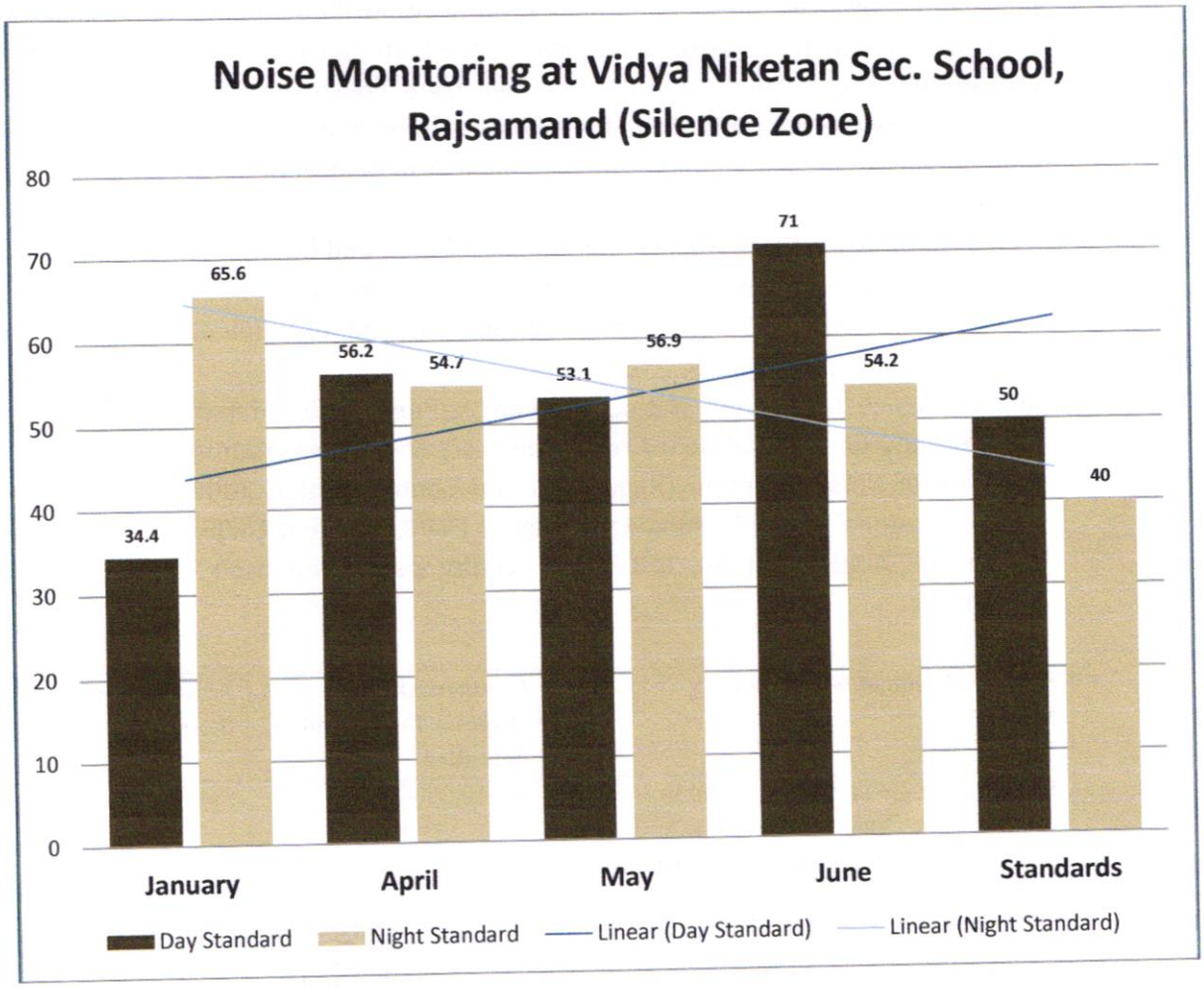
In commercial zone sound level ranges from 60.7 to 71.2 dB (A) during day time and 54.6 to 73.0 dB (A) during night time. **100% exceedance of prescribed standards was observed during day and night time from January to June 2025, except in May during day time 60.7 dB (A) & night time 54.6 dB (A) & January during day time 63.5 dB (A) result were found within the prescribed limit.**

Silence Zone



In silence zone sound level ranges from 59.1 to 63.8 dB (A) during day time and 53.6 to 72.2 dB (A) during night time. **100% exceedance of prescribed standards was observed during day and night time from January to June 2025.**

Silence Zone



In silence zone sound level ranges from 34.4 to 71.0 dB (A) during day time and 54.2 to 65.6 dB (A) during night time. **100% exceedance of prescribed standards was observed during day and night time from January to June, 2025.**

RECOMMENDATIONS:-

1. As per point No. 4 (2) of Noise Pollution (Regulation and Control) Amendments Rules, 2017, the authority shall be responsible for the enforcement of noise pollution control measures and the due compliance of the ambient air quality standards in respect of noise and "Authority" means and includes any authority or officer authorised by the Central Government, or as the case may be, the State Government in accordance with the laws in force and includes a District Magistrate, Police Commissioner, or any other officer not below the rank of the Deputy Superintendent of Police designated for the maintenance of the ambient air quality standards in respect of noise under any law for the time being in force.
2. As per point No. 3 (2) of Noise Pollution (Regulation and Control) Amendments Rules, 2017 State Government shall categorize the areas into industrial, commercial, residential or silence areas/zones for the purpose of implementation of noise standards for different areas.
3. In compliance to Hon'ble National Green Tribunal order dated 15/03/2019 and Central Pollution Control Board report on Scale of Compensation to be recovered for violation of Noise Pollution (Regulation and Control) Rules, 2000 in compliance to Hon'ble National Green Tribunal Order dated 15.03.2019 and 16.08.2019 in the matter of Original Application No. 681/2018 penalty can be imposed by the designated authorities.

S. No.	**Violation of Noise Rules**	**Compensation (in Rupees) to be paid by defaulter**	**Action to be taken by designated authority**
1.	Use of Loud Speakers/ Public Address System (Clause 5(1)- 5(2), 6 (I, ii, iii and v)[1-5] *Clauses are mentioned in annexure-VII	Rs. 10,000	Seizure
2.	Violation *w.r.t. Generator Sets Norms (Standards) attached as Annexure- IV to VI*		
a)	DG sets more than 1000 KVA	Rs. 1,00,000	Sealing of DG sets
b)	DG set to 62.5 to 1000 KVA	Rs. 25,000	
c)	DG set up to 62.5 KVA	Rs. 10,000	
3.	Violation of use of sound emitting construction equipments	Rs. 50,000	Seizure/ Sealing of Equipment
4.	Bursting of Firecrackers beyond THE PRESCRIBED TIME LIMIT (Hon'ble Supreme Court and Clause 5A (2) and (iv) [7-8]	Rs. 1000	

4. Encroachment of roads leads to traffic congestion and create vehicular noise pollution. It is advisable that concerned authorities remove illegal encroachment. This should be ensured by local authorities.
5. Vegetation buffer zone and road side plantation should be developed in different

parts of the city. This should be ensured by local authorities.

6. Mitigation measures using sound proofing/acoustic planning for banquets hall and public gathering places shall be used and condition be incorporated by local authorities while giving permission for construction.
7. Residential colonies should be constructed with such an architectural design as to reduce the level of noise reverberation. This should be ensured by local authorities.
8. Horns shall not be used near silence zone like hospitals, institutional area and schools and boards should be installed by concerning department.
9. Silting of music system in controlled environment so that said particular location meet the desired ambient standards for specific zone and SHO Police to ensure the same in area under their jurisdiction.
10. It may be noted that the noise standards for fire-crackers were notified by the Environment (Protection) (Second Amendment) Rules, 1999 vide G.S.R.682(E), dated the 5th October, 1999 and inserted as serial no. 89 of Schedule I of the Environment (Protection) Rules, 1986. Subsequently these Rules were amended by the Environment (Protection) Second Amendment Rules, 2006 vide G.S.R. 640(E), dated the 16th October, 2006, under the Environment (Protection) Act, 1986) *"The manufacture, sale or use of fire-crackers generating noise levels exceeding 125 dB(AI) or 145 dB(C) pk at 4 m distance from the point of bursting shall be prohibited. "For individual fire-crackers constituting the series (joined Fire Crackers), the above-mentioned limit may be reduced by 5 log 10(N) dB, where N is the number of crackers joined together. It indicates that the use of the same is allowed if the noise pollution is less than 125 dB.*

    It can be easily visualized that the fire-crackers are used in residential as well as commercial areas then the ambient noise quality permissible limits are bound to be non-complied. Moreover, the effect of the same shall persist for a long distance thus violating the noise standards at a faraway place too.

    In the same matter regarding the use of loudspeakers, in the report of CPCB on *"Scale of compensation to be recovered for violation of noise pollution (Regulation and control) rules, 2000"* submitted in compliance to Hon'ble National Green Tribunal order dated 15.03.2019 and 06.08.2019 in the matter of O.A. No. 681/2018 titled "Time of India" authored by Shri Vishwa Mohan Titled "NCAP with multiple timelines to clean air in 102 cities to be released around August 15", in section no. 4(ii) it has been specifically mentioned under **"Limitation of noise rules with respect to loudspeaker"** that *"In order to verify compliance, ambient noise monitoring is to be carried out for 16 hours (day time) and violation is to be source of noise cannot be identified due to background noise. Further as impact of the noise source duration o which mostly varies from a few seconds to few seconds to few minutes sets leveled when monitoring or long duration (16 hours) is carried out."*

    So it is evident that he CPCB has itself mentioned that the limitation of noise rules with respect to loud speakers and it is the need of the hour that specific guidelines be framed for same specifically mentioning the duration noise pollution monitoring to be carried out in such circumstances. It is also submitted that

operation of loudspeakers, bursting of fire-crackers, blowing of horns etc all are having noise level much more than the prescribed limit in day period and therefore, the ambient noise standard are bound to increase in such circumstances and CPCB should develop a special protocol for dealing with complaints of bursting of fire-crackers, barat processions, horns and loudspeakers which shall be mandatory to follow and shall be followed. CPCB should also take up a study of a model city which is free from noise pollution and recommend measures to be incorporated here too and should also give the comment regarding measurement of noise pollution from a point source eliminating other such sources.

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