जहाँ है हरियाली।
वहाँ है खुशहाली।।

NOISE Pollution

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ENVIS Newsletter

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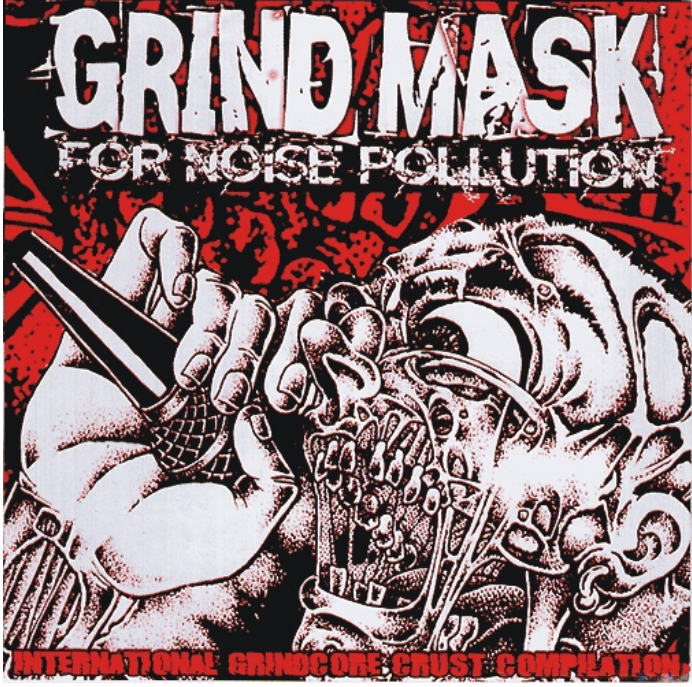
Introduction



The word noise is derived from the Latin term nausea meaning seasickness. We daily come across many sounds including peaceful music and loud unpleasant noise. Sometimes it becomes quite difficult to differentiate between music and noise as music of one can be noise to others. Any sound that is unbearable to hear comes to be known as Noise.

Noise is unwanted sound. Sound is a form of mechanical energy caused by the vibration of the air. When sound vibrations reach the listener they are detected by a delicate mechanism in the inner ear and perceived as sound by the brain. Sound has three principal characteristics: frequency, amplitude and time pattern. Frequency is perceived as pitch. It is the rate at which the sound waves are vibrating. A high-pitched sound is one with a high frequency. Frequency is usually measured in cycles per second, or Hertz. Normal speech is in the 250 to 4,000 Hertz range. Amplitude is perceived as loudness. It is the strength of the sound signal being received. The human ear is responsive to a very wide range of sounds. Amplitude is measured in decibels (dB). A decibel is one-tenth of a bel. Time pattern refers to the continuity and fluctuation of a sound. Continuous noise is that produced constantly. Impulse noise consists of separate pulses, which may or may not repeat a pattern and can have higher and

SOUND INTENSITY

SOUND SOURCE	LINEAR Bel	UNITS LOGARITHMIC	
		UNITS	Decibel
Lowest limit of hearing	1	0	0
Rustling leaf	10	1	10
Quiet farm setting	100	2	20
Whisper	1,000	3	30
Dripping faucet	10,000	4	40
Low conversation	100,000	5	50
Ordinary conversation	1,000,000	6	60
Idling car	10,000,000	7	70
Silenced compressor	100,000,000	8	80
Backhoe	1,000,000,000	9	90
Unsilenced compressor	10,000,000,000	10	100
Rock drill	100,000,000,000	11	110
Pile driver*	1,000,000,000,000	12	120
Rivet gun*	10,000,000,000,000	13	130
Explosive-actuated tool*	100,000,000,000,000	14	140

*Intermittent or "impulse" sound

Source: Construction Safety Association of Ontario, Hearing Protection for the Construction Industry, 1985, page 3

Sources of noise:

Broadly speaking, the noise pollution has two sources, i.e. industrial and non- industrial. The industrial source includes the noise from various industries and big machines working at a very high speed and high noise intensity. Non- industrial source of noise includes the noise created by transport/vehicular traffic and the neighborhood. 1. Road Traffic Noise:- Traffic noise is the main source of noise pollution caused in urban areas. With the ever-increasing number of vehicles on road, the sound caused by the cars and exhaust system of autos, trucks, buses and motorcycles is the chief reason for noise pollution.

2. Air Craft Noise:

Now-a-days, the problem of low flying military aircraft has added a new dimension to community annoyance. With the low flying military aircrafts soaring over the national parks, wasteland and other vacant areas, the level of noise pollution has drastically increased in these previously unaffected zones.

3. Noise from railroads:

People living beside railway stations put up with a lot of noise from locomotive engines, horns and whistles and switching and shunting operation in rail yards. This is one of the major sources of noise pollution.

4. Construction Noise:

To meet the demands of the basic necessity of living, the construction of buildings, highways and city streets causes a lot of noise. Pneumatic hammers, air compressors, bulldozers, loaders, dump trucks and pavement breakers are the major sources of noise pollution in construction sites...

5. Noise in Industry:

Though not a prime reason, industrial noise adds to the noise pollution. Machinery, motors and compressors used in the industries create a lot of noise which adds to the already detrimental state of noise pollution.

6. Noise in building:

Apartment dwellers are often annoyed by noise in their homes, especially when the building is not well designed and constructed. In this case, internal building noise from plumbing, boilers, generators, air conditioners, and fans, can be audible and annoying. Improperly insulated walls and ceilings can reveal the sound of-amplified music, voices, footfalls and noisy activities from neighboring units.

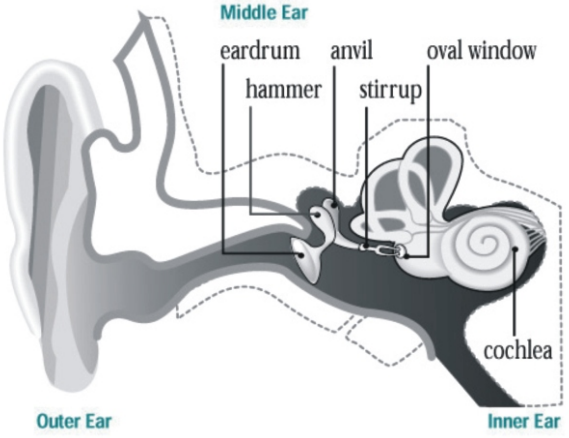
7. Noise from Consumer products:

Certain household equipment, such as vacuum cleaners and some kitchen appliances have been and continue to be noisemakers, although their contribution to the daily noise dose is usually not very large.

Noise Pollution:

Noise Pollution is defined as unwanted sound, a potential hazard to health and communication dumped into the environment with regard to the adverse effect it may have on unwilling ears. In other words, Noise pollution is unwanted human-created sound that disrupts the environment.

Noise pollution (or environmental noise) is displeasing human, animal or machine-created sound that disrupts the activity or balance of human or animal life.



Health Effect of Noise

Excessive noise has the potential to impair hearing, or even destroy it. Noise may also put stress on other parts of the body causing the abnormal secretion of hormones, the tensing of muscles and other health effects. Sleeplessness and fatigue are among the symptoms. Noise also interferes with

including job performance and safety. The specific health effects depend on the type of noise involved and the duration of the exposure. To help understand these effects, it will be useful to briefly review the hearing mechanism. Hearing begins when the outer ear collects and funnels sound waves to the eardrum through the pinna canal. The eardrum vibrates as it receives the sound waves. The vibrations are transmitted through three small bones: the hammer, the anvil and the stirrup in the middle ear.

The middle ear acts as an amplifier. The stirrup sit3s on the end of a flexible membrane called the oval window. The oval window separates the middle ear from the inner ear, which contains the hearing organs.

Hearing Loss

Reduction in the normal ability to hear is known as Hearing Loss. A hearing loss can be temporary or permanent and it might be partial or total. Immediate and permanent damage to the ear can result from acoustic trauma when a person is exposed to a sudden and excessive noise, such as an explosion. This can cause damage to the delicate tissues of the middle ear.

Threshold Shift

A threshold shift is the loss of a person's ability to hear higher frequency sounds. It results from damage to the cochlea. The tiny hairs of this organ, or the nerves they are connected to, can be damaged by prolonged exposure to noise. An example of a temporary threshold shift might be a worker who has to turn up the volume on the car radio on the way home from work. The sound level that was adequate on the way to work in the morning is now difficult to hear.

Decreases the efficiency of a man:

Regarding the impact of noise on human efficiency there are number of experiments which print out the fact that human efficiency increases with noise reduction.. Thus human efficiency is related with noise.

Lack of concentration:

For better quality of work there should be concentration , Noise causes lack of concentration. In big cities , mostly all the offices are on main road. The noise of traffic or the loud speakers of different types of horns divert the attention of the people working in offices.

Fatigue:

Because of Noise Pollution, people cannot concentrate on their work. Thus they have to give their more time for completing the work and they feel tiring

Abortion is caused:

There should be cool and calm atmosphere during the pregnancy. Unpleasant sounds make a lady of irritative nature. Sudden Noise causes abortion in females.

It causes Blood Pressure:

Noise Pollution causes certain diseases in human. It attacks on the person's peace of mind. The noises are recognized as major contributing factors in accelerating the already existing tensions of modern living. These tensions result in certain disease like blood pressure or mental illness etc.

Temporary of permanent Deafness:

The effect of nose on audition is well recognized. Mechanics , locomotive drivers, telephone operators etc. All have their hearing . Impairment as a result of noise at the place of work. Physicist,

physicians & psychologists are of the view that continued exposure to noise level above. 80 to 100 db is unsafe, Loud noise causes temporary or permanent deafness.

EFFECT ON VEGETATION Poor quality of Crops:

Now is well known to all that plants are similar to human being. They are also as sensitive as man. There should be cool & peaceful environment for their better growth. Noise pollution causes poor quality of crops in a pleasant atmosphere.

EFFECT ON ANIMAL:

Noise pollution damage the nervous system of animal. Animal looses the control of its mind. They become dangerous.

EFFECT ON PROPERTY:

Loud noise is very dangerous to buildings, bridges and monuments. It creates waves which struck the walls and put the building in danger condition. It weakens the edifice of buildings.

Noise Monitoring Devices

ASSESSING NOISE EXPOSURE

A workplace inspection will usually reveal any areas with high noise levels. A sound level meter consists of a microphone, an amplifier and an indicator gauge. Standard meters incorporate three different weighting systems, to approximate the varying response of the human ear to various frequencies. An "A" weighted sound level, or dBA, comes the closest to approximating human responses. The action of the meter can be adjusted to "fast" or "slow". A slow setting averages intermittent or variable sounds. The sound level meter needs to be calibrated regularly, preferably before and after each use. This ensures the accuracy of the sound measuring equipment.

Noise Dosimeter

Frequency Analyzers

When designing noise control devices it is important to know the frequency distribution of the noise. Different sound-absorbing materials work best in specific frequency ranges. An octave band or frequency analyzer is used to provide this information. It may also be used to determine a source of noise. .

Survey Techniques

A noise exposure survey is a systematic approach to measuring noise level exposures in the workplace. CSA Standard Z107.56-M1986 provides information on methods of taking and interpreting sound measurements. Readings of sound level, duration and time pattern are required. They are taken at locations where workers may be exposed. Sound level readings are usually taken first to get an overall picture of where noise is generated. Then, if needed, dosimeter may also be carried out. It is essential that equipment be properly calibrated and operated by qualified persons. Professional consultants are usually brought in to conduct an assessment.

CONTROLLING NOISE

Noise can be controlled at the source, along the path or at the worker. At the source, equipment may be replaced by quieter models, or less noisy work procedures can be adopted. In general, less friction and vibration mean less Maintenance procedures such as lubrication may sometimes reduce noise by reducing friction. Equipment can sometimes be modified to reduce the amount of noise that is generated. Sound-absorbing material may be attached to the noise source. Or the frequency of the noise may be shifted to one that is less hazardous. Noise can often be controlled along the path to the worker with the use of sound-absorbing paneling on walls or ceilings, and enclosures around noisy machinery. Controls at the worker include both administrative controls and personal protective equipment. Administrative controls modify how the work is carried out. The time employees spend in noisy areas may be reduced. Workers in noisy areas may be rotated to less noisy areas. Noisy operations may be conducted outside normal working hours to reduce the number of people exposed. Where noise exposures cannot be reduced by other methods, hearing protection is required. This includes ear plugs and ear muffs. Hearing protection devices must be properly fitted and must be appropriate for the level, frequency and duration of the noise involved. CSA Standard Z94.2-M1984 provides guidelines for selecting and using hearing protection. Everyone in the workplace should wear hearing protection when the sound level is greater than 90 dBA for any period of time.

VIBRATION

Vibration is a rapid alternating or reciprocating motion. It can affect all or part of the body. For example, driving a tractor over bumpy roads in a poorly designed seat vibrates the entire body. Prolonged use of a vibrating hand tool can affect the hands and arms.

HEALTH EFFECT OF VIBRATION

The energy from vibration is absorbed by the tissues and organs of the body. Whole body vibration can lead to lower back pain. Hand-arm vibration causes damage to blood vessels, impairing circulation in the hand. This leads to a condition known as white finger, or Reynaud's phenomenon. When exposed to cold, the hands appear to be mildly frostbitten. The damage can progress to the point where it disables the victim. White finger disease is most common among operators of air hammers, air chisels and chain saws.

VIBRATION MONITORING

The evaluation of exposure to vibration is very technical. In general, the harm caused by vibration increases with its strength and with the duration of exposure. Exposure values have only recently been developed, and are intended primarily for use by experts equipped with sophisticated equipment. Certified members can make a preliminary assessment of vibration problems by talking with workers and observing the work. For example, the workplace floor may vibrate. Workers who use hand tools may report problems with their hands. A vibration specialist might be consulted to obtain a more accurate assessment of the problem.

2. Existing Rules & Standards for Noise Pollution Control

2.1 Regulations

Environmental noise regulations usually specify a maximum outdoor noise level of 60 to 65 dB(A), while occupational safety organizations recommend that the maximum exposure to noise is 40 hours per week at 85 to 90 dB(A). For every additional 3 dB(A), the maximum exposure time is reduced by a factor 2, e.g. 20 hours per week at 88 dB(A). Sometimes, a factor of two per additional 5 dB(A) is used. However, these occupational regulations are acknowledged by the health literature as inadequate to protect against hearing loss and other health effects.

2.2 The Noise Pollution (Regulation and Control) Rules, 2000

1) **Short-title and commencement.**

(1) These rules may be called the-Noise Pollution (Regulation and Control) Rules, 2000.

(2) They shall come into force on the date of their publication in the Official Gazette.

2) **Definitions:** In these rules, unless the context otherwise requires,

(a) "Act" means the Environment (Protection) Act, 1986 (29 of 1986);

(b) "area/zone" means all areas which fall in either of the four categories given in the Schedule annexed to these rules;

(c) "authority" means any authority or officer authorized 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 designated for the maintenance of the ambient air quality standards in respect of noise under any law for the time being in force;

(d) "Person" in relation to any factory or premises means a person or occupier or his agent, who has control over the affairs of the factory or premises;

(e) "State Government" in relation to a Union territory means the Administrator thereof appointed under article 239 of the Constitution.

3. **Ambient air quality standards in respect of noise for different areas/zones.**

(1) The ambient air quality standards in respect of noise for different areas/zones shall be such as specified in the Schedule annexed to these rules.

(2) The State Government may categorize the areas into industrial, commercial, residential or silence areas/zones for the purpose of implementation of noise standards for different areas.

(3) The State Government shall take measures for abatement of noise including noise emanating from vehicular movements and ensure that the existing noise levels do not exceed the ambient air quality standards specified under these rules.

(4) All development authorities, local bodies and other concerned authorities while planning developmental activity or carrying out functions relating to town and country planning shall take into consideration all aspects of noise pollution as a parameter of quality of life to avoid noise

menace and to achieve the objective of maintaining the ambient air quality standards in respect of noise.

(5) An area comprising not less than 100 metres around hospitals, educational institutions and courts may be declared as silence area/zone for the purpose of these rules.

4. Responsibility as to enforcement of noise pollution control measures.

(1) The noise levels in any area/zone shall not exceed the ambient air quality standards in respect of noise as specified in the Schedule.

(2) 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.

5. Restrictions on the use of loud speakers/public address system.

(1) A loud speaker or a public address system shall not be used except after obtaining written permission from the authority.

(2) A loud speaker or a public address system shall not be used at night (between 10.00 p.m. to 6.00 a.m.) except in closed premises for communication within, e.g. auditoria, conference rooms, community halls and banquet halls.

6. Consequences of any violation in silence zone/area

Whoever, in any place covered under the silence zone/area commits any of the following offence, he shall be liable for penalty under the provisions of the Act:

(i) whoever, plays any music or uses any sound amplifiers,

(ii) whoever, beats a drum or tom-tom or blows a horn either musical or pressure, or trumpet or beats or sounds any instrument, or

(iii) whoever, exhibits any mimetic, musical or other performances of a nature to 44raq crowds.

7. Complaints to be made to the authority

(1) A person may, if the noise level exceeds the ambient noise standards by 10 dB(A) or more given in the corresponding columns against any area/zone, make a complaint to the authority.

(2) The authority shall act on the complaint and take action against the violator in accordance with the provisions of these rules and any other law in force.

8. Power to prohibit etc. continuance of music sound or noise

(1) If the authority is satisfied from the report of an officer in charge of a police station or other information received by him that it is necessary to do so in order to prevent annoyance, disturbance, discomfort or injury or risk of annoyance, disturbance, discomfort or injury to the public or to any person who dwell or occupy property on the vicinity, he may, by a written order issue such directions as he may consider necessary to any person for preventing, prohibiting, controlling or regulating:

(a) the incidence or continuance in or upon any premises of -

(i) any vocal or instrumental music,

(ii) sounds caused by playing, beating, clashing, blowing or use in any manner whatsoever of any instrument including loudspeakers, public address systems, appliance or apparatus or contrivance which is capable of producing or re-producing sound, or

(b) the carrying on in or upon, any premises of any trade, avocation or operation or process resulting in or attended with noise.

(2) The authority empowered under sub-rule (1) may, either on its own motion, or on the application of any person aggrieved by an order made under sub-

rule (1), either rescind, modify or alter any such order:

Provided that before any such application is disposed of, the said authority shall afford to the applicant an opportunity of appearing before it either in person or by a person representing him and showing cause against the order and shall, if it rejects any such application either wholly or in part, record its reasons for such rejection.

2.3 The Noise Pollution (Regulation and Control) (Amendment) Rules, 2010

1. (1) These rules may be called the Noise Pollution (Regulation and Control) (Amendment) Rules, 2010.

(2) They shall come into force on the date of their publication in the Official Gazette.

2. In the Noise Pollution (Regulation and Control) Rules, 2000, (hereinafter referred to as the said rules), in the opening portion, after the words "construction activity", the words "fire crackers, sound producing instruments" shall be inserted;

3. In the said rules, in rule 2, after clause (h), the following clauses shall be inserted, namely:-

(i) "public place" means any place to which the public have access, whether as of right or not, and includes auditorium, hotels, public waiting rooms, convention centres, public offices, shopping malls, cinema halls, educational institutions, libraries, open grounds and the like which are visited by general public; and

(j) "night time" means the period between 10.00 p.m. and 6.00 a.m.".

4. In the said rules, in rule 3, in sub- rule (3), after the words "noise emanating from vehicular movements", the words "blowing of horns, bursting of sound emitting fire crackers, use of loud speakers or public address system and sound producing instruments" shall be inserted.

5. In the said rules, in rule 5,-

(i) in the heading, after the words "PUBLIC ADDRESS SYSTEM", the words "AND SOUND PRODUCING INSTRUMENTS" shall be inserted;

(ii) for sub-rule (2), the following sub- rule shall be substituted, namely:-

(2) A loud speaker or a public address system or any sound producing instrument or a musical instrument or a sound amplifier shall not be used at night time except in closed premises for communication within, like auditoria, conference rooms, community halls, banquet halls or during a public emergency.";

(iii) In sub-rule (3),-

(a) for the words "public address systems during night hours", the words "public address system and the like during nights hours" shall be substituted;

(b) after the words "a limited duration not exceeding fifteen days in all during a calendar year.", the words "The concerned State Government shall generally specify in advance, the number and particulars of the days on which such exemption would be operative." shall be inserted;

(iv) after sub-rule 3, as so amended, the following sub-rules shall be inserted, namely:-

(4) The noise level at the boundary of the public place, where loudspeaker or public address system or any other noise source is being used shall not exceed 10 dB (A) above the ambient noise standards for the area or 75 dB (A) whichever is lower;

(5) The peripheral noise level of a privately owned sound system or a sound producing instrument shall not, at the boundary of the private place, exceed by more than 5 dB (A) the ambient noise standards specified for the area in which it is used.".

6. In the said rules, after rule 5, the following shall be inserted, namely:-

"5A. RESTRICTIONS ON THE USE

OF HORNS, SOUND EMITTING CONSTRUCTION EQUIPMENTS AND BURSTING OF FIRE CRACKERS:"

(1) No horn shall be used in silence zones or during night time in residential areas except during a public emergency.

(2) Sound emitting fire crackers shall not be burst in silence zone or during night time.

(3) Sound emitting construction equipments shall not be used or operated during night time in residential areas and silence zones.".

7. In the said rules, in rule 6, after the clause (iii), the following clauses shall be inserted, namely:

(iv) whoever, bursts sound emitting fire crackers; or

(v) whoever, uses a loud speaker or a public address system.

8. In the said rules, in rule 7, in sub-rule (1), after the words "in the corresponding columns against any area/ zone" the words "or, if there is a violation of any provision of these rules regarding restrictions imposed during night time" shall be inserted.

9. In the said rules, in rule 8, in sub-rule (1), in clause (a),-

(i) in sub-clause (ii), for the words, "public address systems, appliance or apparatus" the words "public address systems, horn, construction equipment, appliance or apparatus" shall be substituted;

(ii) after sub-clause (ii), the following sub-clause shall be inserted, namely:-

(iii) sound caused by bursting of sound emitting fire crackers, or,".

2.4 Ambient Air Quality standards in respect of Noise

Ambient noise as such include all noise within a given environment in close proximity or at a distance from the source of noise. Due to environmental impact of noise on human health or other biota (specially fauna). National standards have been prescribed for day time and night time for four types of tracts. Besides the related activities in human settlements, norms are also available for protected conservation areas.

National Ambient Noise Standards

Area Class	Day time (decibels)	Night time (decibels)
Residential	55	45
Commercial	65	55
Industrial	75	70
Silence zone	50	40

Source : Ministry of Environment and Forest, December 1981.

Day Time = 6.00 A M to 9.00 P M (15 Hours); Night Time = 9.00 P M to 6.00 P M (09 Hours); Areas up to 100 meters around certain premises like Hospitals, Educational ; Institutions and Courts may be declared as Silence Zones by the competent authority; honking of vehicle horns, use of loud speaker, bursting of crackers and hawkers' noise should be banned in these zones.;

Mixed areas should be declared as one or four aforesaid areas by the competent authority and the corresponding limit be applied.

Steps to control noise pollution:

1. The first approach has been to reduce noise at source. Design and fabrication of silencing devices and their use in aircraft engines, trucks, cars, motorcycles, industrial machines and home appliances would be an effective measure. Protection to workers can be provided through wearing devices such as earplugs and earmuffs.
2. Making a change in design and operation of machines, vibration control, sound proof cabins and sound-absorbing materials can reduce it.
3. It can get reduced by prescribing noise limits for vehicular traffic, ban on honking of horns in certain areas and planning main traffic arteries, industrial establishments, amusement areas, residential colonies, creation of silent zones near schools and hospitals and resigning of building to make

them noise proof. Other measures can involve reduction of traffic density in residential areas giving preferences to mass public transport system.

4. Control of Indoor Noise. Where outdoor noise levels have been high, the following methods can be applied for reducing their effect. a. Locate in the building as far as possible from noise source. The noise level drops about 6dB each time the distance is doubled. b. Trees and shrubs may be planted in front of building to provide some absorption for the sound. c. Locate non-critical areas such as corridors kitchens, bathrooms, elevators and service spaces in the noisy side and critical areas each as bedrooms and living spaces on the quiet side. d. Back to back bathrooms or toilets should be avoided unless they are effectively sound isolated. Bathrooms, kitchen and laundry rooms should not be adjacent to the floor. e. Bathroom walls, floor and ceiling should be sound insulated using construction of high sound insulation glasses. f. Noisy toilets, is bettered by quiet siphon jet type flush toilets should be installed to reduce the noise from the source. Commode seats with double siphon system are now available and may be adopted wherever possible.

5. Road Noise. Vegetation buffer zones must be created in different parts of the city. Efforts should be made for roadside plantations.

6. An Urgent Need for Legislation to Control Noise Pollution. We have seen that in India, in absences of a specific legislation for control and prevention of the noise pollution, one has to seek provisions in various branches of law and regulations. There has been no doubt that the available provisions in various branches of law and regulations. There has been no doubt that the available provisions in various branches of law are adequate, unscientific and crude. In most of the developed countries specific legislations have been made and scientific methods for investigation of noise pollution have been invented. The science of audiometer and other branched related to sound have been developed and it becomes comfortable to device various legal provisions to control and prevent noise pollution.

3. Noise Pollution Caused by Crackers.

Crackers that make a noise of more than 125 decibels at four meters distance from the point of bursting are banned by the law. Hazards posed by the excessive noise pollution caused by crackers:

1. Hearing loss, high blood pressure, heart attack and sleeping disturbances.
2. Sudden exposure to loud noise could cause temporary deafness or permanent relative deafness.

Bad Health Effects

- **Sound Effects:** Normal decibel level for human is 60db. An increase by 10 decibel means double the noise volume and intensity. High decibel level results in restlessness, anger, fidgetiness, impulse behavior and over-reactions to situations Most crackers used have more than 80 db noise that can cause temporary hearing loss. Noise pollution can cause hearing loss, heart attack and sleep disturbances.

Environmental Pollution Effects:

- The level of suspended particles in the air increases alarmingly during Diwali,

causing eye, noise and throat problems.

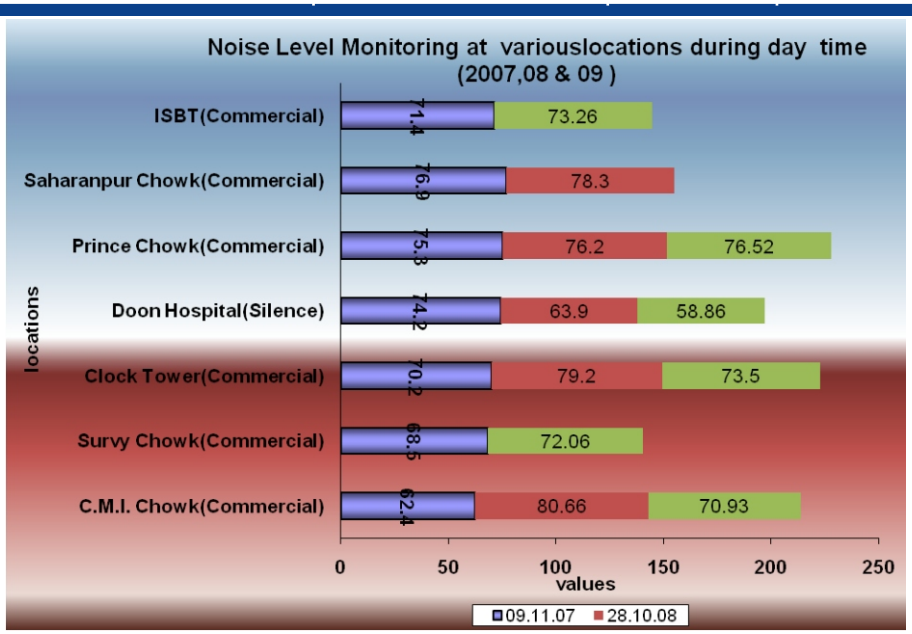
- Suspended particulate matter exposure to the level of 100 ppm results in headache and reduced mental acuity. The effects are more pronounced in people with heart, lung or central nervous system diseases.
- Sulphur Dioxide is readily soluble and dissolves in the larger airways of the respiratory system. At higher concentrations severe contraction restricts the breathing process.
- Nitrogen dioxide is less soluble and so penetrates to the smaller airways and into the lungs, thereby reducing the intakes of oxygen for the body. These cause respiratory allergies like asthma especially to the susceptible population. It causes throat and chest congestion, and are likely to aggravate problems for those already suffering from coughs, colds and allergies.
- Allergic bronchitis, acute exacerbation of bronchial asthma, chronic bronchitis, ephysem, COPD(chronic obstructive pulmonary diseases), allergic rhinitis, larynigitis, sinusitis, pneumonia and common cold increase during the this time.

Firework is one of the provoking factors for childhood bronchial asthma.

Diwali which has now turned almost to a festival of firing crackers leads to many people getting, many people lost their eyes, some become deaf, animals like dogs and cows don't get place to hide and protect themselves. Even a small country like Nepal banned the use of firecrackers. But, can't we? A combination of will and public support to limit health and environmental hazards and at the same time maintain memorable traditions, is needed to restore Deepawali to its pristine flavor.

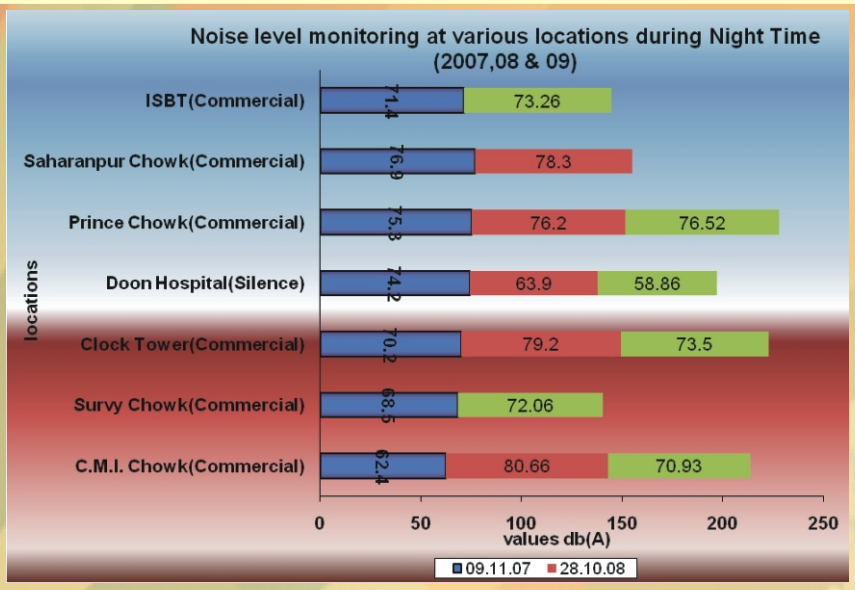
Ambient Noise Monitoring in Diwali Festival carried out by UEPPCB, Dehradun (2007,2008,2009)

Noise level Monitoring Results at Various locations during Day Time(2007,08 & 09)				
Locations	**Prescribed Standards db(A)**	**09.11.07**	**28.10.08**	**17.10.09**
C.M.I. Chowk(Commercial)	65	62.4	80.66	70.93
Survy Chowk(Commercial)	65	68.5		72.06
Clock Tower(Commercial)	65	70.2	79.2	73.5
Doon Hospital(Silence)	50	74.2	63.9	58.86
Prince Chowk(Commercial)	65	75.3	76.2	76.52
Saharanpur Chowk(Commercial)	65	76.9	78.3	
ISBT(Commercial)	65	71.4		73.26
Rispana Bridge(Commercial)	65	62.6	73.0	70.16



Ambient Noise Monitoring in Diwali Festival carried out by UEPPCB, Dehradun (2007,2008,2009)

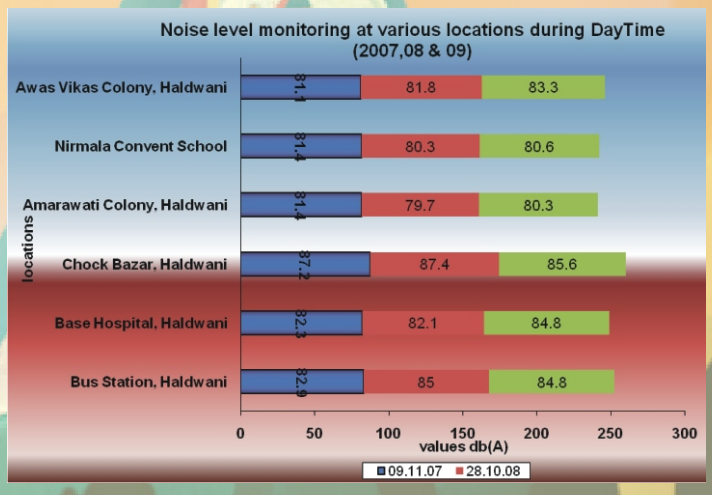
Noise Level Monitoring Results at various locations during Night Time (2007, 08 & 09)				
Locations	**Prescribed Standards db(A)**	**09.11.07**	**28.10.08**	**17.10.09**
C.M.I. Chowk(Commercial)	55	75.5	80.5	68.85
Survy Chowk(Commercial)	55	80.9		67.3
Clock Tower(Commercial)	55	77.9	74.0	75.8
Doon Hospital(Silence)	40	71.9	69.9	60.25
Prince Chowk(Commercial)	55	74.8	80.9	73.3
Saharanpur Chowk(Commercial)	55	75.5	82.7	
ISBT(Commercial)	55	71.8		74.5
Rispana Bridge(Commercial)	55	75.5	82.6	71.3

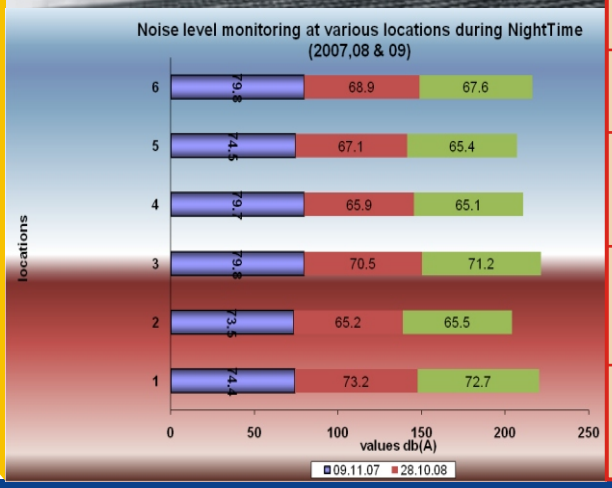


Ambient Noise Monitoring in Diwali Festival carried out by UEPPCB, Dehradun (2007,2008,2009)

Noise Level Monitoring Results at various locations during Day Time (2007, 08 & 09)

Locations	Prescribed Standards db(A)	09.11.07	28.10.08	17.10.09
Bus Station, Haldwani	55	82.9	85	84.8
Base Hospital, Haldwani	55	82.3	82.1	84.8
Chock Bazar, Haldwani	55	87.2	87.4	85.6
Amarawati Colony, Haldwani	40	81.4	79.7	80.3
Nirmala Convent School	55	81.4	80.3	80.6
Awas Vikas Colony, Haldwani	55	81.1	81.8	83.3





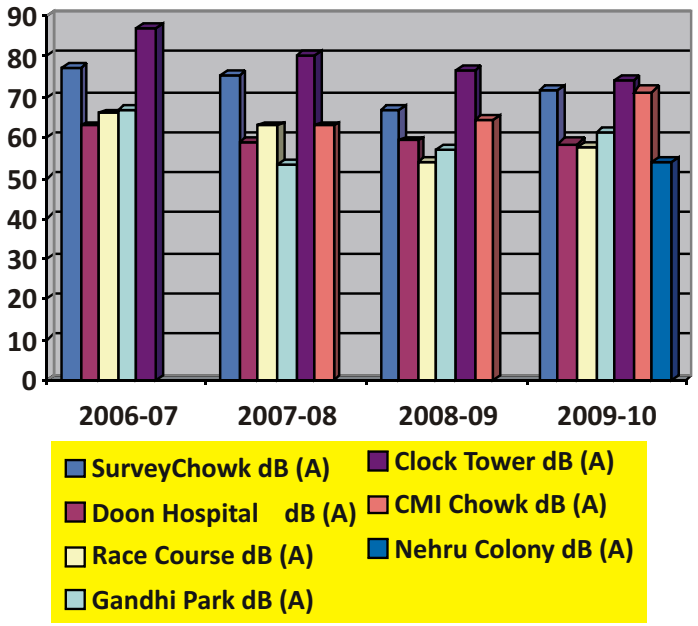
Noise Level Monitoring Results at various locations during Night Time (2007, 08 & 09)				
Locations	**Prescribed Standards db(A)**	**09.11.07**	**28.10.08**	**17.10.09**
Bus Station, Haldwani	55	74.4	73.2	72.7
Base Hospital, Haldwani	55	73.5	65.2	65.5
Chock Bazar, Haldwani	55	79.8	70.5	71.2
Amarawati Colony, Haldwani	40	79.7	65.9	65.1
Nirmala Convent School	55	74.5	67.1	65.4
Awas Vikas Colony, Haldwani	55	79.8	68.9	67.6

Uttarakhand Environment Protection & Pollution Control Board(UEPPCB) through its Regional Offices carried out Ambient Noise Monitoring (ANM) at various regions during the Deepawali Festivals. The Noise level during the Deepawali festival have been compared .

It has been observed that the ambient noise level in the year 2009 have been considerably been reduced as compared to the data of noise monitoring during the year 2007 and 2008.

It is felt that the reduction in the noise level is lesser due to print and electronic media by the N.G.O's, Civil Groups, UEPPCB and Police. A wide area of public awareness campaigns were undertaken by the concerned Government agencies as a follow up to the orders passed by the Hon'ble High Court.

Increase in awareness and self observance of the Noise standards by all the concerned will reduce the noise pollution being caused during Deepawali & other festivals, which will take some time to materialize.



4.0 Observations

Noise level monitoring results in dB (A) at Different Location in Dehradun City

Monitoring Stations	2006 -07	2007 -08	2008 -09	2009 -10
SurveyChowk dB (A)	76.97	75.2	66.8	71.58
Doon Hospital dB (A)	62.6	58.53	58.87	58.16
Race Course dB (A)	65.57	62.5	53.9	57.48
Gandhi Park dB (A)	66.51	53.29	57.0	60.90
Clock Tower dB (A)	86.98	80.26	76.68	73.90
CMI Chowk dB (A)	-	62.5	64.0	71.24
Nehru Colony dB (A)	-	-	-	53.89

1. The ambient noise level in Clock Tower during the monitoring period at all time were above specified ambient noise standards. The levels in other places are comparatively low as compared with that of Clock Tower. However, they were still exceeding the ambient noise standards.

2. The noise level readings show a significant variation from the last year. 3. The fire cracker bursting and traffic are two important contributors of ambient noise.

4. Cracker noise was marginally lower in some areas mostly found exceeding the stipulated limits.

5. Residential areas were affected significantly by higher noise levels.

6. The noise readings show a significant variation from the last year.

7. At all places the noise levels are exceeding the specified standards at all times of the day and night.

8. The emission of smoke arising out of bursting of fire crackers added into increased levels of air pollution, particularly in terms of Nitrogen Oxides(NOx) and Respirable Suspended Particulate Matter(RSPM) (fine dust).9. It is said that a social mission is required to make the people aware of the noise and air pollution and its adverse effects on environment and health. This needs to be supported by capacity building in the regulatory agencies for effective implementation of the noise standards. Role of NGOs and voluntary agencies is crucial and they can cause the process of improvement.

Conclusion: Law relating to noise pollutio nhas been made but there is an urgent need for creating general awareness towards the hazardous effects of noise pollution. Particularly, in our country the people generally lack consciousness of the ill effects which noise pollution creates ad how the society including they themselves stand to beneficiary preventing generation and emission of noise pollution.

Feedback Form

Dear Information seeker,

ENVIS Centre, UEPPCB, Dehradun furnishes you with the services to collect and disseminate information related to environment of Uttarakhand. To share information with us you are requested to fill up the form given below:

Your feed back is valuable to us and will be highly appreciated.

Name:	
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