

Legal provisions and Act for Noise Pollution

The word noise comes from the Latin word nausea, meaning seasickness. Sound that is unwanted or that disrupt the activity or balance of human or animal life is called as noise. When there is lot of noise in the environment, it is termed as noise pollution. There are many sources of noise pollution which are associated with transportation, urban development, industrial and neighbourhood and recreational noise. In recent years noise has emerged as one of the important pollutant of environment. In fact, it needs some legislation for its control like the Water Pollution and Air Pollution Act.

The developed countries of world have already enacted specific laws to control the noise pollution. In England, there has been “Noise Abatement Act” 1960.

According to Section 2 of this act, loudspeakers shall not operated- (a) between nine pm in evening to 8 am of morning for any purpose; (b) at any other time for purpose of advertising any entertainment, trade or business. There have been some exceptions provided like the use of loudspeakers by the police, fire brigade, etc. in United States of America, there has been “Noise Pollution and Abatement Act” 1970 for regulating control and abatement of noise. Apart from this some specific legislation on noise control exist in the United States of America in the form of the Noise Control Code, 1972 (Federal), New York Noise Control Code, 1972 and Chicago Noise Control Regulations, 1971, in Great Britain, the Control of Pollution Act, 1974 (which covers noise within its Part-III); in Japan, Noise Control Laws of 1968, are the specific laws to control the growing problem of noise pollution.

In India many Acts at State level have been made like, **The Bihar Control of the Use and Play of Loudspeaker Act, 1955** which provides restrictions against use and play of loudspeakers.

In Section 3 of Act it reads: No person shall use and play a loudspeaker: (a) within such distance as may be prescribed from a hospital, a building in which there is telephone exchange. (b) Within such distance as may be prescribed from any educational institution established under law or hostel as is in the use of students. Section 6 of the Act provides that the cognizance

of offence under the Act would be on a complaint made by or at the instance of, the person aggrieved by such offence or upon a report in writing made by any police officer.

Rule 21 of the Bihar and Orissa Motor Vehicle Rules, 1930 reads; (a) the driver of motor vehicle shall not sound the horn for any purpose other than that ensuring safety in traffic and shall not sound it continuously. (b) No cut-out exhaust whistles, sirens, klaxons, electric horn and similar appliance of any description shall be used on any motor vehicle in such areas within a district as may be notified by the District Magistrate in this behalf.

Rule 5.5 of Delhi Motor Vehicles Rules, 1940 reads: “No matter vehicles shall be fitted any multitonned horn giving a succession of different tones or with any other sound producing devices giving an unduly harsh, shrill, loud or alarming noise”. Rule 5.6 says that “Every motor vehicle shall be fitted with a device (hereinafter referred as a silencer) which by means of an expansion chamber or otherwise reduces as far as reasonable and practicable the noise that would otherwise be made by an escape of exhaust gases from the engines”. While Rule 5.9 states that: “Every motor vehicle shall be so constructed and maintained as not to cause undue noise when in motion”. Identical provisions to the Delhi Motor Vehicles Rules, 1940 have been incorporated in the Punjab Motor Vehicles Rules, 1940.

In national level noise have been included within Section 2 of the **“The Air (Prevention and Control of Pollution) Act”, 1981, and further under Section 6(b) of the “Environment (Protection) Act”, 1986**. As per “Environment (Protection) Act”, 1986, like air water, noise has also been recognized as one of the pollutant in India, and appropriate steps are being taken to make rules and regulation to control the increasing menace of noise in the country. In 2000, Indian Government made Rules which cover only noise pollution, named as “The Noise Pollution (Regulation and Control) Rules, 2000”.

Summary of “The Noise Pollution (Regulation and Control) Rules, 2000”.

Ambient air quality standards in respect of noise for different areas/ zones–

To apply the rule government of India divided the area into four zones – Industrial, commercial, residential and silence zone. Ambient air quality standards in respect of Noise is given in Table 40.1. Day time shall mean 6.00 am to 10.00 pm, and Night time shall means 10.00 pm to 6.00 am. dB (A)

L_{eq} denotes the time weighted average of the level of sound in decibels on scale A which is related to human hearing A (decibel) is unit and A in dB (A) L_{eq}, denotes the frequency weighting in the measurement of noise and corresponds to frequency response characteristics of the human ear. Silence zone in given area is the area comprising not less than 100 meters around hospital, educational institutions and courts.

Table 40.1 Ambient air quality standards in respect of Noise.

Area Code	Categories of Area/Zone	Limits in dB(A) L _{eq}	
		Day Time	Night Time
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence zone	50	40

Responsibility as to enforcement of noise pollution control measures and restrictions on loudspeakers –

The noise level in any zone shall not exceed the standards given by rules. To play the loudspeaker in public address, individual should obtain the written permission from the authority. From 10.00 pm to 6.00 am loudspeaker shall not be used except in closed premises for communication within, e.g. auditoria, conference rooms, community halls and banquet halls. Whoever, in any place covered under the silence zone commits any offence like plays any music or rise any sound amplifiers, beats drum, blows a horn, exhibits any mimetic, musical or performances of a nature to attract crowds, shall be liable for penalty under the provisions of the Act.

Sources and impacts of noise pollution–

Table 40.2 Noise limits for domestic appliances

Domestic appliances	Limits in dB (A) sound pressure level at 1 metre distance from the operating appliance
Window air conditioners of 1 to 1.5 ton	68
Air Coolers	60
Refrigerators	46

Apart from the above sources Table 40.2, crowding with the increase of population and urbanisation, community activities such as political and public meetings religious functions, weddings, festivals, etc., have been contributory factors in rising environmental noise pollution.

Noise due to loud speakers— Extensive and common use of loud speakers whether for political meetings, marriages, religious functions, musical nights, advertising, etc., are most disturbing source of noise to the urban dwellers in particular. Though the use of loud speakers is governed by administrative restrictions and laws are not seriously imposed. If loud horns are used near hospitals zones, they disturb the patients and also doctors at serious operations. Loud horn noises in school zones, create disturbance in teaching work. The permitted strength of the power amplifier should be adjusted to cover the audience, and noise level beyond the boundary limit of the noise source premises should not be increased by more than 5 dB above the ambient noise level.

Noise due to bursting of crackers— Annual Report of Central Pollution Control Board (1989-90) states that – (a) manufacture and sale of crackers having an impulsive noise of more than 90dB at 5 meters distance from the site of bursting should be banned. (b) manufacture and bursting of joined crackers should be banned, (c) bursting of crackers during 9.00 pm to 6.00 am should be banned and it should be permitted only during public festivals.

Noise due to vehicles— The noise from individual vehicles includes- noise from engine, exhaust noise, noise due to slamming of car doors, and use of horns. The noise from engine and transmission depends upon the support used for moving parts. Good quality has more efficient and elaborates system for dampening noises. Considerable improvements are being made to improve the mounting systems even in cheaper vehicle. Exhaust noise have been brought under control to maximum extent by using efficient silencing system, which also do not affect the power output of the engine. Prosecution, in Great for excessive noise from exhaust system does occur but seem somewhat illogical, as it being only the subjective judgment of the policeman.

The noise due to closure of car doors is intense, but intermittent. This noise disturbs the sleep. This problem can only be solved at the design stage. This is only possible by enforcing legislation on motor manufactures to produce noiseless door shutting devices. The motor cars are fitted with horns, to attract the attention of the movers. These horns when not used in proper way produce appreciable nuisance. The Table 40.3 shows the relative noise of vehicle types. The tests are carried by the Motor Industry Research Association, using Test procedure as prescribed in BS 3425 (1965).

Table 40.3 Relative noise of different vehicle types.

Type of vehicle	dB (A)
Luxury Limousine	77
Small passenger car	79
Miniature passenger car	84
Sports car	91
Motor-cycle (2 cylinder 4 stroke)	94
Motor scooter (1-cylinder-2-stroke)	80

The difference between the noise level of a standard small passenger car and a sports car is no less than 12 dB, which means the sports car is roughly 15 times noisier than the saloon car. Motor cycles, with their exposed engines and inadequate silencing arrangements, are notorious noise procedures, with a sound level roughly 30 times higher than that of saloon car. Motor scooters, on the other hand, only produce the same noise as motor car.

Noise due to trains— Noise from steam engines fast trains and railway operations has been a cause of great concern as the impact of the noise produced has been reported to be maximum in those areas where railway tracks pass through residential areas. Railway noise is less annoying than aircraft traffic noise of equivalent noise level at least an dB(A) Leq. 24 hr of 50-65 dB. Further , it is an annoyance to a given observer as an incident event and when the train has passed the point, the ambient sound level is restored.

Noise due to aircrafts and satellites – This source of noise pollution has been increasing steadily during recent years and especially close to international airports, already constitutes a very serious problem. This problem has mainly

arisen because of the widespread use of heavy long-range jet aircraft. The fast growth of air traffic, the invention of supersonic aircraft and devices employed to scare birds have contributed to the creation of aircraft noise. The launching of satellites, a regular space activity these days, has now come to be recognized as a new source of air and noise pollution. Lifting of satellite with aid of high explosive rockets produce deafening noise.

Noise from Construction and civil engineering works— Noise from construction sites is generally far worse than noise originating from factories. There are two main reasons for this. One is that whether construction takes place like erection of roads, bridges, and buildings noise emission levels are higher. The other is that civil engineering equipment is inherently noisy. The worst of these pieces of equipment, from the noise generation point of view, are shown in Table 40.4.

Table 40.4 Noise level generation by equipment used during construction and civil engineering.

Equipment	Noise level at 15m
Tractor-scaper	93 dB
Rock drill	87 dB
Unmuffled concrete breaker	85 dB
Hand-held tree saw	82 dB
Large rotary diesel compressor	80 dB
1 1/2 tonne dumper truck Diesel	75 dB
Concrete mixer	75 dB

Precautions in Construction Activities-

- Acoustic barriers should be placed near construction sites.
- The maximum noise levels near the construction site should be limited to 75 dB (A) Leg (5 min) in industrial area and to 65 dB (A) leg (5 min) in other areas.
- There should be fencing around the construction site to prevent people coming near site.

- Material need to be stockpiles and unused equipment to be placed between noisy operating equipments and other areas.
- Constructing temporary earth and around the site using soil etc., which normally is hauled away from the construction site.

Noise from industries— Noise in industry originates from processes causing impact, vibration or reciprocation movements, friction, and turbulence in air or gas streams. Impact and vibration noises are considerably reduced if machines are mounted on flexible supports. In addition, vibration noises can be reduced by the mass, careful design of shape and arrangement of parts of machines so that resonance is avoided. Nevertheless, certain machines will remain inherently noisy, and demand to be surrounded with absorbent or insulating screens. Noise caused by gas stream can be attenuated or even eliminated by the use of suitable ducts and by correct design and positioning of inlets and outlets.

The textile mills are some of the noisiest workplace in the country. There machinery in woollen and jute mills is even nosier than in cotton and silk. The noise level in a large weaving section ranges from 100 dB to 105 dB, and can cause permanent loss of hearing. In US, no textile mill is allowed to exceed 100 dB for more than two hours a day- but, Indian mills run three, eight hours shifts. The workers are most readily suffers to the noise hazards of industrial functioning. Industries located in the residential areas, particularly such as printing press agro-based industries, auto miles repairing, grinding mills, general engineering, etc., are the sources of community noise affecting the public continuously, living in the vicinity. There are permissible noise exposures for industrial workers are discussed in given Table 40.5.

Table 40.5 Permissible noise exposures for industrial workers.

Exposure Time	Limit in dB (A)
8	90
4	93
2	96
1	99
$\frac{1}{2}$	102
$\frac{1}{8}$	108
$\frac{1}{6}$	111
1/32 (2 minutes) or less	114

Exposure to continuous or intermittent noise louder than 115 dB (A) should not be permitted. Exposure to pulse or impact noise should not exceed 140 dB (peak acoustic pressure).

Amendments in “The Noise Pollution (Regulation and Control) Rules, 2000”

In 2006, Noise Pollution (Regulation and Control) Amendment Rules has been made by Central Government. According to this, in rule 4, after sub-rule (2), sub-rule have been inserted according to which the respective State pollution Control Board or pollution Control Committees in consultation with the Central Pollution Control Board shall collect, compile and publish technical and statistical data relating to noise pollution and measures devised for its effective prevention, control, and abatement. In rule 8, in sub-rule (1), after the words “received by him”, the words “including from the complainant” shall be inserted. In sub-rule (2), in the proviso, after the words “afford to the applicant”, the words “and to the original complainant, as the case may be”, shall be inserted.

Other amendment has been done and new Noise pollution (Regulation and Control) (Amendment) Rules, 2009 shall come into force. In the Noise Pollution (Regulation and Control) Rules, 2000, (here in after 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. In the said rules, in rule 2, after clause (h), “public place” means any place to which the public have access, whether as of right or not, and includes auditorium, hotels, public waiting rooms, conventions, libraries, open grounds and the like which are visited by general public. 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. After rule 3, “ (3A) The State Government shall take measures to stop the blowing of horns at night in silence zones and residential area except during a public emergency”. In rule 5, in the heading, after the words “PUBLIC ADDRESS SYSTEM”, the words “AND SOUND PRODUCING INSTRUMENTS” shall be inserted. In (ii) for sub-rule (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 with, like auditoria, conference room, community halls, banquet halls or during a public emergency”. In sub-rule 5 (3) for the words “public address systems during night hours”, the words “public address system and the like during night hours” shall be substituted. After the words “a limited duration not exceeding fifteen days in all during a calendar year”, the words “the concerned District Magistrate shall generally specify in advance, the number and particulars of the days on which such exemption should be operative” shall be inserted. After sub-rule 3, two new sub-rules shall be inserted. In Sub- rule (4) the noise level at the boundary of the public place, where loudspeaker or public address system or any other noise sources is being used shall not exceed by more than 5 dB(A) above the ambient noise standards for the area or 75 dB (A) whichever is lower. In sub-rule 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”. In 5(A) restrictions on the use of horn and bursting of fire cracker has been done, according to which-

- No horn shall be used at night time in silence zones and residential areas except during a public emergency.
- Sounds emitting fire crackers shall not be burst at night time.
- Notwithstanding anything contained in sub-rule (2), the State Government may subject to such terms and conditions as are necessary to reduce noise pollution, permit bursting of sound emitting fire crackers during night hours (Between 10.00 p. to 12.00 midnight) on or during not exceeding fifteen days in all during a calendar year.
- **Intensity of sound**— The ISO (International Organization for Standardization) defines noise intensity as:

$$L = 20 \log_{10} P/P_0 = 10 \log I/I_0$$

P= Measured intensity of sound level in N/m²

P_o = Pressure level at the limit of audibility for the normal ear when the frequency of emission is 1000 cycles per sound.

I = Measured intensity of sound level given in W/m^2 .

I_o = Intensity of sound at the limit of audibility for the normal ear when the frequency of emission is 1000 cycles per second.

- **Article 51 A (g)-** To protect and improve the natural environment including forest, lakes, rivers and wildlife and to have compassion for living creatures.
- **Article 48A-** Protection and improvement of environment and safeguarding and wildlife. The state shall endeavor to protect and improve the environment and to safeguard the forests and wildlife of the country.
- **Criminal procedure code and noise control-** Provisions under the Sec.133 of the Criminal Procedure Code, 1973 the Magistrate has the power to make conditional order requiring the person causing nuisance including that of noise to remove such nuisance.
- **Railway Act, 1980 and Noise Control-** It is surprising to note that railway engines and carriages are a big source of noise in India but railway locomotives enjoys a statutory protection under the Indian Railways Act, 1890 against any action for the noise created thereby. There is no provision in the Act, which provides for the regulation of noise by railway locomotives. Sec. 16 of the Act gives statutory authority for the use of locomotives to railway administration.
- **Aircraft Act, 1934 and Noise Control-** the impact of civil aviation on the environment is evident in the rising public concern regarding noise, which is most irritating and the most responsible element for the increasing noise levels from aircrafts has been appreciated by the world aviation community.
- **Motor Vehicles Act and Noise Control-** The Motor Vehicles Act, 1939 under Secs, 20,21,41,68,681,70,91, and 111 empowered the State Government to frame rules regulating equipment and maintenance of motor vehicles and trailers. Without prejudice to the generality of the foregoing powers, rules, under Sec.70 may be made, governing any of the

following matters either generally in respect of motor vehicle or trailers of particular class namely-

The reduction of noise emitted or caused by vehicles,

Prohibiting the carrying of appliances likely to cause annoyance or danger.
The periodical testing and inspection of vehicles by prescribed authorities.

The use of trailer with motor vehicles.

- **The Air (prevention and control of pollution) Act, 1981 and Noise control**– prior to the 1987 amendments to the Air Act, 1981, the Act did not include in its gamut the regulations of noise pollution. But after the 1987 Amendment noise has been recognized as air pollution. The amended Sec. 2 (a) now defines air pollutant to mean any solid, liquid or gaseous substance including noise present in the atmosphere in such concentration as may be or tend to be injurious to human being or other living creatures or plants or property or environment. Hence, the 1987 Amendment to the Air Act now specifically extends the provision of Air Act, including increased penalties citizen's suits and the issuance of injunctions by Magistrates, to control noise pollution.

you can view video on Legal provisions and Act for Noise Pollution



Suggested references and links-

1. The Noise pollution (Regulations and Control) Rules, 2000.
<http://envfor.nic.in/downloads/public-information/noise-pollution-rules-en.pdf>
2. The Noise pollution (Regulations and Control) (Amendment) Rules, 2010. <http://www.indiaenvironmentportal.org.in/content/295863/the-noise-pollution-regulation-and-control-amendment-rules-2010/>

Suggested links

- Noise pollution rules in India.wmv Link-
<https://www.youtube.com/watch?v=vTkaQb9Me44>
- Analysis of noise pollution in India
<https://www.youtube.com/watch?v=GQFk76wj470>

- Sound pollution is maximum at Silence Zone, why is this situation?
<https://www.youtube.com/watch?v=CMI4ALoTiSc>
- Noise pollution
Link- https://www.youtube.com/watch?v=-VaaTn_g1_k
- Effects of Noise Pollution-
<https://www.youtube.com/watch?v=XcO5UlpII1Q>
- The Noise Pollution: Laws in India
<https://www.amazon.in/Noise-Pollution-Laws-India/dp/B072MPJKM7>