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Pollution
and
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POLLUTION AND LAW

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Pollution of Human Environment By Noise A Need for a Comprehensive Enactment

T. S. N. SASTRY and C. B. S. R. SHARMA

A. INTRODUCTION

The quest for progress in Man opened new vistas in the fields of industrialisation, science and technology and transportation, but resulted in urbanisation and advent of Mercantilism. All these posed problems to the ecological security of man. The chief among these is the environmental pollution which is becoming a menace to the survival of mankind in future. In the quest for unravelling the secrets of nature, man has forgotten the moral and ethical responsibilities in protecting the human environment.

1. Paradox of Progress

According to Richard may be¹ "The root cause of pollution probably lies in the sort of world we have chosen to build for ourselves and in our thoughtless worship of "progress at any cost!". In the words of Kulshreshta² "It is a paradox that the industrialisation and urbanisation which were once a symbol of progressive developed nations bringing revolutionary modernisation in society have brought manifold problems unsafe for human race". It is needless to hide the fact that India too became a successor to environmental problems through rapid industrialisation and modernisation.

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2. Byproducts of Pollution

Byproducts to any progress are inevitable. Pollution is one such. Environmental pollution can be broadly classified into four types - Land based, Atmospheric, Water and Noise. Among these four noise pollution is becoming one of our current concerns, because others were siezed up fairly easily.

3. Noise Syndrome

Man's progress through ages increasingly involved activities creating more sound. Noise has thus become inevitable, a necessary evil. But philosophically, agreeable sound is music and the disagreeable one, noise. Some music could therefore be noise as well. In essence, just as beauty lies in the beholder, music lies in the listener and noise in the sufferer.

In a country like our's the sources and causes of noise pollution, are many. They are: the increasing rate of population, poverty, large scale of illiteracy, multiplicity of customs and religious fanaticisms and finally due to lack of civilities and policing. Statistics of the Institute of Road Education tell us that the noise is increasing in our major cities and towns. Among our four major cities, Delhi is the noisiest, followed by Calcutta, Bombay and Madras.³

Justice V. R. Krishna Iyer felt that⁴ "The noise Syndrome permeates every aspect of life... our public life and its noises apart, here, my concern, why, consternation, is about the injurious escalation of sounds from many sources which if ignored may inflict psychological, physiological and societal maladies."

Nevertheless, every sound causing suffering needs to be controlled by the community's norms, the State apparatus. Our objective in this article is just to survey briefly the sounds verging on noise, effects reaching insufferability and review the laws aimed at their mitigation and compensate

against. The imperatives for legal action are sought to be arrived at in the process, towards the conclusion.

B. THEORETICAL CONSIDERATION

1. History

Forging and fashioning implements and weapons during the bronze age might have produced the first situation of hearing "risk" from occupation. The second risk must have come from the gunpowder in the 14th century followed by the Industrial revolution and mechanisation of factories, development of railways, internal combustion engine, power driven ships and finally, the aircraft. Noise now is omnipresent - electronics and communications systems included. All pervading ofcourse is the weaponry. But noise does not Kill-only does all else short of it.

2. Etymology

The origin of the word noise can be traced to three sources. In Latin, it has been derived from the noun "nausea". As per the old French usage, it has been derived again from the noun "noyse". According to Greek, it has again derived from a noun "navisa" which was further derived from "navs"⁵.

3. Definition

In legal terms Noise can be described as "an excessive, persistent or startling sound"⁶. In acoustics noise is defined as "any undesired sound"⁷. Noise could therefore be described "an unpleasant sound". Broadly noise pollution means "Environmental Noise of sufficient loudness to be annoying, or physically harmful⁸." Any unpleasantly excessive sound will have its own implications in the day to day life of individuals.

C. PRACTICAL ASPECTS

1. Sources

Broadly the sources of noise are industrial and non-industrial. Industrial sources include not only machinery

but also Motor Vehicles, Trains, Aircrafts, Explosives Satellites and Telecommunications, etc. Non-industrial sources are therefrom human sources such as loud speakers, construction works, Radios, Television's, microphones, public gatherings, Demonstrations, religious festivals ceremonial traditions, etc.

2. Classification

The quality of noise, measured in decibels and hereafter measured as dB⁰ may be classified as soft range (40-60 dB), Risk range (60-100dB) and danger range (above 100 dB). Based on duration of exposure, the noise can be further classified into several categories (1) Occupational (workers at Markets, Cinema Halls, Industries, Transports, Public Ceremony Halls). (2) Seasonal (Festivals, Marriages, Elections, Temples, Churches, Mosques), (3) Diurnal (Traffic vicinities), (4) Discontinuous (Movie Goers, Market visitors) and (5) Choice (Music 'Listeners' and Practitioners)

The zero on decible scale is at the threshold of hearing, the lowest sound pressure that can be heard. According to scientists and psychologists, the accepted level of noise is 50 dB. If it exceeds this it may be harmful. If the noise level increases beyond 80 dB, it is considered as pollution. Beyond 140 dB, noise causes damages such as permanent hearing impairment. Sociological, psychological, physiological, behavioural effects could further prove fatal to human welfare indirectly (Figure 1).

3. Effects

Noise effects on humans depend on the intensity of noises its duration and finally the sensitivity of the individual, concerned. A brief summary of all the possibilities would be adequate to form a backdrop for further discussions on the more important concerns of this article (Table 1).

The noise is supposed to affect the ear functions. These can be categorized as follows: (a) Temporary hearing loss

(over 100 dB level for 6 hours), (b) prolonged loss of hearing, (c) Permanent loss of hearing (following exposure to 10-15 years to less than 100 dB noise level) (d) Irreversible acoustic trauma (from gunfire, explosions, etc.) (e) Acoustic accidents (Pneumatic drilling) and (f) Ototic blast (ear structures damaged by blasts).

There are effects on other systems as well - (a) Psychological imbalances (instability, tension, nervousness, inefficiency, improper communication etc.) (b) Vascular problems (c) Improper digestion and Ulcers, (d) Embryological disturbances - (Sleep cycle of the embryo can be disturbed because the amniotic fluid enhances low frequency noise (e) Pediatric Syndromes - Children born and brought up amidst noise can be mentally retarded or conditioned.

Kryter¹⁰ while labelling the effects on the hearing system as Presbycusis, Sociocusis and Nosocusis (as affected by aging, every day living in noise and earpathology from other causes respectively, considering that race and sex are not factors.) He further classified the effects as follows:

1. Noise-induced Hearing Impairment and Handicap (HIH) e.g. Decreased hearing ability of viewers in public meetings, telephone communication and personal conversations)

2. Noise affected Mental and Psychomotor Task Performance (MPTP) (e.g. distracts performance, conveys wrong meanings, under and or over arousal, psychological avasions, effects on neural centres etc.)

3. Noise-induced Hearing Loss (HL). This depends upon the level and duration of noise exposure and it begins as a permanent threshold shift (PTS). Both Nosocusis and presbycusis have roles to play in the shift of thresholds loss of hearing, complicating the issue. However there are atleast 10 methods for predicting these, however.

4. Non Auditory System Responses (NASR) These include impacts on sympathetic nervous system affecting

pupil and sleep, gastric movements, motor systems, peripheral blood vessels. Indirectly autonomic system is affected leading to hypertension, mental sickness, general ill health. Female infants were reported to have born with reduced gestation period and body weight at birth.

To complement the above from medical profession surveys are needed on streets, Railways, Aircrafts, Community Noise sources for Ambient, back ground, aperiodic seasonal, diurnal Impulsive and Multiple sources. Surveys are also needed on altitudes and complaint behaviours. Then alone a realistic assessment of noise and its effects on human population can be made from judicial redressal.

4. Controls

There is no dispute that noise should be under check - by self control and social controls if possible if not, by legal controls. Eversince it is considered as an industrial disease, all countries have recognized noise pollution as an offence and the hearing debility caused by it on the 'Wisconsin scale' as a compensatable loss. Therefore legal measures became inevitable. Yet the sound of noise and music has been vitiated by paradoxes and contradictions often throwing up dilemmas in law making, implementation and compensating.

Thus controlling noise pollution is not an easy task. Interest groups play a vital role in controlling noise. Wearing mills may have to close down by the costs or noise reduction to 'no damage' level. Silent Zoning is objected by unions and builders for it takes away their work. Even land value affected by noise. Only interstate Commerce and Communications are protected from local interests. Thus it is as much a problem of politics dealing with public as it is a problem of science in laboratory and real life.

D. LEGAL CONSIDERATIONS

1. Constitutional Provisions

India is one of the countries to embody provisions against pollution in its constitution especially after the 42nd

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Amendment in 1978. There is yet no direct provision to deal with the pollution by noise. Some Countries like USA, UK, Japan and Israel however attached greater importance offences and enacted specific legislation. Nevertheless relief against noise crimes can be obtained in India under other articles - 39 (e), 47, 47 (A) and 51 (g) which commit both Government as well as citizen to a responsibility in protecting the environment, to improve the standard of living, public health and to have a compassion for living creatures.¹¹ Though the above articles laid down the guidelines in obtaining relief from noise, but, the procedures are quite cumbersome in obtaining a specific compensation under the existing Provisions and laws. The judiciary, also did not appear to fully appreciate the imperatives in these acts vis-a-vis noise, perhaps for want of a proper perspective on the subject of noise itself.¹²

It is pertinent to recall, in the light of the above Hildebrand. "The noise must be exceptional and unreasonable. Ringing of bells, building operations, vibrations, of machinery, fire works, bands, a circus, merry go rounds, disorderly crowds, dancing, singing, etc; have been held under certain circumstances to constitute nuisance so as to interfere with quite and comfort of others in society and have been restrained by injunction."¹³ Perhaps a comprehensive legislation would help. Meanwhile let us examine how noise offences can be dealt with.

2. Law of Torts

As such noise pollution does not come under the direct purview of the law of Torts. But one can resort to the provisions of the Law of Torts, if the Quantum of noise crosses permissible limits, constituting nuisance. According to torts, nuisance is of two types - public and private. Public nuisance amounts to crime and will be dealt in accordance with the provisions of criminal laws. Private nuisance means "an unlawful interference with a man's use of his property, or with his health, comfort or

convenience. It is infact a wrongful act or omission causing (i) material injury to property, or (ii) sensible personal discomfort".¹⁴ This means all types of noises shall not be treated as nuisance. Though, remedy can be obtained under the law of Torts in curbing the meanaces of noise at the same time it is very difficult to obtain a relief because the provisions are cumbersome and interpretations, problematic. Firstly the onus will lie on the plaintiff to prove that the defendant is at fault. Secondly it is very difficult to prove that noise constitutes a nuisance, if it is momentary and not a continuous one. Finally the judiciary may not consider minor discomforts or noises as nuisance as they are common in crowded cities.¹⁵

3. Criminal Laws

The excessive noise from any source is recognised as public nuisance in criminal law. Public nuisance is defined as "an unlawful act or omission which endangers or interferes with the lives, safety or comfort of the public generally or of some section of the public, or by which the public or some section of it, is obstructed in the exercise of their common rights."¹⁶

Noise can be prevented either through private or public remedies. Private remedies could be way of individual law suits, where as public remedy can be obtained through regulatory provisions by the government. Noise pollution can be prevented through chapter XIV of the Indian Penal code which deals with the offences relating to public health, safety, convenience, decency and morals under sections 268, 270, 279, 287, 288.

Though Various sections specify the types of activities constituting public nuisance. Yet private law suits can be brought in accordance with section 290 of the code which has a wider scope. If any individual suffers any loss of hearing or any other injury to his life, either by the acts of private individuals or by the activities of Government during

its non-sovereign functions, such as engaging in commercial and private activities etc., damages can be obtained. According to section 133 of the Cr P.C the Magistrates are empowered to issue orders to remove nuisance from noise.

Though the Indian Penal Code and the Criminal Procedure Code specify the methods in obtaining a relief from nuisance from noise they are not adequate in providing reliefs from all types noise effects. Even the attitude of judiciary has not been fully responsive in protecting the victims of noise. For example in the case of *Ivoer Hyden and others vs. State of Andhra Pradesh*¹⁷ the petitioners were convicted by the trial court for playing a radio loud enough to be considered as an offence under section 290 of the I.P.C., in appeal the A.P. High Court upheld the decision of the lower court. It was observed that it was too trivial an act to be taken into cognizance. Playing a radio loudly can be excusable under section 95 of I. P. C. under which the honourable court justified its action. But it was not recognised by the honourable High court that playing a radio at high pitch is intolerable and amounts to nuisance. As the Government is engaged in the welfare of the public activity in its sovereign functions it is difficult to either restrain under section 268 or to convict under section 290. And the punishment prescribed under section 290 is too minimal and noncognizable. Further if already nuisance by noise existed any further addition to it is not viewed as serious by the courts¹⁸.

4. Motor Vehicle Act 1988

A major source of noise irritants are the Motor vehicles. Though the motor vehicles Act of 1988 replaced that of 1938 by the Central Government, it is surprising that noise pollution has not been considered by the act as an important issue. Yet under sections 110 and 111 the Central and State Governments are empowered to make specific provisions in controlling noise. Further the scourge of noise can also be

dealt with under various other provisions such as Section 53, 56, 184. The Central Motor Vehicle rules of 1989 although specified rules for reducing noise under sections 119, 120 and 121, which deal with only the specifications relating to horns 'silencers' and 'painting of vehicles'. It is surprising that neither the Act nor the rules specified the Pitch and duration of noise and its effects. The attitude of the judiciary is also not upto the desired extent though the rules provided for specific implications for noise quality and quantum (17, 18). This leads to the holy question that though the government is fully aware of the causes and effects of noise pollution, why does it condescend to protect the interests of an interest group than the safety of public at large?

5. Labour Laws

Although the Government pronounces that the welfare protection of labour is one of its major aims there is no specific provision in the various labour welfare legislations to preserve the welfare of the labour from the onslaught of noise. Only Section II of the Factories Act 1948 provides relief from nuisance¹⁹ which is again a very fragile one reducing it to an eye wash provision, devoid of teeth.

6. Environmental Protection Act

This Act was passed by the Government as a result of the UN conference on Human Environment held at Stockholm in the year 1972 to take appropriate steps in preventing the environmental deterioration. This is the only major and comprehensive Act dealing with all types of pollutions including noise (Table 2). The irritants of noise can be controlled in accordance with section 6(2) which empowers the Government to make any type of rules in regulating the environment pollution including noise. It is surprising that though the Act defines all types of pollution there is no definition of noise, its effects and measurements. Remedies are also not provided exclusively for irritants from noise pollution. The Act mainly concentrates on other areas of

pollution such as water, land, air and conservation of forests and other natural resources. A careful scrutiny suggests that the provisions of the Act are not stringent enough to provide relief quickly to the affected parties.

E. DISCUSSION

(i) The need for a specific legislation

The scrutiny of available knowledge reveals the inadequacy of the existing provisions in the various laws in curbing vandalism of noise. Recently the Government relaxed some of the provisions relating to the establishment of small industries when getting any permission from the Boards etc. This shows how negligent the Government is in noting the importance of noise. These laws are not designed according to the specifications of scientific knowledge. Even the judges are therefore not fully aware of the science of noise and its implications. Some countries are therefore coming up with specific legislations it is appropriate that India too should fall in line. It is high time that the Government should come out at the earliest with a specific legislation on Noise pollution in place of or in addition to the piecemeal provisions scattered in other acts including EPA. Contradictions should not exist as they lead to misinterpretations and accumulation of paradoxes, as is the current situation. Without compromising with any pressures, the government should show its vigor and strength in protecting the mental and material life of its citizens which are guaranteed under our constitution. While passing a legislation the Government should consider inclusion of the following in the act.

(ii) These suggestions are

1. Types of noises, their quantification and effects.
2. Provisions for quantification of Environmental costs of noise.
3. Direct Mechanisms to maintain the noise free zones and punish violators on the spot.

4. Direct mechanisms to monitor in the Cinema halls, spot checking and punishment for violators.
5. Provisions to ban on illhealth grounds. Processions, gatherings, use of electronic devices in the name of religion and customary fanaticism.
6. Electioneering norms in pursuit of reduced noise.
7. Restrictions on the loudness of loud speakers.
8. Norms for the noise hazards in Railways, Aircrafts, Transport, Tourism and other similar public activities.
9. Controls on Dwellings within a quantified radius of noise producing activities.
10. A code of conduct with an undertaking to adhere to sound limits be required wherever sound is involved.
11. The waiting period of 60 days following complaint as specified in E. P. A should be reduced to 15 days.
12. Provisions for special courts as in the case of the consumer courts.

Furthermore

13. Voluntary organisations and individuals should be encouraged to educate the public on noise issues.
14. Offences relating to noise should be brought under the purview of cognizable offence like in the Cr. P. C.
15. Mobile petrols and courts may be introduced. Infact, noise is so social a matter something in line with consumer forum, may be introduced, as already stated in the item 12.
16. The judges should be aware the basics of Scientific and medical aspects to function effectively as required by the contents in the chapter on affects.

F. CONCLUSION

Sound does not kill - it does all else. It is inseparable from civilisation unlike other pollutions and some sounds are

a pleasure and source of harmony. The physics of sound is well established unlike other pollutions, leaving no scope for equivocation. The effects of noise, on the contrary, are considerably subjective, debatable and slow. Therefore the constitutional provision must include every possibility. The judiciary shall be very knowledgeable, circumspect, descriptory and empathetic, for, noise easily is the singular source of mental imbalance in modern times.

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3. According to the study of the Institute Delhi has 80 dB and 77 dB, Calcutta 82 dB and 75 dB. Bombay 80 dB and 74 dB and Madras 77 dB 73 dB respectively during day and night time. Published in the Hindu. August 12, 1992, p. 8. also see Indian Express, 6 August 1992 p. 7 Column 1,
4. V. R. Krishna Iyar, "Environmental Pollution and the Law" 1984 p. 31.
5. Universal Dictionary, Published by Reader's Digest: 1987
6. Encylopadia Britannica Vol. 16: 1968 p. 558.
7. Ibid at 556.
8. Supra n 3.

9. Decibel is unit used to express relative difference in Power. Usually between acoustic or electric signals equal to ten times the common logarithm of the ratio of the two levels.
10. Kryter, K. D. 1985. The effects of noise on men, Academic Press, pp. 688.
11. Refer Articles 39 (e)
Art 47
Art 47 (A)
Art 51 (g)
12. Masod Alam Vs Commissioner of Police: 1951, CWN at 293.
13. Quoted in Kulshreshta supra n 2 at. 193.
14. Colin F. Padfield "Law Made Simple" 1981: p. 218 ELBS edn.
15. Ram Rathan Vs Munnala (AIR 1959 P & H 217)
Mohammad Vs Health Officer (1968) IKLT 289.
16. Ibid n 13 at p. 217.
17. Ivour Hyden and others Vs State of Andhra Pradesh (1984 Cr. LJ NOC 16 A. P.
18. Ram Ratan Vs MunnaLal (AIR 19:9 P & H 217)
19. See Factories Act Section H(1) Every Factory shall be be kept clean and Free from any drain, Privy or other nuisance, and in Particular:

TABLE - 1

NOISE LEVELS AND THEIR EFFECTS

Sound Level (dB)	Exposure Time	Physical Impact
120	Varies from minutes to seconds	Peace of mind affected
140	-	Anger, Violence and others other disturbing emotions leading to mental illness
150	-	Gradually causing deafness
170	-	Digestive system disturbed
180	for six hours	Temporary loss of hearing
190	for seconds	Permanent loss of hearing (tympanic membrane rupture)

TABLE - 2

NOISE LEVELS FOR EACH AREA FIXED
BY GOVERNMENT OF INDIA

Area	Limits in dB	
	6 a.m. to 9 p.m.	9 p.m. to 6 a.m.
Industrial Area	75	70
Commercial Area	65	55
Residential Area	55	45
Quiet Area	50	40

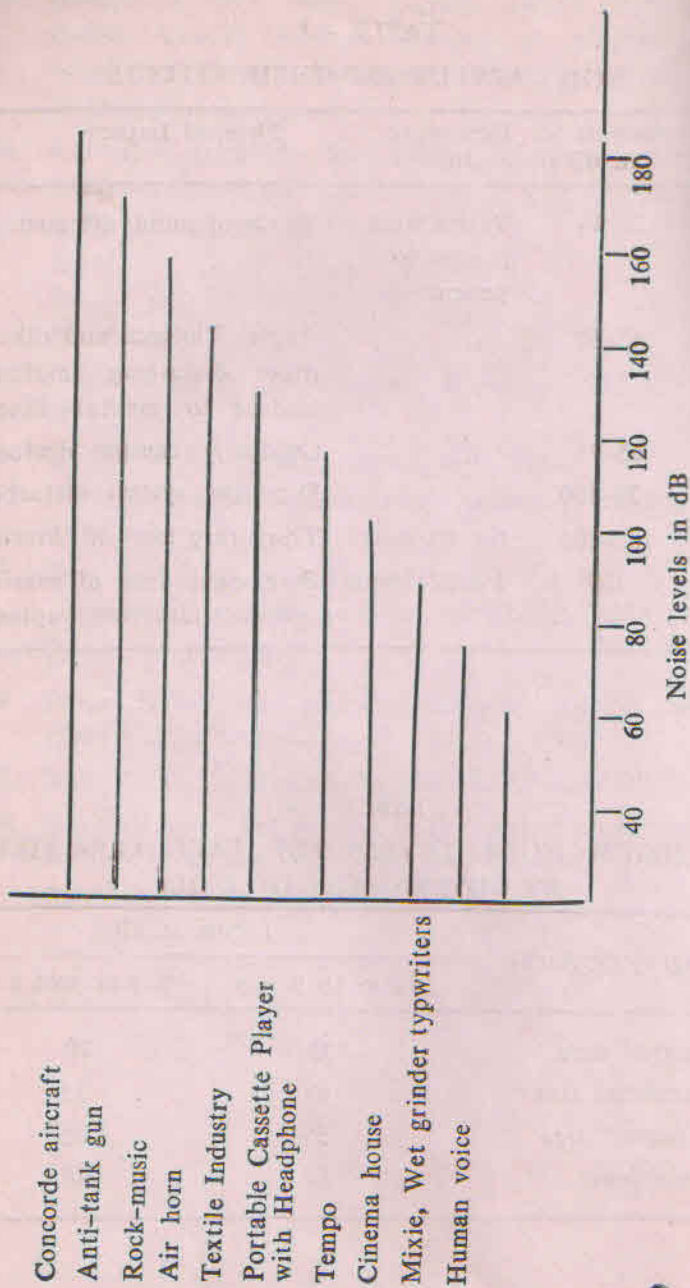


Fig. 1 THE VARIOUS SOURCES OF NOISE AND THEIR LEVELS

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