

Noise Pollution : Emerging Challenges And Regulation

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Environmental noise is becoming omnipotent in the emerging industrialised Indian society. It has challenged the fundamentals of human survival and social well being. 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. Pollution of environment is one of them. In India also, environmental pollution is the byproduct of rapid pace of industrialisation. In the beginning no concrete and effective steps were taken to curb or control its evil consequences, may be, either due to ignorance or lack of technology, but now, its gravity is being gradually recognised. Of the trio of environmental pollution i.e. water, air and noise, it is surprising that NOISE is the pollutant most ignored. Noise, apart from factories in and around modern cities, is also produced by construction equipment, road, rail and air traffic, sirens, motors and engines, fertiliser plants, thermal power stations, radios, stereos, loudspeakers and so on. Noise pollution has increased, is increasing and will increase if not properly regulated. In view of the intensity of harm it inflicts, the problem deserves serious consideration.

An attempt is made here to pinpoint the gravity of the situation caused by noise pollution in India and the likelihood of its harmful effects on the society. Some reflections are made on the necessity of government regulation in the light of foreign experience. In this respect some of the traditional remedies are analysed. Suggestions are also made for inter-disciplinary approach to prevent and meet the challenges of noise pollution in Indian conditions.

Noise sensitivity and harmful effects

The word "noise" is derived from the Latin noun *nausea*. "Noise" may be defined in Law as "an excessive, offensive, persistent or startling

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sound".¹ In acoustics "noise" is defined as "any undesired sound".² In short, best definition of "noise" is "unwanted sound".³ Such sound is disliked by human beings because of its harmful physiological and psychological effects on the people and society.⁴ In general, a person will like to have a peaceful atmosphere for his dwelling house and good health. Any noise, whether it is untimely noise, radio broadcast or engine sound, is considered as an infringement of one's full enjoyment of the peaceful environment. Sometimes it is a matter of degree and the same noise which is appreciated to some extent at one time may become a nuisance after a particular limit. Therefore, it is said that "the noise must be exceptional and unreasonable. Ringing of bells, building operations, vibrations of machinery, fireworks, bands, a circus, merry-go-rounds, disorderly crowds, dancing, singing etc. have been held under certain circumstances to constitute nuisances so as to interfere with quite and comfort of others in society and have been restrained by injunction".⁵ Industrial noise affecting employees, noise from aircraft and noise due to ground transportation by automobiles are some other noises which comprise only a part of general community noise. Transportation net-work of all forms are perhaps the most serious noise makers. It is now recognised that excessive noise like contaminated water and air is an environmental pollutant which must be controlled in the interest of the healthy growth of society.

Human sensibility to sound is a function of all the three factors, namely, intensity, frequency and time.⁶ Sometimes the difficulty results from the lack of a set of objective parameters which reflect the impact of noise on people. Referring to a contention of Dr. Vern O. Kundson, it is said that "if the noise level we live with today continues to increase at the same rate for the next 30 years as it has for the last 30, it could become *lethal*".⁷

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1. See *Encyclopaedia Britannica*. Vol. 16, p. 558 (1968).
 2. *Id.* at 556.
 3. See John Hancock, *Noise Abatement at Municipal Level*, *University of San Francisco Law Review*, Vol. 7 at p. 483 (April 1973).
 4. See statement by James L. Hildebrand in *Noise Pollution : An Introduction to the Problem and an Outline for Future Legal Research*, 70 *Colum. L. Rev.* 652, 656 (1970).
 5. *Supra* note 1 at 558.
 6. Sound is measured by three parameters : (1) Sound pressure level in decibels (DB), a measure of the "Volume" or "intensity" (Decibel is a logarithmic Unit); (2) Frequency is Hertz (HZ) or cycles per sound (CPS); and (3) Time, a measure of sound duration. See also *Hand Book of Noise Measurement*, General Radio Co., Cambridge, Mass.
 7. See *Noise Takes Toll, Says Experts*, *Today's Health*, Oct. 1967.

There is an increase in the background noise at the rate of one decibel⁸ (DB) per year. Scientists believe that even short exposure to sounds at the 150 DB level can lead to hearing damage permanently and the noise of 180 DB would prove fatal to human being. In India, Bombay, Calcutta and Delhi are amongst the most noisy cities in the world. It is estimated that Bombay with more than 2.25 lakh houses, trucks and cars, has on an average a day-and-night noise level of 75 DB. The noise level in Santa Cruz alone is 105 DB. In Delhi, it varies from 50 to 120 DB in day time. The city has already exceeded the 80 DB limit which one can tolerate without slow damage to one's power of hearing.^{8a}

Phychiatrists, psychologists, medical experts, urban system planners and researchers have noted the relativity between excessive undesired noise and mental disorders. These noises are being recognised as a major factor in the celebrated "tensions" of modern living. They contribute and aggravate all of the tension-related diseases—from stomach ulcers, neuroses and mental illness to allergies, cardiovascular respiratory and circulatory diseases. Though urban dwellers do become acclimatised to and tolerant of some noise, it is quite clear that prolonged exposure to unwanted sound can cause a host of health problems. Steady exposure to loud noise results in dizziness, headache, fatigue, inefficiency at work, rise in blood pressure, hypertension and even heart rhythms. Even short term exposure to noise at 150 DB may lead to contraction, of blood circulation, nervousness, exhaustion, dialatoriness in the intestines, stomach and eyes. The worst situation arises when doctors declare that these troubles are not curable. In substance, the environmental noise, though a recently emerging phenomenon, is one of the new killers. The harmful effects demonstrate the need for drastic reforms to control noise pollution. It is really a pity that no significant steps are taken in India to check the dehumanized effect of noise on the placidness of the natural environment.

Legal remedies in foreign countries and India

In every organised society certain activities are controlled by reason of the intensity of the harm they inflict on the environment, the degree of tolerance being relative to the economic and social conditions prevailing from time to time. In the U.S.A., U.K., Japan and even In Israel it has been realised that noise control is an essential factor in industrial planning

8. Noise is measured by the decibel a unit which represents the intensity of sound from the threshold of hearing, zero decibels and the lowest point of audibility to humans, one decibel to infinity.

8a. See *Report of the Study Group of the National Physical Laboratory (CSIR) 1964.*

and development. The following are some of the important measures taken in these countries.

In the United States of America the philosophy which guides environmental law is the underlying policy of the environmentally sound conduct for energy generation and for all aspects of life in American society. The U. S. Noise Pollution and Abatement Act of 1970 is the most significant piece of legislation. Under this law the Environmental Protection Agency, acting through the Office of Noise Abatement and Control, holds public meetings in selected cities to compile information on noise pollution. Suggestions are invited from the public and industry as how to control the evil consequences of the noise pollution. Apart from this legislation, the environmental law is laid down in the National Environmental Policy Act, 1969, the Environmental Quality Act, 1970 and the Executive Order passed by President Nixon on March 5, 1970. The National Environmental Policy Act of 1969⁹ declares a national policy to encourage productive and enjoyable harmony between man and his environment. It aims to promote efforts which will prevent or eliminate damage to the environment and biosphere and stimulate the health and welfare of man, to enrich the understanding of the ecological systems and natural resources important to the nation; and to establish a Council on Environmental quality. In these words the Act of 1969 declares a national policy of the Federal Government in cooperation with the State and local governments and private and public organisations. For further fulfilment of the policy the Environmental Quality Act, 1970 created the office of the Council of Environmental Quality to advise and assist federal agencies in implementing the policy. The Executive Order of 1970 sets out in detail the function of the Council and calls upon the federal agencies to fulfil their responsibilities. In this respect President Jimmy Carter also issued an Executive Order in 1977 which directed the Council on Environmental Quality to issue regulations requiring all federal agencies to prepare environment impact statements which are concise, readable and based upon competent professional analysis. The Council was further directed to issue regulations under Section 102(2) of the National Environmental Policy Act, to establish a procedure for referring to the Council differences among agencies concerning implementation of the Act.¹⁰ It is difficult to state whether a U.S. citizen has a constitutional right in this

9. This law is described by Malcolm Baldwin in *Environmental Impact Statements : New Legal Technique For Environmental Protection*, *Earth Law Journal*, Vol. 1, p. 15 (1975).

10. See for details, U.S. President's Message to the Congress, 23 May 1977, *Presidential Documents*, Vol. 13, No. 22, 23 May 1977, pp. 782-794

respect.¹¹ However, the courts have compelled federal agencies to carry out their functions according to these legislations.¹² In some States environmental rights have been embodied in their own Constitutions.¹³ Some states now provide that citizens may bring environmental violations to the attention of government authorities and receive a part of any fine imposed as a reward.¹⁴

In the United Kingdom, in the thirteenth century, controls were imposed on activities which were likely to present an immediate threat to health. In 1273 an Act was passed by Edward I to prohibit the use of coal as being detrimental to human health¹⁵. In the nineteenth and early twentieth centuries, the threats became more acute with increasing industrialisation and the controls multiplied.¹⁶ Under English Law noise is considered as a private or public nuisance.¹⁷ The Noise Abatement Act, 1960 makes provision in respect of the control of noise and vibration with a view to their abatement.^{17a} This Act also recognises noise or vibration as a statutory nuisance for the purposes of Part III of the Public Health Act 1936.¹⁸ The Public Health (Recurring Nuisances) Act, 1969 has rendered the statutory procedure more effective to deal with recurring nuisances. It also regulates the use of loudspeakers in the streets for the purposes of advertising, entertainment and trade or business by prohibiting recurrence of the nuisance.¹⁹ The Civil Aviation Act 1949 has empowered the Crown to make provision by orders in Council for regulating air navigation generally and in particular for prohibiting aircraft flying over such areas in the United Kingdom

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11. See *Environmental Defence Fund v. Corps of Engineers*, 325 F Suppl. 728 (E.D. Ark 1971); *E.D.F. v. Hoerner Waldorf Corp.*, F. Suppl. 1 E.R.C. 1640 (D. Mont. 1970).
 12. See *Calvert Cliffs Coordinating Committee Inc. v. U.S. Atomic Energy Commission*, F. 2d-2 ERC 1779 (D.C. Cir. 1971).
 13. See for details Alan Wharam, *Environmental Law in the U.S.A.*, *New Law Journal* p. 533, 29 May, 1975.
 14. See, for instance, the New York City Noise Control Code, S. 8. 25 (£) providing that 25% of fines imposed may be awarded to the citizen who complains and supplies information leading to conviction. Also see Elizabeth Haskell, *Managing the Environment: Nine States Look for New Answers* (1971).
 15. See *Tears for John Doe*, 27 Calif. L.R. 349, (1954).
 16. For an account of the emergence of legislation designed to safeguard health from the increasing pollution in the mid-nineteenth century, see Brenner, *Nuisance Law and the Industrial Revolution*, (1974) 3 *Jour. Legal Studies*, 403, 424-431. He cites Nuisance Removal Act, 1846 as the first statute with national scope. See also Alkali Act, 1863; Public Health Act, 1875; and Rivers Pollution Act, 1876.
 17. For details see J. McLoughlin, *The Law Relating to Pollution* 77-85 (1972).
 - 17a. See *Halsey v. Esso Petroleum*, 2 All E.R. 145, (1961).
 18. See Section 92, Public Health Act, 1936.
 19. The Public Health (Recurring Nuisances) Act, 1969, Section 1.

as may be specified in the order.²⁰ The Crown is also empowered to make provision for regulating the conditions under which noise and vibration may be caused by aircraft on aerodromes. Under Air Navigation (Noise Certification) Order, 1970 certain classes of aircraft having turbojet or turbofan engines require a noise certificate before they can take off from or land at any airport in the United Kingdom.²¹ The Air Navigation Order, 1966 empowers the Secretary of State to prescribe conditions which regulate the noise and vibrations made by aircrafts during the course of repair or maintenance. Under Section 14 of the Airports Authority Act, 1965, the Secretary of State is empowered to require the authority to take measures for limiting noise and vibrations or mitigating their effect and for restricting the use of the airport. The law governing noise from motor vehicles is laid down in the Construction and Use Regulations of 1969. Under it, every vehicle must be fitted with an audible warning instrument, but subject to certain exceptions, gongs, bells, sirens and two-tone horns are forbidden.²³ It further regulates the manufacture of motor vehicles that they must be fitted with a silencer and the noise from the vehicles should not exceed certain specified sound level.²⁴

In Japan, anti-pollution programmes are drawn up under the Anti-pollution Basic Law for areas where environmental pollution is already at a stage or is feared to spread in future.²⁵ There is a National Council for Control of the Environmental Pollution under the Chairmanship of the Prime Minister. The areas besides Tokyo are Kanagawa Prefecture, Saitama Prefecture, Nagoya and its surrounding areas, Kyoto along the Yodo river, the lower reaches of the Yamato River in Nara, Osaka, Kilakyushu, Kashima and Oita. Steps are being taken to strictly control the quality of air and water, noise, earth vibrations caused by construction work and land transport vehicles in all the designated areas. The Japanese Government approved a 8.84 trillion Yen project in 1978 which was aimed at restoring a clean environment to Tokyo and to other polluted areas during the next five years. The Metropolitan Environmental Protection Bureau is also entrusted with powers to implement anti-pollution programme effectively.

Even a small country, like Isreal, has taken initiative by enacting legislation to control anti-pollution activities. The Kanowitz Law, enacted in

20. The Civil Aviation Act, 1949, Section 8.

21. Section 1.

22. Regulation 21 (1).

23. Regulation 91 (1).

24. Regulations 22 and 23.

25. See Japanese War on Pollution, *India Express*, 5 April 1978.

1961 prohibits "causing any considerable or unreasonable noise, smell or pollution of the air from any source whatever, if the same disturbs or is likely to disturb a person in the vicinity or a passerby". It allows any citizen to file a complaint, to prosecute and seek retribution for damages, and entitles to seek an injunction against the source of the nuisance.²⁶

In India, there is no exclusive legislation to control noise pollution. The attainment of a higher standard of environmental quality was not, at the initial stages of industrialisation, considered the society's concern. The individuals if they are fed up with polluting activities could seek redress only through private law. Indian Penal Code, under Section 268, provides for public nuisance which affect the people in general and cause common injury. People who run offensive trades and thereby or by any offensive means corrupt the air or by any means cause loud and continued noises and thereby cause injury or annoyance to those dwelling in the neighbourhood in respect of their health or comfort and convenience of living are liable to prosecution for causing public nuisance.²⁷ The magistrates are empowered to issue orders prohibiting the use of loudspeakers in particular areas. Under the Motor Vehicles Act, 1939 there are certain restrictions on trucks regarding the use of double sirens while passing through certain localities, violation of which leads to prosecution. But inspite of such regulations, the government has failed to check the unwanted sound created by transport vehicles and also by industries.

Private suits for excessive noise can be filed under law of Torts as a tool for noise control. Noise is compensable as a nuisance when it is unreasonable and excessive, or when it produces real physical discomfort or injury to a person of ordinary sensibilities so as to interfere with the use and enjoyment of property. The court can grant damages.²⁸ But how difficult it is

26. There is the "Israel Environmental Protection Service". At this place some of the nation's top experts in water quality, air pollution, solid wastes, physical planning and energy find their way each Monday morning to meet and coordinate a national battle plan for protecting the country's ecosystem. See *News From Israel*, April 15, 1977, p. 14.

27. See Ratan Lal and Dhiraj Lal, *The Law of Crimes* (21st Edn.), 652. In *Kirori Mal Bishambar Dayal v. The State*, A.I.R. 1958 Punj. 11 (12), Bhandari C.J. observed :
It has been established by the evidence on record that the factory in the present case creates distressing noises and vibrations which render the occupation of the property in the neighbourhood unsafe and uncomfortable. It seems to me that the existence of the factory is a nuisance for the expression "nuisance" includes every act or illegal omission which causes danger or annoyance to the public or to the people in general who dwell or occupy property in the vicinity.

28. See Dr. B.S. Sinha, *Law of Torts* 323 (3rd Edn. 1978).

for individuals at the cost of their time and money to involve themselves in such trouble of instituting a law suit.²⁹

Besides these actions under public and private nuisance there are actions of trespass, assault and "taking" (the exercise of eminent domain by inverse condemnation or easement). The traditional private action is designed to fulfil the dual function of compensation and the enforcement of standards—the nuisance action provides a method both of obtaining damages in torts and of protection, by an injunction, a property interest in the environment. The basic flaw in each of these remedies, however, is that they simply offer a sum of money to the injured litigant and nothing more. The problem of community noise persists. Very few cases for industrial compensation find their way through the maze of procedural obstacles and secure recovery. The regulations are apparently rarely enforced.

The usefulness of the legal remedies for noise is closely bounded by the limits of judicial competence to digest the factual data necessary to create workable noise control policies. Suits in law courts cannot reflect on adequate consideration of the physiological and psychological effects of noise on people or of the technological possibilities for controlling noise.³⁰

Need for legislation—The Noise Pollution Control Act

The problem of noise control, in fact, has gone unattended while air and water pollution has, at least, received some official recognition. The situation is alarming and often the victim of noise pollution helplessly looks to the law for protection. The present private law remedy is inadequate to deal with the evil impact of noise pollution and it lags behind the fast, progressive science and technological era. Of course, public apathy is greatly responsible for not highlighting the evil consequences of such kind of pollution.

A separate legislation in India to control noise sources is extremely significant and timely. An environmental law in a way transcends frontiers.

29. Professor Harold Green suggests three reasons why private litigation is generally insufficient to protect the environment : "(1) the plaintiff must show a casual link between his injury and the defendant's conduct; (2) the court's utilisation of cost benefit analysis is hard on plaintiffs; and (3) Private litigation is costly and complex". See also H.P. Green, "The Role of Government in Environmental Conflict" (2-4) (Unpublished paper submitted to the Conference on Law and the Environment at Warrenton (1969) quoted in *Harv. Journal on Legislation*, p. 342 (1970).

30. See Freedman and Sklaren, *Noise Pollutions : Methods and Procedures of Abatement* in *Contemporary Social Problems*, Ch. 11, pp. 240-4.

It reflects the underlying economic and industrial situation of the country at distinct stages of development. In view of the present industrial development of the country, enactment of a separate legislation to control "NOISE" is a must. Every citizen is entitled to protection and relief through law against harmful effects of the major pollutant—NOISE. In this connection it will be worthwhile to consider the U.S. Noise Pollution and Abatement Act of 1970 as a model under which every person is entitled to an ambient noise level that is not detrimental to his life and health. The details and drafting could be worked out. It may be entitled "The Noise Pollution Control Act" to meet special Indian conditions. Apart from such kind of central legislation, there should be a City Noise Control Code for all major cities in India on the model of the Local Law No. 57 of the City of New York—The City's Noise Code³¹ which says that the creation of any unreasonably loud, disturbing and unnecessary noise is prohibited. Noise of such character, intensity and duration as to be detrimental to the life or health of any individual is forbidden. It further requires that whenever the city authority contracts for private construction work, the companies engaged have to agree to use quiet equipment meeting the standards of the Code. Some such noise control measures could be consolidated in a Code for Indian cities. Punishment for any breach of the law should be made exemplary.

Looking to the federal character of our Constitution, it is significant in environmental issues to outline the relationship between the Central Government and States in order to allocate the respective responsibility. This would probably depend on the origin of the problem, the level of governmental responsibility, corporate capacity in public and private sector and the scientific reality. Sometimes the problem of noise pollution may cut across several governmental jurisdictions. It will, therefore, be important to set minimum environmental standards in the proposed legislation. There have to be proper adjustment between public control and private rights while laying down the standards. To understand the dynamics or adoption of qualitative noise standards it will be fruitful to give due consideration to the acoustical concepts and measurement of noise in the interest of social health. The proposed legislation may also create a National Council on Environmental Quality to oversee governmental policies and how they can be moulded to meet the conservation of social, economic, health and other requirements. Other necessary details may be worked out by an Expert Committee of the Government.

31. See Local Law No. 57 of the City of New York—New York Noise Control Code. Also see Noise Pollution : Methods and Procedures Of Abatement, in Freedman and Sklaren. *Contemporary Social Problems*, p. 249 (1972).

Other measures of control

Environmental pollution is a field where the economic implications of legal rules are direct and visible. The policy maker, who is required to construct a legal framework for such control, is confronted with an array of new discoveries in science and technology.³² There is continuous evolution from one set of socio-economic and technological standards to another. Any business or industry, whether in private or public sector, that does not respond to the creativity of the society and quality improvement, is cutting off its future nourishment and prosperity. Corporation's efficient functioning depends on the health of its society. The edifice of industrialisation in India is based on the bedrock of western technology which we imported without preparing in advance to cope with the evil consequences of its offshoots. Noise pollution is the impact of such offshoot.

Granting of industrial licences may require thorough scrutiny at various levels by the proposed Council on Environmental Quality. The issue may also be made public for comments and in the light of those comments, the reviewing agency may take necessary technological or other steps to control noise.

A more useful approach to problems of noise would be to create incentives for the use of quiet technology so that the noise pollution may be prevented at source. The possibilities in technological change by scientific research and inventions in the matter of creating a calm atmosphere may even be more essential.³³ A good deal of noise resulting from ground and air transportation depends on the design considerations of vehicles themselves.

Further, Grants-in-aid from Central Government for maintenance of highways and incentives to use noise controlling devices should be given. Loans or subsidy may be granted to State Governments and private industrial or commercial undertakings for installing pollution abatement instrumentation.

Keeping human welfare in view the planning process should prescribe acceptable noise levels for various sorts of operations in factories, constructions and transportation. The law may step in to impose constraints which may prevent the existence of noise exceeding such levels. Responsibility for

32. See Krier, *Environmental Law and Policy* (1971); Freeman, Haveman and Kneese, *The Economics of Environmental Policy* (1973); Thompson, *The Economics of Environmental Protection* (1973); Pearce, *Environmental Economics* (1976); Lutz, "Environmental Management Laws" 24 *Am. J. Comp. L.* 447 (1976).

33. "Any form of noise, possibly excluding the sonic boom can be controlled if Society is willing to pay the price". Statement of Leo L. Beranek quoted in *Urban Noise Control*, 4 *Colum. J. Law & Soc (Prob)* 105, 108.

enforcing compliance with standards should be placed in the Central Department of Transport in cooperation of the respective State Departments.

Even at the United Nations Conferences on "Human Environment"³⁴ and "Urban Habitat",³⁵ environmental pollution came for serious and detailed discussion and there was unanimous agreement on the need for decentralisation of cities and metropolitan areas. These could be used as guidelines by those entrusted with the planning of industrial estates, new towns and cities in India. Special emphasis should be on the growth of backward areas and a balanced regional economic development.

A genuine inter-disciplinary approach to deal with the whole problem of pollution of noise is a matter of great urgency. Mere framing of legislation will not solve such a gigantic problem. For short and long-term results, the fight against noise have to be waged on all fronts. We should build up public opinion for a permanent noise abatement programme. Acoustics seems to be still an unknown science in the country. Public relations and liaison between local administration, health department and industry and business should encourage voluntary action. Citizen groups have a creative role to play in suggesting new legislation to cope with environmental problems, both at Central and State levels. I would strongly recommend for forming a "Society for Noise Abatement and Control".³⁶ This society may have officials and non-officials as its members who are concerned directly or indirectly with such problems. There is growing awareness of the deterioration in conditions of human co-existence and in quality of life and peaceful atmosphere. The administrators, scientists, industrialists, economists, and all those engaged in business and industry, transport, police and planning should make concerted efforts to channelise their energies to meet the challenges posed by pollution of noise.

WE HAVE TO LIVE ON THE EARTH
WE CANNOT GO AND LIVE ON THE PLANETS !
LET US KEEP THE EARTH CLEAN,
LET US KEEP THE ATMOSPHERE PEACEFUL !

34. See *Report of the U.N. Conference on Human Environment (1972)*, *International Legal Mat.* 1416. Also see Gunningham, *Pollution, Social Interest and the Law (1974)*.

35. *U.N. Conference on Urban Habitat (1976)*.

36. The Noise Pollution Control Division of the Consumer Council of India has made the Consumer conscious of the major threat posed by noise pollution to the human being. To step up its programme in this direction it convened a meeting of Scientists and experts and held a symposium on 5 June 1974. Such efforts should continue. See *Consumer Bulletin*, Feb. 1974 p. 21.