Chapter IV
ENVIRONMENTAL PROTECTION: THE LEGAL FRAMEWORK

1. INTRODUCTION

The later part of this century saw a growing concern over environmental abuse, exhaustion of natural resources and alteration of nature's balances. Concern arose over, *inter alia*: population increase, greater pollution levels; human impact on animal populations and natural landscapes and other aspects of resource depletion. As a part of national concern many states took steps to increase the scope and effectiveness of environmental protection laws. In India, after 1970, legislative activity intensified with the passing of specific statute on water, air, wild life and environment. This spate of legislation, however, does not mean that we did not have laws concerning environment protection earlier. We did have a number of diverse laws relating to environment as found in criminal law, local government law, the law relating to town and country planning and the law of torts, etc. The present chapter seeks to examine the legal framework provided for environmental protection in India.

2. COMMON LAW ASPECTS OF ENVIRONMENTAL LAW

Actions brought under tort law are among the oldest of the legal remedies to abate pollution. The contribution of the case law to environment protection and the influence of that law, particularly with regard to statutory nuisance, negligence, strict liability is of immense importance.
In India, a common law tort action against the polluter is still one of the remedies available. Common law is one of the oldest sources of our environmental law as it is notable that common law, originally introduced into India by the British, continues to apply here by virtue of Art. 372(1) of the Constitution unless it has been modified or changed by legislation in India. The basis of its application is "Justice, Equity and Good Conscience." Of course, it is only that part of the common law which is suited to the genius of the country which is accepted by the courts. The common law aspects of Environmental Law in India are Nuisance, Trespass, Negligence and Strict liability. Pollution cases relating to riparian rights and prior appropriation also fall under this branch of law.

A NUISANCE

Modern environmental law has its roots in the common law principles of nuisance. Truly, the substantive law for the protection of the citizen's environment is basically that of common law relating to nuisance. There are exhaustive and diverse definitions of 'nuisance.' Nuisance, ordinarily means anything which annoys, hurts or offends. Nuisance as a tort means 'an unlawful interference with a person's use or enjoyment of land or some right over, or in connection with it.' Hence acts interfering with the comfort, health or safety are covered under nuisance. The interference may be due to
smells, noise, fumes, gas, water, heat, vibrations, smoke, germs etc.

Nuisance can be divided into public and private nuisance, the first of which is a crime, though it can also be a tort in certain circumstances, and the second of which is always tortuous.

(a) Public Nuisance

A public nuisance can be defined as an unreasonable interference with a right common to general public. In other words, an act or omission which materially affects the reasonable comfort, convenience, health, safety or quality of life of a class of persons is a public nuisance. The kinds of activities that amount to environmentally damaging public nuisance include carrying of trades causing offensive smells, intolerable noises, dust, vibrations, rubbish dumps, cess pit or other collection of filth that affects the health or habitability of a locality.

Public nuisance is both a tort and crime. The remedies for a public nuisance are: (1) a criminal prosecution for the offence of causing a public nuisance, (2) a criminal proceeding before a magistrate for removing a public nuisance, and (3) a civil action by Advocate General or by two or more members of the public with the permission of the court, for a declaration, an injunction or both. Public nuisance does not create a civil cause of action for any person unless he proves particular or special damage
beyond that suffered by all the other persons affected by the
nuisance. The object of this rule is to avoid multiplicity
of litigation.

(b) Private Nuisance

A private nuisance is the using or authorising the use
of one's property or of anything done under one's control, so
as to injuriously affect an owner or occupier of property by
physically injuring his property or by interfering materially
with his health, comfort or convenience. In short, private
nuisance is an unlawful interference with a person's use or
enjoyment of land or some right over, or in connection with
it. The basis of action under nuisance is unreasonable and
unnecessary inconvenience caused by the use of defendant's
land. Reasonableness of the defendants conduct is usually
the pivotal question in nuisance cases. In the
determination of 'reasonableness' courts are generally guided
by the ordinary standard of comfort prevailing in the
neighbourhood. Minor discomforts that are common in crowded
cities are not viewed as nuisance by the courts. To be a
nuisance, an act must satisfy certain conditions. First,
it must not arise on premises in the plaintiff's occupation.
It must arise outside the plaintiff land and then proceed to
affect that land or its use. Second, it must generally be a
continuing wrong. Most nuisances arise because of a regular,
long standing unreasonable use of land. A single instance of
deleterious affectation may, however, be evidence of a
continuing unreasonable use of land, or so serious and grave an occurrence in itself as amount to an act of nuisance.

Third, the damage suffered must be real or sensible in that it can be measured in some way.

Private nuisance is an act affecting some particular individual or individuals as distinguished from the public at large. Hence, it cannot be made the subject of an indictment, but may be the ground for a civil action for injunction and damages. The common defences in nuisance cases are the right obtained by prescription to pollute; estoppel, comparative injury and statutory authorization.

The operation of nuisance in relation to pollution is quite wide. It covers a wide range of inferences with the use and enjoyment of one's land or property coming from pollution of water, air, noise, smells etc. As regards water pollution, injunctive and damages reliefs have been granted to prevent the pollution or compensate the plaintiff for the injury suffered by him on account of pollution of surface, underground and tidal waters caused by the defendant. In *Pride of Derby and Derbyshire Angling Association V. British Celanese Ltd.*, injunction was granted restraining the defendants, the local authority from polluting the river on account of discharge of insufficiently treated effluents of sewers controlled by them under a legislation and consequently the plaintiffs right of fishery in the river was unreasonably interfered with. This was held to be a nuisance and relief granted. Similarly, in *Haigh V Deudraeth Rural*
District Council the plaintiff owned certain fields which were in part intersected and in part bounded by a stream into which crude sewage matter had been discharged in considerable amount by the sewers owned by the local authority. It was held to be a nuisance and injunction was issued to restrain the latter from discharging sewage matter into river. Adding something to water so as to change deleteriously its quality can constitute nuisance and remedial action under common law be granted. At the same time, there is no right to discharge sewage into the sea so as to cause a nuisance to another, nor such a right be acquired by prescription. An action for trespass and nuisance may be maintained if sewage is discharged through sewers into the sea near oyster beds which are polluted so as to render them unfit for use, by the occupier of the oyster pond. There is no Indian case on nuisance related to water pollution but the basic common law on the point is applicable here too.

Atmospheric pollution may amount to an actionable nuisance, though its existence may, sometimes be difficult to establish. If smoke, vapour, gases, fumes, dust etc. are communicated to the air which surrounds and enters plaintiffs premises so as to cause inconvenience to the occupier thereof and renders the premises less comfortable, the act will be a nuisance. Therefore, creation of stenches, causing smoke or noxious fumes to pass over the plaintiffs property, raising of clouds of coal dust and emission of smuts, have all been held actionable nuisance under common law.
Where the nuisance causes only personal discomfort, the nature of the locality has to be considered to see if action should lie. Under common law, a land owner is entitled to have air untainted and unpolluted by the acts of his neighbours. By this is meant, at least, "air not incompatible with physically comfortable human existence, though air may not be as pure and fresh as when the plaintiffs house was built."  

In India, voluntarily vitiating the atmosphere so as to make it noxious to the public health is indictable as an offence under section 278 of Indian Penal Code. Control of air pollution amounting to private nuisance, is, however, possible by instituting a civil remedial action. The civil remedy against air pollution has been in vogue even in the preindustrial period. Thus in J.C.Galstaum v Dunia Lal Seal 29 Calcutta High Court held that a person cannot claim a right to foul municipal drain by discharging into it what it was not intended to carry off and then throw on other persons (municipal authorities in this case), an obligation to alter the drain in order to remedy the nuisance that he has produced. The Court issued an injunction restraining defendants from discharging refuse liquid from shellac factory situated near plaintiffs garden house, into a municipal drain, which emitted foul smell and was noxious to the health of the neighbourhood and specially to plaintiff as it damaged him in his health, comfort and market value of his garden property and awarded exemplary damages of Rs.1000 in
favour of the latter.

Similarly, erection of chimney with holes emitting smoke and fumes that materially interfere with ordinary comfort of the plaintiff; generating dust from brick-grinding machine which polluted the atmosphere and entered the consulting chamber of the plaintiff and caused inconvenience to him and his patients are actionable as nuisance.

Noise can be either a public or private nuisance. No proprietor has an absolute right to create noise upon his own land, because any right which the law gives is qualified by the condition that it must not be exercised to the nuisance of his neighbours or of the public. As to what amount of noise or annoyance from noise will be sufficient to sustain an action of nuisance, there is no definite legal rule or measure. It is a question of fact in each case. However, the assessment of whether noise constitutes an actionable nuisance will depend on considering factors such as: the nature of locality; the time when noise created; the duration of the noise, mode of committing it; the nature and the desirability of the defendants action; the nature of the harm suffered by the plaintiff and the defendant's state of mind, though not all of these factors will be equally relevant in any given case. Noise becomes actionable nuisance only if it materially interferes with the ordinary comfort of life, judged by ordinary, plain and simple notions and having regard to above factors. The standard of judging actionable
noise is according to that of man of ordinary habits and not
of men of fastidious tastes or of over-sensitive nature. 35
The following have been held to be noise nuisances: producing
noise by tom-tom, cymbal during the performance of
ceremony, 36 or from machine 37 long after the hour when people
would ordinarily go to sleep, running a flour mill in a noisy
locality which caused additional noise and vibrations and
materially interfered with the physical comfort of the
plaintiffs; 38 deliberately making loud noises and shrieks so
as to disrupt a music teachers lesson; 39 ringing of church
bells to the annoyance of people in neighbourhood and the
plaintiff 40 and many more.

It is to be noted that the tort of nuisance as a
remedy in regard to environmental damage, suffers from a
number of drawbacks. The main drawback of nuisance action is
that as reasonableness of defendant's conduct is the central
question in such cases, the unreasonableness on the part of
defendant is often difficult to prove, for the reasonableness
of the defendant's conduct is usually determined by the
courts by weighing its utility against the gravity of the
harm to the plaintiff. In the cases where the major
polluters are large industrial firms, it is often difficult
to prove unreasonableness in the conduct of their business
having regard to their high economic and social status. 41
Moreover, in the matters especially of noise pollution, as
the nuisance law has developed, there is no ideal or absolute
standard which can be expected from the defendant, such as
that of a "reasonable man" in case of negligence. On the other hand, the standard in nuisance varies from place to place. A disturbance will be a nuisance in a peaceful area whereas a similar disturbance may not be so in a noisy locality. That would imply that if in a certain area people have started living in noisy conditions, their future generation will also have to put up with the same and will not be able to have any relief. To overcome such a difficulty a case has been made for judging the reasonableness or unreasonableness of the interference by looking at the interest invaded viz., the damage caused by alleged nuisance to the plaintiff. The courts have been tending to balance hardships in the determination of unreasonableness, lack of 'standing' to sue is another factor which makes the nuisance law inadequate to control widespread pollution. 'Special Injury' is to be proved for a successful action in private actions on public nuisance, by the plaintiff, which must be different in kind from that suffered by the general public and not just different only in degree. If the courts insist on this, the nuisance action by private persons against pollution, against air pollution, in particular, will put technical evidentiary burden on the plaintiff to establish casual link between the pollutant and the injury and thus, render the remedy less effective. Still another difficulty is the burden of proving material harm attributable to unreasonable conduct of the defendant since in many cases it is rather
impossible to point out any particular polluter responsible for the poor air or water quality. 45

B TRESPASS

Closely related to nuisance but distinct and occasionally invoked in environmental cases, is the remedy available to the victim of pollution under tort of trespass. Trespass requires an intentional invasion of the plaintiffs interest in the exclusive possession of property. Invasion may be direct or through some tangible object. Thus, deliberate placement of waste in such circumstances as will carry it to the land of plaintiff by natural forces, 46 emission of gas 47 or invisible fumes 48 constitute tort of trespass. Trespass of the nature described in above cases must be distinguished from private nuisance which resembles trespass. The distinction is important because trespass is actionable per se whereas nuisance is actionable on the proof of damage. The distinction between the two lies in the nature of injury. If the injury is direct it is trespass and if it is consequential it is nuisance. To sustain an action for trespass, it is enough to prove that there has been intentional, unprivileged physical entry by a person or object on land possessed by another. Upon the proof, technical trespass plaintiff becomes entitled to nominal damages and injunctive reliefs.

Despite having distinct advantage over nuisance, actions under trespass in environmental cases have been
rarely invoked. Court's tendency has, however, been to give relief under this head of tort. For instance, in Martin v Reynolds Metal Co., the court modified the traditional definition of trespass to bring industrial pollution within the ambit of liability. It defined trespass as "the invasion of land owners right to exclusive possession, whether by visible or invisible substance" and held that mere setting of fluoride deposits upon the plaintiffs land was sufficient to constitute actionable trespass.50

It may be noted that trespass remedy, despite its wide scope, is inadequate to control air pollution. The difficulty in identifying the definite source of pollution, high litigation cost and unwillingness on the part of the people to resort to such remedy, make it less popular amongst the people. Besides such an action requires some direct physical interference by one against the person or property of another whereas environmental degradation, on the other hand, generally tends to be indirect in its nature and effect. Therefore, aggrieved persons may find it difficult to establish a successful legal action for trespass.51

C. NEGLIGENCE

Negligence is another specific tort on which a common law action to prevent environmental pollution can be instituted. Negligence as a tort is the breach of a legal duty to take care which results in damage, undesired by the defendant, to the plaintiff. It has three important
elements: 53 (1) A legal duty to exercise due care on the part of the party complained of towards the party complaining the former's conduct within the scope of the duty; (2) Breach of the said duty, i.e. there is failure to act reasonably in a situation where reasonable care is required. What is a reasonable care in any given situation is dependent on the surrounding circumstances, facts of the case and varies according to the magnitude or risk involved, the utility of defendants actions, the burden of taking adequate precautions to eliminate the risk and magnitude of prospective injury, 54 and (3) consequential damage which must have been factually caused by breach of duty and must be the reasonably foreseeable consequence of the breach. In an action for negligence, the plaintiff must prove the above three elements. Once the plaintiff has satisfactorily proved the existence of the above facts a prima facie case of negligence is made out. Thereupon it becomes the duty of the defendant to come forward with evidence to show that the act was not negligent.

The common law action for nuisance has been but with limited success invoked to get damages in air and water pollution cases. 55 In India in Mukhesh Textiles Mills (P) Ltd V H.R. Subramaniya Sastry 56 wherein the respondent Plaintiff suffered damage to their standing paddy and sugarcane crop in their fields from inundation of water, polluted with some 8000 tonnes of molasses belonging to appellant/defendent's sugar factory. The molasses had been
stored in a earthen tank. This earthen tank had become dilapidated having been dug into by rodents and as a result its embankment collapsed and a large quantity of molasses overflowed and emptied into water channel that passed into plaintiffs land. The High Court of Karnataka held that the breach of the molasses and the inundation of crops by molasses laden water viewed from any of the principles of 'foreseeability' or 'strict liability' a duty situation as well as failure to discharge the duty emerged in the present case and hence the appellants were held liable.\textsuperscript{57}

It has to be noted that the usefulness of actions for negligence in environmental litigation is limited. An action for negligence may be the only remedy available to a person who otherwise cannot sue for nuisance or under \textit{Rylands v Fletcher} because of technicalities.\textsuperscript{58} The greatest difficulty in negligence cases is the proof of defendant's fault. To prove breach of duty on the part of defendant is by no means simple. Breach is nowadays thought of as an unreasonable failure to achieve the standard of care required by law or to conform to the general and approved practices of the particular sphere of activity in question. Conformation with general policy and associated standards, or generally accepted trade or professional practices are the usual ways to defeat the allegations of negligence and are good defences available to the defendants.

Defeating a defence of compliance with professional or trade practice, particularly within the sphere of
environmental hazards will be quite difficult for an ordinary plaintiff who in contrast to defendant, happens to be economically weak and lacks access to technological know-how. For instance, in *Pearson v North Western Gas Board*\(^5\) wherein the plaintiff and her husband were injured and their house was destroyed as a result of an explosion of gas which had escaped from a gas main. The gas had been able to escape because of movements in the soil consequent to severe frost that fractured the main. The action of plaintiff failed due to his inability to adduce expert evidence to prove negligence on the part of defendants. The latter, however, through expert evidence who testified that the main was dug sufficiently deep; the metal of the main was in good condition and that no reasonable steps were open to safeguard the public from consequences of such fractures, rebutted the case of negligence against them.

Difficulties inherent in proving negligence in the conduct of allegedly environmental damaging operations also stem in such cases wherein the defendant's activity is environmentally injurious but is in conformation with general policy and associated standards sanctioned by Parliament. Courts have shown reluctance to upheld the actions of negligence in such cases. For example, in a recent case *Budden v B.P. Oil Ltd.*\(^6\) a number of parents in London brought an action for negligence against the defendants on behalf on their children alleging damage to health consequent on the presence of lead in petrol. The court of Appeal found
that the oil companies had complied with regulations made by
the Secretary of State for the purpose of controlling
pollution. The court held that "where Parliament has
sanctioned a general policy and associated standards after
due enquiry, it is not negligent to comply with that policy
and standards. It is not for the courts to make decisions
which might have the effect of requiring compliance with a
different and inconsistent policy." and struck out the
case.

Another difficulty in negligence cases of pollution is
that of establishing the casual connection between the
negligent act and the plaintiff's injury, particularly, when
the effects of the injury remain latent over long periods of
time and can be attributed to factors other than known
pollutants, or to the polluters other than the defendant. Prospective damages though can be claimed in negligence
pollution cases but they may remain unclaimed due to
operation of res judicata in the event of their having been
not claimed in the earlier suit. The determination of
prospective damages may increase the plaintiffs evidentiary
burden who may have to adduce expert evidence to establish
the type and extent of damage.

D  STRICT LIABILITY

The rule of strict liability as enunciated in Rylands
V Fletchert is another form of private law action in respect
of environmental hazards. However, due to its highly
technical nature, the role of this form of liability in enforcement of actions has been very limited in India. The rule as enunciated by Blackburn J. in that case is that "the person who for his own purpose brings and collects and keeps there anything likely to do mischief if it escapes must keep it in at his peril; and if he does not do so is prima facie answerable for all the damage which is the natural consequence of its escape." The rule has following components which must be fulfilled so as to attract its application: (1) A person must bring and collect material on his land; (2) The accumulation should be for his own purposes. This component has been frequently ignored. It is generally considered that an occupier who allows another to accumulate matter on his land can be liable under the rule. (3) The matter must be something likely to do mischief if it escapes. The matter may not necessarily be dangerous. (4) There must be an 'escape' from the place of accumulation to some other place outside the defendants control and (5) the defendant's use of land must be non-natural. Upon the presence of the above components, the defendant is prima facie strictly liable for damage caused. Damage may be to land, to the occupier's chattels on land or personal injury.

As the liability is strict the defendant can raise only a few defences. These are: (1) An act of God is an escape occurring without human intervention following natural causes in circumstances which no human foresight could
provide against such as flood, earthquake etc. (2) The plaintiff's consent; (3) an act or default of the plaintiff; (4) the natural use of land by the defendant; (5) the act of third party provided the act was of a kind which the defendant could not reasonably have contemplated and guarded against; (6) statutory authority.

The rule of strict liability has been applied to a variety of circumstances wherein damage has resulted either due to fire, gas, explosions, electricity, oil, noxious fumes, colliery spoil, vibrations etc., covering the water and air pollution, waste deposits aspects of environmental hazards. Courts in such cases investigate not only the reasonableness of accumulation but also defendant's responsibility for its actual escape.

In India, the rule of strict liability has been applied in limited situations relating to escape of water causing mischief to landed property and chattels or fire etc. There has been a remarkable judicial achievement in 1985. A more stringent rule of strict liability than the one in *Rylands V Fletcher* was laid down by the Supreme Court in the case of *M.C. Mehta V Union of India*. The case related to the harm caused by escape of oleum gas from one of the units of Shriram foods and fertilizer Industries in Delhi. The Court after observing the difficulty of the old rule of *Rylands V Fletcher* to cope up with the needs of a modern industrial society with highly developed scientific knowledge and technology where hazardous and inherently dangerous
industries were necessary to be carried on due to their social utility, found it necessary to lay down a new rule not yet recognised by English law, to adequately deal with the risks arising in a highly industrialised economy. The court evolved a new 'principle' of liability for enterprises engaged in hazardous or inherently dangerous activities. Under this principle if any harm results from the hazardous activity the enterprise is absolutely liable to compensate for such harm. Such liability affords no exceptions available under the rule in Rylands v Fletcher. Such a rule, notwithstanding, makes a valid point to ensure that hazardous industries should bear the burden should any damage result from the escape of such substances but its fairness, particularly in such cases where the escape which may result from any natural calamity such as an earthquake or from an attack from an enemy aircraft is subject to doubts.

E   RIPARIAN RIGHTS

Riparians rights is not any separate head of tort as such. Riparian owners possess certain specific rights under the law of torts against environmental pollution, hence require a special mention here.

Riparian owners (that is who have title to land adjacent to a natural stream) have an equality of rights with non-riparians in regard to pollution of artificial streams. Here law comes to their rescue by providing the remedy under the tort of nuisance. But at common law and now under section 7 of the Indian Easement Act, 1882 riparian owners in
India have special protection against the pollution of natural streams. Every riparian owner is entitled to continued flow of waters of a natural stream in its natural condition without any obstruction or unreasonable pollution, that is undiminished in quality and quantity. A upper riparian owner cannot use the waters of a stream so as to injure the rights of a lower riparian in those waters. Every riparian owner has a right of reasonable use of water for purposes of his riparian property and therefore, the right of a lower riparian owner is subject to this right of reasonable user by the upper riparian. For the existence of this right of a riparian it is not necessary that he should be the owner of the land forming the bed of the stream. Similarly, 'riparian rights belonging to lower riparian owners avail even as against him on whose land the stream has its origin.' Another characteristic of such right is that it is confined only to natural stream and does not extend to artificial streams, or surface water not flowing in defined channel.

An action for damages and injunction are the common law remedies available to a riparian owner against a polluter. The pollution is actionable per se. A riparian owner need not prove the actual damages though he may be required to prove that the act of the polluter has resulted in making the water less fit for uses to which he was entitled. The pollution, in contrast to a temporary or trifling must be material or appreciable or cause
inconvenience.\textsuperscript{84} The Indian legal system, notwithstanding the relevant provisions as enunciated in the\textit{Indian Easement Act} 1882, recognises a common law riparian right to unpolluted water. It would, therefore, appear that the common law right exists under the law of torts quite apart from statutory provisions, though the former right is rarely invoked in contemporary water pollution litigation. The Supreme Court, has however, given revived judicial recognition of this doctrine in\textit{M.C. Mehta V Union of India}\textsuperscript{85} where it stated that: "In common law the Municipal Corporation can be restrained by an injunction in an action brought by a riparian owner who has suffered on account of pollution of the water in a river caused by the corporation by discharging into the river insufficiently treated sewage from discharging such sewage into the river."\textsuperscript{86}

The application of the doctrine of rights of riparian owners, particularly in view of the findings of the Supreme Court's decision in the\textit{M.C. Mehta's Case} is likely to give rise to some contradictions in situations where an industrial unit or municipality is releasing effluent into a river in compliance with the consent orders of a state Board and the use (domestic or irrigation) of waters of such river causes harm to a riparian landowner. A court may be faced with difficulty to rule on the riparian land owner's request for an injunction retraining the polluter from releasing effluent.
Another difficulty in the application of the doctrine stems in view of the enormous spread and extension of irrigation from rivers in India. The question in such cases would arise whether the canal water is the water of a natural stream and whether the common law rights would attach to such water. It is, however, clear that where river water is used directly from a river, the common law right and also the right given under Sec. 7(f) of the Easements Act would certainly be available to the riparian owner. But since the canals are supplied from the same river water even though the water flows into definite canals and the use of such water is also regulated by the statute governing irrigation, the question needs consideration whether the common law right to prohibit pollution of such water can be exercised by the users of such water and whether such users can be called riparian owners.87

F REMEDIES

A person injured by a pollutional activity will wish to obtain recompense for his loss and a cessation of the activity. A plaintiff in a tort action may sue for damages or an injunction or both.

(a) Damages

Damages are the principal remedy for loss suffered. Damages may be either "substantial" (ordinary) or "exemplary" (vindictive). Substantial damages are those which are intended, subject to the rules of remoteness, to compensate
the plaintiff for the damage he has suffered on account of defendant's wrongful act. The law does not aim at restitution but compensation and the true test is, what sum would afford under the circumstances of the particular case, a fair and reasonable compensation to the party wronged for the injury done to him. 88

Exemplary damages are usually awarded in excess of the material loss suffered by the plaintiff with a view to prevent similar behaviour in future on the part of defendant. Such damages are awarded with objective not to compensate the plaintiff but to punish or deter the wrongdoer for his outrageous nature or conduct which may be reflected in his persistent recurrence of wrongful activity. 89 House of lords in Rookes V Banard 90 classified three categories wherein exemplary damages can be allowed. The first category is oppressive arbitrary or unconstitutional action of the Government or its servants. Cases in the second category are those in which the defendant's conduct has been calculated by him to make a profit for himself which may well exceed the compensation payable to the plaintiff. Third category consists of cases in which exemplary damages are expressly authorised by statute. The Supreme Court of India in Shriram Gas Leak Case 91 has added another categories viz., when harm results from the hazardous or inherently dangerous nature of the activity in which the defendant is engaged. In such cases, compensation "must be correlated to the magnitude and capacity of the enterprise because such compensation must
have a deterrent effect. The larger and more prosperous the enterprise the greater must be the amount of compensation payable by it.92

Prospective damages can also be awarded in respect of future loss resulting from the same cause of action in the same suit. The determination of prospective damages in environmental cases is hard to quantify in some cases and may remain unawarded on account of difficulty involved in their being proved.

Damages are the principle relief in a tort action. But such a relief suffers interent drawbacks. Firstly, damages awarded in tort actions in India are very low. Protracted litigation and depreciation in the value of damages awarded at the end of litigation owing to chronic inflation, make such a relief of little value to a successful plaintiff. Neither such relief pose any deterrent to the polluter. Secondly, relief of damages is not an effective remedy for the abatement of pollution.

(b) Injunction

An injunction is an order of a court restraining the commission, repetition or continuation of a wrongful act of the defendant. This remedy is awarded at the discretion of the court. Injunctions are of two kinds, temporary and perpetual. A temporary injunction is regulated by sections 94 and 95 and order 39 of the Code of Civil Procedure 1908. A temporary injunction is generally granted before the case
has been heard on merits and is provisional. It continues until the case is heard on its merits or until further orders of the court. It does not mean determination in favour of the plaintiff but simply shows that there is a substantial question requiring consideration. Thus, the purpose of this type of injunction is to maintain the state of things at a given time until there is trial on the merits. It may be granted at any stage of a suit on an interlocutory application.\footnote{92a}

Apart from the provision of Order 39, courts have also inherent power to issue temporary injunction in circumstance not covered under the said order if the court is satisfied that the interests of justice so requires.\footnote{93}

A temporary injunction is only granted where the court is satisfied and the plaintiff establishes that there is a \textit{prima facie} case; the likelihood of irreparable injury that cannot be adequately compensated for in damages should the injunction be refused; and the balance of convenience lies in favour of granting of the injunction.

Perpetual injunctions are governed by section 37 to 42 of the specific Reliefs Act of 1963. The purpose of perpetual injunction is to permanently restrain the defendant from doing the act complained of; protect the plaintiff indefinitely and disband successive actions in respect of every infringement. A perpetual injunction will be generally granted where a strong probability of grave damage to plaintiff accrues and where damages would not be an adequate
remedy. The test of "balance of convenience" also applies to
in the award of permanent injunctions. The courts will
consider the relative economic consequences which will result
to the parties from grant or denial of an injunction, the
good faith or intentional misconduct of the parties and the
public interest (third parties). In comparison to damages,
the injunctive relief, however, is more effect in abating
pollution.

(c) Self Help

Self help is another common law remedy to abate the
pollutional nuisance which deleteriously effects an occupier.
Without the intervention of court, an occupier can abate
nuisance provided in the process of abatement he does not
commit any unnecessary damage and there is an emergency in
that the nuisance threatens to cause immediate harm. From
the preceding discussion it is manifestly evident that
common law remedies constitute an important part of the
Indian legal system aimed at the prevention, control of
environmental pollution and seeking relief for the consequent
damage. The tort remedies, however, are subject to a number
of general drawbacks which lessen their utility. They are,
firstly, bringing a tort action like other civil actions is a
costly and lengthy affair. secondly, few people in India
perceive that environmental issues may be brought to court
via litigation under the law of torts. Thirdly, tort actions
are fraught with problems, one of the most tedious being that
of proof, particularly in cases of industrial pollution wherein the victims of pollution having little access to technological know how and information are put in a psychologically disadvantageous position overawed by the size of the opposition and fear of confrontation. Proof of damage in such situation is always difficult.

3. THE CONSTITUTIONAL ASPECTS OF ENVIRONMENTAL LAW

Environmental protection has found a special mention in the Indian Constitution. In fact, the environment protection has been given a constitutional status in the Indian polity. The Constitution being the fundamental law of the land has a binding force on citizen, non-citizens as well as the state. The fundamental rights and the Directive Principles of states Policy underline our national commitment to protect and improve the environment. The courts in India have also given a new interpretation to the constitutional provisions touching the environmental perspectives. In fact, the interpretation given to article 21 of the Constitution which is contained in the chapter on Fundamental rights has added new dimensions to the quality of life and the effect of environment relating thereto.

The constitution of India, as originally enacted did not contain any specific provision to deal with environmental pollution though Article 47 made an indirect reference to improvement of public health as one of the primary duties of the states. This, in fact, envisages a pollution free environment for all the people. In the following pages, an
attempt is being made to examine in some detail the constitutional imperatives for control of environment pollution.

A DISTRIBUTION OF LEGISLATIVE POWERS

The Constitution provides for division of powers between the union and the states. Part XIII of the Constitution contains provisions governing the legislative and administrative relations between the union and the states. Within the framework laid down in the constitution, parliament has been given the power to make laws for the entire nation whereas the state legislatures have been given the powers to legislate for their respective states. Article 246 determines the distribution of powers between the union and the states. The parliament and the legislatures of any state have exclusive power to make laws with respect to any of the matters contained in List I (Union list) and List II (State List) in the VIIth Schedule of the Constitution respectively.95

In addition to this, the union and the states also enjoy concurrent powers to make laws on any subject enumerated in List III (Concurrent List) of the schedule.96 Environmental legislative powers are available in all the three lists mentioned above.97 Besides, the constitution also empowers the parliament to enact laws in respect of matters contained in List II. Similarly, parliament has been vested with the residuary power to enact laws on matters not
covered by the three lists. These provisions of the constitution definitely enlarge not only the legislative ambit of the parliament but also give it power to take administrative measures which are considered necessary for protecting human environment. It is submitted that the federal principal of distribution of legislative authority which has been adopted and incorporated in our Constitution by the founding fathers has its own significance and merits. Some of the environmental problems such as sanitation and waste disposal can be solved and resolved at the local level while other problems like water pollution, and wildlife protection can be tackled in a much better way by uniform national laws.

B THE CONSTITUTION FORTY SECOND AMENDMENT

As already submitted, the Constitution of India did not make a pointed reference to environment protection in any of its provision. It was for the first time, that the Constitution (forty second amendment) Act, 1976 incorporated Article 48-A into the Constitution in the chapter on Directive principles of State Policy. The provision which deals with protection and improvement of environment reads: "The State shall endeavour to protect and improve the environment and to safeguard the forests and wildlife of the country." The Amendment also inserted Part IV-A in the Constitution enumerating fundamental duties of the citizens. Article 51-A(g) deals with the fundamental duty with respect
to environment. The provision reads: "It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, and wild life and to have compassion for living creature." This way both the provisions impose a similar responsibility on the state and the citizens respectively. In addition to this, the amendment also introduced certain changes in the Seventh Schedule of the Constitution. It inserted entry 17-A in List III just after entry 17 which provided for forests. Similarly, the subject of protection of wild animals and birds was also transferred from List II, entry 20 and incorporated in List III entry 17-B. This shows the concern of our parliamentarians to give priority to environment protection by bringing it on the national agenda.

C THE DIRECTIVE PRINCIPLES OF STATE POLICY

Part IV of the Indian Constitution lays down certain fundamental principles of state policy which the future government of the country will have to take into account while framing the laws for the governance of the country. Though the directives incorporated in Part IV of the Constitution are not enforceable in a court of law but the Indian judiciary has made use of these directives in a number of cases and these have been read as complementary to the fundamental rights. In this connection it is worthwhile to point out that in several environmental cases the courts have been guided by the language of Article 48-A.
Sachida Nand Pandey V State of West Bengal, the Supreme Court, relying upon the constitutional directives concerning protection of environment observed "whenever a problem of ecology is brought before the court, the court is bound to bear in mind Article 48-A of the constitution . . . and Article 51-A(g) . . . when the court is called upon to give effect to the Directive Principles and the Fundamental Duties, the court is not to shrug its shoulders and say that priorities are a matter of policy and so it is a matter for the policy making authority. The least that the court may do is to examine whether appropriate considerations are borne in mind and irrelevancies excluded. In appropriate cases, the court may go further, but how much further will depend on the circumstances of the case. The court may always give necessary directions. However, the court will not attempt to nicely balance relevant considerations. When the question involves the nice balancing of relevant considerations the court may feel justified in resigning itself to acceptance of the decision of the concerned authority." Article 48-A also has been interpreted in similar fashion by the Andhra Pradesh High Court when it observed that the provision imposes "an obligation" on the Government, including the judiciary to protect the environment. The High Court of Himachal Pradesh has also taken note of these constitutional imperatives and the provision contained in the Articles 48-A and 51-A (g) have been described as
"Constitutional pointer to the state not only to protect but also to improve the environment (and) . . . failure to abide by the pointer is nothing short of a betrayal of the fundamental law which the state and the citizen is bound to uphold." 108

It may be submitted that the word "protect and improve" which occur in both provisions under discussion appears to contemplate affirmative state action to improve the quality of the environment and not just to preserve the environment in its degraded form. This way the provisions leave ample scope for the judiciary to intervene and require public authorities to improve environmental quality.

D ARTICLE 253 AND ENVIRONMENTAL LEGISLATION

Article 253 of the Constitution gives power to Parliament to make laws implementing international obligation of the country as well as any decision taken at an international conference, association or other body. The provision reads, "Notwithstanding anything in the foregoing provision of this chapter, parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or countries or any decision made at any international conference, association or other body." In view of the broad spectrum which could be addressed at the international convention, conference treaties and agreements, article 253 gives teeth to parliament to legislate on any of
the matters enumerated in the state list.

The authority vested in Parliament under the provisions contained in Article 253 has been exercised by it in enacting the **Air (Prevention and Control) Act** 1981, and the **Environment (Protection) Act** 1986. The preamble to both these enactments specifically declare that these laws were enacted to implement the decisions taken at the Stockholm Declaration of 1972. It was at this conference that the members of United Nations agreed to work to preserve the world's natural resources, and appealed to each nation to carry forward this mission. It may be stated that because of the Stockholm Declaration of 1972 the provision contained in article 253 has practically enlarged the legislative ambit of Parliament relating to the preservation of natural resources. The enactment of above two legislations by Parliament in pursuance of the mandate of article 253 confirms the view. There is no denying the fact that the subjects, forests and preservation of wild animals and birds relate to natural resources and the transference of these two subjects from the state list to the concurrent list which was effectuated by forty second amendment in 1976 was in a way a reassertion of the powers that Parliament possessed under article 253. It is submitted that the provision in question may serve as an appropriate handle for the judiciary to recognize Parliament's authority to enact these laws.
E FUNDAMENTAL RIGHTS VIS-A-VIS ENVIRONMENT

Part III of the Constitution of India incorporates fundamental rights which have been made judicially enforceable. The Supreme Court of India, has contributed significantly especially during the 80's in broadening the contents and contours of some of these basic rights. Here an attempt is being made to examine this perspective in the context of environmental protection.

(a) The Right to a Wholesome Environment

The interpretation given by the Supreme Court in Maneka Gandhi's case has added new dimensions to the concept of personal liberty of an individual. It laid down that a law affecting life and liberty of a person has to stand the scrutiny of Articles 14 and 19 of the Constitution. In other words, if a law is enacted by a legislature which touches upon the life and liberty of a person and curtails it, then it is a mandatory requirement that the procedure—established by it for curtailing the liberty of a person must be reasonable, fair and just. It is this interpretation of article 21 which the court has extended further so as to include the right to a wholesome environment. In other words, environmental pollution which spoils the atmosphere and thereby affects the life and health of the person has been regarded as amounting to violation of article 21 of the constitution.
In this connection it will be worthwhile to refer to the decision of the apex court in Dehradun Quarry's Case. In this case the supreme court entertained complaints from the rural litigation and entitlement Kendra, Dehradun alleging that the operations of lime stone quarries in the Mussoorie-Dehradun region resulted in degradation of the environment affecting the fragile ecosystems in the area. In this case the Supreme Court moving under Article 32 ordered the closure of some of these quarries on the ground that these were upsetting the ecological balance though the judgement did not make a reference to Article 21 but involving of jurisdiction by the court under Article 32 presupposed the violation of right to life guaranteed under article 21.

This way, we see that the courts are legitimizing its role as the enforcing organs of the constitutional objectives to prevent all actions of the state and the citizen from upsetting the ecological balance. This role of the court also finds support from the observations of Justice Singh in the Ganga Pollution (Tanneries) case as justifying its closure. His Lordship observed: "We are conscious that closure of tanneries may bring unemployment, loss of revenue, but life, health and ecology have greater importance to the people." Besides, some more high courts have also accorded recognition to this environmental dimension of article 21. For example, In T. Damodar.Rao's Case which
related to stop the Life Insurance Corporation and the Income Tax Department from building residential house in a recreational zone, the Andhra Pradesh High Court held, "it would be reasonable to hold that the enjoyment of life and its attainment and fulfilment guaranteed by article 21 of the constitution embraces the protection and preservation of nature's gifts without which life cannot be enjoyed. There can no reason why practice of violent extinguishment of life alone should be regarded as violative of Article 21 of the Constitution. The slow poisoning by the polluted atmosphere caused by environmental pollution and spoliation should also be regarded as amounting to violation of Article 21 of the Constitution.... The court held that the attempt of the respondents to build houses in this area is contrary to law and also contrary to article 21 of the constitution."\(^{117}\)

The High Court of Himachal Pradesh,\(^{118}\) Rajasthan,\(^{119}\) and Kerela\(^{120}\) have also taken note of the provisions of article 21 and held that environmental degradation violates the fundamental right to life. These rulings of the courts acknowledges that the right to a wholesome environment is implicit in the constitutional guarantee of article 21.

(b) The Right to Livelihood

The right to livelihood is implicit in the Constitutional guarantee of right to life enshrined in article 21 of the Constitution. The provision has served as an effective check on governmental actions which tend to
affect the environment and disrupt the normal life-style of the poor people. In Olga Tellis V Bombay Municipal Corporation, the petitioners challenged the government's decision that all pavement dwellers and the slum dwellers in the city of Bombay will be evicted forcibly and deported to their respective places of origin. The main contention of the petitioners was that right to life includes the right to livelihood and hence the governmental action amounted to depriving a pavement dweller of his right to livelihood which was guaranteed by article 21 of the Constitution which mandated that no person could be deprived of his life except according to procedure established by law. Accepting the contention of the petitioners the court held: "Deprive a person of his right to livelihood and you shall have deprived him of his life . . . the state may not by affirmative action, be compellable to provide adequate means of livelihood or work to the citizens. But, any person, who is deprived of his right to livelihood except according to just and fair procedure established by law, can challenge the deprivation as offending the right to life conferred by article 21."122

In the instant case, the court issued directions to the Municipal Corporation to provide alternative sites or accommodation to the slum and pavement dwellers within a reasonable distance of their original sites. The court further directed that the Corporation shall prepare a housing
scheme for the poor and provide basic amenities to slum dwellers. Thus, the court construed the right to livelihood as an integral part of right to life.

The second case which throws light on this perspective is that of Banwasi Sewa Ashram V State of Uttar Pradesh. This case arose out of a public interest petition made under Article 32 on behalf of local people who raised their voice against reservation of forest land by the state. In fact, the people living in the surrounding villages relied on the forest products - fruits, vegetables, fodder, flowers, timber, animals and fuel wood for their daily needs. It was contended that the state action which contemplated eviction of many forest dwellers violated the fundamental right to life of the local people guaranteed by Article 21 of the Constitution. The Supreme Court, however, laid down certain safeguards to protect tribal forest dwellers who were being ousted by the National Thermal Power Corporation Ltd (NTPC) for the Rihand Super Thermal Power Project, though the court allowed acquisition of the land but instructed that it could only be done after the NTPC agreed to provide the facilities approved by the court to the ousted forest dwellers. There are also some more cases where the apex court has issued interim orders requiring state agencies to make provisions for settlement and rehabilitation of tribals who were being displaced by dams.
In the light of the observations made in these cases by the highest court of the land, the question regarding right to livelihood has received a favourable interpretation in the expansion of the scope of article 21. However, this has given rise to a further question: whether the right to livelihood could be asserted to prevent environmentally harmful projects which tend to uproot the local people and thus deprive them of their livelihood. It is submitted that the entire matter including installation of such projects, their impact on the life of the people vis-a-vis their rehabilitation will have to be taken into account failing which Article 21 may come into operation.

(c) The Right to Equality

Article 14 of the Constitution which states that "The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India," guarantees the right to equality. This article is the principle instrument to strike at the arbitrariness of an action should it involve a negation of the right to equality. The right to equality as enshrined in Article 14 of the Constitution may be infringed by government decisions which may have impact on the environment, particularly in cases, where permissions are arbitrarily granted, for instance, for construction that are in contradistinction of development.
regulations or for mining without adequate appreciation of environmentally damaging consequences. Environmentally conscious groups have resorted to take legal proceedings under Article 14 to challenge the constitutional validity of the arbitrary official sanctions in such matters. Thus, we find that Article 14 can be used as a potent weapon against governmental decisions threatening the environment.

(d) Freedom of Trade and Environment

Article 19(1)(g) gives to all citizens a right to practice any profession or to carry on any occupation, trade and business. The question which needs to be answered here is: Whether a person, agency or industry has a right to carry on a business or trade in a manner which is causing an injury to the public and posing health hazard to the society at large? This question came for consideration in the case of Abhilash Textiles v Rajkot Municipal Corporation. In this case the petitioners were carrying on the business of dyeing and printing works at different places in the city of Rajkot. It was alleged that the petitioners were discharging dirty water from the factory on the public road and public drainage without purifying the same, thereby causing damage to the public health.

The Municipal Commissioner, Rajkot served a notice on the petitioner ordering them to prevent the discharge of dirty water without the same being purified. Failure to comply with the notice gave the Commissioner the authority to take steps to close the factory. It was contended on behalf
of the petitioner that before issue of the notice, the Municipal Commissioner should have heard the petitioner as the proposed action would render a large number of persons unemployed. It was acknowledged that Article 19(1)(g) of the Constitution confers a right upon every citizen to carry on any trade of business. However, this right is subject to reasonable restrictions which may be imposed in the interest of the general public as provided in Article 19(1)(6) itself. Therefore, no one has a right to carry on a business so as to cause nuisance to the society. Similarly, the business cannot be carried in the manner by which the business activity would become a health hazard to the entire society. The court held that the petitioners cannot be permitted to reap profits at the cost of the public health as they had no right to carry on their business without complying with the requirement of the law. Thus, the present case throws a good deal of light on the constitutional right to carrying on business vis-a-vis its impact on the public health which is an important component of environment protection.

(e) **Constitutional Remedies**

A regulatory mechanism for the prevention of environmental degradation, through writ process is provided for in our Constitution. Under Articles 32 and 226 of the Constitution the Supreme Court and the High Courts respectively, possess a wide latitude to grant relief and
prevent environmental damage by issuing directions, orders or writs.

Under Article 32, which itself is a fundamental right, any person whose fundamental right as conferred in Part III of the Constitution has been violated can invoke the Supreme Court's jurisdiction to enforce his right. Whereas, the writ jurisdiction of the High Court under Article 226 may be invoked not only for the enforcement of a fundamental right but for any other purpose as well. For that matter, the supreme court's jurisdiction under Article 32 is more limited than the jurisdiction of the High Courts under Article 226. As now, the Supreme Court has accorded judicial recognition to the right to a wholesome environment as being implicit on Article 21, a litigant may, accordingly assert his or her right to a wholesome environment against state, by a writ petition to either the Supreme Court or a High Court. Upon being the jurisdiction under Article 32 and 226 being invoked, writs of mandamus, certiorari and prohibition are generally issued by the courts in environmental matters. It may, however, be submitted that the writ powers of the Supreme Court and the High Court under Articles 32 and 226 are not restricted to issuing a specific writ but extends to issue directions and orders to vindicate the petitioners rights, to grant declaratory relief or issue an injunction or quash the impugned action without recourse to a specific writ.
In environmental matters a writ of mandamus would lie against a public authority to command action by it when the latter is vested with power and wrongfully refuses to exercise it. The writ can prove effective in securing the public authorities action to improve the urban environment, particularly, in cases where the municipal authorities fail to construct sewers and drains, clean sheets and clear garbage. The Rajasthan High Court in the case of Rampal V State of Rajasthan considered the question to issue a writ of mandamus to Municipal Board to construct the sewers and drains for the discharge of domestic including dirty water as well as rain water. The present petition was brought by the residents of Mundara Mohalla, in the town of Mandal in Bhilwara District praying for a direction to the Municipal Board for suitable action who were duty bound under section 98 of the Rajasthan Municipalities Act 1959 to make reasonable provisions for clearing public streets, places, and sewers and all spaces not being private property and removing noxious vegetation and removing filth, rubbish or other noxious and offensive matter and constructing drains, sewers, drainage works etc., failed to construct sewers and drains with the result water of domestic use, industry dirty water from houses and rain water has collected in the chowk of Mohalla which threatened the growth of moss, breeding of insects and spreading of epidemics. The High Court held that "... the statute imposes a duty upon the Municipal Boards and they are under a statuary obligation to perform such
duties enumerated in section 98 of the Act ... relating to drainage. It may be pointed out that the Municipal Board has no discretion in the matter and it cannot refuse to discharge the obligations, duties and functions, which have been imposed upon it and are enumerated in section 98 as primary function when the statute imposes a duty, the performance and non-performance of which is not a matter of discretion, then this court has power to issue a mandamus directing the local body to do what the statute requires to be done.\textsuperscript{131} The court issued the writ of mandamus directing the Municipal Board to remove the water and filth collected in the chowk in Mundara Mohalla, Mandal by constituting the proper sewers and drains, so as to remove the cause of possible nuisance in the locality. Similarly, a writ of mandamus may be issued to compel a state pollution control board to take action against a polluting industry discharging effluents or emissions beyond permissible limits.\textsuperscript{/} A writ of Certiorari and prohibition which are generally designed to restrain public authorities from acting in excess of their authority may also be invoked in environmental cases. For instance, a writ of certiorari may be issued against a municipal authority that considers a builder's application and permits construction contrary to development rules such as a height restriction or in violation of zoning requirements or wrongly authorises the construction of a building in area reserved for recreation utilities such as parks or garden. Similarly, a writ of certiorari would be against a state pollution control board
that wrongly sanctions an industry to discharge pollutants beyond prescribed levels.

The constitutional remedies of writ process have distinct advantages over the remedies under a civil suit. The writ remedy in comparison to civil suit is speedy, cheap and less technical. Far more less time is required in such remedy to obtain a relief than the delay to obtain a decree in a suit. There are fewer intervening proceedings between filing of a writ and judgement. The filing fees are also nominal and the expense of presenting oral evidence is eliminated as facts are set forth in the affidavits of the parties. These factors have accounted for popularity of the writ remedy with the litigants in India.

There are some limitations in the writ process especially in environmental disputes, wherein complicated questions of fact are involved which are to be resolved after recording evidence, for instance pollution cases involving health injuries. In such cases, the High Courts exercising jurisdiction under Article 226, as a matter of practice (not of jurisdiction) feel reluctant to receive evidence. Therefore, a suit in such matters is the appropriate remedy than a writ petition because damages can be claimed in a suit by adducing evidence to establish causation of injury.

4. STATUTORY CONTROL OF ENVIRONMENTAL POLLUTION

Statuary control of environmental pollution in India is not of recent origin. We have had some 200 legislations
dealing with various aspects of environment protection. But the concerted legislative activity in the backdrop of the drawbacks of dissipated and piecemeal earlier legislations and inadequacy of such legislations to meet the evolving challenges of pollution, in fact, started after 1970 with the enactment of some specific legislations dealing exclusively with pollution problems. We discuss here a few of the earlier and recent legislations directed at the protection of environment.

A. WATER POLLUTION

Statutory control of water pollution under the Indian legal system broadly falls under three heads: (i) Statutory rights of riparian owners under Indian Easements Act 1882; (ii) Penal and public nuisance actions under earlier statutes; and (3) Administrative regulation under the recent central environmental statutes.

(a) Statutory Right of Riparian Owners under Indian Easements Act, 1882

The Indian Easements Act 1882 is one of the earlier statutes dealing with the rights of individuals inter se in regard to pollution of waters. The Act has, in fact, codified the common law\footnote{132} doctrine of riparian rights to unpolluted waters. The illustrations (f) and (h) of section 7 of the Act in particular, refer to water pollution. Illustration (f) says: "The right of every owner of land, within his own limits, the water which naturally passes or
percolates by over or through his land shall not, before so passing or percolating, be unreasonably polluted by other persons." The rule incorporated in this illustration is even wider in scope than the common law doctrine of riparian owners rights in that it extends not only to natural stream but also to percolating water and water flowing in undefined channel and stagnant water such as sea, ponds or lakes. Pollution, though not specifically defined in the Act but must refer to any alteration of natural quality of water whereby it is rendered less fit for any purpose for which in its natural state it is capable of being used. The illustration uses the words unreasonable pollution which means an appreciable and not temporary a trifling pollution. In determining so, regard must be had to all the consequences which flow from it.

Illustration (h) among others, protects the right of every riparian owner to get water of a natural stream, a natural lake or pond into or out of which a natural stream flows from any material alteration in temperature of water. There seems to have been an overlapping in illustration (f) and (h) in regard to alteration in temperature as this aspect is covered under unreasonable pollution as used in illustration (f). In cases of material alteration or injury as amounting to unreasonable pollution the person affected has right to relief by way of injunction and can also claim damages from the polluter.
It may be noted that the Act recognizes the prescriptive right to pollute water where the right has been peacefully enjoyed without interruption for twenty years.\textsuperscript{136} The prescriptive right to pollute water whether natural, artificial, sea or underground, however, cannot be acquired against the government which has sovereign rights in waters.\textsuperscript{137} The recognition of prescriptive right to pollute is a drawback of the Indian Easements Act. It is submitted that in view of the high incidence of pollution and scarce drinking water resources, there should not be a statutory recognition of the prescriptive right to pollute. It may be suggested that such a right be denied by deleting the provisions pertaining to prescriptive right to pollution from the Act.

(b) Penal and Public Nuisance Actions under Earlier Statutes

There are some miscellaneous earlier statutes which contain among others, provisions with regard to the control of pollution of fresh water and marine waters prescribing different penalties for the acts of pollution. The provision are scanty and insipid. \textit{Shore Nuisance} (Bombay and Colaba) Act, 1853 is the earliest statute on control of water pollution in India. Section 1 of the Act gave wide powers to the collector of land revenue, Bombay, to issue notice to an offending party requiring the removal of any nuisance anywhere below the "high water mark."\textsuperscript{138} The Act empowered
the collector to get the nuisance removed or abated if it was not removed or abated within one month of the issuance of notice.\textsuperscript{139}

Another oldest statute which comprehensively attempted to control pollution of fresh waters from industrial effluents of Oriental Gas Company - a Company incorporated in India for the purpose of manufacturing and supply of gas for lighting the town of Calcutta and its suburbs, is \textit{Oriental Gas Company Act} 1857. Section 15 of the Act provided penal consequences if the company caused water to be corrupted. It read as follows: "If the company shall at any time cause or suffer to be brought or to flow into any stream, reservoir aqueduct, pond or place of water or into any drain communicating therewith, any washing or other substance produced in making or supplying gas, or shall wilfully do any act connected with the making or supplying of gas, whereby the water in any such stream, reservoir, aqueduct, pond or place for water, shall be fouled, the said company shall forfeit for every such offence a sum not exceeding one thousand rupees and they shall forfeit an additional sum not exceeding five hundred rupees for each day during which such washing or other substance shall be brought or shall flow or the act by which such water shall be fouled shall continue, after the expiration of twenty four hours from the time when notice of the offence shall have been served on the said company, by the person into whose water such working or other substances shall be brought or shall flow or whose water
shall be fouled, and such penalties shall be paid to such last mentioned person." Section 17 of the same Act provided for a penalty of two hundred rupees if the water be fouled by gas, to the person whose water was so fouled on a further sum not exceeding one hundred rupees, for each day during which the offence continue after the expiry of twenty four hours from the service of notice of such sum.  

It may be noted that in both the initial statutes no systematic efforts were made to define either nuisance or fouling of water. Moreover, in the latter case the legislation though came down with heavy fine but basically this legislation was not aimed to control water pollution. It was enacted to satisfy those who were agitating against establishment of the Gas Company which might pollute pure holy water. A systematic approach to control of water pollution in India started with the Indian Penal Code in 1860. Problem of water pollution has been dealt with in the chapter on Public Health and Safety. Sections 277, 269 and 290 of the code refer to water pollution. Section 277 defines fouling of water and prescribes the punishment for it. It reads: "whoever voluntarily corrupts or fouls the water of any public spring or reservoir so as to render it less fit for the purpose for which it is ordinarily used, shall be punished with imprisonment of either description for a term which may extend to three months or with fine which may extend to five hundred rupees or with both." The provision of section 277, however is very limited in scope.
It covers voluntary fouling of water and does not cover an act committed involuntarily whatever the consequences of such an act might be. The section has been narrowly interpreted to include flowing water of rivers, canals and streams,\textsuperscript{142} and well\textsuperscript{143} in the terms 'public spring or reservoir.' The words 'corrupt and foul as used in the section simply takes care of purity of water but the pollution in modern technological sense would go beyond these words. The section also provides for a minimum punishment and fine for fouling of water keeping in view the seriousness of problem of water pollution the sanctions do not seem to have much force in recent times.

The other provision which provides for punishment against water polluter is section 269. It reads: "whoever unlawfully or negligently does any act which is and which he knows or has reason to believe to be, likely to spread the infection of any disease dangerous to life, shall be punishable with imprisonment of either description for a term which may extend to six months or with fine or with both."

Section 284 of the code is also drafted in such wide terms as to include any handling of poisonous substances as to endanger human life or likely to cause hurt or injury to any person by poisoning of wells and rivers as well.\textsuperscript{144}

Section 290 covers the pollution of waters other than springs and reservoirs. It says "whoever commits a public nuisance in any case not otherwise punishable by the code, shall be punishable with fine which may extend to two hundred
rupees." A water polluter could also be prosecuted and punished under section 425 of the code for mischief if his act causes wrongful loss or damage to public or to any person or if his act causes destruction of any property or diminishes its value or utility. Hence causing diminution of water supply may be treated as mischief and the possible direct cause may also be pollution.

The Sarais Act of 1867 is another general law dealing with water pollution. Section 7 of the Act enjoined upon a keeper of a serai or an inn to keep certain quality of water fit for consumption by persons and animals using it to the satisfaction of the District Magistrate or his nominees. A penalty of rupees twenty was imposed for failure to maintain the standard of water.

The Indian Fisheries Act 1897 prohibited the poisoning of waters and the consequent destruction of fish. Section 5 of the Act provided that if any person puts any poison, lime or noxious material into any water with intention thereby to catch or destroy any fish he shall be punishable with imprisonment which may extend to two months or with fine which may extend to two hundred rupees.

Sec 26(1) of the Indian Forest Act, 1927 makes it punishable if any person, who, in contravention of the rules made by the State Government under Section 32(f) relating to poisoning of water in forests, poisons water of a forest area.
There are several other statutes dealing with river schemes and canals providing statutory provisions with regard to water pollution. The Northern India Canal and Drainage Act 1873 lists certain offences in section 780. Sub-clause (3) of this section provides that any interference with or alteration in the flow of water in any river or stream so as to endanger, damage or render less useful any canal or drainage work would be an offence. Sub Sec (5) provides that whoever corrupts or fouls the water of any canal so as to render it less fit for the purposes for which it is ordinarily used would be imposed a penalty of imprisonment not exceeding one month or a fine not exceeding fifty rupees or both for the breach of the provision.

The Damodar Valley Corporation Act 1948 authorises the Corporation to frame regulations for prevention of water pollution with the previous sanction of the Central Government. In pursuance of the powers so conferred the Corporation has framed the Damodar Valley Corporation (Prevention of Pollution of Water) Regulations, 1957 for prevention of water pollution. The regulations provide for the control of pollution of any water under the control of the Corporation by persons, local authorities and vessels. The regulations provide for the imposition of a fine upto one thousand rupees and upto rupees one hundred per day for continuing offence, after conviction for the first breach. The provision for punishment through regulation is subject to challenge on account of excessive delegation. It would have
been better had the provision for punishment been made in the statute itself.

The River Boards Act, 1956 provides for the creation of River Boards under Section 13 of the Act, for regulation and development of interstate rivers and river valleys. One of the functions of the Board is to advise the government concerned in regard to pollution of waters of interstate rivers. The statute is of very limited significance as the function of the Board on water pollution is simply advisory.

There is a provision in the Factories Act, 1948 with regard to the disposal of waters and effluents by factories. Section 12 of the Act ordains that effective arrangement shall be made in every factory for the disposal of works and effluents carried on there in. It further empowers the state government to make rule prescribing the arrangements to be made or requiring that the arrangements made shall be approved by such authorities as may be prescribed. Section 92 of the Act provides for general penalty for non-observance or non-compliance with the requirements of section 12 and the other rules made under the Act. The punishment is imprisonment for a term which may extend to two years or fine which may extend to one lakh rupees or both.

Various state governments have made rules for the regulation, disposal and discharge of industrial wastes and effluents under the above section. There exist various municipal enactments which authorise the municipalities and the municipal corporations to regulate the discharge into
water any substance prejudicially affecting the purity and quality of water. These laws take into account the pollution of water through domestic sources. The penalty for polluting the water is also provided for in the enactments.

Statutory control of marine pollution is also provided for under the Indian legal system. **Obstruction in Fairways Act** 1881 was one of the earlier statutes which dealt with prevention of pollution of fairways leading to port. Section 8 of the Act empowered the Central Government to make rules to regulate or prohibit the throwing of rubbish in any fair way leading to a port causing or likely to give a rise to a bank or shoal or doing of any other act which will cause or be likely to cause obstruction or danger to navigation.

Water Pollution by oil has been regulated by the **Indian Ports Act**, 1908. Section 6 of the Act empowered the government to make necessary rules for the purpose of regulating the manner in which oil or water mixed with oil shall be discharged in any port and the disposal of the same. Section 21 of the same Act prohibits throwing of ballast or rubbish or any other thing likely to form a bank or shoal detrimental to navigation into either the port or upon any place likely to be washed into the port by tides, storm or land flood. Any violation of the above provisions entailed a fine extending to rupees five hundred and reasonable expenses which may be incurred in removing the same. A maximum of two month's imprisonment was also provided in the event of receiving notice from the conservator of Port to desist from casting or
throwing of ballast rubbish, oil or any other material and the person continues so to cast or throw or discharge the same. 161

The Merchant Shipping Act, 1958 which was passed by the parliament in order to give effect to the International Convention for Prevention of Pollution of the Sea by oil, 1954, regulate and control the discharge of oil by sea going ships. Part XI-A of the Act which was inserted by the Merchant Shipping (Amendment) Act 1970 and later on substituted by the Merchant Shipping (Amendment) Act, 1983 now comprehensively deals with the marine pollution by oil.

It may be noted that all the statutes discussed above had limited application and contained general provisions for the control and prevention of water pollution. These laws could not prove efficacious against the spread of pollution that began to occur as a result of our rapidly growing population accompanied by increasing hazards of domestic and industrial needs. Consequently, certain states felt the necessity to protect their water resources by passing special laws. The era of special laws on water pollution began with the passing of Orissa River Pollution Prevention Act, 1953. It covered the river pollution only. Maharashtra, in 1970 came out with a much more comprehensive statute. The Maharashtra Prevention of Water Pollution Act, 1969 which covered a wider area of application extending not only to rivers but water courses (whether flowing or for the time being dry), inland water (whether natural or artificial),
subterranean streams or sea to such extent and tidal waters to such point as the state Government may specify in this behalf. The Act for the first time defined pollution in elaborated terms. The water board constituted under the Act was given power to control existing and new outlets and discharges. The Act provided separate treatment of different offences which included non-compliance with the direction of the board obstruction in the implementation of the Act or violation of any prohibition under the Act. The maximum penalty was three months imprisonment or/and fine of one hundred rupees. But as in the case of earlier general statutes, these statutes too failed to keep pace with the expanding needs of industrialisation and urbanization. Therefore, the feeling began to strengthen that water pollution has become a national problem which should be tackled at the national level. Keeping this in view it was thought expedient not to depend on the efforts of individual states but to centralise the whole scheme of environment pollution control. The consequent result was enactment of recent legislations dealing with water pollution.

(c) Administrative Regulation Under Recent Legislations

Under the Indian legal system a comprehensive scheme of administrative regulation of water pollution is now provided for under the Water (Prevention and Control of Pollution) Act 1974, the Water Cess (Prevention and Control of Pollution) Act 1977 and the relevant provisions of
Environment (Protection) Act 1986. Let us examine here the scheme of control under these legislations.

1. Water (Prevention and Control of Pollution) Act, 1974

The Water (Prevention and Control of Pollution) Act 1974 (here in after called as Water Act of 1974) undoubtedly represents one of India's concerted effects to deal the problem of water pollution comprehensively at the national level. The Act was enacted under Article 252 (1) of the Constitution, which empowers the Union Government to legislate on matters of State list, where two or more state legislatures consent to a central law for water happens to be a state subject under state list of the Constitution. The water Act came into force in the year 1974. Some minor amendments were made in the Act in 1978 and later it was revised in 1988 so as to bring it in conformity with the provision of the Environment (Protection) Act 1986.

The water Act is an enabling statute. The objective of the Act is to 'prevent and control' water pollution and also maintain and restore the wholesomeness of water. The Act is quite comprehensive in terms of its area of application. It defines the term 'pollution' in quite elaborate manner-covering any contamination of water or alteration of properties of water, discharge of sewage or trade effluents or any other substance liquid, solid or gaseous) into water, whether directly or indirectly, as may or is likely to create nuisance or injurious to life or
health of human beings, animals, plants, aquatic organism or legitimate uses of water. It applies to streams, water sources (whether flowing or dry for the time being), inland water, subterranean waters, seas or tidal waters. The Act establish a control, state central boards and Joint Boards for the accomplishment of the objectives of legislation. The Central Board of pollution, which has, since 1982, been attached to the Union Government's Department of Environment, Forest and Wildlife has been assigned wide functions ranging from giving advice to the Central Government on matters of water pollution, coordinate the activities of state pollution control boards, sponsor investigations and research relating to water pollution develop a comprehensive plan for control and prevention of water pollution, inspecting facilities for sewage and trade effluent treatment and lay down the standards in consultation with state Government for a stream or well etc. The state Boards on the other hand, have, amongst others, the function of laying down standards of pollution and to make consent orders for industries etc. putting trade or sewage effluent into the stream. The State Boards are to act as per the instructions of the Central Board and the concerned State Government. Where there is a clash between the directions of the central Board and the State Government, the matter is referred to the decision of the Central Government. The Central Board acts as per the direction of the Central Government. The Central Board also acts like the State
Board for all the Union Territories. The Boards have been authorised to establish or recognise laboratories to enable them to perform its functions efficiently including the analysis of samples of water from any stream, well, sewage or trade effluents. 174

A comprehensive scheme is provided by the Act for the prevention and control of pollution. As already said the water Act is an enabling statute, it does not provide for standards for the regulation of pollution but gives wide powers to water Board to decide their own standards 175 and regulations to the local needs. For the purpose of control and prevention of water pollution, the Act provides for a permit system or consent procedure. The Act generally prohibits disposal of noxious, poisonous or polluting matter in streams or wells or sewer or land in excess of the standards established by the State Boards. 176 Committing such an act is an offence. The Boards accord consent to the intending industries for the discharge of sewage or trade effluents into a stream or well etc. A person must obtain from the state board before taking steps to establish any industry, operation or process, any treatment and disposal system or any extension or addition to such a system which might result in the discharge of sewage or trade effluent into a stream, well or sewer or onto land 177 or bring into use any new or altered outlet for discharge of sewage or begin to make any new discharge of sewage. 178 The consent is to be obtained on making an application to the Board. 179 The
consent may be given after making an inquiry in the prescribed manner. The consent may be made conditional. The condition may pertain to the location, construction and the use of the outlet as well as the nature and composition of new discharges. The consent will be valid only for such period as may be specified in the order. For the reasons to be recorded, the consent may be refused. The state board must maintain and make a public register containing the particulars of the consent orders. Such a register, so much as it relates to any outlet or to any effluent from such land or premises shall be open to inspection at all reasonable hours by any person interested in or affected by, the outlet or in the land or premises as the case may be. The condition contained in such register shall be conclusive proof that the consent was granted subject to such conditions. For persons who have been releasing water pollutants prior to the adoption of this Act, the Act requires them to meet the consent requirements of section 25. Penalties are imposed for contravention of the provisions of sections 24, 25 and 26. Persons contravening the provisions of Sec. 24 shall be punishable with imprisonment for a term which shall not be less than one year and six months but which may extend to six years and with fine. Giving false statement, knowingly or willfully for the purpose of obtaining any consent under sections 25 or 26 entails punishment of imprisonment for a term which may extend to three months or with fine which may extend to ten
188 thousand rupees or with both. The contravention of the provisions contained in Sections. 25 and Sec. 26 is punishable with imprisonment for a term not less than one year and six months which may extend to six years and with fine.189

Wide powers exist in the Act which the boards are authorised to exercise in the implementation of the provisions of the Act. These include, the power of entry and inspection,190 take emergency measures if the cause of the pollution of streams or well is an accident or other unforeseen act or event which includes removing the pollutants, mitigating the damage or issuing order to the polluter prohibiting effluent discharges,191 to execute any work required under the consent order, not being executed upon thirty days notice to polluter and recover expenses for such work from the polluter;192 power to obtain information regarding the construction, installation or operation of an establishment or of any disposal system;193 power to give directions and obtain information as to the quantity of abstraction of water from stream or wells or discharge of sewage or trade effluent thereinto,194 and power to take samples of effluents for analysis.195

The Amendment Act of 1988 has introduced some provisions in the Water Act so as to remove some of the shortcomings in the functioning of the Boards by giving them additional powers. The newly introduced section 33-A, now empowers the state boards to issue directions to any officer,
person, or authority, including order to close, prohibit or regulate any industry, operation etc. and stop or regulate the supply of water, electricity or any other service. The state boards, prior to the adoption of section 33-A had but limited power to issue direct orders to the polluters under section 32 in cases where the pollution arose from any accident or other unforeseen act or event. The power under section 33-A would certainly lead to a decrease of actions against polluters under section 33 which empowers the boards to apply to courts for injunctions to restrain apprehended pollution of water in streams or wells, etc.

By virtue of the Amendment the powers of Central Board vis-a-vis state boards have been increased. The Central Government may in case of a state board's failure to comply with central board's directions whereby an emergency has arisen, direct the central board to assume the functions of the state boards. The provision has been added with a view to prevent non-action on the part of state boards in the performance of their functions and ensures for a better coordination between Central and State Boards.

A significant and a remarkable achievement of the 1988 Amendment has been the incorporation of a provision for citizen's suit in section 49 of the Act. The addition of such a provision was much awaited. The citizen's suit provision allows citizens to bring action upon a complaint after 60 days notice to the appropriate state board or official. A state board must make relevant reports available
to complaining citizen, unless the board determines that disclosure would harm 'public interest.' Prior to the incorporation of this provision, courts recognised only those actions which were brought by a board or with a previous written sanction of a board. The citizen's suit provision as enshrined in section 49 would result in a more diligent and effective enforcement of the Act. Moreover, it would also forestall the delays caused in the enforcement of the Act due to inaction on the part of board's officials and end the total monopoly of water boards in initiating proceedings against the polluters.

The Act also provides for stringent penalties for among others failure to comply with a court order under section 33 or a direction from the board under section 33-A. The penalties range from a minimum imprisonment of three months to a maximum of seven years in some cases, and a fine from rupees one thousand to ten thousand. The Act also extends the liability for violations committed by companies to certain corporate employees and officials and to heads of government departments.

Despite the adoption of amendments to the Act in 1978 and later revision in 1988, the Water Act still suffers from some shortcomings which put a question mark on its efficacy to check and prevent the water pollution. The following are the shortcoming of the Act.
1. Definitions of some important terms like 'Pollutant', 'discharge of pollutant', 'toxic pollutant' etc. are not provided in the Act.

2. The Act provides a comprehensive definition of 'stream' but it does not include an "estuary". It is not certain whether this is covered under the 'river' or 'sea' or 'tidal waters.' In order to remove doubts it may be safe to add "estuary" in the definition of "stream."

3. An elaborated definition of pollution is envisaged in section 2(e) of the Act. If we closely see, it seems that a great deal of emphasis has been laid down on control of pollution of water from point sources only. There is lack of meaningful control of non-point sources of pollution. Hence, the use of strong fertilizers, pesticides and insecticides etc. though covered under the term pollution, indirectly and even the point sources of pollution such as emission of radio active substances in air around the factories which get deposited in the nearly water courses, the exposure of water to temperature changes, still lie outside the preview of the legislation. Storage on land such as deposit of solid refuse of a mine or quarry on land which may eventually be carried into a stream and pollute it, is also not covered under the Act.
3. There are provisions in the Act for the establishment of central, State and joint boards. The constitution of the boards in such that there is no adequate representation for the members of the social interest groups and the lawyers. It has representatives mainly from certain avocation, business and trade etc. The boards are thus being represented by vested interests responsible for pollution. Therefore, the structural framework of the boards is not enough strong to resist effectively external influence on decision making and implementation. Inclusion of representatives of vested interests render the boards structurally a week agency for control of pollution. The solution lies in making the boards more compact by giving representation to social groups and persons having expertise and vision in environmental protection.

4. The provisions of section 24(1) make it an offence to 'knowingly cause or to permit" to enter (whether directly or indirectly) into any stream or well any poisonous, noxious or polluting matter in excess of such standards as may be determined by the state boards. For the violation of section 24 stringent penalty of imprisonment for a term which shall not be less than one and a half year and which may extend to six years is provided in section 43 of the Act. The provision of section 24(1) is negator of the objective to be achieved under the Act. The culpability under
the section depends on the knowledge on the part of polluter. He can escape liability if he succeeds in proving that his case falls with in one or more exceptions contained in sub-section (2) of the Section 24. This, undoubtedly dilutes the efficacy of the Act, as a polluter who discharges pollutants in any stream negligently but without any knowledge, can escape the liability. In order to make this provision more effective, there have been suggestions that the word knowingly should not have any place in this sub-section. It may, however, be stressed that total omission of knowledge (the doctrine of strict liability) may prove harsh in the presence of mandatory provisions for imprisonment contained in the Act. To vitiate such a situation the best course would be either to substitute the mandatory minimum punishment by some lesser maximum punishment by the amendment of section 432 or actions could be classified to distinct violations committed knowingly or intentionally from violations committed without it. In the former case existing penalty provision of mandatory minimum term of imprisonment is appropriately provided for. But in the latter cases courts should be vested with discretionary powers to award penalty up to maximum provided in the Act, considering each case on its merits. Such a device would provide sufficient deterrent effect against
negligent violations at the same time innocent offenders would be safeguarded.\textsuperscript{212}

5. The consent procedure as provided in sections 25 and 26 is not satisfactory. In making consent orders by State Boards, there is no provision provided in the Act for public hearings. There is no public participation in decision making process under the Act. The general public, who are the victim of pollution are kept in the dark in the absence of such a provision as to who applies for consent and what kind of pollutants are discharged to water courses in their neighbourhood. There should have been a procedure providing for constituting small committees which could submit its written opinion after public hearing, to the water board. The boards then could take decision after written submission of the applicant against the report.\textsuperscript{213}

6. Provisions for fixing up standards of quality and targets for eradication of pollution are conspicuous by their absence in the scheme of the Act. Public participation in fixing standards of water quality or effluents is excluded. For giving public hearings for fixing standards, small committees possessing the necessary expertise may be constituted.\textsuperscript{214}

7. Under the scheme of the Act, the analysis of a sample, unless the sample is taken in compliance with the provisions of section 21, is not admissible in
evidence in any legal proceedings. 215 The requirement under the section that polluters be given notice before the sample is taken by the board, affords them an opportunity to temporarily reduce or cease releasing pollutants during the period sample is taken. In cases where the samples are not taken in strict compliance with Section 21 and the Board prefers an action under section 33 against the polluter, the Magistrate's court be allowed to retain the jurisdiction of the case until samples are taken in compliance with the section in order to avoid fresh actions and the consequent long delays to obtain judicial relief. Samples should be taken for analysis during the normal operation of the industry.

8. The Appellate Authority, while adjudicating on matters of consent application under sections 25, 26 and 27 of the Act has limited jurisdiction confined only to the determination of reasonableness or otherwise of conditions imposed by the Board. Neither the Board nor the Appellate Authority has any power to impose fines on an erring polluter. To overcome such a shortcoming, the Government can contemplate the establishment of a permanent tribunal with members chosen amongst experts in water pollution control. The establishment of such tribunal would have certainly inherent advantages like cheapness,
accessibility procedural simplicity, availability of expert knowledge and flexibility in approach. Alternatively, the existing Appellate Authority under the Act be converted into a permanent tribunal and conferred with powers to impose pecuniary Penalties in appropriate cases when the water Board prefers a complaint against the erring industrialist.

9. The incorporation of section 33-A in the Act is a good provision as it enhances the control over the erring polluter, of the pollution Boards. But in the absence of any direct power of the boards to exact fines etc. or otherwise compel compliance of its direction other than the penalty actions filed with the courts under the Act, in the enforcement of an order under section 33-A, the courts intervention is inevitable which may cause delays in the enforcement of actions under the section.

10. The addition of a citizen’s suit provision is a welcome step. Despite the recognition of this right, the cases for its enforcement would still be very few in India as the people here are less conscious and concerned with the public nuisances like pollution. The notable drawback of the section 49 which enshrines the citizen suit provision, is that it requires the boards to release relevant information but does not require them to undertake investigations of alleged water pollution. Board’s official are the only
persons authorised to obtain information and take samples from polluting industries under sections 20 and 21 of the Act. A complainant has except with the intervention of the court, no other means under the Act to compel a board to investigate alleged water pollution or compel the alleged polluter to reveal information or provide samples. Moreover, a board is empowered to withhold the relevant information to complainant if it deems the release of information against the public interest. In the absence of any definition of the public interest, it is doubtful as under what circumstances the release of information be refused to a citizen.

11. The Act provides for quite stringent penalties. It takes care of the offences committed by company and its officials under section 47 which is a replica of section 34 of the Drugs and cosmetics Act 1940. The section lays down that every person who at the time of the offence was committed was in charge of and was responsible to the company for the conduct of as well as the company shall be deemed to be guilty of offence and shall be liable to be proceeded against and punished accordingly. In a way such provision imposes a fictional liability on the company officer. The latter, however, can escape the liability if he can prove that the offence had been committed without his knowledge or that he had exercised all due
diligence to prevent its commission. Sub section (2) of the same section, makes a Director, Manager, Secretary or other officer of the company, who consented to or connived, the commission of the offence or where its commission is attributable to any negligence on his part. The scope of the sub section is even wider in as much as it does not require actual participation or mental support of the officer. Hence, a company's production manager or technical director, though they may be miles away from the scene of the alleged offence but would be punishable if they have been remiss in ensuring the strict compliance of the regulations and may not have sanctioned the commission of offence.

Thus, given the threat of pollution from large industrial units, the provision of section 47 may look sound. However, it has to be borne in mind that in most cases of large companies, these penal provisions, especially of fines, though may seen large but are meaningless when compared to the cost of compliance of environment standards which is often much more. Moreover, there has been a general tendency of courts to let off economic offenders rather easily. It would have been better if the penalties are measured by the amount of money saved by the companies in not installing proper pollution control equipment and an amount equivalent
to the profits gained by non-compliance, is imposed as penalty.

Further, the provision as to imprisonment in the Act for company officials, is meaningless as the penal prosecution carries a stigma and courts are reluctant to attach this stigma to companies or their executives. It is further complicated by the fact that most large industrial establishments which are mainly responsible for violations are run by huge corporate bodies and it is an impossible task to precisely pin-point any particular individual responsible for lapses.

ii). The Water Cess (Prevention and Control of Pollution) Act 1977

Another legislation in consequence of statutory control of water pollution in India has been the Water Cess (Prevention and Control of Pollution) Act, 1977 (Here in after called the Water Cess Act). The Water Cess Act, in fact, does not provide for the mechanism for the control and prevention of water pollution but has been adopted as a part of economic incentive for controlling pollution and to augment the resources of the central and state boards for effective implementation of the provisions of the Water Act 1974. The Water Cess Act empowers the Central Government to levy a cess on water consumed by persons carrying on certain industries and by local authorities. The adoption of the Act was necessitated due to inability of the State Governments to
provide for adequate funds to the state boards for their effective functioning and to cope up with the increasing pressure on the water resources. The Parliament adopted the Act without the approval of the states. The approval of the states was not perhaps necessitated, notwithstanding water is a state subject but the water cess is a tax which parliament is authorised to impose and legislate upon under Entry 97 of List I of the Schedule VII of the Constitution. The Courts have also accepted this reasoning. Under the scheme of the Water Cess Act, Central Government is authorised to impose a cess on water consumed by the industries listed in Schedule I of the Act. The Schedule II lists the purposes for which the water subjected to a cess may be used by industries or the local authorities, which includes: (1) industrial cooling, spraying in mine pits or boiler feed; (2) domestic purposes; (3) processing which results in water pollution by biodegradable water pollutants, or (4) processing which results in water pollution by water pollutants which are not easily biodegradable or are toxic. The rate of cess payable is nominal and not exceeding the rate specified to the corresponding entry in column (2) of the Schedule II. Section 7 of the Act gives incentive to the extent of seventy per cent of cess payable for installation of a treatment plant from such date as may be prescribed. The cess money is first to be credited to the Consolidated Fund of India and then be disbursed by the Central Government to the State Boards. The Act prescribes a penalty of
imprisonment extending to six months or/and fine extending to rupees one thousand or both for submitting false assessment return. Interest at a rate of twelve per cent is payable for delay in payment of cess by any industry or local authority using the water. The recovery of amount due under the Act may be recovered as an arrear of land revenue.

There have been noticed some shortcomings in the operation and application of the Water Cess Act. Firstly, one of the problems in levying the cess on polluting industries has been the different approach adopted by various courts in the interpretation of industries covered under the 'specified industries' in the schedule. Many companies have challenged imposition of the cess, claiming that they were not within the specified industries. Variance in the interpretation of 'specified industries' is apparent from different opinions of courts. For instance, in M/S Champaran Sugar Company Ltd. V State of Bihar, it has been held that sugarcane being not a vegetables, therefore processing of sugar cane into sugar does not make the sugar industry, an industry for processing of vegetable product falling under entry 15 of the Schedule I. On the other hand, in Kishan Sahkari Chini Mills Ltd. V State of Uttar Pradesh, the Allahabad High Court extended the term "vegetable" beyond common kitchen vegetable to include sugarcane, therefore held that sugar industry which is one of the main sources of water
pollution, fall under entry 15 of the schedule for the purpose of cess.

Similarly, the Kerala High Court in the case of Gwalior Rayon Silk Co's case, by reading the entire Water Cess Act and focusing on the preamble to the statute in the light of the Water Act, has construed liberally and held the rayon industry is covered under "textile and paper industry" of the schedule. Whereas, the supreme court has in the case of Andhra Pradesh Rayon Ltd impliedly overruled the Kerala High Court's decision. The court after strictly construing the entries in the schedule I, held that Rayon Grade pulp would not be considered even remotely connected as such with chemical industry or textile industry or paper industry. In all preparation, there is certain chemical process but it does not make all industries chemical industries. Broadly and literally it cannot be said that the Rayon Grade Pulp is neither chemical nor textile nor paper industry. The court further held that since the Act is fiscal in nature, hence must be strictly construed in order to find out whether a liability is fastened on a particular industry. Rationale for its decision appears to be that individual companies should not be taken aback by imposition of a cess. It may be emphasised that in order to make the Water Cess Act more effective and to set at rest the interpretation problems, it would have been better if the Act provided that any person subject to the water Act is also subject to the water Cess Act unless specifically exempted.
There seems little justification to impose cess on some polluters but leave others unburdened.

Secondly, it has been alleged that the provision for 'cesses' under the Water Cess Act allows one to pollute more by paying cess at a higher rate and by foregoing rebate. Therefore, it has been suggested that something like an effluent charge on the basis of the pollutant load discharged within the upper limits of allowable pollutant release which may be fixed by government conveniently based on public health standards, could be collected. Under this system, polluters would have an economic incentive to reduce pollution if the charges are higher than the costs of reducing pollution. Such a system will be less burdensome to be administered in comparison to the present cess collection system where in the cost of administration are fairly higher when compared with the amount of cess collected. Hence, a more scientific approach is needed for the collection and levy of cess.

(iii) The Environment (Protection) Act, 1986

Parliament in order to further implement its commitment at the United Nations Conference on Human Environment held in Stockholm in 1972, came forward with the Environment (Protection) Act 1986. The chief objective of the Act is to provide for the protection and improvement of environment and for matters concerned therewith. The Environment (Protection) Act, clearly extends to water
quality and the control of water pollution. Section 2(a) of the Act defines the 'environment to include inter alia, water and its relationship with air, land, human beings, other living creatures, plants, micro-organisms and property.' The Act defines 'environmental pollution to mean the presence in the environment of any solid, liquid or gaseous substance in such concentration as may be or tend to be, injurious to environment.' Section 24(2) of the Act still allows the operation of the Water Act 1974. This means that apart from the preventive or controlling measures under the water pollution law the residue protection of water would come within the Act of 1986.

The Act leaves to the Central Government to establish standards for the quality of the environment and for emission or discharge of environmental pollutants from any source. In pursuance of the powers so conferred, the Ministry of Environment and Forest has published Environment (Protection) Rules establishing general standards and industry based standards for certain types of effluent discharges. The Act also empowers the Central Government to constitute authority or authorities and appoint officers for implementation of its provisions. There is also a provision for citizen's suit provided in the Act.

B. AIR POLLUTION

Statutory control of air pollution in India can be studied under the following heads:
Statutory control under Earlier Statutes, and

Administrative regulation under the recent legislations.

Statutory Control under Earlier Statutes

The subject of control of air pollution as such was not covered comprehensively under the earlier statutes in India. However, some statutes contain ad hoc provisions dealing with control or regulation of pollutants such as smoke, gas, vapours, dust, fumes, etc. and provided for different mechanism for the control of such emissions. A few of the central enactments which contained relevant provisions dealing with air pollution control may be studied here in brief.

The oldest statute dealing with air pollution in India, has been *Oriental Gas Company Act*, 1857. The Act contained provisions for the regulation of emissions of the Oriental Gas Company that may be discharged by the company during its course of operation and may eventually result in pollution of waters or the air. Section 16 of the Act which is relevant on the point read as follows: "Whenever, any gas shall escape from any pipe laid down or set up or belonging to the said company they shall, immediately after receiving notice thereof in writing prevent such gas from escaping, and in case the said company does not, with in twenty four hours next after service of such notice, effectively prevent the gas from escaping, and wholly remove the cause of complaint,
they shall for every such offence forfeit the sum of fifty rupees for each day during which the gas shall be suffered to escape, after the expiration of twenty four hours from the service of such notice."

The Act had limited application with regard to the escape of gas from the company's gas pipes. It did not have application in regard to the air pollution from other sources.

The adoption of Indian Penal Code in 1860 was perhaps the first step in the direction of state control over the pollution problem. The provisions of the Code undoubtedly represent the broad sweep with which the penal legislation has attempted to encompass wide area of common law of torts relating to acts of negligence and nuisance and render them criminal offences leaving, however, the common law remedies untouched. Chapter XIV of the Code, among others contains a relevant provision to combat the atmospheric pollution. Section 278 of the Codes entails penal consequences for making atmosphere noxious to health. It reads: "Whoever voluntarily vitiates the atmosphere in any place so as to make it noxious to health of persons in general dwelling or carrying on business in the neighbourhood or passing along a public highway shall be punished with fine which may extend to five hundred rupees."
It may be pointed out that this section covers the trades producing noxious and offensive smells in the proximity of a populated locality. The vitiating of the atmosphere is always actionable as public nuisance. At the same time, the section lacks sufficient teeth as the penalty provided in it is far less to create any deterrent effect.

**Indian Explosives Act, 1884**\(^{236}\) regulates the manufacture, possession, use, sale, transport, import and export of explosive substances.\(^{237}\) The Act prohibits manufacturing, possession, use, sale, transportation etc. of explosive substances except as under rules as to licencing, sale, transportation, import and export etc.\(^{238}\) The prohibition may either be absolute or subject to certain conditions.\(^{239}\) The Central Government may absolutely ban the use or manufacturing etc. of any explosive which is dangerous in its opinion for public safety by issuing a notification to this effect.\(^{240}\) Section 17 of the Act empowers Central Government to extend the definition of explosives "to cover other explosive substances" and declare any substance as explosive for the purpose of the Act which appears to its specifically dangerous to life and property by reason of its explosive properties or any process in the manufacturing liable to explosion. Enforcement Machinery for implementation of the provisions of the Act is also provided for. Under section 7 of the Act any officer may be authorised by Central Government by rules to exercise power
relating to inspection, search, seizure, detention and removal of explosives from any place, air craft carriage or vessel in which explosive is manufactured, possessed or used or sold or transported. Failure to comply with the provisions of the Act entails imprisonment which may extend up to 3 years and a fine which may extend up to five thousand rupees or both. The penal consequences apply to companies also.

**Indian Boiler's Act**, 1923 deals with the matters connected with boiler regulations, in India. The Act incorporates the standards of construction, maximum pressure, registration and inspection of all "boilers." The Act provides for the certified boiler attendants and Central Boiler Board. The Central Boiler's Board is the principle agency, empowered to make regulations and standard conditions with respect to material, design and construction required for the purpose of enabling the registration and certification of a boiler; prescribing the method of determining the maximum pressure at which a boiler may be used; to prescribe method relating to registration, inspection and examination of boilers or steam pipes; to ensure the safety of person working inside a boiler and to provide for any other matter which is not in its opinion, matter of merely local or state importance.
State Government has been empowered to make rules to regulate the transfer of boilers to provide for their registration and certification; to require boilers to be in charge of persons holding certification, to require boilers to be in charge of persons holding certificates of competence and to prescribe the conditions for grant of such certificates, to provide for any matter or merely local importance in the state.

To ensure the proper maintenance and safe working of boilers, the Act provides for enforcement machinery. The State Government appoints Chief Inspector, Deputy Chief Inspectors and Inspectors, who discharge their functions according to the provision of the Act. The use of uncertified boilers is prohibited and therefore needs registration. The inspectors from time to time examine the boilers to determine maximum pressure, steam emissions, offer advice to the owners as to the proper functioning and maintenance of boilers, and remit the result of examinations to Chief Inspector. The latter, registers the boilers after being satisfied from the report of the Inspector and issue a certificate to the owner authorising the use of a boiler for a period not exceeding twelve months at a pressure not exceeding such maximum pressure as he thinks fit as is in accordance with regulations made under this Act.

Use of a boiler by the owner with a certificate or at a higher pressure than that allowed has been made punishable with fine which may extend to five hundred rupees and with
additional fine in case of a continuing offence. Special provisions for the carriage and a storage of petroleum which though not an explosive but is equally dangerous are made in the Indian Petroleum Act of 1934. The Central Government is authorised to make rules with respect to regulation of import, transportation, storage of Petroleum and conditions for the requirement of licence etc. No person is authorised to import, transport or store any petroleum save in accordance with the provisions of the Act or the rules made thereunder. Section 23 of the Act imposes penalties for the contravention of rules made under sections 4 and 5 which shall be punishable with simple imprisonment which may extend to one month or with fine which may extend to one thousand rupees on with both for subsequent offence the punishment is simple imprisonment which may extend to three months or with fine which may extend to five thousand rupees or with both.

The control of air pollution resulting from the vehicular emissions which contributes for about 65-70 per cent of the pollution load in India, is taken care of by the Motor Vehicles Act, 1939. Section 70 of this Act empowered the state Government to make rules inter alia regarding the emission of smoke, visible vapour, sparks, ashes, grit or oil. This Act has now been repealed by the Motor Vehicles Act, 1988. Section 110 of the new Act empowers the Central Government to make rules regulating the construction equipment and maintenance of motor vehicles and trailers with
respect to all or any of the following matters namely:

"... (g) emission of smoke, visible vapour, sparks, ashes, grit or oil; ... ...
(1) provision for transportation of goods of dangerous or hazardous nature to human life; ... .
(m) standards for emission of air pollutants.

Provided that the rules relating to the matters dealing with the protection of environment, so far as may be, shall be made after consultation with the Ministry of the Government dealing with environment."

Until 1988 the Central Motor Vehicles Rules 1939 made under the provisions of Motor Vehicles Act 1939 were in operation.\textsuperscript{254} In 1989, the Central Motor Vehicles Rules introduced nation wide emission levels for both petrol and diesel engine vehicles incorporated in Rules 115 and 116. These rules were further amended in 1992. The amendments to Rules 115 and 116 lay down standards regarding emission levels of carbon monoxide, nitrogen oxides and unburnt hydrocarbons for petrol and diesel vehicles. Rule 115(1) requires that every vehicle be manufactured and maintained so that smoke, visible vapours, grit, sparks, ashes, cinders etc. are not emitted when the vehicle is driven. While Rule 115(2) lays down standards regarding emission limits of carbon monoxide for petrol driven vehicles and smoke density levels for vehicles with diesel engines. Significantly, the
Rule makes no distinction between old and new vehicles. Further, vehicles manufactured after April 1, 1992 must meet the additional emission standards prescribed for petrol and diesel vehicles under Rules 115(3) and 115(4) respectively. Rule 115(6) requires every manufacturer to certify that the new vehicle conform to the prescribed standards and that the vehicles are designed and constructed to meet these emission limits. Emission standard similar to those prescribed under the central Motor Vehicle Rules have also been issued under the Environment (Protection) Rules.

As a part of control mechanism, the amended Motor Vehicles Rule 1992, authorise the regional or state transport authorities to allow private agencies such as petrol stations to test the emission levels of vehicles and issue "pollution under control" certificates. Even after such certification the transport authorities are empowered to inspect vehicles. Under Rule, 116 the registration of a vehicle found to be exceeding the permissible emission levels can be suspended. As it was felt that by simply fining the driver and permitting him to continue to drive the vehicle defeated the purpose, apart from leading to frequent checking and harassment. The registration will remain suspended until a fresh "pollution under control" certificate is secured.

The Factories Act 1948 provides for approval, licencing and registration of factories, dangerous dusts and fumes; artificial humidification, control of exposure and inflammable dusts etc. The relevant provisions pertaining to
air pollution are contained in Chapter III of the Act which deals with health. Section 13 requires the occupier of a factory to take effective and suitable provisions for securing and maintaining in every workroom adequate ventilation by circulation of fresh air and such a temperature as will secure to workers therein reasonable condition of comfort and prevent injury to health. The State Government may prescribe a standard of adequate ventilation or reasonable temperature for any factory or class or description of factories.259

Section 14 which deals with 'dust and fumes.' requires an occupier of a factory to take effective measures to prevent the inhalation and accumulation of any dust or fumes or other impurities of such a nature and extent which is likely to be injurious or offensive to workers employed therein. If any exhaust appliance is necessary for this purpose, it shall be applied as near as possible to the point of origin of dust, fumes or other impurities and such point be enclosed as far as possible. The operation of stationary internal combustion engines is prohibited unless the exhaust is conducted into the open air or effective measures have been taken to prevent such accumulation of fumes therefrom as are likely to be injurious to workers employed in the room.260

In respect of all factories in which the humidity of air is artificially increased, the state Government, may under Section 15 of the Act make rules (a) prescribing
standards of humidification; (b) regulating the methods used for artificially increasing the humidity of the air, (c) direct prescribed tests for determining the humidity of the air to be correctly carried out and recorded; and (d) prescribing methods to be adopted for securing adequate ventilation and cooling of the air in the work rooms.

Section 31 of the Factories Act provides for taking effective measures to ensure safe working pressure of a plant or machinery should any plant or machinery in a factory operate at a pressure above the atmosphere pressure. Similarly, section 36 prohibits the entry of any person into any chamber, tank, pit, pipe, flue or other confined space in any factory in which any gas, fume, vapour or dust is likely to be present to such an extent as to involve risk to persons being overcome thereby unless (a) it is provided with manhole of adequate size; or (b) other effective means of egress are taken; or (c) practical measures have been taken to remove any gas, fume, vapour or dust etc. so as to bring its level within the permissible limits, or (d) a certificate in writing has been given by a competent person based on a test carried out by himself that the space is reasonably free from dangerous gas, fume, etc; or (e) such person is wearing suitable breathing apparatus.

Section 37 of the chapter dealing with 'Safety' relates to explosives or inflammable dust. It provides for taking all practicable measures to prevent any explosion of dust, gas, fume or vapour which may be produced in any
manufacturing process in any factory, and are of such character as is likely to explode an ignition by (a) effective closure of the machinery or plant (b) removal or prevention of the accumulation of such dust, gas, fume or vapour and (c) exclusion or effective closure of all possible sources of ignition.

Under Section 37(4) any welding, brazing, soldering or cutting operation which involves the application of heat, of any plant, tank or vessel, in a factory which contains explosive or inflammable substance is restricted unless adequate measures have been taken to remove such substance and any fumes arising there from or to render such substance and fumes non-explosive or non-flammable.

In 1987, shortly after the Bhopal gas tragedy and the Supreme Courts ruling in the Shriram Gas Leak Case, Amendment to the Factories Act has been introduced which provide special provision on hazardous industrial activities in Chapter IV-A.

The 1987 Amendment empowers the states to appoint site appraisal committees consisting of Chief Inspector and a representatives each from Central Pollution Control Board and State Board approved by Central and State Governments under Section 3 and 4 of the Water Act and Sections 3 and 5 of the Air Act respectively; of Department of Environment; of Meteorological Department of Government of India; of Town and Country Planning Department of State Government, and an expert in the field of Occupational Health. Five other
members, of which one shall be Scientist having special knowledge of hazardous process and one representative of local authority within whose jurisdiction the factory is to be established, may be appointed by the State Government as members of the above committee. The site appraisal committees are to advise the state Governments on the initial location of factories using hazardous processes. Once the State Government grants the approval for the establishment of a factory; then it shall not be necessary for any applicant to obtain further approval from Central Government or State Boards, established under the water and Air Act. The Amendment Act also requires compulsory disclosure of information by occupier, regarding dangers including health hazards and measures to overcome such hazards to chief inspector, the local authorities and the general public living in the vicinity. Every occupier must draw up an emergency disaster control plan, which must be approved by the Chief Inspector. The contravention of the provisions is liable to result in cancellation of licence.

The occupier is further required to maintain accurate and up to date health records and must employ operations and maintenance personnel who are experienced in handling hazardous substances. The permissible limits of exposure to toxic substances are prescribed in the second Schedule to the Act. Safety committees consisting of workers and managers are required periodically to review the factory's safety measures.
The Amendment Act has also elaborated the definition of occupier by including in it the person who has ultimate control over the affairs of the factory and includes individual partner of a firm, director of a company, general manager of a factory and the owner of the dock in the case ship is being repaired, for the certain matters under the Act. The occupier is held responsible for compliance with the provisions of the Act. Non-compliance exposes him to stiff penalties as allocated in chapter X. Section 92 of the said Act provides for an imprisonment for a term which may extend to two years or with fine which may extend to one lakh rupees or with both, for any contravention of the provisions of this Act or any rules made there under by the occupier or the manager of the factory. If the contravention continues after conviction, a further fine which may extend to one thousand rupees for each day during which the contravention continues may be imposed. Section 96-A provides penalty for the contravention of provisions dealing with hazardous processes (i.e. section 41-B, 41-C and 41-H) which may extend to seven years imprisonment and with fine which may extend to two lakh rupees and if contravention continues with an additional fine which may extend to five thousand rupees for each day during which contravention continues. If contravention continues beyond a period of one year after the conviction, the offender shall be punished with imprisonment for a term which may extend to ten years.
The *Industries (Development and Regulation) Act* 1951, as such makes no direct or indirect reference to environment but provides an obvious mechanism in the form of licensing system for ensuing planning of future development on sound and balanced lines in such a way that the environmental concerns are adequately met. For that purpose, a licence is necessary, under the provisions of the Act for operating a new manufacturing establishment or significantly altering the operation of an existing plant. The Act confers on the Central Government power to make rules for regulating the production and development of industries mentioned in the Schedule; for consultation with the Central advisory councils on these matters and licensing conditions. Provision has also been made in the Act regarding the constitution and establishment of Development Councils with a view to secure proper development of the Scheduled industries. The Central Government has power to revoke or amend conditions of licence. The imposing of conditions for issue of licences can be stretched to serve the cause of environment.

The *Inflammable Substances Act*, 1952, which was enacted to declare certain substances such as acetone, wood neptha, ethyl alcohol and methyl alcohol, carbide of calcium, calcium phosphate and cinematographic films having nitro-cellulose base etc., to be dangerously inflammable and to provide for the regulation of their import, transportation, *Petroleum Act*, 1934 and the rules made thereunder. Excepting this the Act does not specifically make any reference to
Protection against environmental degradation due to mining operations is to some extent regulated by the **Mines and Minerals (Regulation and Development) Act**, 1957. As per section 4 of the Act, no person can undertake any prospecting or mining operations in any area, except under and in accordance with the terms and conditions of a prospecting licence or a mining lease granted under the Act or the rules made thereunder. The Central Government is empowered to make rules to regulate the disposal or discharge of tailings, slime or other waste produced or arising from mining or metallurgical operations. Contravention of provision of section 4 entails penalty of imprisonment which may extend to one year and fine which may extend to five thousand rupees or with both.

The prevention and control of radioactive air pollution is regulated by the **Atomic Energy Act**, 1962 and the Radiation Protection Rules 1971. Under the Act, the Central Government is required to prevent radiation hazards guarantee public safety of workers handling radioactive substances and ensure the safe disposal of radioactive wastes. It is apparent from the previous discussion that some of earlier central enactments contain provisions having a bearing on the problem of air pollution and environment protection. Some state legislations and Municipal Statutes, too, enshrine provisions in a slightly different form for prevention and suppression of nuisance at the local level.
The matters of air pollution have been given only secondary importance. Only general rule making powers of the Government are used to prevent pollution under these legislations. Therefore, there arose a need to introduce a comprehensive legislation with the primary objective of dealing with air pollution.

(b) Administrative Regulation Under the Recent Legislations

A comprehensive scheme of administrative regulation of air pollution has been provided for under the Air (Prevention and Control of Pollution) Act, 1981 and under the relevant provisions of the Environment (Protection) Act, of 1986. We study here the scope of these enactment to prevent and control air pollution.

(i). The Air (Prevention and Control of Pollution) Act, 1981.

The Air (Prevention and Control of Pollution) Act, 1981 (here in after called as Air Act of 1981) was passed by the Parliament to implement the decisions taken at the United Nations Conference on the Human Environment, held at Stockholm in June, 1972, under article 253 of the Constitution, to which India was a party. The statement of objects and reasons prefaced to this Act contain the government's explanation of the contents and the scope of the law and its commitment and concern for the 'detrimental effects of air pollution on the health of the people as also on animal life, vegetation and property. The Act deals
exclusively with the preservation of air quality and the control of pollution.

As regards the framework of the Act, it is almost similar to the one created by its predecessor, the Water Act of 1974. The Air Act defines air pollution to mean the presence in the atmosphere of any air pollutant, and the latter denotes "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 beings or other living creatures or plants or property or environment." Thus, the Act covers within its ambit the emissions from the common and important sources of air pollution such as the industrial plants and automobiles.

The Act provides for an enforcement machinery in the form of Central and State Air Pollution Boards in their respective geographical jurisdiction. To enable an integrated approach to environmental problems, Air Pollution Boards are not required to be constituted separately but the Air Act simply expanded the authority of the Central and State Boards established under the Water Act, to include in its functions air pollution control. However, in states where water pollution Boards have not been constituted, the states can constitute the Air Pollution Boards.

The Constitution of the State Boards provides for "Chairman, being a person having special knowledge or practical experience in respect of matters relating to environmental protection, to be nominated by the State
The Board, in addition to the Chairman can comprise of a maximum of 15 members with a proviso "that no less than two of the members are persons having special knowledge or practical experience in respect of matters relating to the improvement of the quality of air or the prevention, control or abatement of air pollution."

The main functions of the Air Pollution Boards are inter alia to improve the quality of air and to prevent and control or abate air pollution in the country; advice respective Governments on above matter; plan comprehensive programme for prevention and control of air pollution and secure its execution, collect and disseminate information relating to air pollution; to plan and organise the training of persons engaged or to be engaged in programmes for prevention, control or abatement of air pollution and to organise mass education programmes relating thereto and to lay down the standards for the quality of air, standard for emission of air pollutants into the atmosphere from industrial plants and automobiles or for discharge of any air pollutants into the atmosphere from any other source. The State Boards are also required to inspect any control equipment, industrial plant or manufacturing process or in the control areas and can issue appropriate directions as to prevention, control or abatement of air pollution. The central board is to perform the functions of coordination and settlement of disputes between the State Boards. It can exercise the powers and the functions of a state Board in the
Union Territories as well as that of a state Board upon the direction of the Central Government in case the state Board defaults in complying with any directions given by the Central Board with the result a grave emergency arises which in the public interest demands the assumption of the functions of State Board.

As regards the scheme of prevention and control of air pollution, the Air Act after its amendment in 1987 gives wide powers to state Governments and the Pollution Boards. The state Government after consultation with the State Pollution Board is empowered to designate particular areas as "air pollution control areas." The State Government in such air pollution control areas, in consultation with the State Board can by making a notification in the official gazette, prohibit the use of any fuel or appliance other than the approved ones or the burning of any material (other than fuel) such as garbage and other waste products which may cause or is likely to cause air pollution; give instructions to concerned authority in charge of registration of motor vehicles under the Motor vehicles Act 1939 to ensure that the standards for emission of air pollutants from automobiles (even outside the air pollution control areas) laid down by the state Board under Section 17(1)(g) are complied with.

For the control of industrial pollution, the Act prohibits the operation or establishment of any industrial plant in an air pollution control area by any person without
the previous consent of the state Board. Therefore, industrial operators are required to obtain a permit (consent order) from the State Board for the operation of an existing industry or for an industry yet to be established. Upon making an application for the procurement of a consent order in the prescribed form and along with the prescribed fees, the state board upon making such inquiry as it may deem fit may for reasons to be recorded in writing with in a period of four months from the date of submission of application, grant the consent subject to such conditions and for the period as may be specified in the order or refuse such consent. The state Board is authorised after giving a reasonable opportunity of being heard to the person concerned, to cancel the already given consent even before the expiry of the granted period or refuse further consent after the expiry if the conditions to consent order are not fulfilled. Conditions may refer to inter alia the installation and proper maintenance of such control equipment as may be specified by the state Board; erection or reerection of specified chimney and such other condition as the state Board may specify in this behalf. The conditions may be varied if any technological improvements necessitate so upon giving a reasonable opportunity of being heard to whom the consent has been granted.

The Act provides restriction on persons carrying on industry in any air pollution control area not to allow emission of air pollutants in excess of the standards laid
down by the state Board. In case of actual or threatened violation of the emission standards, the Board can seek an order from court (not inferior to that of a Metropolitan Magistrate or a Judicial Magistrate of the first class) for restraining such person from causing air pollution. The court may make such an order as it may deem fit. It may order such person to desist from taking such action as it likely to cause emission or authorise Board to implement the directions of the court in such manner as it may specify. Additionally, under section 33-A which has been instituted by Amendment of 1987, the Board may issue directions as to the closure, prohibition of regulation of defaulting industry or process or the stoppage or regulation of supply of electricity, water or any other service.

To effectively implement the provisions of the Act the Boards are authorised to take remedial measures to mitigate the emission of air pollutants in the event of their actual discharge or apprehension thereof, power of entry and inspection, power to obtain information about the nature and extent of emissions, or control equipment; power to talk samples of air or emissions and get them analysed. Failure to comply with the provisions of the Act or the directions issued by the State Boards attach stringent penalties in which imprisonment though varying may extend from three months to seven years and a fine up to maximum of ten thousand rupees. The cognizance by the court (i.e. a Metropolitan or Judicial Magistrate of 1st Class) of the
offence shall be taken on a complaint made by Board or by a person who has given notice of not less than sixty days of his intention to make a complaint, to the Board. Hence, there is a provision of citizens suit under the Act.

Though, the Air Act is comprehensive in its contents relating to prevention and control of air pollution from industrial pollutants, yet its scope even after major amendments in 1987, remain limited and narrow. A few of the limitations of the Act may here be mentioned.

1. The Act has narrow scope as it does not include in its gamut "pollution through the medium of air." Hence, noxious odours as are emitted by some industries (e.g. Breweries and leather industries) and 'light pollution' caused by high intensity signboards, neon advertisements and their jamming light effects. Even some cases of pollution of air, particularly, emissions from ships and aircrafts and radio active air pollution are excluded from the operation of the Act.

2. The Act grants discretion to each state government to designate particular areas as "air pollution control areas" within which the provision relating to regulations of pollutants discharges through permit systems are to be applicable. It seems that polluters located outside such air pollution control areas cannot be subjected to regulations of pollution or be
prosecuted for violations of standards laid by the state boards.

3. The Act does not provide for concrete policy guidance in its provisions but simply emphasis upon the purposes, constitution, and functions etc. of the boards. In pursuance of the purposes under the Act the standards for the quality of air and emissions standards have been laid down by the Central Board. Much of the emphasis has been on the control perspectives in the form of laying down of emission standards. Even in such areas, some hazardous pollutants such as lead are left out.

4. Even the constitution of Boards is not free from drawbacks. Under the Air Act, the prevention and control of air pollution has been given as an additional or secondary duty of the (water) pollution Boards. This under rates the importance of control of air pollution as there remains a tendency to attach greater importance and devotion to primary function. It would have been better had the control and prevention of air pollution entrusted to some integrated agency. The problem of air pollution cannot be effectively tackled and controlled in isolation and in disregard of the other elements of the environment, hence integrated approach to check pollution is indispensable. The Air Act like the water Act does not provided for such an approach as
the local and municipal bodies which are adequately armed with statutory powers for ensuring environmental purity, have not been integrated into the national and state level enforcement machinery and their existing infrastructure has not been fully harnessed for effective prevention and control of pollution of aerial environment. Through cooperative efforts, sharing and shedding of responsibilities by boards and local bodies, fruitful results in maintaining the purity of the air and wholesomeness of the environment in general can be achieved. As a sequence of an integrated approach, the Boards, on the other hand be authorised to consult other competent bodies entrusted to regulate, build, finance or aid various projects and programmes, such as highways, airports, power plants, housing, agriculture and water resource improvement and other activities involving pollution and environment protection.

5. The provisions relating to taking of samples of emissions or air under the Air Act vests wide ranging powers on bureaucracy which afford ample scope for differential treatment and discrimination through unilateral executive decisions of subjective satisfaction and therefore does not admit of any better safeguards to the industry against any default or high handedness of the Board. Thus, the provisions require alteration by simplification of procedure for
6. The Air Act after its amendment in 1987 has adopted a new stand with regard to the question of *locus standi* so that now even citizen has the right to launch prosecution against the polluters which hither to, could only be undertaken by a Board or any officer authorised in this behalf by it. Even with the incorporation of citizens suit provision, with little appreciation of pollution dangers by the ordinary citizens, much success in the avowed objective of prevention of pollution is not expected. Further, the citizens suit provision is rendered ineffective by requirement of sixty days notice which gives a long enough time to escape liability under the Act. Also, as the board authorities have been given authority to collect sample of air or emissions, the aggrieved citizen or private agency will apparently have no means of proving that an offence has been committed by the alleged offender.

7. The Air Act, after its amendment in 1987, now contains enhanced penalties for the offences and the violations under the provisions of the Act. The penalties, however, when compared to the damage that can be caused or perpetuated by the commission of offences defined or omission of duties imposed under the Act, are inadequate. The sections providing for offences are imprecisely worded with several provisos providing...
in-built defences with the result the possibility of prosecution under the Act becomes a difficult task. Another shortcoming of the Act would seem to be that it does not provide additionally for damages to the affected parties. It would have been better if the Act had provided simultaneously for payment of damages for injury suffered by persons by violations of the provisions of the Act. Such a provision could enable the injured persons to recover damages instead of proceeding under the law of torts where under the liability of governmental departments and government corporations remains restricted.

Nevertheless, apart from some of the shortcomings the Air Act is a good piece of legislation and has shown the right path to be pursued in the direction of prevention and control of air pollution.

(ii). The Environment (Protection) Act 1985

The Environment (Protection) Act 1986 passed in the wake of the Bhopal tragedy and to further implement the decisions of the United Nations Conference on the Human Environment of 1972 in so far as they relate to the protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property etc... The constitutes an 'umbrella' legislation designed to provide a framework for Central Government coordination of the activities of various
central and state authorities established under the water and the Air Acts. The Environment Act does not add anything new to the above statutes. It, however, provides additional mechanism for the prevention and control of environmental pollution. As regards the control of air pollution, section 3(1) of the Act empowers the Centre Government to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution. The Central Government is authorised under the Act, to set new national standards for the quality of the environment as well as standards for controlling emission and effluent discharges, to regulate industrial locations, to prescribe procedure for managing hazardous substances, to establish safeguards for preventing accidents and to collect and disseminate information regarding environmental pollution.

As a part of an integrated approach to tackling the problem of environmental pollution, the Department of Environment, Forests and wildlife of Central Ministry of Environment and Forests has been entrusted the responsibility for making rules to implement the Environment Act. The Department has adopted industry-specific standards for effluent discharge and has prescribed general effluent standards for other water polluters. It has also designated certain state and central officials to carry out specified duties under the Act and has designated specific laboratories.
for testing the samples of air or emissions obtained under the Act. The Hazardous Wastes (Management and Handling) Rules 1989 have been framed which have introduced a permit system to regulate the handling and disposal of hazardous wastes. The Manufacture, storage and Import of Hazardous Chemical Rules, 1989 have also been framed with a view to fix responsibilities as to the manner of handling, taking adequate preventive measures in manufacturing, storage and transportation, import of hazardous substances other than hazardous wastes. Rules to regulate the manufacture, use, import, export and storage of hazardous micro-organisms have also been issued under the Environment Act in 1989 under which a Genetic Engineering Approval Committee has been established in the Ministry of Environment to licence experiments in, and field trials of, genetically engineered organisms.

Under the Environment Act, the Central Government is empowered to establish standards for the quality of the environment in its various aspects, including maximum allowable concentration of various environmental pollutants for different areas. These standards could be based on ambient levels of pollutants sufficiently low to protect the public health and welfare. Emission or discharge standards for particular industries could be adjusted to ensure that such ambient levels are achieved. The Environment (Protection n) Rules of 1986 also allow the state or central authorities to establish more stringent emission or discharge
standards, based on the quality of the recipient system, than the current uniform standards prescribed under these Rules. However, no uniform measures of adequate ambient quality have yet been established under the Environment (Protection) Act, to guide authorities in setting more stringent discharge standards. Only in December 1986, the Environment (Protection) Rules were amended to prescribe ambient air quality standards in respect of noise. These standards lay down the day time and night time limits of noise in industrial commercial and residential areas as well as in silence zones. In silence zones the use of vehicular horns, loudspeakers and bursting of crackers is banned.

Similarly, the emission standards for many industries and for other sources are yet to be promulgated under the rules. The rules simply provide in some details, for the standards of emission of smoke, vapour, etc. from Motor vehicles.

The Environment (Protection) Act, like its predecessors contains provisions to ensure compliance which includes power of entry for examination, testing of equipment and other purposes, power to take samples of air, water, soil or any other substance from any place for analysis, power to issue direct written orders, including orders to close, prohibit or regulate any industry, operation or process or to stop or regulate the supply of electricity etc., power to launch prosecutions against the polluters
and the citizens suit provision.\textsuperscript{330}

The Act explicitly prohibits discharges of environmental pollutants in excess of prescribed regulatory standards.\textsuperscript{331} A specific prohibition against handling of hazardous substances except in compliance with regulatory procedures and standards is also contained in the Act.\textsuperscript{332}

Persons responsible for discharges of pollutants in excess of prescribed standards are to prevent or mitigate the pollution and report the discharge to the governmental authorities.\textsuperscript{333}

The Act strengthens the penal provision. The maximum penalties for the contravention of the Act or the rules, orders, directions issued under the Act have been increased to imprisonment up to five years or fine up to one lakh rupees or both for each failure or contravention. The Act imposes an additional fine up to Rs.5,000 for every day for continuing violation.\textsuperscript{334} If the failure or contravention continues beyond a period of one year after the date of conviction, an offender may be punished with imprisonment for a term which may extend to seven years.\textsuperscript{335} The liability extends to corporate officials,\textsuperscript{336} the heads of departments of government and other department officers.\textsuperscript{337}

The Environment Act is the first Act dealing with the issue of environment as a composite whole. It takes a comprehensive view of pollution dealing simultaneously with air, water and noise pollution as also regulating the treatment of hazardous materials. Hence, as regards air pollution, apart from the preventive or controlling measures
under the *Air Act*, the residue protection of air would come within the *Environment (Protection) Act*.

The *Environment (Protection) Act* also suffers from shortcomings. The general drawbacks of the Act relate to its narrow area of operation, weak citizens suit provision, tax provisions relating to fixing of liability of corporate officials and absence of any provision providing for an individual’s right to sue a defaulter for damages.

One of the most controversial provision of the Act is enshrined in Section 24 which provides that if any act or omission constitute an offence punishable under the *Environment (Protection) Act* as well as any other law, the offender shall be liable to be punished under the other law and not under the *Environment (Protection) Act*. This provision is anomalous since standards established under the *Environment (Protection) Act* are also the subject of other statutes, such as water Act and Air Act and many violations would also be punishable under the latter statutes which prescribe a lesser punishment. Therefore in such cases severe penalties of the *Environment (Protection) Act* will simply remain on paper. For this reason the Act has been described as a "cobra that is seemingly fierce . . . but . . . has no venom in its fangs."

Uncertainty as to the application of penalty provision may also arise in cases where for a particular pollutant different higher standard is provided for in the *Water Act* or the *Air Act*, while the *Environment (Protection) Act* provides
a lower standard. It is uncertain whether the penal provision of the Environment (Protection) Act would still be applicable if a factory discharges or emits pollutants in conformity with the allowable levels permitted under the Water Act or Air Act but in disregard to the limits allowed under the Environment (Protection) Act. Such a legislative scheme instead of promoting uniformity brings in unpredictability in the application of legal provisions.

C. NOISE POLLUTION

(a) Statutory Control of Noise Pollution

Noise in India is actionable under the law of torts. As regards the statutory control of noise, it is surprising that there exists no law, under the Indian legal system exclusively dealing with the problem of noise or its control, whereas many countries of the world have already enacted specific laws to control the noise menace. We have some stray provisions here and there for the control of noise despite the fact that public health is greatly threatened here due to increasing noise pollution. A few of the statutory provisions may be discussed hereunder.

(i). Law of Crimes and Noise Control

Under Section 268 of the Indian Penal Code, 1860, noise is actionable as public nuisance. The Section reads: "A person is guilty of Public nuisance who does any act or is guilty of an illegal omission which causes any common injury, danger or annoyance to the Public or to the people in general
who dwell or occupy property in the vicinity, or which must necessarily cause injury, obstruction, danger or annoyance to persons who may have occasion to use any public right."

Hence, under this section people who run offensive trade and thereby or by any offensive means corrupt the air or by any means cause loud and continued noise and thereby cause injury or annoyance to those dwelling in the neighbourhood in respect of their health or comfort and convenience or living are liable to prosecution for causing public nuisance. 344

Noise nuisance can also be punishable under section 290 of the code which prescribes a punishment which may extend to two hundred rupees, for those cases of nuisance not specifically covered under the code. It may be emphasised that the question of nuisance by noise is one of the degree and depends on the circumstances of the concerned case. Neither the right to make noise can be acquired by prescription nor it can be accepted as a defence to a charge of nuisance. 345

Under section 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. 346

It may be stressed at the same time that in spite of the serious consequences of noise, nuisance by noise has not been accorded its proper place under the Indian Penal Code. It is, till date relegated to the residuary provision in section 290 which prescribes just nominal punishment. The
provisions of the Code, in view of the recent scientific and industrial developments, is inadequate to cope with increasing menace of noise pollution.

The provisions of the Code also do not lead us to uniform and certain rules for application to the criminal cases of noise nuisance. There have been very rare prosecutions for nuisance by noise as the offence of public nuisance under section 290 is non-cognizable. The Luke warm attitude of courts in maintaining such actions is another factor for very less prosecutions. Courts, generally show reluctance to treat nuisance by noise as actionable public nuisance if it does not affect all the residents of a locality or is too significant to be taken notice of.

(ii) Police Act 1861 and Noise Control

The Police Act, 1861 also deals with noise pollution and punishment thereof. Under section 30 of the Act District Superintendent or Assistant District Superintendent of Police are authorised to direct the conduct of all assemblies and processions on public roads or in the public streets or thoroughfares. They can prescribe the routes by which and the times at which such processions may pass. These police officers may also require by general or special notice for the procurement of a licence in cases where in the judgement of Magistrate of the district, the convening of the assembly or of a procession likely to be formed or pass through such road, street or thoroughfare, if uncontrolled, is likely to
cause a breach of peace. Under the same section the above mentioned police offices are also empowered to regulate the extent to which music may be used in the streets on the occasion of festivals and ceremonies. Under Section 30-A, the above said police officers and Inspector of Police or any Police Officer incharge of a station are authorised to exercise the power of stopping, dispersing or declaring the assemblies or processions as unlawful which violate the conditions of licence. Section 32 of the Act, (on conviction before a Magistrate), provides for a penalty of a fine not exceeding two hundred rupees, for violation of the conditions of any licence for the use of music or for the conduct of assemblies and processions, issued by the District Superintendent or Assistant District Superintendent of Police.

(iii) Railways Act 1890 and Noise Control

It is surprising to note that railway engines and carriages are a big source of noise in India but railway locomotives enjoy 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. Section 16 of the Act gives statutory authority for the use of locomotives to railway administration. The section reads:

"16 - Right to use locomotives:
A railway administration may with the previous sanction of the (Central Government) use upon a railway locomotive engines or other motive power and rolling stock to be drawn or propelled thereby."

The Railway Act, 1890 has been repealed by the Railways Act of 1989 but the new Act also does not contain any specific provision dealing with the control of noise pollution resulting from railway locomotives. It is understandable that noise from railway locomotives cannot be subjected to strict statutory control, for railways constitute the largest public transportation means in India. But the noise from them can be substantially reduced if steam engines are replaced by electrical or diesel engines and welded tracks are used for running the trains. A great deal annoyance can be reduced if shunting operations are done far away from residential areas.

Civil Aviation Laws 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 rising opposition to further growth of aviation. Local communities and individual have been objecting vehemently to the detrimental impact of present noise levels from air crafts. The concern over the increasing noise levels from air crafts has been appreciated by the world aviation community. Accordingly, in 1968 at the sixteenth Assembly
session of the International Civil Aviation Organization (ICAO) at Buenos Aires, a resolution was adopted whereby ICAO was asked to study on urgent basis the problem of noise pollution from aircrafts. The ICAO, pursuant to this resolution carried out a detailed study of the noise problem and developed laws in the form of International Standards and Recommended Practices for aircraft noise. These were finally adopted by ICAO in the form of Annex 16 to the Convention on International Civil Aviation. According to these standards all aircrafts are required to be noise certified by the authorities of the state of registry of the aircraft on the basis of satisfactory evidence that the aircrafts complies with requirements which are least equal to the applicable standards specified in Annex 16.

India is a member state of ICAO and has accordingly accepted the noise specifications of Annex 16 for implementation in India. Hence, as per an Aeronautical Information circular issued, a legal directive, which lays down that aircrafts which are not noise certified in accordance with Annex 16 standards will not be permitted to operate in India after 31 December 1987.

Under the Indian Aircrafts Act 1934 causing wilful damage or injury is actionable. Although there is no specific provision relating to control of noise pollution from aircrafts but under the rule making powers confirmed by section 8(A) of Air Craft Act, 1934 and its supersession of the Indian Air Crafts (Public Health) Rules, 1946 Government
can make rules to control noise pollution for safeguarding health. Noise restriction regulations and safety regulations\textsuperscript{350} are incorporated in the Aircrafts Rules. To enforce rules airfield environment committees headed by Secretaries of the state Governments with broad based membership from civil Aviation Department, Municipal Corporations, Health Department etc. are established at all airports. These committee also consider ways and means to maintain environmental cleanliness, disposal of wastes and removal of unauthorised slums or eating places etc. around the airport.

It may be mentioned here that theoretically there are noise restrictions at the Indian airports, but there are not known cases where airline has been penalised for infringement of the laid down noise regulations. No serious effort has been made to impose night curfews to cut down noise pollution.\textsuperscript{351}

(v) Motor Vehicles Act and Noise Control

The \textit{Motor Vehicles Act} 1939 under sections 20, 21 J, 41, 68, 68 I, 70, 91 and 111 A 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 section 70 may be made, governing any of the following matters either generally in respect of motor vehicles or trailers or in respect of motor vehicles or trailers of a particular class or in particular
circumstances, namely:

(i) The reduction of noise emitted or caused by vehicles;
(k) Prohibiting the carrying of appliances likely to cause annoyance or danger;
(l) The periodical testing and inspection of vehicles by prescribed authorities;
(h) The use of trailer with motor vehicles.

It is noteworthy that Motor vehicles Rules made by various states do not contain any effective control measures to control the noise pollution. To a certain extent, use of 'horns' and silencers is regulated by the rules. The Rules certainly are directed at curbing the noise but despite their presence the menace and the open violation of the Rules still persists due to inadvertence shown by the state in their effective implementation. Vigilant citizens have now taken recourse to their implementation. For example, in the case of Rabin Mukherjee V State of West Bengal the petitioners successfully moved a writ application for the protection of their own rights and also in public interest against the nuisance and noise pollution created by the transport operators by indiscriminate installation and use of electric and artificially generated air horns which cause unduly rash shrill, loud and alarming noise in the state of West Bengal. The use of such horns was in violation of R 114 of the Bengal Motor vehicles Rules, 1940 which provide that every transport vehicle should be filled with a bulb horn.
The petitions prayed, in the writ petition, for a writ in the nature of mandamus directing the respondents to enforce the provisions of R.114 and to enforce the restrictions against the use of such electric and other loud and shrill horns including air horns by operators of the transport vehicles.

The High Court of Calcutta considering the facts and circumstances of the case and the mandatory provision of Rule 114 of the said rules and acknowledging the serious physiological and psychological effects of noise pollution on various aspects of human life held that it is the duty of the respondents under section 112 of Motor vehicle Act to enforce the provisions of Rule 114 of the said Rules and to punish the persons who contravene the said Rule. Allowing the application, the court further directed the state Government to issue notification forthwith notifying to all transport vehicles operators about the restrictions provided in Rules 114 of the said Rules and directing them to remove the electric, air and other loud and shrill horn forthwith and to use only bulb horn in the state of West Bengal giving the operator 15 days time to change the electric and air horn and to fit vehicles with bulb horn with a warning that failure to remove such prohibited horns from their vehicles would entail penal action against them according to law. Also it should be notified that no such transport vehicle should be given certificate of fitness under section 38 of the Motor Vehicle Act if fitted with such horns.
The above High Court decision is a welcome one. Similar decisions from court in the other states are yet to be followed. Surely through wide publicity of the restrictions, education of group of citizens including the vehicle operator, exemplary fines and sanctions in the form of non-certification can bring about substantial compliance of the Rules and the abatement of noise as well. It is unfortunate that no positive initiative in the direction of control of noise pollution has yet been taken up by the State Governments whereas the citizens suits and the courts through their decisions seems to have taken the lead in the matter.

The Motor vehicles Act 1939 has been repealed by the newly enacted Act of 1988. Section 110 of this Act empowers the Central Government to make rules regarding equipment and inbuilt safety measures to be provided in motor vehicles at the manufacturing point such as safety belt, standards of component, controlling air and noise pollution etc., so as to bring uniformity of standards, the proviso to the section provides that any rules relating to the matters dealing with the protection of environment, so far as may be, shall be made after consultation with the Ministry of the Government dealing with environment." In pursuance of the powers so conferred, Central Motor Vehicle Rules, 1989 have been framed by the Central Government but the rule making powers have not been fully utilised for regulating effectively noise pollution. The new Act provides among others for penalty
for violation of noise pollution standards. Section 190(2) provides that any person who drives or causes or allows to be driven, in any public place a motor vehicle, which violates the standards prescribed in relation to road safety, control of noise and air pollution, shall be punishable for the first offence with a fine of one thousand rupees and for any second or subsequent offence with a fine of two thousand rupees."

(vi) Factories Act and Noise Control

The Factories Act, 1948 does not contain a specific provision of noise control while it has been found in a number of cases that high intensities, high frequencies and intermittency of noise are the factor of annoyance for the workers. Such situations not only cause physical and psychological damages but also impairs workers efficiency resulting into their giving low production and causing dissatisfaction practically to all. Only section 11 of the Factories Act 1948 provides protection from noise by making it obligatory on the part of an occupier for keeping every factory clean and free from any drain, privy or other nuisance. The use of word 'nuisance' in Section 11 may include noise. It is pertinent to note that under section 35 of the Act, protection to eyes of employees is given but protection to ears is nowhere given in the Act. The omission to specifically provide for protection of workers against the noise pollution is uncalled for whereas under the schedule under sections 89 and 90 of the Act, noise induced hearing
loss is mentioned as a notifiable disease.

(vii) 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 regulation of noise pollution. But after the 1987 Amendments noise has been recognised as an air pollutant. The amended section 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 beings 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.

The Central and the State Boards now exercise the powers and functions under sections 16 and 17 of the Air Act, respectively with regard to the prevention and control of noise pollution including the laying down of noise standards. In pursuance of the powers conferred under Section 16, the Central Pollution Control Board has laid down noise standards during the reporting year of 1989-90 for the following:

(a) Noise standards for Industries: See Table 1.
(b) Noise standards for Automobiles: See Table 2.
(c) Noise standards for Domestic Appliances: See Table 3.
(d) Ambient Noise Standards and Code of Practice for noise control from sources other than Industries and Automobiles see Tables 4 and 5 respectively

Table 1: Permissible Noise Exposure for Industrial Workers

<table>
<thead>
<tr>
<th>Exposure Time (in hr/day)</th>
<th>Limit in dB(a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>90</td>
</tr>
<tr>
<td>4</td>
<td>93</td>
</tr>
<tr>
<td>2</td>
<td>96</td>
</tr>
<tr>
<td>1</td>
<td>99</td>
</tr>
<tr>
<td>1/2</td>
<td>102</td>
</tr>
<tr>
<td>1/8</td>
<td>108</td>
</tr>
<tr>
<td>1/16</td>
<td>111</td>
</tr>
<tr>
<td>1/32 (2 minutes) or less</td>
<td>114</td>
</tr>
</tbody>
</table>

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).

Table 2: Noise Limits for Automobiles at Manufacturing Stage (Achieved by the year 1992)

<table>
<thead>
<tr>
<th>Categories of automobiles</th>
<th>Limits in dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a) Motorcycle, scooters and three wheelers</td>
<td>80</td>
</tr>
<tr>
<td>(b) Passenger cars</td>
<td>82</td>
</tr>
<tr>
<td>(c) Passenger or commercial vehicles of up to 4 MT</td>
<td>85</td>
</tr>
<tr>
<td>(d) Passenger or commercial vehicles of above 4 MT and up to 12 MT</td>
<td>89</td>
</tr>
<tr>
<td>(e) Passenger or commercial vehicles exceeding 12 MT</td>
<td>91</td>
</tr>
</tbody>
</table>
Table 3 Noise Limits for Domestic Appliances

<table>
<thead>
<tr>
<th>Domestic appliances</th>
<th>Limits in dB(A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sound pressure level at one metre distance from the operating appliance</td>
<td>Sound pressure level at one metre distance from the operating appliance</td>
</tr>
<tr>
<td>(a) Window Air conditioners of 1 Ton to 1.5 Ton</td>
<td>68</td>
</tr>
<tr>
<td>(b) Air Coolers</td>
<td>60</td>
</tr>
<tr>
<td>(c) Refrigerators</td>
<td>46</td>
</tr>
</tbody>
</table>

Table 4: Ambient Noise Standards

<table>
<thead>
<tr>
<th>Sr.No.</th>
<th>Area</th>
<th>Day Time</th>
<th>Log eS(A) Night Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Industrial Area</td>
<td>75</td>
<td>70</td>
</tr>
<tr>
<td>2.</td>
<td>Commercial Area</td>
<td>65</td>
<td>55</td>
</tr>
<tr>
<td>3.</td>
<td>Residential Area</td>
<td>55</td>
<td>45</td>
</tr>
<tr>
<td>4.</td>
<td>Silence Zone</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

- Day Time - 6.00 a.m. to 9.00 p.m. (15 hours)
- Night Time - 9.00 p.m. to 6.00 a.m. (09 hours)
- Areas up to 100 metres 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 loudspeakers, bursting of crackers and hawkers noise should be banned in these zones.
- Mixed Areas should be declared as one of four aforesaid areas by the competent authority and the corresponding limit be applied.
Table 5 Code of Practice for Controlling Noise from Sources other than Industries and Automobiles

Public Address System
(a) Licence must be obtained by all parties intending to use loudspeakers or public system for any occasion.
(b) Public address system and loudspeakers should not be used at night between 9.00 p.m. to 6.00 a.m. except in closed premises.
(c) Loud speakers should be directed at the audience and not away from audience (i.e. not towards the neighbourhood).
(d) Loud speakers should not be allowed for advertisement and commercial activities.
(e) 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.

Air Craft Operations
(a) Aerodrome should be located away from the city and growth of the city should not be allowed to extend up to the aerodrome.
(b) Aeroplanes should take off in direction radially away from the city.
(c) During boarding and unboarding operations, the plane should be sufficiently away from the airport buildings.
(d) Night-time operations of the aircraft should be minimised.

(e) During maintenance and repairs of the aeroplane workers should be used ear puffs.

(f) Portable silencers should be used in the plane intake as well as exhaust during idling period at the aircraft.

Railway Operations

Erection of acoustic barrier, reducing speed and avoiding whistling within and along the municipal limits and habitation zones are recommended for adoption to the extent possible.

Construction Activities

(a) Acoustic barriers should be placed near construction sites.

(b) The maximum noise levels near the construction site should be limited to 75 dB(A) Leg (5 min) in industrial areas and to 65 dB(A) leg (5 min) in other areas.

(c) There should be fencing around the construction site to prevent people coming near the site.

(d) Materials need to be stockpiled and unused equipment to be placed between noisy operating equipments and other areas.

(e) Constructing temporary earth bund around the site using soil etc., which normally is hauled away from the construction site.
Bursting of Crackers

(a) Manufacture and sale of crackers having an impulsive noise of more than 90 dB at 5 metres distance from the site of bursting should be banned.

(b) Manufacture and bursting of joined crackers should be banned.

(c) Bursting of crackers during night between 9.00 p.m. to 6.00 a.m. should be banned.

(d) Bursting of crackers should be permitted only during public festivals.


It is worthwhile to emphasise here that the Air Act is not an adequate legislation to prevent and control the noise pollution. The Act suffers from inherent shortcomings and the standards for control of noise pollution thereunder remain unimplemented in the paucity of effective control mechanism.

(viii) The Environment (Protection) Act, 1986 and Noise Control

Under the Environment (Protection) Act, there is no specific reference as to the inclusion of noise as one of the 'environmental pollutant' defined in section 2(a) but noise seems to have been impliedly to be included in the category of pollutant as under section 6 of the Act the Central
Government is empowered by making notification in the official gazette, to make rules providing for "the maximum allowable limits of concentration of various environmental pollutants (including noise) for different areas." Moreover, the Act takes a comprehensive view of environment in its totality, therefore, noise pollution cannot be viewed in isolation or apart from it. Therefore, in the absence of any exclusive legislation dealing with control of noise pollution, the protection of environment would come within the Environment (Protection) Act. It has to be remembered at the same time that notwithstanding the powers of the Central Government under this Act, no positive action has yet been taken to frame rules regarding the combating of noise pollution. The Act suffers from some shortcomings, and hence is not a potent instrument for control of noise pollution in particular.

To sum up, there seems to be an inordinate reluctance to introduce statutory noise controls in the form of some exclusive legislation in India. Some Central Acts deal with noise nuisance, as do some state laws, but it is generally left to private citizens to take nuisance actions in respect of noise. This is unsatisfactory because nuisance actions are effective only in cases involving single stationary continuous sources of noise. Nuisance action under the penal code is a poor remedy as it is nominally punitative rather than preventive or compensatory. The provisions of other legislations dealing with noise pollution, too, are in
adequate as they cover restricted area of noise pollution control and do not provide for remedies based on scientific calculations. It is high time, that, we legislate a specific, detailed and uniform legislation, taking into consideration the analysis about sources, effects, control of noise pollution and the Indian social economic aspects on noise pollution control. Additionally, the other enactments dealing with noise also need incorporation of elaborated and effective provisions by suitable amendments. For example, a new specific provision which provide for enhanced punishment for nuisance by noise may be added to the I.P.C. or alternatively sections 278 and 290 be amended to enhance the present prescribed punishment of fine to a maximum of ten thousand and five thousand rupees respectively and a sentence of imprisonment for maximum of five and three years may also be specified in both the sections respectively. In cases of the offences of public nuisance committed by a company or concern, the official(s) responsible for running the business that causes the nuisance be held liable for imposition of the proposed sentence of imprisonment.

Industrial laws such as Factories Act need to incorporate Safety provisions against noise pollution to safeguard the workers such as provision for ear plugs and insulation in addition to provisions for the reduction of noise at source such as reduction of noise by proper machine design, proper maintenance, lubrication, mounting equipment on rubber enclosing the noise, use of baffles, use of sound
proofing material like walls, ceilings and floors etc.

The Motor vehicles Act should provide for a provision specifying the limit of noise in terms of decibels.

D. LAND POLLUTION

(a) Statutory Control of Land Pollution

The control of land pollution is an intricate and complex problem and primarily involves the policy perspective questions. The control measures become all the more difficult to be precisely pointed out, for land is a part of the ecosphere and land pollution does not exist in isolation. Some constituents of air pollution, water pollution and other human activities in some form or the other affect the land and inconsequence the entire eco-system and ecological balance in turn gets affected. However, we can easily identify the basic cause of land pollution which is the men's inability to safely and efficiently dispose of the waste materials resulting from his technological operations. The chief aspects of land pollution, thus causing concern and need to be subjected to statutory control are solid and semi-solid waste disposal methods, the presence of hazardous chemical in the environment and the despoliation and degradation of the land surfaces by indiscriminate activities and use of land by human beings. We can study a few of the statutory controls relating to the control of land pollution in India.(i) Statutory Provisions for Regulation of Solid Wastes
The regulation of municipal solid wastes, though not as serious as the other environmental problems, because the major part of it consists of decomposable materials and other material which can conveniently be subjected to available recycling techniques. But still it creates a major threat to public health and gives rise to the insanitary conditions in the big towns. There is no specific or exclusive legislation in India dealing with the management of such wastes. However, some provisions under the criminal and the local laws are in vogue for their regulation. For instance, the regulation of municipal wastes broadly falls under sections 268, 269, 277, 278, 290, 291, 425, 426, 430-32 of Indian Penal Code. An action for public nuisance and mischief can be brought against a person under the above said sections of the Code whereas injury sustained on account of disposal of solid wastes can be remedied by instituting an action for private nuisance or trespass under the law of torts. Preventive measures against the nuisance caused by the disposal of solid wastes can be taken under the relevant provisions section 133-144 of the Criminal Procedure Code, chapter X of which is a comprehensive document on preventive actions under which executive magistrates are empowered to take actions for the abatement of nuisance.

The Police Act, 1861 to a certain extent deals with the regulation of solid wastes. Section 34 of this Act prevents and controls the slaughtering of animals, clearing of carcass, cruelty to animals, and throwing dirt into the
streets. The throwing of dirt into the streets among others, is punishable with a fine of fifty rupees or imprisonment not exceeding eight days. The same section empowers the police officer to take into custody any person who in his view, commits any of the above offences. It is important to note that the criminal law, notwithstanding providing for effective speedy and summary procedural remedy for preventing and controlling public nuisance including pollution of air, water, noise and land but by and large remain less in vogue against invasion of environment through indiscriminate disposal of wastes as they contain very lenient penalties and appear to have been enacted mainly to maintain law and order or public peace or to ensure smooth functioning of the relevant trade or industry and not so much with a view to protect the nature or surroundings.  

Apart from the above provisions under the criminal law, the solid waste disposal, though an important source of pollution, remains uncovered by any comprehensive central legislation. The handling of waste disposal comes with in the sphere of state activity because public health and sanitation are state subjects falling under entry 6 of the state list. Therefore the collection and disposal of wastes in urban areas is entrusted to the local urban bodies. The municipal laws lay down detailed lists of obligatory and discretionary duties. Due to the direct bearing of sanitation on the health of the people, the collection and disposal of municipal wastes has been listed as obligatory
duty for which the civic authorities are required to take adequate measures. For instance, section 216 of the Madhya Pradesh Municipal Corporation Act, 1956, provides for prohibition of accumulation of offensive matter and prohibits the throwing or placing of any rubbish, offensive matter or sewage on any street or in any place not provided or appointed for the purpose under the provisions of the Act. The prohibition of keeping or depositing or throwing of rubbish, sewage, etc., in such a manner which causes nuisance or is injurious to health, extends to the owner or occupier of any land or building under section 216(b). Similarly, sanitary provisions, such as water supply, places for slaughter of animals for sale, spitting in any place other than drain or receptacle, use of premises to be used for certain purposes causing waste generation etc. under a licence, are contained in the Act under sections 217, 218, 229, 230, 257, 346-A and 249 and 250 respectively.

The Madhya Pradesh Municipalities Act, 1961 also contains provisions regarding the restrictions relating to fouling of water supplies, depositing dust, dung, ashes, garden, kitchen refuse, rubbish etc. discharge of sewage, disposal of building materials, offensive and deserted buildings, using of offensive manure and its disposal, provisions regarding keeping of pigs, tethering cattle, spitting on streets, regulation of certain trades etc. in sections 220, 236, 239, 242, 243, 246, 253, 254, 256 and 283 respectively. Statutory duties are cast upon the
corporations and the councils regarding the removal of nuisances and maintaining the sanitary conditions in the respective areas of their jurisdiction. For example, under section 123 of the Madhya Pradesh Municipalities Act, 1961 in addition to the other duties imposed under the Act, it is provided that "it shall be the duty of a Council to undertake and make reasonable and adequate provision for the following matters within the limits of municipality, namely: (a) cleaning public streets, places and sewers and all places not being private property, which are open to the enjoyment of the public whether such places are vested in the council or not, removing noxious vegetation, and abating all public nuisances. (b) Depositing of night soil and rubbish and preparation of compost manure from night soil and rubbish."

Powers to the Commissioners and public Health Officers under the above Acts are conferred upon, for the abatement of nuisance which includes actual removal of nuisance at the cost of the defaulters, issuing of notices for removal and imposition of nominal fines and imprisonment in some cases.

Despite the powers and the provisions for the regulation of municipal wastes, it is important to note that the existing Municipal statutes do not provide for the standards for solid waste disposal except otherwise stating that it will be removed by the local body, the local body will identify places for treatment and final disposal of solid wastes and the processing of such wastes will be done by it. Moreover, these authorities/bodies on account of
inadequate finances, inadequate training of personnels engaged in the management of solid wastes; lack of infrastructure and monitoring facilities; inadvertence to their duties sometimes and unscientific disposal of wastes have not been able to do away with the most inhuman practice of carrying night soil on the head or over the shoulders, nor they have been able to contain the problem of unscenic and unhygienic problem of waste disposal and its proper management for better use. Further the local civic authorities in states like Uttar Pradesh, Punjab, Bihar, Tamil Nadu, West Bengal are governed by Statutes passed in 1916, 1911, 1922, 1920 and 1932 respectively which deal with collection and carting away of wastes, developments taking place in other areas as well as urban complexes do not get reflected in the laws to satisfy modern urban living conditions. The old regulations suffer from the defect that various categories of wastes for which they would be applicable are not covered in sufficient details and are applicable for domestic and to some extent trade wastes. They do not provide sufficient powers to the civic authorities for prosecution of offenders with the result that the enforcement has become ineffective. 361

Hence in the backdrop of the inadequacy of the existing laws to provide for effectively for collection, transportation and disposal of wastes and the failure of the local authorities to cope with the problem, it is necessary from environmental protection point of view that we must have
some national policy on the management of solid wastes and a comprehensive central legislation to adequately deal with it. The recently enacted Environment (Protection) Act 1986, though it is aimed at the protection of the general environment does not specifically take care of the above said problem as the primary emphasis of the Act has been on the regulation of hazardous wastes and is not a potent instrument for the abatement of land pollution caused by unscientific management of municipal wastes.

(ii) Statutory Control of Industrial Wastes

After the passing of the recent exclusive environmental legislation on water, air and the general environment regulated under the water i.e. the Water Act, 1974, the Air Act 1981 and the Environment (Protection) Act 1986 the industrials wastes are governed under the relevant provisions of these legislations. Apart from these legislations which contain provisions for their disposal, enforcement mechanism, the prosecution process and the citizens suit, Factories Act 1948 and the Industries (Development and Regulation) Act 1951 also contain relevant provision regarding the regulation of wastes from industrial sector. The Factories Act 1948, in Section 12 provides for the disposal of wastes and effluents and requires effective arrangements to be taken in every factory for the treatment of wastes and effluents arising from manufacturing process carried on therein, so as to render them innocuous and for their disposal. The state Government is authorised to make
rules prescribing the arrangements to be made for the disposal of wastes and effluents and their approval from the prescribed authority. The non-observance of the provision entails stringent penalties which include imprisonment which may extend to two years and a fine upto one lakh rupees or both, under section 92, after the amendment of the Act in 1987.

Under the **Industries (Development and Regulation) Act**, 1951 imposing of conditions, including for that of the wastes, for issue of licence can be stretched to serve the regulation of wastes from industries by the rule making and the licencing powers conferred on the Central Government under Sections 5, 6, 12 and 30 of the Act.

(iii) **Regulation of Hazardous Substances**

Pollution caused by hazardous chemical substances in the environment and the consequent contamination of land, in India, is apparently increasing for several reasons. Indian Industries generate, use and discard toxic substance. While increasing numbers of farmers encouraged by government. Agricultural policies encourage spraying of highly toxic chemical pesticide for crop protection by farmers. The monitoring of chemical concentrations in soil, water, food and body tissue is not yet sufficiently coordinated and regular to provide early warning of hazardous levels. Neither there can be absolute standards nor threshold limit values for chemicals. The determination of value can only be
based upon the best evidence available at the time. Still regulation of common and known hazardous substances such as flammables, explosives, heavy metals, nuclear and petroleum fuel byproducts, dangerous micro-organisms and many of synthetic chemical compounds like DDT etc. is urgently needed in view of their tested harmful effects.

Statutory controls of some of the toxic substances exist in India under the various statutes. The first comprehensive regulating provisions were incorporated in the Environment (Protection) Act 1986 which primarily deals with the regulation of such substances. Section 2(e) of the Act defines a 'hazardous substance' to mean "any substance or preparation which, by reason of its chemical or physico-chemical properties or handling, is liable to cause harm to human beings, other living creatures, plants, micro-organisms, property or the environment." The Central Government is empowered under section 6 of the Act to make rules among others for the procedures and safeguards of handling of hazardous substances, the prohibition and restrictions on the handling of hazardous substance in different areas. In pursuance of the powers so concerned the Central Government in July, 1989 for the first time issued elaborated rules the Hazardous wastes (Management and Handling) to deal with hazardous wastes. The rules apply to designated categories of wastes such as cyanide wastes and wastes from dyes, others enumerated in a schedule to the Rules. Under Rule 4 a person generating hazard wastes in
quantities exceeding specified limits is required to take "all practical steps to ensure that such wastes are properly handled and disposed of without any adverse effects" such a person is also "responsible" for the proper handling, storage and disposal of wastes. Rule 5 prescribes a permit system administered by state pollution control boards for the handling and disposal of hazardous wastes, under which no person without board's authorisation may collect, receive, treat, transport, store or dispose of hazardous wastes. Rule 7 provides for packaging, labelling and transportation of hazardous wastes, Rule 8 requires the State Governments to compile and publish an inventory of hazardous waste disposal site and Rule 11 prohibits the import of hazardous wastes into India for dumping and disposal.

Rules relating to manufacture, storage and import of hazardous chemicals, have also been framed in November, 1989 by the Central Department of Environment, Forests and Wildlife. These rules apply to industries that use or store specified hazardous chemicals. Rule 3 prescribes the duties of various governmental authorities. For example, the central and state pollution control boards are required to enforce governmental directives and procedures pertaining to the isolated storage of hazardous chemicals, and the distinct collector or other designated authority is required to prepare off site emergency plans to contain major chemical accidents. The responsibility of preparing and upgrading on site emergency plans rests with the 'occupier' who controls
the industrial activity. Under rule 4, an occupier must identify the major hazards posed by his industry, take steps to prevent and limit the consequences of an accident, and inform and train workers in operational safety. An importer of hazardous chemicals into India, under Rule 18, must disclose complete product safety information where the imported chemical is likely to cause a major accident. The designated governmental authorities are empowered to issue directions, including an order to stop the import. The importer must also ensure that the transport of chemicals from the port of entry is in accordance with the Central Motor Vehicles Rules of 1989 which also deal with certain aspects of storage, transportation and regulation of hazardous substances. Hazardous micro-organism, Rules 1989 have now been framed under the Environment Act, 1986 to regulate the manufacture, use, import, export and storage of hazardous micro-organisms and genetically engineered cells. These Rules cover industries, hospitals, research institutions and other establishments that handle micro-organism or are engaged in genetic engineering. Committees of experts established under Rule 4 play an important role in administering the regulations. For example, the Recombinant DNA Advisory Committee is required to review developments in bio-technology in India and abroad and to recommend suitable safety regulations in recombinant research, use and applications. Procedures restricting or prohibiting production, sale, import and use of specified organisms are
prescribed by the Review Committee on Genetic Manipulation. Rule 7 prohibits the handling, manufacture and use of hazardous micro-organisms except with the approval of the Genetic Engineering Approval Committee. Under Rule 17, a District Level Committee presided over by the district collector is required to prepare off-site emergency plans to contain major accidents caused by the escape of harmful micro-organisms.

Besides the rules issued under Environment (Protection) Act, provisions touching on certain other aspects of storage, transportation and regulation of hazardous substances are contained in the Explosive Substances Act 1908, Indian Petroleum Act 1934, and Inflammable Substances Act 1952. Additionally, the 1987 Amendment to the Factories Act, 1948 has introduced a new chapter IV-A dealing with hazardous industrial activities. This chapter incorporates special provisions dealing with the regulation of hazardous substances and monitoring safety measure and stiff penalties against employers for non-compliance with safety norms.

The Insecticides Act, 1968 deals with the regulation of import, manufacture, sale, transport, distribution and use of insecticides with a view to prevent risk to human beings or animals and the matters connected therewith. The Act was designated to implement the recommendations of the Kerala and Madras food poisoning cases Inquiry Commission, which inquired into several deaths from insecticide contaminated
food in April and May, 1958. The manufacturing and distribution of insecticides is regulated through registration and licensing. The Act establishes a central Insecticide Board to advise the central and states on technical aspects of the Act. A committee of this Board registers insecticides after examining their formulae and verifying claims regarding their safety and efficacy. The sale, distribution or use of any insecticide which involves risk to human beings or animals may be prohibited by the Central or the State Government by making a notification to this effect in the official gazette. Prohibited insecticides or insecticides not registered under this Act are banned to be used, sold, stored or transported by any person. Import of any misbranded, prohibited or unregistered insecticide is prohibited. A violation of the Act's provisions dealing with registration and licensing entail prosecution and penalties of imprisonment as given under section 29 of the Act which may extend to two years for the first offence and for a second and subsequent offence to three years and/or with fine which may extend to two thousand rupees.

The Insecticides Rules of 1971 prescribe the procedure for licensing, packing, labelling and transporting insecticides apart from the provisions for workers safety during the manufacture and handling of insecticides through protective clothing, respiratory devices and medical facilities.
There is still uncertainty as to the permissible limits of radioactivity in the food products, in the environment and the exposure of workers during the course of their work. However, due to extra hazardous nature of the nuclear substances, they need special regulation. Therefore, the regulation of nuclear energy and radioactive substances in India is governed by the Atomic Energy Act of 1962 and the Radiation Protection Rules of 1971. Under the Act, the Central Government is required to prevent radiation hazards, guarantee public safety and safety of workers handling radioactive substances and ensure the disposal of radioactive wastes. Nuclear research, the supply of atomic energy and nuclear generated electricity, the manufacture and transport of radioactive substances all fall within the centre's authority.

Besides the above mentioned legislation and rules, the Public Liability Insurance Act, 1991 has been enacted. The Act makes public liability insurance cover mandatory for all hazardous chemical industries. This law introduces a "no fault liability" standard to ensure immediate relief on a fixed scale to the victims of a hazardous chemical accident. New rules may come up for the regulation of future hazardous substances under the rule making powers under the Environment (Protection) Act.

(b) Statutory Measures for Land Use and Planning

Another important aspect of land pollution which
requires statutory regulation is the land use and planning. Management of land use has, in fact been a major cause of haphazard urbanization and deforestation, dereliction and despoliation of landscapes and increase in waste lands. In India, land use is a state subject under entry 18, of state list of the seventh schedule of the constitution, hence numerous state legislations dealing with urban and rural land use and planning have been enacted. A few of them may be enumerated here under.

(9) Urban Land Use

Land use in urban areas involve the complex questions of planning, housing, development and associated questions of acquisition of land, sanitation, public health, transportation and the supply of other basic civic amenities. On this aspect there exist many state legislations. For instance, a number of states have enacted laws for zoning and town planning as a part of urban development programmes. Improvement Trusts have been created by statutes for urban planning. The earliest attempts at devising a machinery to deal with the problems of urban growth and town expansion were made by the Bombay Improvement Trust Act 1898 which set up an Improvement Trust for the premier city. This was followed by Calcutta Improvement Act 1911 and latter by Omnibus Act for the then United province of Agra and Oudh. The Uttar Pradesh Town Improvement Act 1919 was extended to Delhi and was the basis for the
improvement Trusts Act in Punjab. Bangalore had an Improvement Trust under a special Act in 1945 and Trivandrum in 1960. The Howarah and the Madhya Bharat Town Improvement Acts were passed in 1956 and the latter was replaced by the Madhya Pradesh Town Improvement Trust Act, 1960. All these Acts except the Bombay Act are still in force and the Improvement Trusts continue to function in a large number of towns and cities. The basic structure and functions of these trusts are practically the same. The Trusts have about 5-10 members out of which 3-4 are usually nominated by the Municipal Councils of the city concerned, while the Chairman and other members are appointed by the State Government and they include technical officers such as the Director of Town Planning or Public Health Engineers. The Improvement Trusts have functioned purely as executive agencies for acquisition and development of land within the city limits or at the periphery under limited town expansion schemes. They generally undertake planning and development of isolated neighbourhood without drawing up an overall master plan for the growing city with a city-wise system of communications and zoning of land uses. The development of water supply and sewage facilities, etc., however, are responsibilities of the municipal authorities.

The Improvement Trusts are now being replaced by the Development authorities, for example in Delhi the Improvement Trust was replaced by the Delhi Development Authority. The
Development authorities are now vested with the responsibility of enforcement of master plan and undertaking all development activity in accordance with the plan. The municipal corporations acting under their respective statutes are responsible for the sanitation and supply of some civic amenities and facilities. Apart from the above administrative mechanism for urban planning there existed town planning Acts in many of the former provinces even prior to the independence. For example, the Bombay Town Planning Act of 1917 and the Madras Town Planning Act of 1919 dealt with land use and development under which it was possible for a town planning scheme to be prepared for any urban area either by the State Government or by a local authority and as a part of schemes, zoning regulations were framed and enforced. But as the town planning schemes were for parts of a town or city and rarely for the whole town, zoning was partial and not comprehensive either in scope or extent. The control over buildings was mainly through building bye-laws which enabled partial zoning to be exercised on the grounds of public health, sanitation and public nuisance.

In the post-independence period there has been a concerted effort on the part of governments to enact comprehensive planning legislation which would enable zoning to be applied more systematically and effectively to achieve the objects of the comprehensive plan and at the same time in conformity with the rights of property ownership conferred by the constitution. As a part of planning process a model town
and country planning law was approved by the second conference of the state Ministers on Town and Country Planning held in 1962 and it was commended for adoption by the state Governments. This model Act did help to influence thinking in the states and a number of states have legislated town and country planning Acts on these lines. For instance, the Maharashtra Regional and Town Planning Act, 1966 the Mysore Town and Country Planning Act, 1961, the Calcutta Metropolitan Planning Area (use and Development of Land) Control Act, 1965, the Andhra Pradesh Urban Areas (Development) Act, 1975, the Bombay Metropolitan Region Development Authority Act 1975, are some of the legislations. Similar legislations are in existence in some other state as well. Under these Acts the state Governments in order to secure the orderly development and use of any area may declare that area to be controlled area and issue directions concerning the use of land, the division of any site into areas for the erection of buildings, the allotment or preservation of land for services or utilities, the development of any site for a township, excavation, access to roads and any other matters necessary for orderly development. The responsibility for enforcing such legislations usually vests in the city administration or a specialist planning authority. The executive authorities are empowered under these Acts to conduct surveys for the preparation of regional plans or sectorial plans. After the preparation of final plans of development, restrictions on
the development or the use of land without permission and in non-conformity of the plans is prescribed. The State Governments can acquire the land for the purpose of development of town expansion or town improvement or for public utility services under the provisions of the Land Acquisition Act, 1894 and in conformity with the constitutional requirements of the acquisition of property or land. Unauthorised development or use of land otherwise than in conformity with development plan or in contravention of the permission granted, entail penalties of imprisonment or fines under the town and country planning legislations. The executive authorities under these Acts are conferred with a power to require the removal of unauthorised constructions or development.

Besides the zoning and planning laws the state legislatures have enacted legislations for human settlement particularly dealing with the improvement of slum areas with a view to provide for better urban development. For instance, there are the Andhra Pradesh (Andhra Area) Slum Improvement (Acquisition of land) Act, 1956. The Assam Slums Areas (Improvement and Clearance) Act, 1959, The Madras Slums Improvement (Acquisition of Land) Act, 1954, The Maharashtra Slum Areas (Improvement Clearance and Redevelopment) Act 1971, The West Bengal Slum (Clearance and Rehabilitation of Slum Dewellers) Act, 1958 and the Acts of Mysore, Punjab & Haryana, Uttar Pradesh, of 1958, 1961, and 1962 respectively.

It is noteworthy that despite having laws on urban
planning and slum developments, the urban scenario in India presents a picture of unplanned and haphazard development. The agencies or local bodies that are empowered to undertake planning functions have shown lack of will to exercise their powers within their respective jurisdiction. Consequently, in many of the growing cities and towns, actual urban growth or development has left their frozen legal limits somewhere behind. This situation has created an unabridged gulf between the planning area and the plannable limits and leaves scope for the violation of legislations. The violation of the statutory provisions of planning laws is noticeable on the part of governmental agencies and the public sector authorities. While the citizen's action have brought to the book the cases of violations of planning laws, the concerned agencies have in a number of cases failed to perform their enforcement duties under the Acts. The failure to implement all these legislations have results in degradation urban environment. Additionally, our town planning legislations suffer from some weakness. One conspicuous weakness of most of our planning legislations has been that they seek to treat planning and tasks of implementation of urban master plan and urban development as two separate authorities. In fact, there is a multiplicity of implementing and development authorities which include the municipal body, an improvement trust, a separate water and sewage authority a housing board etc. all operating in the same area. The lack of coordination between these bodies
tend to make planning dilatory and unreal.\textsuperscript{378}

(ii) Rural Land Use

The rural land, in view of the fact that ours is basically an agrarian economy requires statutory provisions for its better use, planning and protection against it being rendered waste. There exist state legislations on consolidation of holdings, land utilization and improvements, irrigation and water management (flood and soil erosion control) etc. The consolidation and prevention of fragmentation Acts\textsuperscript{379} authorise the state governments to determine the notified areas for the purpose of consolidation of agricultural holdings and for preventing its fragmentation within their respective states and settlement of standards for any class of land in the notified areas as the minimum area that can be cultivated profitably; prohibit or regulate the fragmentation of land by transfer or partition, make scheme of consolidation by maps, and records and consolidations schemes etc. consolidation officers are empowered with functions of consolidation under these laws. State statutes dealing with the utilization of lands\textsuperscript{380} empower the collectors to cause land to be cultivated, upon service of a show cause notice to the owner of the land, which has not been cultivated for particular number of years (2 years under \textit{Himachal Pradesh, Utilization of Lands Act, 1973}). And upon his failure to give satisfactory explanation, the Collectors may on payment of compensation
take the possession of the land and lease out such land for
the purpose of growing food or fodder crops.

Under the land preservation statutes,\textsuperscript{381} the State
Government is authorised to make notification of areas for
the purpose of conservation of sub-soil water or prevention
of erosion in any area of a state, in the official gazette.
The state Government has power to regulate, restrict or
prohibit, by general or special order, within the notified
areas, clearing or breaking up or cultivating of land, the
quarrying or other excavations, cutting of trees of timber or
any forest produce (other than grass), setting on fire of
trees forest produce and the admission, herding, pasturing
etc. The State Government also has power to require
execution of certain work for conservation of land such as
levelling, terracing, drainage, embankment of fields, drains
for stream water, protection of land against the action of
wind or water, training of streams and other works necessary
for improvement and conservation of lands.

Some state enactments contain provisions relating to
irrigation, drainage and flood controls.\textsuperscript{382} Some of these
statutes provide for preparation of schemes for flood control
by way of construction of embankments, bunds, etc., for flood
protection and soil erosion to be undertaken by the state
Government subject to the procedural safeguards such as
notice to the affected parties and inquiry. The statutes
provide for compensation for losses suffered as a result of
survey work and execution of the scheme.\textsuperscript{383}

Some of the state enactments contain provisions for obstruction to river flow\textsuperscript{384} as well as preparation of schemes for flood control,\textsuperscript{385} "flood plain zoning,"\textsuperscript{386} requisition of compulsory labour for drainage work in cases of urgency,\textsuperscript{387} evacuation of people and property threatened with floods\textsuperscript{388} and provisions for levy and recovery of betterment contribution by the state from landholders benefited by flood control works.\textsuperscript{389}

Despite the existence of state legislations on land use, there is felt a necessity of central legislation on waste land and flood control, for the effective management of land use in India.

(c) Statutory Provisions for Prevention of Land Degradation from Mining

In order to reduce environmental disturbances and the dereliction caused by mining, the \textit{Mines Act}, 1952 and the \textit{Mines and Minerals (Regulation and Development) Act}, 1957 contain regulatory provisions. The Mines and Minerals Act contain a peripheral rule making power to regulate the discharge of tailings, slime and other waste products. Mineral Conservation and Development Rules, 1988 and Mineral Conservation Rules, 1960 have been framed in order to ensure that mining is carried out according to specific well drawn out plan based on scientific report which is known as Mining Plan. Chapter V of these rules deal exclusively with
environment. In addition, the *Forest* (Conservation) Act, 1980, the *Environment (Protection) Act* 1986, the *Water (Prevention and Control of Pollution) Act* 1974 and the *Air (Prevention and Control of Pollution) Act* 1981 contain provisions for regulation of mining activities.

(d) **Statutory Measures for Protection of Forests and Wildlife**

(i) **Forests**

Of all our natural resources, forests are, in fact, the most suffered victims of our ruthless activities. For their protection, management and conservation we have important central legislations namely, the Indian Forest Act 1927 and the *Indian Forest* (Conservation) Act 1980 in addition to various state Acts on forest.³⁹⁰

The *Indian Forest Act*, 1927 was enacted to consolidate the law relating to forest, the transit of forest produce and the duty leviable on timber and other produce. Prior to this Act the law relating to the administration of forest was enacted for the first time in the form of *Forest Act* 1865 and latter was codified in the *Indian Forest Act*, 1878. Thus, this Act consolidates, with minor changes, the provision of the *Indian Forest Act* of 1878 and its amending acts. The Act, therefore, embodies the colonial policies of pre-independence era. After the independence, forests were placed on the state list of the constitution and the forest departments of individual states continue to regulate forests
in accordance with the Indian Forest Act of 1927, as implemented by state regulations.

The Indian Forest Act, 1927 gives the states jurisdiction over the administration of forests and on the basis of the degree of control exercisable in them, classifies, forest into reserved forests, village forests, protected forest and non-government (private) forests. A state Government by making a notification in the official gazette is empowered to declare forests lands or waste lands as reserved forests and may sell produce from these forests. Upon such a notification, previously recognized individual and community rights over the forest are extinguished and access to such forest and its produce becomes a matter of privilege, subject to permission of forest officials acting under governing laws and regulations. The Act includes procedures for making claims against the government for the loss of legal rights over the forests. Any unauthorised felling of trees, setting fire to a reserved forest, trespasses of pastures cattle, negligent damage to timber, quarrying, clearing of land for cultivation, hunting or poisoning of waters in the reserved forest is punishable with imprisonment for a term which may extend to six months or with fine which may extend to five hundred rupees or with both in addition to such compensation for damage done to the forest as the convicting court may direct to be paid.
Reserved forests assigned to a village community are called village forests. State governments make rules for managing the village forest and prescribe the conditions under which the village community is provided with timber, other forest products or pastures. The rules may also assign duties to the village for the protection and improvement of the forest. These rules differ from forest to forest. All the provisions of this act relating to reserved forest (so far as they are not inconsistent with the rules so made) apply to the village forests.

Under chapter IV of the Act, the state Governments are empowered to designate, by notification in the official gazette, as a protected forest any forest or waste land in which the Government has proprietary rights or rights to any part of the forest's produce. Such forests or forest land or waste land are called 'protected forests.' Protected forests cannot be created from reserve forests. The Act authorises state governments to declare any trees or clause of trees in a protected area as reserved or to close a portion of such forest as long as the remainder of the forest is sufficient for individuals and communities to exercise their existing legal rights to use the forest or to prohibit certain acts such as grazing, cultivation, char coal burning, and stone quarrying and collection or removal of any forest produce. The state government are further authorised to make rules to regulate rights and privileges in the form of
licences etc. for use of the protected forest. Contravention of prohibitions and rules made under the Act to regulate use of protected forests entail punishment involving fine, imprisonment or both.

Chapter V of the Indian Forest Act, 1927 which deals with the control over forests and lands not being the property of the Government vests wide power in the state Government of intrusion into the private rights over such forests and lands. The state Government may regulate or prohibit the use of such land or forests for timber cutting, cultivation grazing, firing or clearing of vegetation, for protection against storms, winds, floods, preservation of soil, prevention of landslip ravines, erosion etc. or for protection of roads, bridges, railways, communications or for maintenance of a water supply in springs, rivers etc. and for the preservation of public health. The state Governments may construct any such work as it thinks fit for any of the above purposes. The Act also authorises state Governments to acquire private land for public purposes under the Land Acquisition Act, 1894.

The Forest Act, 1927 is administered by forest officers who are authorised to compel the attendance of witnesses and the production of documents, to issue search warrants, to take evidence in an inquiry of forest offences and power to arrest without warrant. They also perform the administrative functions in relation to the management of
forests. Chapter IX pertains to penalties and procedure which includes confiscation of forest produce, imprisonment and fine.

In the backdrop of the lingering debate over the balancing of various demands of the nation on the forests and concern over the rising rate of deforestation, there had been felt a necessity of a central legislation for the conservation of forests. The enactment of a central legislation on forest became possible when the **Forty-second amendment Act of 1976** transferred forests from the state list to the concurrent list (entry 17-A) of the Constitution. This transfer, without affecting the state authority to legislate, empowered the Central Government to act directly in managing the country's forests. With the formation of the Ministry of Environment and Forests, it now has administrative jurisdiction over national forest development and has been instrumental in the formulation of/adoption of a revised National Forest Policy of 1988 and enacting of **Forest (conservation) Act** of 1980.

The **Forest (conservation) Act** of 1980 as amended in 1988 prohibits state governments from declaring any reserved forest or any portion there of, as non-reserved without the prior approval of the central government. It also prohibits the state governments from allotting any forest land, or any portion there of, for any non-forest purposes. The state governments cannot, without the previous sanction of the
Central Government, assign by way of lease or otherwise any forest land or any portion thereof to any private person or to any authority, corporation, agency or any other organization not owned, managed or controlled by the government. The State government cannot, except with the prior approval of the central government, direct that any forest land or any portion thereof be cleared of trees which have grown naturally in that level or portion, for the purpose of using it for reforestation. Non-forest purpose, under the explanation to section 2 mean "breaking up or clearing of any forest land or portion thereof for (a) the cultivation of tea, coffee, spices, rubber, palms, oil bearing plants, horticultural crops or medicinal plants; (b) any purpose other than reafforestation, but does not include any work relating or ancillary to conservation, development and management of forest and wild life, namely the establishment of check-posts, fire lines, wireless communications and construction of fencing, bridges and culverts, dams, waterholes, trench marks, boundary marks pipelines or other like purposes."

The Act also empowers the Central Government to appoint an advisory committee to advise on the grant of approval under the above mentioned provision and to make rules. The Act also prescribes penalty for contravention or abetment of contravention of the provisions of section 2. The liability subject to qualification/exceptions
extends to offences committed by other authorities and
government departments.\footnote{405}

It is pertinent to note that our forests laws are not
immune from defects as regards their drafting and functional
aspects. One of the major shortcomings of these laws is that
they represent the extension and continuation of colonial
legacy of "appropriation of common property resources"\footnote{406}
therefore, "enforce a land use policy which is totally
contrary to the post independence National Forest Policy and
Social Forest Policy."\footnote{407} The tribal people and the forest
dwellers who are the most suffered victims of deforestation
or diversion of forest land for other development activities
(for example dams construction) get a raw deal under the
forest legislations. The forest Acts, while countering
state's power, do provide protection and compensation for
legally recognised individual or community rights to forest
land or its forest products but at the same time, deny forest
dwellers access to forests.\footnote{408} The post independence
legislation i.e. the \textit{Forest (Conservation) Act} of 1980, has
also, not done much for the protection and conservation of
forests. The Act merely centralised the power concerning
forest land use, shifting it from states to centre. The Act
is aimed at preserving what remains of natural forests by
providing restrictions for dereservation of forests by the
States without prior approval of the Centre. It does not
take into account the managerial, administrative and legal
needs of afforestation rather its provisions as contained in section 2 go against the provisions on afforestation in the National Forest Policy of 1988. The Environment (Protection) Act, 1986, although mentions forests as a part of the definition of "environment," also remains silent on vital issues concerning forestry. Consequent to the failure of the existing forest Act to protect the existing forests and to carry out the afforestation the governments have alternatively resorted to pass orders through Revenue, forests, Tribal welfare and Agriculture department in a bid to achieve though these administrative decrees what actually needs to be achieved through law. These orders besides creating confusion are often in direct conflict with the laws.

(ii). Wildlife Protection

Wildlife in India has received statutory protection through state legislations on specific species preservation. There has not been any central statute on wildlife protection in general. The Indian Forest Act 1927 contained provisions for hunting restrictions in the reserved or protected forests and provided for establishment of sanctuaries. The Elephant's Preservation Act of 1879 was the first central statute enacted for the protection of wild elephants. The Central Government, in 1912 enacted a broader Wild Birds and Animals Protection Act which specified closed hunting seasons and regulated the hunting of designated
species through licences. The state and the above mentioned central statutes related primarily to the regulation of hunting and did not regulate trade in wild life and wild life products. The first comprehensive law for the protection of wild life and its habitat was perhaps the Hailey National Park Act of 1936 which establish the Hailey (now corbelt) National Park in the state of Uttar Pradesh. These earlier statutes directed at the protection of wild life, were, however, piece meal and inadequate.

Concerned over the importance of wildlife for a perfect balance of ecosystem and alarming depredation of the wildlife in India, the Central Government desired to enact a comprehensive law for the protection of wild life. In 1972, Parliament enacted the Wild Life (protection) Act pursuant to the enabling resolution of 11 states under Article 252(1) of the Constitution. In 1976, the forty second Amendment which moved wildlife along with forests from the state list of the Constitution to the concurrent list further broadened the powers of the Central Government and enabled the latter to develop national wild life policy in the form of National Wildlife Action Plan 1982 for the conservation of wildlife including the flora of our country by way of providing for establishment of network of protected areas such as national parks, sanctuaries and biospheres.

The Wild Life (Protection) Act 1972, provides for state advisory boards, regulations for hunting wild animals
and birds, establishment of sanctuaries and national parks, regulations for trade in wild animals, animal products and trophies and judicially imposed penalties for violating the Act. Harming endangered species listed in schedule 1 of the Act is prohibited throughout India. Hunting other species, like those requiring special protection (Schedule II) big game (Schedule III) and small game (Schedule IV) is regulated through licensing. A few species, classified as Vermin (Schedule V) may be hunted without restrictions. The Act is administered by wildlife wardens and their staff.

In addition to central Wild Life (Protection) Act 1972, India is the only second country (other being Denmark) to rectify all the major international conventions governing wild life, including the convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973, the Ramsar Convention on Wetlands of International Importance, the Migratory Species of Wild Animals Convention and the Whaling Convention.

5. CONCLUSION

It is a commonly acknowledged fact that neither social nor environmental issues can be absolutely tackled by law. Equally established is the fact that law serves as a pivotal instrument for solving the social problems. Therefore, as a part of multidisciplinary approach to tackle complex environmental problems involving social, political, economic
and technological issues, the role of law can hardly be over emphasised.

In India we do have a plenty of laws which deal with various aspects of environmental protection; regulate the conduct of environmentally harmful activities and provide for remedies in cases of their breach. The laws can be broadly classified into three: (1) Common law doctrines under the law of torts; (2) Constitutional provisions; and (3) The statutory enactments.

The common law doctrines of nuisance, trespass, negligence, the rule of strict liability and the Riparian owners rights still are in vogue existing apart from the statutory control of pollution, in India. These doctrines enshrine common law control for the liability for escape of noxious objects; careless use of noxious articles or pollutants and; the infringement of property rights in water. Thus, they cover cases of water, air, and noise pollution. The distinct advantage of these doctrines is that they provide injunctive and the compensatory reliefs. Without undermining the significance of the common law control of environmental pollution, it must be admitted that common law is inadequate and too difficult to operate in modern conditions. In industrialized society, the tort actions present problems of establishing the proof of damage which is a pre-requisite for the successful action under the law of torts. Also, the common law standard of
'reasonableness' does not provide satisfactory basis for regulating pollution. The utility of common law principles seems to have lessened in view of the fact (leaving aside the rare cases wherein Judges have been instrumental in modifying the common law doctrines as was done in the case of Shriam Gas Leak Case) that the Judges in India rarely deal with tort cases involving "subjective standards of reasonableness." They rather often seek statutory basis to support their view of reasonableness. Hence, the further scope of expansion of common law rules has been restricted.

Our Constitution is the principal source of environmental laws which contains specific provisions for environmental protection. The chapters on Directive Principles of State Policy and Fundamental Duties explicitly enunciate the national commitment to protect and improve environment. This constitutional mandate though has been further strengthened and expanded by judicial interpretation by recognizing the right to wholesome environment as being implicit in the fundamental right to life, but the imperative still awaits adequate implementation by the executive limb of the state. Constitutional remedies under writ jurisdiction can be availed of for abatement of pollution.

The statutory control of pollution in the form of state, central and municipal enactments are not lacking in India. Even in pre-independence era environment pollution was regulated by general law viz., Indian Penal Code 1860,
Code of Criminal Procedure, 1898 and Police Act, 1861 having relevant provisions dealing with control of water, air, noise pollution and nuisances. Whereas, water pollution was controlled mainly by the North Canal and Drainage Act, 1873, the Obstruction of Fairway Act, 1881, the Indian Fisheries Act, 1948. Air Pollution Control Provisions were contained in the Oriental Gas Company Act, 1857, the Explosive Act, 1884, Indian Boilers Act, 1923, The Petroleum Act, 1934, Motor Vehicle Act 1939 and the Factories Act, 1948. Pesticides were regulated by Poison Act, 1919. Wildlife conservation and forest conservation, in addition to state enactments were governed by the Indian Forest Acts, 1927. All these statutes simply contain scanty and piecemeal provisions hardly enough to effectively deal with problems of combating pollution.

It was the second half of this century, wherein the legislative activity got a new impetus with the promulgation of exclusive environment enactments. The recent statutes passed are Insecticide Act, 1968, Wildlife Protection Act 1972, Water (Prevention and Control of Pollution) Act 1974, Water Pollution Cess Act, 1977, Forest (Conservation) Act, 1980, Air (Prevention and Control of Pollution) Act 1981, the Bhopal Gas Leak Disaster (Processing of Claims) Act, 1985, the Environment (Protection) Act, 1986, and the Public Liability Insurance Act, 1991. These statutes which have been amended from time to time now constitute the core of
environmental law.

The recently enacted legislations mark improvement upon the earlier dissipated statutes. These laws are impressive in their range covering hitherto unregulated fields such as noise, vehicular emissions, hazardous wastes, hazardous micro-organism and transportation of toxic chemicals. They contain stringent penalties of sufficient deterrent value and new regulatory techniques in the form of citizens suit. Also the enforcement techniques stand improved with the state agencies vested with the power to shut down the polluting industries and to cut the supply of water or power. Further public insurance cover has now been made for all hazardous chemical industries extending their liability to compulsory pay compensation to the victims of accidents to ensure workers' safety. Mandatory workers' participation in plant safety and stringent penalties on high level management for the breach of factory regulations are expected to further ensure the workers' safety and reduce industrial accidents.
Notes and References


5. What constitutes a class is not certain. It is certainly less than the entire population of the nation and more than just a handful of individuals. A class must be a definite section of the public in the area affected by the alleged nuisance. See Rattan Lal, R., and Dhiirajlal, K.T., The Law of Torts (21 edn. 1987), at 463.


7. Soltau v. De Held (1851), 2 Sim NS 133.


9. Indian Penal Code, 1860 Section 286.


12. Rattan Lal Supra Note 5 at 465.

13. Winfield, Supra Note 4 at 380.


15. See, Rattan Lal Supra Note 5 at 468-70.

16. Id., at 70-72.


18. For details see, Rattan Lal, Supra Note 5 at 469-76.
19. 1953, 1 Ch. 149.
20. (1945) 2 KB 661.
22. Wisdon, The Law of the Pollution of Rivers (1966) at 51 and 59. At common law a right to pollute a stream may be acquired by prescription, but the acquisition of such a right gives no right to increase the pollution.
23. Id., at 52. An action for nuisance will lie against one who pollutes underground water so that it reaches plaintiff in an impure form notwithstanding there can be no property right in percolating water.
24. Walter V Selfe (1951) 4 De G & Son 315.
25. Shott Iron Co. V Inglis (1882), 7 App cas 518; Crump V. Lamber (1867) LR 3 Eq 409; Wood V Conway Corporation (1914) 2 Ch. 47.
29. (1905) 9 CWN 612.
34. Vanderpant V Mayfair Hotel Co. (1930) 1 Ch. 138. Dutta Mal Chiranji Lal V Lodh Prasad AIR 1960 All 632. See also, Radhey Shiam V Gur Prashad AIR 1978 All 86.
35. Jankhi Prasad V Karamat Hussain (1931) ILR 53 All 836.
36. Ismail Sahib V Venkatanarsimbhulu (1937) ILR Mad 51.
38. Radhey Shiam V Gur Prashad Supra Note 34. However, in Ram Rattan V Munna Lai AIR 1959 Punj. 217, the noise caused by additional power looms in a noisy locality was not considered to be such a serious addition to the noise which already existed in the locality as to warrant actionable nuisance. Injunction was therefore refused in this case. In Datta Mal Chiranji Lal V Lodhi Prashad, AIR 1960 All 632 due to running of a flour mill in the bazaar locality of Mussoorie, adjacent to plaintiff house, a lot of noise and vibration caused great inconvenience to Plaintiff and his family member. Rejecting the contention of defendants that granting an injunction for Private nuisance would be contrary to the fundamental right guaranteed by Article 19(1)(g) of the Constitution to Carry on any occupation, trade etc., the court held Article 19 did not abrogate the law relating to Private nuisance. Therefore, restriction on a person not to carry on his trade in a manner that the same produces objectionable noise interfering with comfort of others, does not mean the denial of right guaranteed by the constitution.
39. Christie V. Davey (1893) 1 Ch 316.
40. Soltau V De Held (1851) 2 Sim NS 133.
43. As was done by subordinate courts in Ram Baj Singh V Babu Lal, Supra Note 28.
45. See, V .K. Beena Kumari, Supra Note 1 at 113.
47. McDonald V Associate Fuels (1954) 3 DLR 775.
48. Martian V. Reynolds Metal Co. (1959) 221 Ore 86.

49. Ibid.

50. For more details, see, James E. Krier, Environmental Law a Policy (1971) at 189-191.

51. Beena Kumari, Supra Note 41 at 113.

52. This is the definition as given by Winfield, See Winfield et al, Supra Note 4 at 69.

53. See, Rattan Lal, Supra Note 5 at 1361.


55. For air pollution cases where the U.S. Courts have awarded relief see, James E. Krier Supra Note 50 at 154, 169-71.

56. AIR 1987 Kart 87.

57. Ibid.

58. An act of negligence may also constitute a nuisance if it unlawfully interferes with the enjoyment of another's right in land. It may also amount to a breach of rule of strict liability if the negligent act allows the escape of anything dangerous which the defendant has brought on his land.

59. (1968) 2 All ER 669.

60. (1980) 124 SOI JO 376.

61. Id., at 379.

62. See, Rosencranz, A., Supra Note 44, at 89.

63. Ibid., at 93.

64. (1868) LR 3 HL 330.

65. See, Smeaton V. Ilford Corp (1954) I ALL ER 923.

66. Read V. Lyons & Co. Ltd. (1964) 2 ALL ER 471.

67. Rikards V Lothian (1913) AC 263. The qualification of non-natural use was emphasised by Lord Moulton who in this case said: "It is not every use to which land is put that brings into play this principle. It must be
some special use bringing with it increased danger to others and must not merely be the ordinary use of land or such a use as is proper for the general benefit of the community," _Id., at 280.

68. The initial doubts as to the application of rule to personal injury has now been removed. See, Perry V Kendricks Transport Ltd. (1956) IWL 85.

69. Rainhan Chemical Works Ltd. V Belvedere Fish Guano Co. (1921) 2 AC 465.


72. Eastern and South African Telegraph Co. Ltd. V Cape Town Tramways Companies Ltd. (1902) A.C. 381.

73. West V Bristol Tramways Co. (1908) 2 K.B. 14.


75. Hoare & Co. V McAlpine (1923) 1 Ch. 167.

76. Becharam Chowdhary V Pububrath (1869) 2 Beng LR 53; Ramaniya Charier V Krishnaswami Muddi (1907) ILR 31 Mad 169, Dhanusad V Sitabai (1948) ILR Nag 698, Secretary of State for India In Council V Ramtahal Ram (1925) 6 PTL 708. In this case it was held that where Government constructs an irrigation canal it undertakes a duty to protect other parties against damage arising from the water of the canal and if it does not take adequate precautions to deal, for instance, by means of an outlet at the tail end of the canal, it is liable to compensate those to whom damage may be caused by such overflow.


78. AIR 1987 S.C. 1086.

79. The principle is known as principle of absolute liability and is discussed at length in the next chapter.

80. See, Rosencranze, _Supra Note_ 44 at 94.
81. 'A natural stream' is a stream arising at its source from natural cause flowing in a natural channel, see Gopalan Krishna V.Varu V Secretary of State (1914) 16 MLT 597. It is not necessary that a natural stream must flow continuously throughout the year and must at every single point of its course flow through a clearly defined channel. See, Ramsevak V Ramgir (1953) ILR 32 Pat 937.


83. See, Rattan Lal, Supra Note 5 at 318-20.

84. Wood V Sut Cliffe (1852) 2 L.J. Ch. 253.

85. AIR 1988 SC 1115.

86. Ibid.

87. See, V.S. Deshpande, Key Note Address in Paras Diwan (ed.), Supra Note 42.

88. See, Rattan Lal Supra Note 5 at 155.

89. See, J.C. Galstaim V Dunia Lal Supra Note 29 at 617.

90. (1964) AC 1129 (HL).


92. Id., at 1099.

92a. The necessary conditions under which an injunction may be granted are provided in Rule 1 of order 39 which provides:

(a) that any property in dispute in a suit is in danger of being wasted, damaged or alienated by any party to the suit, or wrongfully sold in execution of a decree, or

(b) that the defendant threatens or intends to remove or dispose off his property with a view to defrauding his creditors, or

(c) that the defendant threatens to dispossess the plaintiff or otherwise cause injury to the plaintiff in relation to any property in dispute in the suit.

94. Lemmon V Webb (1895) AC 1.

95. List I contains 97 subjects over which the Parliament has the power to legislate. Some of the important subjects falling in List I are, defence, foreign affairs, atomic energy, interstate transportation, shipping, major ports, regulation of air traffic, regulation and development of oil fields, mines and mineral development and interstate rivers. List II contains 66 subjects which include public health and sanitation, agriculture, water supplies, irrigation and drainage and fisheries. See M.P.Jain, Indian Constitutional Law (1993 Reprint), at 242-63.

96. In List III both Parliament and the State legislatures enjoy common powers to make laws over 52 subjects which include forests, the protection of wildlife, mines and mineral development not covered in the List I, population control and family planning minor ports and factories. Ibid.


98. See, Constitution of India, Article 249.

99. It may be recalled here that when Article 48-A was being debated in the Parliament, several amendments were moved. One of the amendments required the state to "Conserve and develop the water, soil and other natural resources" while the other amendment sought a guarantee from the state that while protecting and improving the environment, tribal forest dwellers would not be harmed. However, these amendments could not find acceptance of the Parliament. See, Lok Sabha Debates, Vol. LXV, No.5, Oct. 29, 1976, Columns 94-116.

100. Originally forest was a subject included in List II, Entry 19.


102. See, Som Prakash Rekhi V Union of India, AIR 1981 SC

104. AIR 1987 SC 1109.

105. Id., at 1114-15. See also, Satyavani V A.P.Pollution Control Board, AIR 1993 AP 257, 271.


108. Id., at 60. See also, D.D. Vyas V Ghaziabad Development Authority, AIR 1993 All 57, 62, 63.

109. See, Article 32.

110. AIR 1978 SC 597.

111. Article 14 enshrines the right to Equality before Law and guarantees equal protection of laws. Article 19 guarantees certain freedoms such as freedom of speech and expression and the right to form associations or unions.

112. See, Francis Coralie Mullin V The Administrator of Delhi, AIR 1981 SC 746.


114. M.C. Mehta V Union of India, AIR 1988 SC 1037. In this case the polluters were restrained by an order of the court from letting out the trade effluents into the river Ganga till such time they established necessary treatment plants for treating the effluent in order to prevent the pollution of water in the said river.

115. Id., at 1048.

116. T. Damodar Rao V Special Officer, M.C. Hyderabad, AIR 1987 AP 171. In this case the principle question for determination of the court was: whether the Life Insurance Corporation and the Income Tax Department, Hyderabad, can legally use the land owned by them in a
recreational zone with in the city limits of Hyderabad for residential purposes contrary to the developmental plans published in the Government's notification. The court, by an order had directed the Government and other concerned authorities to remove within 60 days any structures that might have been raised by the respondents during the pendency of this petition.

117. Id., at 181.


120. Madhvi V Tilakan, 1988 (2) KLT 730, 731.

121. AIR 1986 SC 180. The other grounds of challenge in the case were: (i) that the impugned action of State Government and Bombay M.C. is violative of the provisions contained in Article 19 (1)(e), 19(1)(g) and 21 of the Constitution, (ii) that the procedure prescribed by Sec. 314 of the Bombay M.C. Act, 1888 for the removal of encroachments from pavements is arbitrary and unreasonable since, not only does it not provide for the giving of a notice before the removal of an encroachment but, expressly enables that the Municipal Commissioner may cause the encroachments to be removed "without notice" (iii) that it is constitutionally impermissible to characterise the pavement dwellers as trespassers, because their occupation of pavements arises from economic compulsions; and (iv) that the court must determine the content of the 'right to life,' the function of property in a welfare state, the dimension and true meaning of the constitutional mandate that property must subserve common good, the sweep of the right to reside and settle in any part of the territory of India which is guaranteed by Article 19(1)(e) and right to carry on any occupation, trade or business which is guaranteed by Article 19(1)(g) and competing claims of pavement dwellers on the one hand and the pedestrians on the other and the larger question of ensuing equality before the law.

122. Id., at 194.

123. Id., at 204.

124. AIR 1987 SC 374.

125. Id., at 378.


130. AIR 1981 Raj 121.

131. Ibid.

132. The common law remedies are still available in India to a person against a polluter under the torts of negligence, nuisance, trespass and doctrine of strict liability, apart from the statutory provisions dealing with environmental pollution. See, Supra.

133. Explanation to Sec. 7 defines a natural stream. "A natural stream is a stream, whether permanent or intermitted, tidal or tideless, on the surface of land or underground, which flows by operation of nature only in a natural or known course.

134. Illustration (f) to Sec. 7 speaks of various uses the water can be put to by a riparian owner. It reads as "(j) The right of every owner of land abutting on a natural stream, lake, pond to use and consume its water for drinking, household purposes and watering his cattle and sheep; and the right of every such owner to use and consume the water for irrigating such land and for the purposes of any manufactory situate thereon."

135. S.N. Jain, "Legal Control of Water Pollution in India" in S.L. Agarwal (ed.), Legal Control of Environmental Pollution (1980) at 15.

136. See, Indian Easements Act 1882, Sec. 15 and 28(d).

137. Id., Section 2.

138. Hightide mark is that part of the sea-shore to which waters ordinarily reach when the tide is highest.

139. Id., Section 5.
140. See, Oriental Gas Company Act 1857, Section 17.

141. C.M. Jariwala, Indian Water Pollution Law: The History and Prospects, in Legal Aspects of Environmental Pollution and its Management (1991) at 133.

142. See Susai V Director of Fisheries 1965 MLJ 35, Emperor V Nama Ram, 1905 Bom LR 52.


144. See, Indian Penal Code (1860) Section 284.

145. Id., Sections 425 and 430.

146. See, Serais Act 1867 Section 7.

147. See, Indian Fisheries (1897) Act 1897, Sec.5.

148. See, Indian Forests Act 1927 Sections 26(1) and 32(f).

149. See, Northern India Canal and Drainage Act 1873 Sec 70(3).

150. Id., Sec. 70(5).

151. See, Damodar Valley Corporation Act (XIV of 1948), Sec. 16.

152. See, River Boards Act 1956 Section 13.

153. See, The Factories Act 1948 Section 2(1).

154. Id., Section 12(2).

155. Id., Sections 92 as amended by Section 30 of Act 20 of 1987.

156. For instance, Maharashtra factory Rules 1963, Uttar Pradesh factories Rules 1950, Mysore Factories Rules 1969, Tamil Nadu Factories Rules 1950, and West Bengal Factories Rules, 1958 have been made in the past.

157. The oldest statute directed at the prevention of nuisance on the shore was the shore Nuisance (Bombay & Colaba) Act, 1853.

158. See, Obstruction in fairways Act 1881 Section 8.

159. See, Indian Ports Act 1908 Section 6 (e).
The seeds of the Water Act 1974 were sown as far back as in 1962 when the Ministry of Health of Government of India appointed an expert committee to prepare a draft legislation to prevent water pollution from domestic and industrial wastes. It suggested for enactment of a central legislation to combat the increasing problem of water pollution. The report of the Committee was circulated to the State Governments. It was also considered by the Central Council of local self Government in September, 1963 and later in 1965 the Central Council jointly with the State Ministers of Town and Country Planning considered the report. In pursuance of the decision of the joint session, the draft Bill as considered in detail later by a Committee of Ministers of Local Self Government from states of Bihar, Tamil Nadu, Maharashtra, Rajasthan and West Bengal, after making recourse to articles 249 and 250 of the Constitution. Consequently, the draft Bill was referred to the Joint select Committee of Rajya Sabha in 1972. It submitted its final report on November 13, 1972 and a fresh bill was accordingly drafted and placed before Parliament. In 1974 the said Bill was passed by the Parliament and became an Act called the Water (Prevention and Control of Pollution) Act of 1974.

All the states have approved the implementation of the water Act 1974 but the Amendment Act of 1988 is yet to be adopted by them.

Prevention refers to new sources of pollution while control refers to existing sources of pollution.

See, The Water Act 1974 Section 2(e).
172. Id., Section 18(b).
173. Id., Section 18(a).
174. Id., Sections 16(3) and 17(2).
175. Section 17(g) of the Environment (Protection) Act 1986 gives similar authority to the Central Government to establish water quality and effluent standards throughout India. In pursuance of the powers Central Government has made Environmental Rules, 1986. Different Standards have now been provided for the discharge of effluents in Schedule I and II of the rules.
177. Id., Section 25(1)(a).
178. Id., Section 25(1)(b) & (c).
179. Id., Section 25(2).
180. Id., Section 25(3).
181. Id., Section 25(4)()(i).
182. Id., Section 25(4)(a)(ii).
183. Id., Section 25(4)(a)(iii).
184. Id., Section 25(4)(b).
185. Id., Section 25(b).
186. Id., Section 26.
187. Id., Section 43.
188. Id., Section 42 (g).
189. Id., Section 44.
190. Id., Section 23.
191. Id., Section 32.
192. Id., Section 30.
193. Id., Section 20(3).
194. Id., Section 20 (2).
Delays in the enforcement of the Act may be caused by foot dragging by the governmental officials. The typical example is *Travancore Cohin Chemical Ltd. v Kerala Pollution Control Board, Crim Misc Pet No. 556/84, Ker. High Court, April 12, 1985*, reprinted in Central Board for Prevention and Control of Water Pollution, Judicial Interpretation of Water Pollution Control Laws (1985) 135, Wherein, the company who had been granted consent to discharge effluents into the Periyar river until Jan. 31, 1976, by the State Board, continued to discharge highly toxic effluents in the river for eight years due to foot dragging amongst the Board officials to take action against the defaulting company. Finally in 1984 when the action was taken under section 33 of the Act by issuing an order on company restrain itself from further polluting the river, the action against the company failed as the Board had not, as per the requirement of section 25(7), acted on application for consent to discharge effluents submitted by the company in 1983, within four months from the date of making application. The Kerala High Court held that the 1983 application superseded the previously given conditional consent and the company had an unconditional right to discharge effluents into the river. In such a case the Board had no option but to issue order under section 27(2) to negate the implied unconditional consent and once again proceed under section 33 of the Act to take action.


Point sources are those sources which are easily identifiable, concentrated discharge of pollutants such as sewer pipes and drainages or ditches. Most of
the industrial pollution tends to be from point sources.

205. Non-point sources of pollution are those sources which have a diffused point of discharge such as manure, fertilizers or pesticides etc. run off from open fields, seepage or leaching of pollutants into surface or ground water and soil erosion. These sources are difficult to identity.


207. Discharge of industrial effluents on to land is now taken care of by the amendment of the Act in 1978.

208. Jain, Supra Note 135 at p. 31.

209. For details see, N.S. Chandra Sekharan, Structure and Functioning of Environmental Protection Agency: A Fresh Look, CULR, Supra Note 206 at 177-86.

210. See, A.K. Bose, Legal Control of Water Pollution in India in Supra Note 135 at 124.

211. Such an amendment had been proposed by S.N.Jain prior to the enhancement of penalty under section 43 by Amendment Act of 1988. He proposed that in section 43 for the words "which shall not be less than six months but which may extend to six years and with fine," be substituted by the word "up to one month." See, S.N.Jain, The Water Pollution Act, 1974: The Basic Legal Issues in National Seminar on Law Toward Environmental Protection, Feb. 10-12, 1984, Chandigarh, For other proposed amendments in the water act see, M.R.Garg and N.S.Tiwana, "The Water (Prevention and Control of Pollution Act: A Case for Amendments to make it more Effective" in P.Diwan (ed.), Environment Protection: Problems Policy Administration, Law (1987) at 262-278.


213. Jain, Supra Note 135 at 28.

214. Id., at 29.

216. S.S. Visweswaraiah, Water Pollution Due to the Discharge of Industrial Effluents: A Review of the Enforcement Machinery under the Water (Prevention and Control of Pollution) Act 1974 in Supra Note 203 at 104.

217. Ibid.

218. A company means any body corporate and includes a firm or other association of individuals. Under the term "body corporate" it appears that a local authority will also be covered.

219. P.M. Bakshi, Corporate Executives and the Pollution Law, 2 Comp. L.J. (1986) at 61.


222. Id., Section 14.

223. Id., Section 10.

224. Id., Section 12.


226. AIR 1987 All 298, 303.


228. Andhra Pradesh State Board for Prevention and Control of Water Pollution v Andhra Pradesh Rayons Ltd., AIR 1989 SC 64.

229. Environment (Protection) Act, 1986, Section 2(b) and (c).

230. Section 24(2) of the Environment Act provides that "where any act or omission constitutes an offence punishable under this Act and also under any other Act then the offender found guilty of such offence shall
be liable to be punished under the other Act and not under this Act."

231. See, Id., Section 3(2)(iii)

232. Id., Section 3(2)(iv).

233. See, Environmental (Protection) Rules 1986, Schedule I and II.

234. See, Environment (Protection) Act 1986, Sections 5, 10 and 11.

235. Id., Section 19(b).

236. The Act has been amended by Amendment Act 32 of 1978.

237. Id., Section 4.

238. Under Section 5 of the Explosive Act 1884, Central Government is empowered to make rules in connection with manufacturing etc. of explosive substances. In pursuance of powers conferred, Explosive Rules 1914 were framed which were later replaced by Explosive Rules 1940.

239. Id., Section 6.

240. Ibid.

241. Id., Section 9-B.

242. Id., Section 9-C.

243. Section 2(b) of Boilers Act defines boiler to mean any closed vessel exceeding five gallons in capacity which is used expressly for generating steam under pressure and includes any mounting or other fitting attached to such vessel, which is wholly or partly under pressure when steam is shut off.

244. Indian Boiler's Act, 1923, Section 27-A.

245. Id., Section 28.

246. Id., Section 29.

247. Id., Sections 5 and 6.

248. Id., Sections 5 and 7.

249. Id., Section 7(4) and 7(5).
250. Id., Section 23.

251. Petroleum, according to Section 2(a) of the Act means any liquid hydrocarbon or mixture of hydrocarbon and any inflammable mixture (Liquid, Miscues or solid) containing any liquid hydrocarbon. Kerosene, though not specifically included but falls under the term Petroleum, See K.C. Sacheva V State (1976) 2 Cr. L. J. 1208-09.

252. See, Id., Section 4.

253. Id., Section 5.

254. Some states have enacted their own Motor vehicles Rules. The rules provide for the regulation of noise and air pollution. For instance Rule 124 of the U.P. Motor Vehicles Rules, 1940, provides that "there shall not be emitted from any vehicle any smoke, visible vapour, grit, spark, ashes, cinders or oily substance which may cause damage to other persons or property or endanger the safety of any other user of the road.

255. It may be noted that the two largest Indian manufacturers of commercial vehicles have denounced the statutory emission levels for diesel vehicles as being too stringent. See, Rules and Regulations, 4 Ecology No. 6 (1989) at 38.

256. See, Environment (Protection) Rules 1986 Schedule IV.

257. Under the Central Motor Vehicles Rules 1939, the petrol station had power to test vehicles and issue "pollution under control" certificates. This delegation of inspection power was, however, withdrawn by the 1989 Central Motor Vehicles Rules which entrusted the task of carrying out such tests to state or Union Territory Transport authorities.

258. The Motor Vehicles Act 1980 does provide penalty for violation of permissible emission levels under section 190(2). Any person who drives or causes or allows to be driven in any public place a motor vehicle, which violates the standards prescribed in relation to road safety, control of noise and air pollution, shall be punishable for the first offence with a fine of one thousand rupees and for any second or subsequent offence with a fine of two thousand rupees. Whereas under section 190(3) of Act any person who drives or causes or allows to be driven, in any public place a motor vehicle which violates the provisions of this
Act or the rules made there under relating to the carriage of goods which are of dangerous or hazardous nature to human life, shall be punishable for the first offence which may extend to three thousand rupees or with imprisonment for a term which may extend to one year or with both, and for any second or subsequent offence with fine which may extend to five thousand rupees or with imprisonment for a term which may extend to three years or with both.

259. The Factories Act 1948, Section 91-A(2) & (3).
260. Id., Section 14(2).
262. See, The Factories (Amendment) Act 1987, Section 41-A.
263. Id., Section 41-B.
264. Id., Section 41-C.
265. See also, Id., Section 41-E and F.
266. Id., Section 41-D.
267. Id., Section 2. It may be noted that the Water Act after amendments of 1988, the Air Act as duly amended in 1987 and the Environment (Protection) Act 1986 define 'occupier' in relation to any factory or premises, as "a person who has control over the affairs or the premises and includes, in relation to any substance, the person in possession of the substance." The definition as provided in the above enactments slightly differs from the definition of occupier as given in the Factories Act in so far as the definition in the latter Act relates to "the person who has ultimate control over the affairs of the factory" whereas in the former enactments it relates to "the person who has ultimate control over the affairs of factory or premises." Thus, it is clear that the words "ultimate control over the affairs of factory or premises" is not necessary in Pollution Control Acts because it is obligatory on the part of persons who has control over the affairs or premises to comply with provisions of pollution control laws.
268. Industries (Development and Regulation) Act, 1951, Section II(1)
269. Id., Section 5.
270. Id., Section 30.
271. Id., Section 6.
272. Id., Section 12.
274. Id., Section 21.
275. The Bengal Smoke Nuisance Act, 1905 (applicable to Bihar, Bengal and Orissa). The Gujarat Smoke Nuisance Act 1963, and the Bombay Smoke Nuisance Act 1912 are the important state enactments which deal with abatement of nuisances arising from smoke of furnaces or fire places and provided for the machinery for the purpose of combating air pollution from those sources. For a critical evaluation of the application of Bengal Smoke Nuisance Act, see, M.L.Upadhyaya, "The Extent of Application of Bengal Smoke Nuisance Act: A case for Revision" in S.L.Agarwal (ed.), Legal Control of Environmental Pollution (1980) at 145-52.
276. For example, Section 481 of Delhi Municipal Corporation Act 1957 deals with regulation of smoke in factories, workshops and trade premises. Section 206 of the Gujarat Municipalities Act, 1963 empowers the municipalities to deal effectively with smoke nuisance which results in air pollution, arising from any furnace employed in any work or building for the purpose of trade or manufacturing. Under this section the municipality could direct by public notice that any furnace be constructed, supplemented or altered so as to consume or burn or reduce as far as may be practicable, the smoke arising from such furnace, Section 436 of the Calcutta Municipal Corporation Act, 1951 is empowered to refuse the permission of establishment of a factory if the establishment of such factory would be objectionable by reason of the density of the population in the neighbourhood or would cause nuisance to the inhabitants. Section 437(1)(b) prohibits the use of any premises for a purpose which in the opinion of the Corporation is dangerous to life, health or property likely to create a nuisance.
277. The Stockholm Conference, 1972 urged states to initiate measures to maintain clean and wholesome environment as also purity of air and to take measures for preservation of natural resources of the earth
which among other things include the preservation of the quality of air and control of air pollution. See, Air (Prevention and Control of Pollution) Act 1981, the Habendum clause.

278. Article 253 of the Constitution empowers Parliament to make laws implementing India's international obligations as well as any decision made at an international conference. It reads: "Notwithstanding anything in the foregoing provisions of this chapter, Parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any other country or other body." In view of the broad range of issues addressed at International Conference or treaty etc., Article 253 apparently gives Parliament wide power to enact laws on virtually any entry in the state list.

279. See, statement of objects and reasons appended to Air (Prevention and Control of Pollution), Act, 1981.

280. _Id._, Section 2(b).

281. _Id._, Section 2(a).

282. _Id._, Sections 3 and 4.

283. _Id._, Section 5(1).

284. _Id._, Section 5(2)(a).

285. _Id._, Section 5(2).

286. _Id._, Proviso to section 5(2).

287. _Id._, Section 16(1).

288. _Id._, Section 16(2)(a) in conjunction with Section 17(1)(a) & (b).

289. _Id._, Sections 16(2)(1) and 17(i)(d).

290. _Id._, Sections 16(2)(e) and 17(1)(f).

291. _Id._, Sections 16(2)(h) and 17(i)(g).

292. _Id._, Sections 17(i)(e) and (f).

293. _Id._, Section 6.
317. See, *Air Act*, 1981, Sections 17(1)(g) and 52.


319. *Id.*, Section 6(2)(1) and Rules 5 & 13.

320. *Id.*, Section 6(2)(c) & (d).

321. *Id.*, Section 6 (2)(f).

322. *Id.*, Sections 9, 11.

323. Rule 3(2).


325. A silence zone is an area up to 100 metres around hospitals, educational institutions, courts etc. which is so declared by the competent authority.

326. *Id.*, Schedule IV.


328. *Id.*, Section 11.

329. *Id.*, Section 5.

330. *Id.*, Section 19.

331. *Id.*, Section 7.

332. *Id.*, Section 8.

333. *Id.*, Section 9(1).

334. *Id.*, Section 15(1).

335. *Id.*, Section 15(2).

336. *Id.*, Section 16.

337. *Id.*, Section 17.


341. Ibid.

342. Darrye D'Monte, Supra Note 339.

343. Noteworthy legislations on noise pollution are, Noise Abatement Act 1960 of England and the US Noise Control Act, 1972. Section 2 of Noise Abatement Act 1960, provides that loudspeakers shall not be operated (a) between the hours of nine in the evening and eight in the following morning for any purposes, (b) at any other time for the purpose of advertising any entertainment, trade, or business. There are exceptions of course provided like use of loudspeaker by police, fire brigade etc. for text and details, see, The Control of the Acoustic Environment (The Pen Uni. Press Walton Hall Great Britain 1961). The US Noise Control Act, 1972 is an excellent piece of legislation containing policy statements on noise abatement programme, identification of major noise sources and control mechanism. See for text of the Act, Lal's Commentaries on Water Air Pollution and Environment (Protection) Laws (3rd ed. 1990) at 1373-89 and for the reference of enactments of some other countries see, V.D. Kulshreshta, "Noise Pollution: Emerging Challenges and Regulation" in S.L. Agrawal (ed.), Legal Control of Environmental Pollution (1980) at 188.

344. For details of actionable noise see, Rattanlal Dhiraj Lal, The Law of Crimes, Chapter XIV.


346. The High Court of Madhya Pradesh in Krishan Gopal V State of M.P. 1984 Cr. L.J. 396 has made the use of Section 133 of Cr.P.C. as a Potent provision for control of noise pollution. In this case the High Court on revision restored the order of the S.D.M. for removal of glucose factory and boiler from the locality which boomed round the cloak, emitted smoke ash and disturbed the sleep of a heart patient and
others living next door. The court observed: "Manufacturing of medicines in a residential locality with the aid of installation of a boiler resulting in emission of smoke therefrom is undoubtedly injurious to health as well as the physical comfort of the community."


348. See, Ivour Hyden and Others V State of Andhra Pradesh, 1984, Cr.L.J. 16 (Noc), 30 wherein A.P. High Court in revision quashed the order of conviction of lower court, held that playing a radio loud was too trivial act to be taken cognizance of and is to be considered as excusable under Section 95 of Indian Penal Code.

349. Under the Bombay Police Act, the Police Inspectors are authorised to allow the use of loud speakers. The discretion under the Act is very wide and requires regulation through framing of appropriate rules.

350. Rule 81 B is directed at for clean air around airports to avoid bird hitting by the aircrafts. Under the rule slaughtering or flaying of animals, depositing or dropping any rubbish, garbage, or polluted matter which attracts or may attract birds within a radius of 10 kms. from the aerodromes is prohibited. Violation of rule entails prosecution and person found guilty may be sentenced to imprisonment which may extend up to 2 months or fine or with both. The rule has been recently amended and the punishments have been made more stringent.


352. For example, the following Delhi Motor Vehicles Rules, 1940 are really appreciable and should be followed by other states as well. These rules are 5: 5 Horn: (1) Every motor vehicle shall be fitted with a horn or other approved device available for immediate use by the driver of the vehicle and capable of giving audible and sufficient bearing of the approach or position of the vehicles. (2) No motor vehicle shall be fitted with any multitoned horn giving a succession of different notes or with any other sound producing device giving an unduly harsh, shrill, loud or alarming noise. (3) Nothing in sub-rule (2) shall
prevent the use of vehicles used as ambulances or for fire fighting or salvages purposes of an vehicle used by Police Officers in the course of their duties or on other similar vehicles of such sound signals as may be approved by a Provincial Government. (4) Every transport vehicle shall be fitted with a bulb horn (Taxis and Motor Cycle, rickshaws shall be, however, provided with either two electric horns with two switches or one electric horn and one bulb horn). 5.6 Silencers: (1) Every motor vehicle shall be fitted with a device (here in referred to as a silencer) which by means of an expansion chamber or otherwise reduces as far as may be reasonable and practicable the noise that would otherwise be made by a escape of exhaust gases from engine. (2) Every motor vehicle shall be so constructed or equipped that the exhaust gases from the engine are discharged downwards so as to impinge on the road surface. 5.9 Noise: (1) Every motor vehicle shall be so constructed and maintained as not to cause undue noise when in motion. Identical provisions have been incorporated in the Punjab Motor Vehicle Rules, 1940 and Bengal Motor Vehicles Rules, 1940.

353. AIR 1985 Cal 222.

354. The recent decision of Bombay High Court in the case of Citizens Action Committee V Civil Surgeon, Mayo (General) Hospital, AIR 1986, Bom 136 wherein civic amenities, including road maintenance lighting, sewage drainage, noise around hospital premises and hospital maintenance were the subjects of litigation, reveals the assumption of executive and administrative functions by the court as is evident from the annexure to the judgement wherein the court has prescribed remedial measures with specificity to improvement of roads, lights, sewage drainage and other civic amenities. As regards the control of noise pollution in entry M, the court has directed the commissioner of Police, Nagpur city to take steps to declare silence zone around Mayo Hospital and Medical College Hospital within 6 weeks.

355. Motor Vehicles Rules 1989, under Rules 119 and 120 provide for regulation of fitting and use of 'Horns' and silencers respectively.


357. The Bihar control of the use and play of Loudspeakers Act, 1955 is an exclusive legislation enacted with a view to control the noise from loudspeakers section 3 of the Act provides restrictions against the indiscriminate use of loudspeakers. It reads:
No person shall use and play a loudspeaker:

(a) With in such distance as may be prescribed from a hospital, a building in which there is telephone exchange, or

(b) With in such distance as may be prescribed from any educational institution maintained, managed, recognised or controlled by state Government, or University established under any law for the time being in force, or a local authority or admitted to such university or any hostel maintained/ managed or recognised by such institution when such institution or hostel is in the use of students."

The cognizance of an offence would be, under section 6 of the Act, on 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 concerned.

Similar enactments have also been passed in Rajasthan and Madhya Pradesh. These legislation are important and need to be followed by other States. So far as they incorporate meaningful measures to control noise from this source.


358a. See, Sections 133-144.

359. The Executive Magistrates can enforce the compliance of duties, if there is any failure on the part of local bodies to abate nuisance, by giving them directions to perform their statutory duties, under section 133 of Cr.P.C. The noteworthy aspect of this power is the direction given by subordinate Magistrate, in the case of Municipal Corporation, Ratlam V Vardhi Chand and others, AIR 1980 S.C. 1622 to the Municipal Corporation, to carry out its duty to the community by constructing sanitary facilities at great cost and on a time bound basis.

360. For a critical views on efficacy of criminal and other laws to check environmental pollution. See Daljit Singh, "Environmental Protection: A Study of Conflicting Judicial Approach" in Supra Note 358 at 382-83 and R.K. Raizada, Solid Waste Disposal: A Need for Central Legislation and Concern" in Legal Aspects
of Environmental Pollution and its Management (1991) at 102.


362. 'Handling' in relation to any substance, according to section 3(d) of the Environment Act, means the manufacturing, processing, treatment, package, storage, transportation, use, collection, destruction, conversion, offering for sale, transfer or the like of such substances.

363. The rules, however, do not cover wastes water, exhaust gases, wastes from ships and radioactive wastes, these wastes are to be regulated under water, air, shipping and atomic energy legislations respectively.

364. See, Infra.

365. See, Infra.


367. Id., Section 27.

368. Id., Section 18.

369. Id., Section 17.

370. There are certain other central legislations dealing with the regulation of poisonous substances such as the Destructive Insects and Pest Act, 1914, The Poisons Act 1919, the Drugs and Cosmetic Act 1940 and the Prevention of Food Adulteration Act, 1954. On Pest Control there exist numerous state Registrations for example, the Andhra Pradesh (Andhra Area) Agricultural Pest and Disease Act 1913, Bihar prevention and control of Agricultural Pests, Disease and Noxious Weeds Act, 1953, the Kerela Agricultural Pest and Disease Act 1958. The Rajasthan Agricultural Pest and Disease Act, 1954, the U.P. Agricultural Disease and Pest Control Act 1954, the U.P. Locust Destruction Act 1951, etc.
371. The difficulty of determining the safe levels of radioactivity was confronted by the Supreme Court in the case of Dr Shiva Rao, Shantaram Wagle V Union of India, AIR 1988 SC 952, wherein the petitioners sought to forbear the consignment of imported Irish butter which was alleged to have been contaminated by the radioactive fallout from the Chernobyl (former USSR) nuclear disaster, by the respondents. The Court had to rely on opinion of a three person committee of experts consisting of Professor M.G.K. Menon, Dr P.K. Iyengar and G.V.K. Rao, to determine whether the butter was safe for human consumption. The expert committee amidst the scientific uncertainty as to safe levels of radioactivity concluded that the butter was indeed safe.

372. In M.K. Sharma V Bharat Electronics Ltd, 1987(1) Scale 1049, the Supreme Court had to decide on an intricate question whether exposure to X-ray radiation of the workers in the course of their work on account of the company's failure to adequately protect their health and safety deprived the exposed workers of their fundamental rights and entitle them to be compensated. The Court admitted the violation of fundamental right of the workers but found no proof of injury and therefore, no entitlement to compensation at this stage, but recorded the employer's assumption of responsibility to compensate workers in the event of future proof of injury resulting from present and continuing employment.

372a. For text and evaluation of Provisions of the Act see, P.M. Bakshi, Environment Law: The Procedural Options (ILI, New Delhi, 1993), Chapter 3 at 10-12. The Public Liability Insurance Act, 1991 was amended in 1992, stipulating compulsory payment of compensation to the victims by industries manufacturing or using hazardous chemicals, in case of an accident. It is incumbent on the industry to pay immediate compensation to the victims of the accident without the latter having to go to court.

373. For various problems associated with the urban development, see generally, Law and Urbanization in India (Tripathi 1969) at 14.


375. For example under section 38 of the Himachal Pradesh
Town and Country Planning Act, 1977. A person charged with unauthorised development or for use otherwise than in conformity with development plan may without prejudice to any action that may be taken under section 39, be punished with simple imprisonment for a term which may extend to six month or with fine which may extend up to two thousand rupees or with both and in the case of continuing offence with further fine which may extend to two hundred rupees for everyday during which the offence after conviction for the first commission of the offence. Section 39 deals with the power to require removal of unauthorised development.


379. For example see, the Mysore (Prevention of Fragmentation and Consolidation of Holding) Act, 1966; The Himachal Pradesh Holdings (Consolidation and Prevention of Fragmentation) Act, 1971.


382. There, however, is no exclusive or comprehensive state law dealing with the various aspects of flood control.
Alice Jacob and K.C. Joshi have given suggestion for the Model Bill on Flood Control for adoption by the Centre, see Alice Jacob and K.C. Joshi, Law Relating to Flood Control in India, (ILI, Tripathi, 1971) at 91-106.


385. See, relevant provision of Bombay Irrigation Act, 1879 (Extending to States of Maharashtra and Gujarat) The Northern India Canal and Drainage Act, 1873 extending to Uttar Pradesh, Punjab, Haryana and Delhi; Rajasthan Irrigation and Drainage Act, 1954; The Orissa Irrigation Act, 1959. Schemes for flood control under these Acts refer to 'drainage work' which includes escape-channels from a canal, dams, weirs, embankments, sluices, and other works for protection of lands from flood or erosion.


387. See, Statutes of Rajasthan, Bombay, Mysore, Orissa, Uttar Pradesh, Punjab and Haryana on Embankment, Drainage and irrigation.


391. The Indian Forests Act, 1927 Sections 3 & 4.
392. Id., Section 9.
393. Id., Section 25, 5.
394. Id., Sections 6, 7, 8, 10-18.
395. Id., Section 26.
396. Id., Section 28.
397. Id., Section 29.
398. Id., Section 30.
399. Id., Section 82.
400. Id., Section 33.
401. Id., Section 35.
403. Id., Section 3.
404. Id., Section 3-A.
405. Id., Section 3-B.
407. Id., at 115. For con radictions between forest policy and forest legislations see supra, Chapter II..
408. For the status of peoples rights over forests, see, Kulkarni, "Law versus Policy," Economic and Political Weekly, April 22, 1982 at 859.
409. For conflict between the order and the laws in some states see Chhatterpati Singh, Supra Note 406 at 120-123.
410. Some important state legislations concerning Protection of wild life are: Andhra Pradesh Wild Elephant Preservation Act, 1873; Assam Elephant Preservation (Amendment) Act 1959; Assam Rhinoceros Preservation Act, 1954; Punjab Wild Birds and Wild Animals Protection Act, 1963; Gujarat Wild Birds and