Chapter 7

The Liability and Compensation Regime

In the earlier chapters we have analysed the national as well international legal regimes pertaining to hazardous substances. We now propose to discuss issues of liability and compensation in the light of principles and rules particularly created and fostered to handle the problems of environmental pollution. Our aim is to understand the efficacy of regulatory controls in terms of its outcomes. As noted earlier, these issues have emerged as a major concern for the survival and welfare of mankind throughout the world. Modern civilisation, armed with rapidly advancing technology and fast growing economic system, is under a constant threat from its own activities. The system is generating large volumes of hazardous wastes. It is prone to accidental releases of hazardous chemicals. These substances pose a grave danger to present as well as future generations. Different nations of the world are endowed with varying environmental resources, but degradation of environment affects all the nations. The issue of hazardous substances has become a common concern of all the nations. The construction of appropriate liability models fixing definite responsibilities on the individual, industries, society and the state, within the limits of law, has assumed importance. This is necessary to deter persons, associations and governments from causing pollution through hazardous substances. The liability models generated particularly to deal with such substances are the focus of this chapter.

7.1 Absolute Liability: Generation of New Law

With the expansion of chemical based industries in India, the use and storage of hazardous substances have increased. These activities are permissible under law
because of their economic potential. The greatest break through occurred in *Oleum Gas Leak case.* In this scenario, the rule of strict liability as laid down in *Rylands v. Fletcher,* which is subject to many qualifications and exceptions, has been rendered inappropriate and unacceptable in India. In *Oleum Gas Leak case* the Supreme Court refused to apply the rule saying that it is not suited to the conditions in India and propounded a new principle of liability, known as absolute liability, for industries engaged in hazardous activities. Bhagwati, C.J. laid down a set of four interrelated principles:

(i) a hazardous or inherently dangerous industry owes an absolute and non-delegable duty to the community to ensure that no harm results to anyone on account of hazardous or inherently dangerous nature of the activity which it has undertaken;

(ii) the hazardous or inherently dangerous activity ... must be conducted with the highest standards of safety and if any harm results on account of such activity, the enterprise must be absolutely liable to compensate for such harm;

(iii) if the enterprise is permitted to carry on an hazardous or inherently dangerous activity for its profit, the law must presume that such permission is conditional on the enterprise absorbing the cost of any accident arising on account of such hazardous or inherently dangerous activity as an appropriate item of its overheads. Such hazardous or inherently dangerous activity for private profit can be tolerated only on

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2. (1868) LR 3 HL 330. For recent approval of the rule by the House of Lords, see *Cambridge Water Co. Ltd. v. Eastern Counties Leather, Plc.* (1994) 2 WLR 53: (1994) 1 All ER 53.
condition that the enterprise engaged in such hazardous or inherently
dangerous activity indemnifies all those who suffer on account of the
carrying on of such hazardous or inherently dangerous activity
regardless of whether it is carried on carefully or not...; and

(iv) the measure of compensation ... must be correlated to the magnitude
and capacity of the enterprise because such compensation must have a
deterrent effect.

The Court concluded:

We would therefore hold that where an enterprise is engaged in
a hazardous or inherently dangerous activity and harm results to
any one on account of an accident in the operation of such
hazardous or inherently dangerous activity resulting, for
example, in escape of the toxic gas, enterprise is strictly and
absolutely liable to compensate all those who are affected by the
accident and such liability is not subject to any of the
exceptions.\(^4\)

However, in *Union Carbide Corporation v. Union of India*,\(^5\) Ranganath Misra,
C.J. observed that what was said in *M.C. Mehta case*\(^6\) was essentially obiter

4. *Id.* at 420-21.
7. *supra* note 5, at 608.
However, it is important to note that the above observation was an expression of a minority view only and the majority judgment in *Union Carbide Corporation case* delivered by M.N. Venkatachaliah, J. did not express any opinion on the issue. Still the controversy raised by the opinion of Ranganath Misra, C.J. in *Union Carbide Corporation case* was settled by the Supreme Court in *Indian Council for Enviro-Legal Action v. Union of India*. The Court held:

...We on our part find it difficult to say, with great respect to the learned Chief Justice, that the law declared in *Oleum Gas Leak case* is obiter. It does not appear to be unnecessary for the purposes of that case... We are convinced that the law stated by this Court in *Oleum Gas Leak case* is by far the more appropriate one -- apart from the fact that it is binding upon us. (We have disagreed with the view that the law stated in the said decision is obiter.) According to this rule, once the activity carried on is hazardous or inherently dangerous, the person carrying on such activity is liable to make good the loss caused to any other person by his activity irrespective of the fact whether he took reasonable care while carrying on his activity. The rule is premised upon the very nature of the activity carried on.

Therefore, the activities of an enterprise engaged in hazardous or inherently dangerous industry can be tolerated provided it indemnifies all those who suffer on account of the carrying on of such industry regardless of whether it is carried on carefully or not. Whether an activity is inherently or abnormally dangerous is to be determined on a case to case basis, taking all relevant circumstances into consideration. The Supreme Court has thus propounded a social insurance concept in respect of hazardous substances and processes admitting of no exceptions. A far reaching simple proposition seeks to translate

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the commitment to 'fraternity' made in the Preamble to the Constitution of India. Those who deal in hazardous substances and processes must provide succour to all those who incur any injury attributable to the hazardous nature of the enterprise.

Apart from overarching principle of absolute liability the courts in India have also adopted the two basic principles of environmental law evolved by the courts in other developed countries.

7.2 ‘Precautionary’ and ‘Polluter-Pays’ Principles

Before we come to the statutory schemes of liability and compensation relating to hazardous substances as contained in international, regional and national instruments, it is necessary to discuss the two basic principles of environmental law, namely the 'precautionary' principle and 'polluter-pays' principle. Most of the international, regional and state instruments specifically refer to these principles while addressing the issue of liability and compensation in relation to environmental damage. The two principles are relevant to India also being recognised as part of the law of the land.

The traditional tort system permits the injured party to claim compensation, usually in the form of damages, by way of a civil or private action against the person who caused the injury. In this sense, civil liability differs from State liability. Civil liability creates a relationship between the person liable and the person injured, whereas State liability creates a relationship between the State involved in a wrongful act and the citizens of the injured State. In other words, in case of State liability, it is the State rather than the private individual who is
liable due to some violation of an international legal obligation established by treaty or by rule of customary international law. These concepts of civil liability and State liability are not to be confused with environmental liability which is the generic term that refers to the way and the means of forcing major polluters to repair the damage that they have caused, or to pay for those repairs. It is usually based on a general obligation to prevent environmental damage, to restore the environment when and where damage occurs, and to compensate if the damage is irreversible. To this extent, environmental liability seems to be the fundamental expression of 'precautionary' and 'polluter-pays' principles. Although environmental damage does not include damage to persons or property, but such damage could be consequential to the damage caused to the environment.

7.2.1 Meaning and Application of 'Precautionary' Principle

Precautionary principle is one of the pillars of prevention. It applies to environmental decision-making where there is scientific uncertainty. It requires that where there are threats of damage to the environment, lack of full scientific certainty should not be used as a reason for postponing cost effective measures to prevent environmental degradation. The principle establishes a duty to take such measures that anticipate, prevent and attack the causes of environmental degradation even where there is not yet scientific proof that the environment is

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being harmed. In fact, the concept rejects the assimilative capacity approach towards environment. The assimilative capacity approach is based on the belief that scientific theories are certain and adequate to provide the remedies for ecological restoration whenever environmental pollution occurs. However, assimilative capacity principle suffered a setback when the inadequacies and uncertainties of science became visible in environmental context. The precautionary principle assumes that science does not always provide the insights needed to protect the environment effectively, and that undesirable effects may result if measures are taken only when science does provide such insights. The essence of the precautionary principle is that once a risk has been identified, the lack of scientific proof of cause and effect should not be used as reason for not taking action to protect the environment. Precaution comes into play when the risk is too high -- so high in fact that full scientific certainty should not be required prior to the taking of remedial action. For the application of the principle, the following three essential features must be satisfied:

i. regulatory inaction threatens non-negligible harm;

ii. there exists a lack of scientific certainty on the cause and effect relationship; and

iii. under these circumstances, regulatory inaction is unjustified.

15. Id. at 13.
7.2.2 Legality of the Principle

The precautionary principle has entered the numerous municipal and international documents. It is said to have been derived from the concept of 
Vorsorgeprinzip under German Law. The concept encompasses both prevention and precaution. However, in German Law the Vorsorgeprinzip has a broader meaning than the precautionary principle. In U.K., the 1990 Government White Paper (Department of the Environment, ‘This Common Inheritance’, White Paper on Environmental Policy, H.M. Stationery Office, London, 1990, at 7) incorporates:

Where there are significant risks of damage to the environment, the Government will be prepared to take precautionary action to limit the use of potentially dangerous materials or the spread of potentially dangerous pollutants, even when the scientific knowledge is not conclusive, if the balance of likely costs and benefits justifies it. The precautionary principle applies particularly where there are good grounds for judging either that action taken promptly at comparatively low cost may avoid more costly damage later, or that irreversible effects may follow if action is delayed. (para 1.18).

Similarly under the U.S. Law, the principle is widely applied and a number of statutes exist that do not allow use of chemicals which have been shown to cause cancer, unless it can be proved that ‘the amount of chemical in question poses no significant risk’.  

Of the international documents incorporating precautionary principle, the most authoritative is Principle 15 of the Rio Declaration which states

In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

Principle 11 of the UN World Charter for Nature, 1982 provides

Activities which might have an impact on nature shall be controlled, and the best available technologies that minimize significant risks to nature or other adverse effects shall be used, in particular

a) Activities which are likely to cause irreversible damage to nature shall be avoided,

b) Activities which are likely to pose a significant risk to nature shall be preceded by an exhaustive examination, the proponents shall demonstrate that expected benefits outweigh potential damage to nature, and where potential adverse effects are not fully understood, the activities should not proceed,

c) Activities which may disturb nature shall be preceded by assessment of their consequences, and environmental impact studies of development projects shall be conducted sufficiently in advance, and if they are to be undertaken, such activities shall be planned and carried out so as to minimize potential adverse effects,

d) Agriculture, grazing, forestry and fisheries practices shall be adopted to the natural characteristics and constraints of given areas,

e) Areas degraded by human activities shall be rehabilitated for purposes in accord with their natural potential and compatible with the well-being of affected populations

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22 UN General Assembly Resolution 37/7
A precautionary and anticipatory rather than a reactive approach is necessary to prevent the degradation of the marine environment. This requires, inter alia, the adoption of precautionary measures, environmental impact assessments, clean production techniques, recycling, waste audits and minimization, construction and/or improvement of sewage treatment facilities, quality management criteria for handling of hazardous substances, and a comprehensive approach to damage impact from air, land and water.

Chapter 17 further obliges States to ‘apply preventive, precautionary and anticipatory approaches so as to avoid degradation of the marine environment, as well as to reduce the risk of long-term or irreversible adverse effects upon it.24 Similarly, Chapter 19 of Agenda 21 for its programme area ‘A’ dealing with ‘Expanding and Accelerating International Assessment of Chemical Risks’ obliges the governments to ‘strengthen and expand programmes on chemical risk assessment within the United Nations system. IPCS (UNEP, ILO, WHO) and the FAO, together with other organizations, including the OECD, based on an agreed approach to data-quality assurance, application of assessment criteria, peer review and linkages to risk management activities, taking into account the precautionary approach’.25 The basic object of its programme area ‘D’ dealing with the ‘Establishment of Risk Reduction Programmes’ was emphasised in the following words:

The objective of the programme area is to eliminate unacceptable or unreasonable risks and, to the extent economically feasible, to reduce risks posed by toxic chemicals.

23. Para 17.21.
24. Para 17.22(a).
by employing a broad-based approach involving a wide range of risk reduction options and by taking precautionary measures derived from a broad-based life-cycle analysis.26

The incorporation of the principle in various international agreements with sufficient State practice strongly supports the speculation that it has already entered the body of international customary law. Strict implementation of the principle involves reversal of the burden of proof as well where it is placed on those who want to change the status quo. The implementation of the principle also presupposes application of best environmental practices and best available technologies. It has, in fact, become an important component of sustainable development. Evidence of its importance can also be found in judicial decisions.27

7.2.3 Application of the Principle in India

In India, the 'precautionary principle' has been accepted as a part of the law of the land. It makes it mandatory for the State Government to anticipate, prevent and attack the causes of environmental degradation.28 The uncertainty of scientific proof and its changing frontiers from time to time had led to great changes in environmental concepts during the period between the Stockholm Conference of 1972 and the Rio Conference of 1992. A basic shift in the approach to environmental protection occurred initially between 1972 and 1982. Earlier, the concept was based on the 'assimilative capacity' rule as revealed from Principle 6 of the Stockholm Conference. The said principle assumed that science could provide policy makers with the information and

means necessary to avoid encroaching upon the capacity of the environment to assimilate impact. It presumed that relevant technical expertise would be available when environmental harm was predicted and there would be sufficient time to act in order to avoid such harm. But in the 11th Principle of the U.N. General Assembly Resolution on World Charter for Nature, 1982, the emphasis shifted to the “precautionary principle”, and this was reiterated in the Rio Conference of 1992 in its Principle 15.29

Realisation of inadequacies of science has led to the wide acceptance of precautionary principle of 1982. It is based on the theory that it is better to err on the side of caution and prevent environmental harm which may indeed become irreversible. It involves the anticipation of environmental harm and taking measures to avoid it or to choose the least environmentally harmful activity. It is based on scientific uncertainty... The precautionary principle was recommended by the UNEP Governing Council (1989). The Bamako Convention also lowered the threshold at which scientific evidence might require action by not referring to ‘serious’ or ‘irreversible’ as adjectives qualifying harm.30

However, summing up the legal status of the precautionary principle, one commentator characterised the principle as still “evolving” for though it is

30. Id. at 734. Article 4(3)(f) of the Bamako Convention provides that ‘each party shall strive to adopt and implement the prevention, precautionary approach to pollution problems which entails, inter alia, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof regarding such harm. The parties shall cooperate with each other in taking the appropriate measures to implement the precautionary principle to pollution prevention through the application of clean production methods rather than the pursuit of a permissible emissions approach based on assimilative capacity assumptions’.
accepted as part of the international customary law, ‘the consequences of its application in any potential situation will be influenced by the circumstances of each case’. (See First Report of Dr. Sreenivasa Rao Pemmaraju -- Special Rapporteur, International Law Commission dated 3.4.1998, paras 61 to 72).\textsuperscript{31}

But as regards precautionary principle it must be remembered that an apathetic attitude may lead to a situation -- ‘only when the last tree has died, and the last river has been poisoned, and the last fish has been caught, will we realise that we cannot eat money’\textsuperscript{32} - from where it will not be possible to come back. The application of the principle can certainly reduce, if not entirely eliminate, the detrimental effects of certain activities associated with hazardous substances.

7.2.4 Meaning and Application of Polluter-Pays Principle

Although the precautionary approach is important but it cannot be over emphasised. Remedial mechanisms are equally important. They, too, cannot be neglected. They act as deterrents. In case precautionary mechanisms fail and environmental harm is caused, there must be mechanisms to ensure restoration of the damaged environment and compensation to the victims. Polluter - pays principle comes into play then. It means that the polluter should bear the cost of environmental damage. It has an indirect bearing on prevention also and the object of the principle is to channel the costs of prevention and reparation of environmental damage to the person who is in the best position to prevent such damage and internalise the costs of pollution damage.\textsuperscript{33} The principle requires that the person responsible for causing pollution and its subsequent costs

\begin{flushright}
\textsuperscript{31} Ibid. \\
\textsuperscript{32} 19th Century Free Indian, supra note 17, at 29. \\
\textsuperscript{33} supra note 11.
\end{flushright}
should pay these costs. It influences allocation of economic obligations in relation to environmentally damaging activities, in particular in relation to liability, the use of economic instruments and the application of the rules relating to competition and subsidy.\textsuperscript{34}

7.2.5 Legality of the Principle

The hazardous substances, particularly when transported, are prone to accidents and can cause severe environmental damage. In this context, the polluter-pays principle assumes special significance. It makes the person, who has control over the polluting activity and who benefits from it economically, responsible for financial consequences of the harmful activity.

At the international level, the polluter pays principle was first developed by the OECD. In 1972, the Council Recommendation on Guiding Principles Concerning the International Economic Aspects of Environmental Policies,\textsuperscript{35} stated as under:

The Principle to be used for allocating costs of pollution prevention and control measures to encourage rational use of scarce environmental resources and to avoid distortions in international trade and investment is the so-called 'Polluter-Pays Principle'.

The above stated Recommendation was confirmed by the OECD in 1974\textsuperscript{36} and reaffirmed in 1989.\textsuperscript{37} In 1991, the OECD urged the consistent application of the principle in different sectors including pollution control measures.\textsuperscript{38}


\textsuperscript{35} For the text see 11 ILM 1172 (1972).


\textsuperscript{37} OECD Council Decision and Recommendation on the Application of the Polluter-Pays Principle to Accidental Pollution. For the text see International Environmental Reports (BNA), No. 8, & 2, at 23 (1989).

The polluter-pays principle has entered many international instruments. The Stockholm Conference, 1972, though did not specifically mention the principle, yet in Principle 23 incorporated that ‘it will be essential in all cases to consider the systems of values prevailing in each country, and the extent of the applicability of standards which are valid for the most advanced countries but which may be inappropriate and of unwarranted social cost for developing countries’. Principle 16 of the Rio Declaration, 1992 explicitly introduced the principle in the following words:

National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the costs of pollution, with due regard to the public interest and without distorting international trade and investment.

Chapter 17 of Agenda 21 obliged States to ‘develop economic incentives, where appropriate, to apply clean technologies and other means consistent with the internalisation of environmental costs, such as the polluter-pays principle, so as to avoid degradation of the marine environment’. Similarly Chapter 20 of Agenda 21 provided the following:

Governments should include in national planning and legislation an integrated approach to environmental protection, driven by prevention and source reduction criteria, taking into account the ‘polluter-pays’ principle, and adopt programmes for hazardous waste reduction, including targets and adequate environmental control.

Further, Governments should promote identification and clean-up of sites of hazardous wastes in collaboration with industry


40. Para 20.19(b).
and international organizations. Technologies, expertise and financing should be available for this purpose, as far as possible and when appropriate with the application of the 'polluter-pays' principle.\textsuperscript{41}

The above stated examples clearly indicate that the polluter-pays principle has got international recognition. It seems very relevant so far as economic instruments are concerned. However, lack of an agreed definition, disputes over its exact scope and identification of the real polluter are some of the problems associated with the principle. Still the incorporation of the principle in any liability and compensation regime will certainly make the regime more effective in order to induce compliance with relevant rules. This is specially significant in respect of hazardous substances.

7.2.6 Application of the Principle in India

Like the 'precautionary' principle, the 'polluter-pays' principle has also been recognised as part of the law of the land in India. The Indian courts, in various decisions, have enforced the principle while awarding damages against the polluter. In \textit{M.C. Mehta v. Kamal Nath},\textsuperscript{42} the Supreme Court observed that the 'Polluter Pays Principle' is widely accepted as a means of paying for the cost of pollution and control. To put in other words, the wrongdoer, the polluter, is under an obligation to make good the damage caused to the environment. The Court held:

In 1972, the Organisation for Economic Co-operation and Development adopted the "Polluter Pays Principle" as a recommendable method for pollution cost allocation. This principle was also discussed during the 1972 Paris Summit. In 1974, the European Community recommended the application

\textsuperscript{41} Para 20.22(g).
of the principle by its member states so that the costs associated with environmental protection against pollution may be allocated according to uniform principles throughout the Community. In 1989, the Organisation for Economic Co-operation and Development reaffirmed its use and extended its application to include costs of accidental pollution. In 1987, the principle was acknowledged as a binding principle of law as it was incorporated in European Community Law through the enactment of the Single European Act, 1987. Article 130r2 of the 1992 Maastricht Treaty provides that Community Environment Policy "shall be based on the principle that the polluter should pay".

The Court further observed that the 'Polluter-Pays Principle' has also been applied by this Court in various decisions. In *Indian Council for Enviro-Legal Action v. Union of India,* it was held that once the activity carried on was hazardous or inherently dangerous, the person carrying on that activity was liable to make good the loss caused to any other person by that activity. This principle was also followed in *Vellore Citizens Welfare Forum v. Union of India* and the Motel was directed to pay compensation by way of cost for the restitution of the environment ecology of the area.

So, the 'polluter-pays' principle has now come to be accepted universally as a sound principle. In *Indian Council for Enviro-Legal Action case,* the Court held

Thus, according to this principle, the responsibility for repairing the damage is that of the offending industry. Sections 3 and 5 (EPA) empower the Central Government to give directions and take measures for giving effect to this principle. In all the circumstances of the case, we think it appropriate that the task of determining the amount required for carrying out the remedial measures is placed upon the Central Government in the light of the provisions of the EPA, 1986. It is, of course, open

43. *Id.* at 2001
44. *supra* note 9
45. AIR 1996 SC 2715.
46. *supra* note 9, at 248.
to the Central Government to take the help and assistance of State Government, RPCB or such other agency or authority, as they think fit.

7.2.7 Application of Both the Principles in India

As noted in the preceding paras, the precautionary principle and polluter pays principle have been accepted as part of the law of the land. In view of the Constitutional mandate [Articles 21, 47, 48A and 51A(g)] and statutory provisions as contained in the Water Act, 1974, Air Act, 1981 and EPA, 1986, there is no hesitation in holding that the precautionary principle and the polluter pays principle are part of the environmental law of the country. Even otherwise once these principles are accepted as part of the customary international law, there would be no difficulty in accepting them as part of the domestic law. It is almost accepted proposition of law that the rules of customary international law which are not contrary to the municipal law shall be deemed to have been incorporated in the domestic law and shall be followed by the courts of law.\(^{47}\)

The traditional concept that development and ecology are incompatible is no longer acceptable. 'Sustainable Development' is the answer... The 'Precautionary Principle' and the 'Polluter Pays' principle are essential features of 'Sustainable Development'. The 'Precautionary Principle' in the context of the municipal law means:

i) Environmental measures - by the State Government and the statutory authorities -- must anticipate, prevent and attack the causes of environmental degradation.

\(^{47}\) supra note 45, at 2721-22. See also Bittu Sehgal v. Union of India, (2001) 9 SCC 181.
ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

iii) The ‘onus of proof’ is on the actor or the developer / industrialist to show that his action is environmentally benign.

The ‘Polluter Pays’ principle has been held to be a sound principle by this Court in Indian Council for Enviro-Legal Action Case. The ‘Polluter Pays’ principle as interpreted by this Court means that the absolute liability for harm to the environment extends not only to compensate the victims of pollution but also the cost of restoring the environmental degradation. Remediation of the damaged environment is part of the process of ‘Sustainable Development’ and as such polluter is liable to pay the cost to the individual sufferers as well as the cost of reversing the damaged ecology.

In M.C. Mehta (Calcutta Tanneries Matter) v Union of India, the Court recognised ‘precautionary principle’ and the ‘polluter pays principle’ as part of the law of the land and held that ‘it is thus settled by this Court that one who pollutes the environment must pay to reverse the damage caused by his acts.’ The Court directed the State Government to appoint an Authority to assess the loss to the ecology / environment in the affected areas and to further determine the compensation to be recovered from the polluter - tanneries as cost of reversing the damaged environment. The Court imposed a pollution fine of Rs 10,000 each on all the tanneries to be paid in the office of the Collector /

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48 supra note 9
49 supra note 45, at 2720-21
50 (1997) 2 SCC 411
District Magistrate of the area concerned. The Court further directed that the amount of compensation and fine recovered from the polluting tanneries should be deposited under a separate head called “Environment Protection Fund” and should be utilised for restoring the damaged environment and ecology. The tanneries which fail to deposit the amount of Rs. 10,000 by a stipulated date i.e. by 15.3.1997 should be closed forthwith and are also liable under the Contempt of Courts Act. The State Government was directed to frame and execute scheme / schemes for reversing the damage caused to the ecology and environment by pollution.

In *M.C. Mehta v. Union of India*\(^{51}\) the Court observed that one of the principles underlying environmental law is that of sustainable development. This principle requires such development to take place which is ecologically sustainable. The two essential features of sustainable development are:

(a) the precautionary principle, and

(b) the polluter pays principle.

In *M.P. Rambabu v. The District Forest Officer*\(^{52}\) the Andhra Pradesh High Court observed:

> It is now well settled that the Court with a view to stop or regulate pollution may take recourse to the precautionary principle or polluter pays principle. It is also now no longer *res integra* that the burden of proof is on the polluter to show that no pollution is being caused.

In *Nature Lovers Movement v. State of Kerala*\(^{53}\) (Full Bench), the Court held that the ‘sustainable development theory’ no doubt recognises and avows

\(^{51}\) AIR 2002 SC 1696.

\(^{52}\) AIR 2002 Andhra Pradesh 256, 274.

\(^{53}\) AIR 2000 Kerala 131.
‘precautionary principle’ and ‘polluter pays principle’. It referred to Principle 13 of the Rio Declaration which proclaims:

The States shall develop national law regarding liability and compensation for the victims of pollution and other environmental damage. States shall also cooperate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction.

In view of the above declaration, the Court observed that there must be laws to safeguard and compensate the victims of polluters as a measure of our acceptability to ‘liability and compensation’ for adverse effects of an environmental damage causing internally or internationally. The law in India in this regard is advancing rapidly due to Court’s interventions and effects made thereby on economic growth and environmental balance are remarkable and marvelous.54

Therefore, the precautionary principle and polluter pays principle have already emerged as binding principles of law. Strict compliance of the principles by individual states may certainly help in protecting the environment. Although there are uncertainties regarding their legal content and practical workings, incorporation of these principles in any legal system, specially in the environmental decision making process, has the potential of properly controlling and regulating the harmful activities connected with hazardous substances. The application of polluter-pays principle in any liability and compensation regime may surely make the regime more effective.

54 Id at 173
7.3 International Regime

Many states have devised their own national measures and restitutitional framework to deal with the problems of exposure to hazardous substances, compensation to victims and rehabilitation process. Before coming to the statutory liability models available in India, a brief mention of international liability regime and the models prevailing in two developed countries (U.K. and U.S.A), is in order to provide a comparative picture.

7.3.1 Hazardous Wastes

The emerging global waste management regime as established by the Basel Convention\(^{55}\) and other regional waste management systems concluded under its umbrella provides a standard of behaviour that must be adhered to in the context of the management and disposal of hazardous wastes. We have already discussed the development and content of such systems in chapter II.

In order to make the management regime effective, mechanism must be set up which induce compliance with the relevant rules and regulate the consequences of their breach. Such mechanisms should have three main objectives:

a) the prevention of environmental damage resulting from hazardous wastes,

b) reparation of damage once it has occurred, and

c) the equitable allocation of the costs of remedial measures.

However, the issue of ‘liability and compensation’ in the event of any damage resulting from the hazardous wastes could not be resolved during the Basel Convention negotiations to a great dissatisfaction of the developing countries.

and was left to be settled through a Protocol. The first meeting of the Conference of the Parties (COP-1) decided to establish an Ad hoc Working Group of Legal and Technical Experts to consider and develop a draft Protocol on liability and compensation including the establishment of an international fund for compensation for damage resulting from the transboundary movement of hazardous wastes and their disposal. The above stated objectives of the enforcement mechanism were recognised by the Working Group in the following words:

The victim should be protected; the person who created a risk should, in all fairness, be held liable for the consequences of that risk; a good liability regime should in general provide an incentive to prevent waste generation; [and] last but not least, such a regime would enable industry to know where it stood.

The work which began in 1990 with the establishment of the first Working Group of Experts actually resulted in the adoption of the Protocol vide Decision V/29 of COP V in December, 1999. The Protocol on Liability and Compensation for Damage Resulting from the Transboundary Movements of Hazardous Wastes and their Disposal (hereinafter called ‘the Protocol’) provides a comprehensive regime for liability and compensation for damage resulting from transboundary movements of hazardous and other wastes including illegal traffic. Each phase of transboundary movement, from generation to final disposal, has been covered. It is considered to be the first international environmental instrument to address the liability and

56. Article 12 of the Basel Convention stated: ‘The Parties shall co-operate with a view to adopting, as soon as practicable, a protocol setting out appropriate rules and procedures in the field of liability and compensation for damage resulting from the transboundary movement and disposal of hazardous wastes and other wastes’.
compensation aspects of hazardous international activity. It applies Principle 13 of the 1992 Rio Declaration which called upon states 'to co-operate in an expeditious and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction' The traditional enforcement mechanism of State responsibility, as reflected by the Principle, relies on the role of the State as guarantor of compliance with international obligations. However, due to inherent practical and theoretical difficulties with State responsibility, alternative mechanisms have also become necessary and are to be evolved. The emerging global waste management regime is no exception to this.

The Protocol provides a comprehensive regime of liability and compensation for damage resulting from the transboundary movement of hazardous wastes and other wastes and their disposal including illegal traffic. The Protocol envisages both strict and fault-based liability, depending on the circumstances in which environmental damage occurs. The fixing of strict liability depends on the actual occurrence of the damageable incident and is channeled to the person

60 The Protocol contains a rather broad definition of 'damage' for which compensation may be sought. "Damage" means (i) loss of life or personal injury, (ii) loss of or damage to property other than property held by the person liable in accordance with the present Protocol, (iii) loss of income directly deriving from an economic interest in any use of the environment, incurred as a result of impairment of the environment, taking into account savings and costs, (iv) the costs of measures of reinstatement of the impaired environment, limited to the costs of measures actually taken or to be undertaken, and (v) the costs of preventive measures, including any loss or damage caused by such measures, to the extent that the damage arising out of or results from hazardous properties of the wastes involved in the transboundary movement and disposal of hazardous wastes and other wastes subject to the Basel Convention [Article 2(2)(c)].
61 "Hazardous wastes and other wastes" means hazardous wastes and other wastes within the meaning of Article 1 of the Basel Convention [Article 2(2)(b)].
62 Article 1
who is in operational control of the wastes. During the initial phase, the person who is notifying the transport in accordance with Article 6 of the Basel Convention (the generator or the exporter) is liable for damage. This person remains liable until the designated waste disposer takes possession of the shipment. Thereafter, the disposer is liable for any damage which may occur. According to Annex B of the Protocol, financial limits of strict liability should be determined by the domestic law of the State Parties. However, these limits should not be lesser than the minimum requirements set by the same Annex. Annex B also requires the parties to review these limits on a regular basis, taking into account the potential environmental risks and the nature, quantity and hazardous properties of the wastes. The person strictly liable has to establish and maintain, during the period of the time limit of liability, insurance, bonds or other financial guarantees covering his liability.

Without prejudice to the strict liability provision, the Protocol establishes a fault-based liability regime in case of any person disregarding the Basel Convention's requirements or acting in a wrongful intentional, reckless or negligent manner. This fault-based liability is without financial limits. However, there is a right of recourse against any other person also liable under the Protocol, or under a contractual agreement, or pursuant to the law of a competent Court.

63. Article 4(1). Article 4 also provides for specific rules in particular situations, such as cases of re-import of wastes.
64. Article 12(1).
65. Article 14(1).
66. Article 5.
67. Article 12(2).
68. Article 8.
Claims for compensation under the Protocol have to be brought within ten years from the date of the incident or within five years from the date the claimant knew or ought reasonably to have known of the damage. Where compensation does not cover the costs of damage, additional and supplementary measures may be taken by the contracting parties to ensure adequate and prompt compensation. The contracting parties are also obliged to adopt transparent legislative, regulatory and administrative measures necessary to implement the Protocol without any discrimination.

Claims for compensation under the Protocol may be brought in the courts of a contracting party only, where either the damage was suffered, or the incident occurred, or the defendant had his habitual residence or principal place of his business. Each contracting party has to ensure that its courts possess the necessary competence to entertain such claims for compensation. The judgment of a competent court shall be recognised and enforced by the contracting parties.

The transboundary movement of hazardous waste involves a wide range of participants and varying degrees of environmental or health risks. The provisions of the Protocol have the capacity to deter those who are involved in the mismanagement of hazardous wastes. It provides for a comprehensive liability regime and adequate and prompt compensation, including reinstatement of the damaged environment. However, the provision dealing

69. Article 13(1).
70. Article 13(2).
71. See Article 15.
72. Article 10.
73. Article 17.
74. Article 21.
with the 'scope of application' of the Protocol lacks clarity and is a very complex one, having nine paragraphs and various sub-paragraphs. Still the general rule as given in paragraph-1 is that the Protocol applies to damage due to an incident occurring during a transboundary movement of hazardous wastes and other wastes and their disposal, including illegal traffic, from the point where the wastes are loaded on the means of transport in an area under the national jurisdiction of a state of export. Moreover, supplementary compensation is provided on an interim basis from a fund established by the Conference of the Parties. It is available only to developing state parties or economies in transition. This limitation is not a feature of other compensation schemes. Another difference is that the fund is financed by voluntary contributions from the parties to the Basel Convention. There is no requirement for industry to contribute.

A number of States and NGOs have voiced serious criticisms of the Protocol. African states criticised the failure to provide an adequate and permanent compensation fund. Australia, Canada, and NGOs were concerned that parties to Article 11 agreements could opt for alternative liability arrangements, thereby creating confusion and protracted litigation as to which liability regime is applicable. They also believed that channeling liability to the exporter /

75. See Article 3.
76. 'Incident' means any occurrence, or series of occurrences having the same origin that causes damage or creates a grave and imminent threat of causing damage. [Article 2(2)(b)]
77. PATRICIA BIRNIE & ALAN BOYLE, INTERNATIONAL LAW AND THE ENVIRONMENT, 435-36 (2d ed. 2002)
78. Article 11 - Conflicts with other liability and compensation agreements: 'Whenever the provisions of the Protocol and the provisions of a bilateral, multilateral or regional agreement apply to liability and compensation for damage caused by an incident arising during the same portion of a transboundary movement, the Protocol shall not apply provided the other agreement is in force for the party or parties concerned and had been opened for signature when the Protocol was opened for signature, even if the agreement was amended afterwards.'
notifier, rather than to the person in operational control (i.e. the waste generator), did not properly reflect the 'polluter pays' principle. Waste generators would be able to pass on the burden of liability to exporters, and would have less incentive to monitor disposal standards themselves. Leaving national law to determine maximum liability limits would also create further uncertainty and inconsistency, while the minimum limits based on waste tonnage would in some cases be too low, in other too high, depending on the nature of the waste. In their view, shared by others, these deficiencies were likely to delay ratification. However, in spite of these criticisms, since legal instruments which impose meaningful liability for international environmental harms are rare in international law, the Protocol may still be considered as a 'major break through'.

7.3.2 Hazardous Chemicals

The Prior Informed Consent (PIC) procedure as provided in both voluntary (FAO Code of Conduct & amended London Guidelines) and binding (Rotterdam Convention) international legal instruments was clearly insufficient to reduce the risks from a number of hazardous chemicals in today's use. This highlighted the need of an integrated international legal instrument to promote environmentally sound management of chemicals, especially in respect of developing countries, in accordance with the principle of 'common but differentiated responsibility' and the relevant provisions of Chapter 19 of Agenda 21.

79. supra note 77, at 436.
80. See supra chapter II
In addition to an internationally binding instrument for PIC, the international activities predominantly focussed on the development of a legal framework for persistent organic pollutants (POPs). The activities ultimately culminated into a globally binding instrument (POPs Convention)\textsuperscript{81} which favoured a 'cradle-to-grave' approach and addressed the issues like health and environmental hazards caused by POPs from the moment of inception to disposal. It required continuous minimisation of total emissions of substances listed in Annex C and promotion and application of Best Environmental Practices (BEP) and Best Available Techniques (BAT) which should be reflected in the national implementation plans of the parties. However, many countries may find these requirements challenging since they have little knowledge of the sources of their emissions. Although the concepts of BEP and BAT seem familiar, their translation into practice can be difficult.\textsuperscript{82} The lack of data on levels of chemicals in environment further impairs seriously the assessment of background exposures to chemicals as well as possible damages to human health and the ecosystem. Differences in procedures and measurement targets make existing data difficult to compare.\textsuperscript{83} Moreover, considering the wide range of existing international programmes and initiatives as well as the multiplicity of fora where chemical management issues are discussed, there is a serious potential for overlap, duplication, and incoherent, and even incompatible, approaches to international chemicals management.\textsuperscript{84}

\textsuperscript{81} Ibid.
\textsuperscript{82} 6 UNEP Chemicals Newsletter, No. 2, 2 (December 2002).
\textsuperscript{83} Ibid.
\textsuperscript{84} Hazardous Substances and Wastes, Other Than Nuclear, 8 Yearbook of International Environmental Law, 241 (1997).
Besides the above stated complexities in international arena, a weak enforcement mechanism undermines the implementation efforts in international chemicals management. Implementation requires domestic legislation and enforcement of international policy where there is a wide gap between policy adoption and policy implementation. For example, individual firms or industrial sectors, due to their vested interests, may exert influence at the domestic level for non-adoption of such a policy. This inevitably produces disparity between international and domestic positions. The tension / imbalance at the international level (where policy is developed) and domestic / national level (where policy is given practical effect) ultimately results in the likelihood of implementation failure.85

Most of the chemical hazards which we face occur due to the incidents within the jurisdiction of the nation of which we are citizens. Valuation of the benefits and damage which the chemicals can cause, varies from country to country. It is for this reason that the regulation of chemicals is usually considered a matter for the national governments. However, where for example, hazardous chemicals are transported between nations, there is clearly an international hazard and international approach is needed to regulate the problem. The pollution that results from the manufacture or use of a chemical substance cannot be controlled by one country alone due to the transboundary nature of the releases into the environment or its trade in international markets.86 That is why Chapter 19 of Agenda 21 stated as regards chemicals that risk

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85. For details as to relationship between international law and municipal law, see J.G. Starke, Introduction to International Law, 71-91 (10th ed. 1989).
management activities are primarily the responsibility of the national governments but that international risk reduction is warranted for problems that are international in scope. In these circumstances, the international efforts should ensure that the management of chemicals occurs at the level where it is most likely to deliver effective environmental outcomes, having regard to local exposures and evaluations.

The liability and compensation regime relating to hazardous chemicals appears to be very weak at the global level. The non-binding international agreements (the FAO Code of Conduct and London Guidelines) do not contain provisions regarding liability and compensation issues. Similarly, the binding instruments (Rotterdam Convention and POPs Convention) also do not have any sanctioning mechanisms. These are basically the information-generating treaties. These instruments should have contained specific provisions relating to sanctions and penalties. However, there are certain instruments which address the issue, but they are not yet in force. For example, 1996 HNS - International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea (London) was adopted on 3rd May 1996. Under the Convention, a compensation upto 250 million SDR (about US $ 320 million) could be paid to the victims of accidents involving the transport of hazardous and noxious substances, but it is not yet in force. Likewise, at the regional level, the 1989 CRTD - UN / ECE Convention on Civil Liability for Damage Caused During Carriage of Dangerous Good by Road, Rail and Inland Navigation Vessels (Geneva), adopted on 10th October, 1989 established strict liability and uniform rules to ensure adequate and
prompt compensation for damage during the international and domestic carriage of dangerous goods. Financial liability of the road and rail carrier is limited to 18 million SDR for loss of life or personal injury and 12 million SDR for any other claim. The liability of the carrier of an inland navigation vessel is limited to 8 million SDR and 7 million SDR respectively. The 1993 Lugano Convention - Convention on Civil Liability for Damage Resulting From Activities Dangerous to the Environment (Lugano), adopted on 21st June, 1993 aimed at ensuring adequate compensation for damage resulting from activities dangerous to the environment and provided for the means of prevention and reinstatement. The dangerous activities include the activities relating to hazardous substances specified in Annex-I, genetically modified organisms and micro-organisms. The operator is strictly liable for damage caused during the period when he/she exercises control over that activity, and is required to maintain insurance. However, the above stated regional instruments are also not yet in force.87

Therefore, it appears that the issues relating to liability and compensation regarding hazardous chemicals have to be decided by the nation-states. They have to take actions by passing laws and providing administrative machinery on this account. International society lacks the machinery to implement sanctions. However, nation states can make their risk management decisions comparatively easily. These nation states can ensure implementation also. Various exposures to toxic, persistent and bioaccumulative substances occur at the national level. The individuals and industries responsible for chemical

hazards may be identified and costs imposed on them. An effective implementation of liability and compensation regime at the national level (based on international guidelines) can ensure better environmental protection and enhanced human welfare.

In addition to the mechanisms of international control, enforcement mechanisms adopted at the national level play an important part in the implementation of international obligations. Before discussing the Indian position, we will examine the liability and compensation models prevailing in two developed countries i.e. U.K. and U.S. which provide a comprehensive system for regulation and control of hazardous substances.

7.4  U.K. Model of Liability and Compensation

7.4.1  Waste Management

The Deposit of Poisonous Wastes Act, 1972 of Britain is considered to be one of the first controls over the deposit of hazardous waste in the world. It was soon supplemented by the Control of Pollution Act, 1974 which introduced a comprehensive system of waste management. However, the basic provisions concerning waste management are now contained in the Environmental Protection Act of 1990 (hereinafter called EPA), as amended by the Environment Act of 1995 and Regulation 19 and Schedule 4 of the Waste Management Licensing Regulations, 1994.\(^8^8\) Section 33 of the EPA prohibits unauthorised or harmful depositing, treatment or disposal etc. of waste and makes the following a criminal offence:

\(^8^8\)  SI 1994/1056.
a) to deposit controlled waste,\(^8^9\) or knowingly cause or permit controlled waste to be deposited in or on any land unless authorised by a waste management licence;

b) to treat, keep or dispose of controlled waste, or knowingly cause or permit controlled waste to be treated, kept or disposed of in or on any land, or by means of any mobile plant, except in accordance with a waste management licence; and

c) to treat, keep or dispose of controlled waste in a manner likely to cause pollution of the environment or harm to human health (whether or not this is done in accordance with a waste management licence).

Section 33 also makes the contravention of any of the conditions of a waste management licence an offence and provides that where controlled waste is carried in and deposited from a motor vehicle, the person who controls or is in a position to control the use of the vehicle, shall be treated as knowingly causing the waste to be deposited whether or not he gave any instructions for this to be done. However, there are three defences available to a person charged with an offence under Section 33. He can escape conviction if he proves:

i. that he took all reasonable precautions and exercised all due diligence to avoid the commission of the offence; or

ii. that he acted under the instructions from his employer and neither knew nor had reason to suppose that he was doing a contravention; or

iii. that the alleged contravention was done in emergency in order to avoid danger to the public and that as soon as it became reasonably practicable, he informed the Environmental Agency.

\(^{89}\) 'Controlled Waste' means household, industrial and commercial waste or any such waste [Section 75(4)]
EPA re-enacts, for all practical purposes, the relevant provisions of Control of Pollution Act, 1974 and the offence of knowingly permitting the deposit of controlled waste is one of strict liability. The employer or principal of a business may be held criminally liable, even though the deposit was due to the act or omission of an employee and without the employer’s knowledge or even contrary to his orders.\textsuperscript{90} In \textit{Ashcroft v. Cambro Waste Products},\textsuperscript{91} it was held that when controlled waste had been deposited without being covered with earth, as required by the waste disposal licence, the prosecutor, in order to secure a conviction, had to prove only that the waste was controlled waste, that it had been deposited, and that in fact the deposit was not in accordance with the requirements of the licence.

Any person who commits an offence under Section 33 shall be liable:

\begin{itemize}
  \item[a)] on summary conviction, to imprisonment for a term not exceeding six months or a fine not exceeding £20,000 or both; and
  \item[b)] on conviction on indictment, to imprisonment for a term not exceeding two years or a fine or both.
\end{itemize}

Any person who commits an offence under this Section in relation to special waste\textsuperscript{92} shall be liable:

\begin{itemize}
  \item[a)] on summary conviction, to imprisonment for a term not exceeding six months or a fine not exceeding £20,000 or both; and
\end{itemize}

\textsuperscript{90} \textsc{David Woolley QC, John Pugh Smith, Richard Laugham, William Upton, \textit{Environmental Law}, 286 (2000).}

\textsuperscript{91} (1981) 3 All ER 699. The decision in \textit{Ashcroft case} was affirmed in \textit{Shanks \& Mc Ewan (Teesside) Ltd. v. The Environment Agency}, (1997) 2 All ER 332, and it was held that the word ‘knowingly’ under Section 33 only required knowledge of the deposit.

\textsuperscript{92} ‘Special waste’ means controlled waste in respect of which regulations are in force. [Section 75(9)].
b) on conviction on indictment, to imprisonment for a term not exceeding five years or a fine or both.

Section 34 of the EPA establishes a ‘duty of care’ regarding waste. Any person dealing with waste owes a duty to avoid pollution, harm to health, or the unlicensed deposit of waste and he can not transfer this duty to someone else. The Section requires that any person who imports, produces, carries, keeps, treats or disposes of controlled waste or, as a broker, has control of such waste, has to take all such measures applicable to him in that capacity as are reasonable in the circumstances --

a) to prevent any other person contravening Section 33;

b) to prevent the escape of waste from his own control and that of others;

and

c) to transfer the waste only to an authorised person or to a person for authorised transport purposes, and along with such written description of the waste as will enable other persons to avoid a contravention of Section 33 and to comply with the duty of care.

However, the duty of care under Section 34 does not apply to an occupier of domestic property as respects the household waste produced on the property. The Secretary of State has power to prescribe how this duty of care is to be discharged. This power has led to the making of the Environmental Protection (Duty of Care) Regulations, 1991. The Secretary of State has also issued a Code of Practice on the duty of care. The Code is admissible in evidence in civil or criminal legal proceedings while determining whether there has been a

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93. SI No. 2839.
breach of the duty. It is important to note that the statutory duty of care under EPA should not be confused with the duty of care in ordinary negligence cases. Since the statutory duty to take care of waste is owed to the society at large, breach of the duty of care under Section 34 is a criminal offence.

Sections 35-44 of the EPA provide for a comprehensive waste management licensing system. The Environment Agency has been vested with very broad powers in this regard along with a general duty to monitor and supervise licensed activities to ensure that the activities authorised by the licence do not cause pollution of the environment or harm to human health or become seriously detrimental to the amenities of the locality. There is a right of appeal to the Secretary of State against the orders passed by the Environment Agency.

Where the conditions of a licence require the holder of the licence to carry out any works or do any other thing which he is not entitled to carry out or do without the consent or right granted by any other person, such other person, if he grants or joins in granting, is entitled to compensation to be paid by the holder of the licence. This provision for the payment of compensation to third parties was added by the Environment Act of 1995 which incorporated Section 35A to this effect. Moreover, if controlled waste is deposited in or on any land in contravention of Section 33(1), the authority may, under Section 59 of the EPA, require the occupier to remove the waste from the land and/or take steps to eliminate or reduce the consequences of the deposit of waste.

Therefore, Part-II of the EPA, 1990 which deals with waste management in U.K. is an example of a command and control regulatory regime. It requires

those persons (usually companies) who engage in waste management operations to obtain a waste management licence. The Environment Agency has significant administrative powers to ensure licence holders' compliance with the terms and conditions of their waste management licences. The Agency is also responsible for 'policing' the duty of care. These powers are important because they enable the Environment Agency to retain control over the enforcement process and help in creating a 'cradle-to-grave' system of control. Besides, Section 71 of the EPA empowers the Environment Agency to serve a request on any person in order to obtain information which may be relevant for the performance of its statutory responsibilities. Failure to provide such information or knowingly providing false information is a criminal offence. The maximum penalty on summary conviction in the Magistrate's Court for the breach of Section 71 is a £5,000 fine and if the matter is committed to the Crown Court, the maximum penalty is an unlimited fine and/or a sentence of two years. The above stated liability and compensation regime represents an integrated response to the problems associated with the high level of waste production in an industrialised society.

7.4.2 Contaminated Land

It was estimated that in 1993 there were between 50,000 and 100,000 potentially contaminated sites in the U.K (Parliamentary Office of Science and Technology Report, 'Contaminated Land'). The Environment Agency has estimated that there may be some 300,000 hectares of land in the U.K. affected by contamination. The contamination of land may be due to a variety of commercial and industrial sources either as a result of accidents or through the

96. MAURICE SUNKIN, DAVID MONG, ROBERT WIGHT, SOURCEBOOK ON ENVIRONMENTAL LAW 480 (2d ed. 2001)
activities like landfilling. Contaminated sites have a number of potentially harmful substances which may be solids, in solution, liquids or gases. Substances such as heavy metals, e.g. cadmium, lead and copper; inorganic compounds, e.g. asbestos and sulphate; organic compounds, e.g. PCBs, dioxins and chlorinated hydrocarbons; and gases, e.g. methane, are some of the common contaminants. Inhibition of plant growth; contamination of surface water and ground water; human ingestion, inhalation or skin contact with the contaminants; and fire and explosions are some of the hazards associated with the contaminated land.

Part IIA of the EPA, 1990 which was inserted by Section 57 of the Environment Act, 1995 contains important provisions on contaminated land. Section 57 of the Environment Act, 1995 has inserted 28 new Sections after Section 78 of the EPA, 1990. There is a statutory definition of 'contaminated land' along with regulatory procedures for its control. Besides, the Contaminated Land (England) Regulations, 200097 deal with various procedural details, remediation notices and appeals. The basic policy of the U.K. Government regarding contaminated land may be summarised as under:98

- To identify and remove unacceptable risks to human health and the environment.
- To seek to bring damaged land back to beneficial use. And
- To seek to ensure that the cost burdens are proportionate, manageable and economically sustainable.

98. supra note 96.
'Contaminated land' is defined as "any land which appears to the local authority in whose area it is situated to be in such a condition, by reason of substances in, or under the land, that -

a) significant harm is being caused or there is a significant possibility of such harm being caused, or

b) pollution of controlled waters is being, or is likely to be, caused" 99

'Harm' is defined as "harm to the health of living organisms or other interference with the ecological systems of which they form part and, in the case of man, includes harm to his property" 100

The new regime in U K contains a series of provisions to address the issue from identification of contaminated land to securing its remediation. In this process, the local authorities, Environment Agency and the Secretary of State play their respective and important roles. Where the land is designated as a 'special site', 101 the enforcing authority is the Environment Agency rather than the local authority. Where land has been designated as a special site or as contaminated land, the enforcing authority has to serve on the 'appropriate person' a 'remediation notice' specifying what is to be done by way of remediation and within what period. 102 Remediation notice is the main tool for securing assessment and clean-up of the site. Failure to comply with the remediation notice, without reasonable excuse, is an offence punishable on summary conviction by a maximum fine of £5,000 and a further fine of £500 per day if the failure continues after conviction. Where the contaminated land in

99 Section 78A(2)
100 Section 78A(4)
101 For definition of a 'special site', see Section 78A(3)
102 Section 78E(1)
question is ‘industrial, trade or business premises’, the fines are £20,000 and £2000 respectively. The remediation work may be carried out by the enforcement authorities themselves under certain circumstances and costs may be recovered from the polluter. Thus, the liability regime in U K relating to contaminated land implements the ‘polluter-pays’ principle.

7.4.3 Hazardous Substances

The regulation of hazardous substances in U K was initially considered as part of the town and country planning code. However, subsequently the basic difference between land use planning and control of hazardous substances was realised and the Planning (Hazardous Substances) Act, 1990 (hereinafter called ‘HSA’) was enacted which came into force on 1st June, 1992. It lays down a system of control and enforcement over the keeping and use of potentially dangerous materials. While discussing the control of hazardous substances, an obvious question which arises is ‘what is a hazardous substance’? HSA is silent on this and for an answer one has to see Schedule 1 of the Planning (Hazardous Substances) Regulations, 1992 made by the Secretary of State under Section 40 of the HSA. The Schedule lists seventy one substances which are to be treated as hazardous. These entries are extremely technical and require specific scientific knowledge for comprehension. However, for our purposes, the substances listed in Schedule 1 may be broadly classified into three categories, namely, toxic, highly reactive and explosive, and flammable. In fact the substances listed are those which have a tendency to poison, burn or blow up.

103 See Section 78M
104 See Sections 78N & 78P
105 See Housing and Planning Act, 1986
106 SI NO 656
those who come into contact with them. The quality of each substance which renders it liable to control under the HSA is specified against each.\textsuperscript{107}

The central theme of control under the HSA is that consent from the concerned hazardous substances authority is needed where a hazardous substance exceeding the amounts prescribed under the Hazardous Substances Regulations is present on land.\textsuperscript{108} Keeping of hazardous substances on land without consent is a criminal offence, punishable on summary conviction by a fine upto £20,000 and by an unlimited fine on conviction on indictment.\textsuperscript{109} Thus, broadly speaking, using or keeping hazardous substances in breach of the regulatory system laid down by the HSA is a criminal offence. A person may commit an offence under the following three situations:

1) If the hazardous substance exceeding the quantity prescribed by the Regulations is present on land and there is no consent at all.

2) If the hazardous substance exceeding the maximum quantity permitted by the consent order is present on land. And

3) If he knowingly commits a breach of condition attached to the consent. If he can show that he did not know, and had no reason to believe, that there had been a breach of a condition, this will be a defence.\textsuperscript{110}

In addition and as an alternative to criminal prosecution for contravention of hazardous substances control, the HSA gives the hazardous substances authority a power to serve on the person a 'contravention notice' alleging that the control has been contravened and requiring such steps as it considers

\begin{flushleft}
\textsuperscript{107} Id. Schedule 1 Col. 2.  \\
\textsuperscript{108} Section 4(1).  \\
\textsuperscript{109} Section 23(1), (4).  \\
\textsuperscript{110} Section 23(2), (3).
\end{flushleft}
appropriate to remedy the contravention, in whole or in part. The notice is to be served only if the authority considers it expedient to do so.\textsuperscript{111} The authority may also itself enter on the land, take steps required by the notice to remedy the contravention, and recover costs from the polluter. Obstructing an authorised person working to secure compliance with the notice is a criminal offence and the expenses incurred may be made a charge on the land.\textsuperscript{112} Moreover, the authority has power to obtain injunction if it considers it necessary or expedient for any actual or apprehended contravention of hazardous substances control. Both the High Court and any County Court have power to grant injunctions in such cases and they may be granted even against those persons whose identity is unknown.\textsuperscript{113} Therefore, the regime confers on the authorities enormous powers in order to prevent the breach of law regulating hazardous substances.

7.4.4 \textit{Genetically Modified Organisms}

Genetic engineering and modification of genes are the techniques used for the purpose of altering or improving the genetic characteristics of plants and animals. These improved gene combinations require 'artificial techniques'. They can not be achieved by 'traditional breeding techniques' or other natural methods. Genetically Modified Organisms (GMOs) have been used for a variety of purposes, for example, to breed pest resistant plants and short-stemmed cereals, control of oil spills, water purification and degrading chemicals in toxic waste. However, GMOs raise important issues about the protection of human health and the environment since they are capable of

\begin{footnotesize}
\begin{enumerate}
\item[111.] See Section 24.
\item[112.] See Hazardous Substances Regulations, Schedule 4, Part 5.
\item[113.] Section 26AA.
\end{enumerate}
\end{footnotesize}
producing diseases and other harmful effects if they escape or fall into the wrong hands. Therefore, their creation, keeping, transport, sale or release into the environment have become a subject of legal control.

Part VI of the EPA, 1990 provides a detailed statutory framework aimed at preventing or minimising the damage to the environment which may arise from the escape or deliberate release of GMOs. It should be considered as an important and comprehensive regulatory code on GMOs, a rapidly developing area of science. A person releases an organism if he causes or permits it to cease to be under his control. The organism escapes if it ceases to be under the control of the person without his causing or permitting the release.114

GMO has been defined as ‘any acellular, unicellular, or multicellular entity other than humans or human embryos, and includes any article or substance consisting of or including biological matter’. The ‘biological matter’ includes tissue, cells, genes, or other genetic material of any kind, which is capable of replication or transferring genetic material. An organism is genetically modified for the purposes of the EPA if any of its genes are modified by an artificial technique prescribed by the Secretary of State, or inherited or otherwise derived through any number of replications.115 The Secretary of State has prescribed several techniques for this purpose and they are set out in Regulation 3 of the Genetically Modified Organisms (Deliberate Release) Regulations, 1992.116

114. Section 107(10).
115. See Section 106.
116. SI No. 3280.
Any person who imports, acquires, releases, or markets any GMO must first carry out an assessment of the risks of damage to the environment inherent in the nature of the organism or in the way in which he proposes to deal with it. He must notify the Secretary of State of his intentions with respect to the GMO and provide such information as may be prescribed.\textsuperscript{117} There is a general duty to take reasonable steps to identify the risks of damage to the environment as a result of the importation, acquisition or release of GMOs.\textsuperscript{118} The Secretary of State is empowered to serve ‘prohibition notices’ where he has reason to believe that the import, acquisition, release, marketing, or keeping of any GMO involves a risk of damage to the environment. The notice may require the person to dispose of the GMO in question as quickly and safely as practicable, or to deal with it in the way specified in the notice.\textsuperscript{119}

For the import, acquisition, release or marketing of any GMO, the consent of the Secretary of State is needed with a heavy burden on the applicant to provide all the required information.\textsuperscript{120} Every consent includes an implied condition that the holder shall take all reasonable steps to keep himself informed about the scientific progress, researches and new techniques in the field designed to minimise the risks of damage to the environment. The principle of BATNEEC applies, namely that the GMOs must be kept using the best available techniques not entailing excessive cost.\textsuperscript{121}

\begin{itemize}
\item \textsuperscript{117} Section 108.
\item \textsuperscript{118} Section 109.
\item \textsuperscript{119} Section 110.
\item \textsuperscript{120} See Section 111.
\item \textsuperscript{121} See Section 112.
\end{itemize}
The Secretary of State has power to appoint qualified persons to act as inspectors for the purpose of implementing Part VI of the EPA. The inspectors have powers to enter and inspect any premises, seize and retain any documents and carry out the tests of any equipments. The Secretary of State, who acts on the advice of and in concert with the inspectors, may give written notice requiring any person, whether he is the holder of a consent or not, and who appears to be involved in importing, acquiring, keeping, releasing, or marketing of GMOs, to furnish required information about any aspect of those activities.122

Failure to comply with the requirements of Part VI of the EPA is a criminal offence. The Act distinguishes between more serious category of offences, punishable on summary conviction with a fine of upto £20,000 or six months imprisonment, or both (or an unlimited fine and five years imprisonment on conviction on indictment), and the less serious, punishable on summary conviction with the statutory maximum fine or six months imprisonment (or an unlimited fine and two years imprisonment on conviction on indictment). The more serious offences are those of using or otherwise dealing with GMOs without consent or in breach of the conditions of a consent; failure to carry out risk assessments and to use BATNEEC, and contravention of a prohibition notice.123 The courts have been given a rather unusual power in case of a person convicted of an offence connected with risk assessment, a consent or lack of it, or a prohibition notice. The Court may order such a person to take steps to remedy the consequences of the act or omission leading to the conviction. This will be in addition to the power to fine or imprison. The

122. Section 115.
123. See Sections 118 & 119.
Secretary of State may also himself make arrangements for the remediation work and recover the costs from the convicted person.\textsuperscript{124}

Therefore, the provisions under the EPA provide an effective legal regime to ensure that GMOs imported, acquired or kept pose no risk to human health or the environment. The onus lies on those keeping the GMOs under their control to provide safe working practices to prevent environmental damage. The Secretary of State has wide powers to ensure compliance.

7.5 U.S. Model of Liability and Compensation

7.5.1 Waste Management

More than six billion tons of agricultural, commercial, industrial and domestic wastes are produced in the United States each year which pose health or environmental problems.\textsuperscript{125} Environmental officials recognised that merely shifting pollutants from one medium to another and the approaches like 'out of sight, out of mind' present a serious threat to public health and the environment. U.S. Congress eventually responded to this concern and enacted laws requiring 'cradle-to-grave' regulation of hazardous waste and imposing strict liability on parties responsible for releases of hazardous substances. Two federal statutes - the Resource Conservation and Recovery Act, 1976 (RCRA) also known as Solid Waste Disposal Act and the Comprehensive Environmental Response, Compensation, and Liability Act, 1980 (CERCLA) also known as the Superfund Legislation - provide a comprehensive regime for the management of hazardous substances. RCRA provides for cradle-to-grave

\textsuperscript{124} Sections 120 & 121.
regulation of hazardous waste, while CERCLA imposes strict liability for the clean up of releases of hazardous substances. RCRA employs a regulatory approach, while CERCLA is founded on strict liability approach. These different approaches can be used to prevent and to remediate environmental contamination and in this sense both the statutes can be said to be complementary to each other.

RCRA was substantially revised in 1984 by the Hazardous and Solid Waste Amendments (HSWA) and regulatory powers of U.S. Environmental Protection Agency (EPA) were sufficiently strengthened so that the fundamental objectives of RCRA could be achieved. The basic aim of HSWA was to restrict the disposal of hazardous wastes on land. CERCLA was substantially amended in 1986 by the Superfund Amendments and Reauthorization Act (SARA). SARA attempted to address the shortcomings of CERCLA. Its significant provisions include the establishment of detailed clean up standards (Section 121(d)), provisions to expand the involvement of states and citizen groups in the decision making process (Sections 121(f) and 117), new settlement procedures (Section 122) and the establishment of mandatory schedules for federal facility compliance (Section 120). Under Section 121(b) of SARA, the EPA must choose a remedial plan that permanently and significantly reduces the volume, toxicity or mobility of hazardous substances.

7.5.1.1 Resource Conservation and Recovery Act, 1976: RCRA, as the name suggests, is designed to encourage the recovery of useful materials from wastes through processes like recycling and reuse and thereby minimising the amount of waste generated, as well as to ensure proper management of hazardous
waste. Reduction or elimination of the generation of hazardous waste as expeditiously as possible ‘wherever feasible’ and management of waste that is nevertheless generated in a manner that minimises threats to health and the environment have been declared as a national policy. Hazardous solid wastes and non-hazardous solid wastes have been distinguished for the purposes of regulation. Subtitle C of the RCRA covers hazardous waste while Subtitle D addresses non-hazardous solid wastes. The responsibility for controlling the management of non-hazardous solid wastes is largely the domain of state and local governments.

‘Solid waste’ includes ‘any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid or contained gaseous material, resulting from industrial, commercial, mining, and agricultural operations, and from community activities.’ The definition excludes nuclear and its by-product material as defined in the Atomic Energy Act of 1954. ‘Hazardous waste’ is defined as ‘a solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may --

A) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or

126. Section 1003(a) (4), (6).
127. Section 1003(b).
128. For EPA’s revised Subtitle D criteria, see Section 4010(C). ‘Non-hazardous solid wastes’ include mining waste, garbage generated by households, non-hazardous industrial waste, and waste from small generators of hazardous waste.
129. Section 1003(27).
B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed".\(^{130}\)

Section 3001 of the RCRA requires EPA to develop criteria for determining what is a hazardous waste 'taking into account toxicity, persistence, and degradability in nature, potential for accumulation in tissue, and other related factors such as flammability, corrosiveness, and other hazardous characteristics' and to list wastes determined to be hazardous. The 'mixture rule' and the 'derived-from' rule apply to hazardous wastes. The mixture rule provides that any mixture of a listed waste with other solid waste would itself be considered to be a hazardous waste. The derived-from rule provides that waste derived from the treatment, storage, or disposal of a listed waste shall be deemed to be hazardous waste. Therefore, wastes specifically listed as hazardous, wastes that exhibit any of the four hazardous characteristics e.g. ignitability, corrosivity, reactivity, or toxicity, and wastes mixed with or derived from a listed waste are hazardous wastes for the purposes of RCRA.

The extensive and stringent regulatory controls prescribed by Subtitle C of RCRA apply to solid wastes which are hazardous. A detailed regulatory regime has been established for identifying and listing hazardous wastes, a cradle-to-grave tracking system, standards for generators and transporters of hazardous wastes and for operators of treatment, storage and disposal (TSD) facilities and a permit system to enforce the standards.\(^ {131}\) Under Section 7003, the Government can sue to enjoin activities causing 'imminent and substantial

\(^{130}\) Section 1004(5).
\(^{131}\) See Sections 3001 to 3005.
endangerment' and compel clean ups. To establish a *prima facie* case of liability, the Government must establish following three elements: 132

1) that the conditions at the site present an imminent and substantial endangerment,

2) that the endangerment stems from the handling, storage, treatment, transportation, or disposal of any solid or hazardous waste; and

3) that the defendant has contributed or is contributing to such handling, storage, treatment, transportation, or disposal.

In addition, in 1984, 'corrective action' requirements were imposed on all the TSD facilities. As per these requirements, all the facilities seeking to obtain or maintain permits under RCRA have to undertake corrective action to clean up any prior contamination at their sites. 133 Although RCRA, as amended, does not clearly guide as to how corrective action should be undertaken, EPA has developed the programme through various regulations and guidance documents. 134 The duty to take corrective action has been held to be a *quid pro quo* to obtaining a permit. 135 EPA has an authority to require corrective action by interim status facilities 136 also which choose to close rather than apply for a final RCRA permit. Failure to comply with the order of the EPA requiring corrective action by an interim status facility, may result in a civil penalty of upto $25,000 per day. 137

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133. See Sections 3004 (u), 3004 (v) and 3008 (h).
136. Interim status facilities are those which have been authorised to operate prior to the approval of a RCRA permit.
137. Section 3008(h).
RCRA imposes criminal liability on a person if he knowingly --

1. treats, stores, or disposes of hazardous waste without a permit, or transports a hazardous waste to a facility that does not have a permit, or
2. generates, handles, stores, treats, transports, or disposes of hazardous waste and knowingly destroys, alters or conceals required records; or
3. makes a false statement, misrepresentation, or material omission in any permit application, permit, manifest, record, report or label; or
4. transports hazardous waste without a manifest; or
5. exports hazardous waste without the consent of the receiving country or in violation of an international agreement.

The offences listed in (1) above are subject to a fine up to $50,000 per day of violation and / or up to five years in prison. The remaining offences carry a fine up to $50,000 per day of violation and / or up to two years in prison. A second conviction doubles the fine and prison sentence. If the violator knows that the violation places another person in imminent danger of death or serious bodily injury, he is subject to a fine up to $250,000 and / or imprisonment up to fifteen years. Organisations that knowingly endanger persons as a result of a violation are subject to fines up to $1,000,000.138

Section 7002 authorises citizens to bring suit against an EPA Administrator who fails to perform any duties made mandatory by the Act, against those who violate RCRA regulations or permits and also against any one who has contributed or is contributing to the past or present handling of any solid or

138. See Section 3008.
hazardous waste that may present an imminent and substantial endangerment to health or environment.

In a nutshell, RCRA governs the generation, treatment, disposal, storage and transport of solid and hazardous waste. It is designed to prevent improper disposal of hazardous wastes. The fundamental object is to prevent future environmental harms through the expedient remediation of contaminated land. It provides a ‘cradle-to-grave’ system for the management of hazardous wastes. The stringent provisions under Subtitle C and ‘corrective action’ requirements may be effectively used to clean up any contamination. The government officials as well as citizens can bring action against violators. Thus, the fundamental concepts of responsibility and accountability have been incorporated and it is hoped that RCRA will continue to prevent pollution and ensure prompt remediation of contaminated property.

7.5.1.2 Comprehensive Environmental Response, Compensation and Liability Act, 1980: The consequences of decades of poor waste management practices in the U.S. became apparent with the incidents like the Love Canal disaster. Carcinogenic chemicals improperly disposed of decades earlier began to ooze out of the ground and into the homes of residents of the site, known as Love Canal. A school and 100 homes were built on the site. The oozing resulted in adverse health effects ranging from headaches to birth defects in the area. Ultimately, 1000 families were relocated and homes along the canal were demolished.

Love Canal became a national media event and public outcry pushed U.S. Congress, in 1980, to enact the ‘most radical environmental statute in
American history. This statute i.e. Comprehensive Environmental Response, Compensation and Liability Act (hereinafter called 'CERCLA' or 'the Act') is designed to remedy the problems created by years of unregulated disposal of hazardous substances, to impose strict liability on all those involved in the 'releases' of such substances and to ensure that such releases are cleaned up. The U.S. Congress passed CERCLA 'to combat the increasingly serious problem of hazardous substance releases'. Every one who is potentially responsible for hazardous waste contamination may be forced to contribute to the costs of clean up. CERCLA authorises EPA to use Superfund resources to fund the clean up of hazardous waste sites and spills. The EPA can then sue any responsible party it can locate for reimbursement of the clean up costs, thus reserving use of the Superfund for situations when sites have been abandoned, responsible parties can not be located, or private resources of the parties are inadequate.

The potentially responsible parties (PRPs) who are subject to clean up liability are listed in Section 107(a) of the CERCLA and include:

- the current owners and operators of facilities where hazardous substances are released or threatened to be released;

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140. For broad definition of 'hazardous substance', see Section 101(14) of the CERCLA which includes hazardous wastes subject to regulation under Subtitle C of RCRA.
141. For definition of 'release' see Section 101(22) of CERCLA.
144. The Superfund is the $1.6 billion Hazardous Substance Response Trust Fund which was established by the Congress to provide financial aid in the clean up of hazardous waste sites. By the 1986 Amendments (SARA), the size of the Fund has been expanded to $8.5 billion.
145. Section 111.
• the persons who owned or operated a facility at the time at which such hazardous substances were disposed of;
• persons who arranged for disposal, treatment, or transport of such substances; and
• persons who transported such substances for their storage, treatment or disposal.

Section 107(a) of the Act establishes a strict liability scheme. The PRPs are liable for:

a) all costs of removal or remedial action incurred by the federal government not inconsistent with the National Contingency Plan (NCP);  
b) any other necessary costs of response incurred by any person consistent with the NCP;  
c) damages for injury to natural resources; and  
d) costs of health assessments.

CERCLA imposes civil penalties, three fold damages and criminal penalties. Section 109 of the Act imposes civil penalties which may range from $25,000 to $75,000 per day. Section 107(c)(3) provides that if any person who is liable for a release or threat of release of a hazardous substance fails, without sufficient cause, to properly provide removal or remedial action as required by

147. supra note 142. See also Nusad, Inc. v. William E. Hooper & Sons Co., 966 F. 2d 837, 841 (4th Cir. 1992); Levin Metals Corp. v. Par-Richmond Terminal Co., 799 F. 2d 1312, 1316 (9th Cir. 1986); A&W Smelter & Refiners, Inc. v. Clinton, 146 F. 3d 1107 (9th Cir. 1998); Carson Harbor Village Ltd. v. Unocal Corp., 227 F. 3d 1196 (9th Cir 2000).

148. NCP is prepared under Section 105 of CERCLA to provide comprehensive procedures for dealing with hazardous substance releases.
the EPA pursuant to CERCLA Section 104\textsuperscript{149} or Section 106,\textsuperscript{150} such person may be liable to the United States for punitive damages in an amount at least equal to, and not more than three times, the amount of any costs incurred by the Fund as a result of such failure to take proper action. Besides, Section 103 of CERCLA requires responsible persons to properly notify the EPA of a release and the existence of hazardous substance sites. If 'any person in charge' fails to report a release of a hazardous substance to the National Response Center, he can be punished by a fine of upto $250,000 and imprisonment for upto three years.\textsuperscript{151}

CERCLA imposes strict, joint, and several liability on the responsible parties. Strict liability relieves the Government of the obligation to prove that hazardous substances were released as a result of negligence or that the defendant's conduct was intentional and unreasonable. It gives the Government a real chance of recovering response costs and ensures that those who engage in activities that inevitably produce some environmental damage would bear the costs of such damage.\textsuperscript{152} Under Common Law rules, when two or more persons act independently to cause a single harm for which there is a reasonable basis of apportionment according to the contribution of each, each is held liable only for the portion of harm that he causes. When such persons cause a single and indivisible harm, however, they are held liable jointly and severally for the

\textsuperscript{149} Section 104 authorises the EPA to undertake removals or remedial action consistent with the NCP to respond to actual or potential releases of hazardous substances.

\textsuperscript{150} Section 106 authorises issuance of administrative orders requiring the abatement of actual or potential releases that may create imminent and substantial endangerment to health, welfare, or the environment.

\textsuperscript{151} Section 103(b).

\textsuperscript{152} See United States v. Chapman, 146 F. 3d 1166 (9th Cir. 1998).
entire harm. In *United States v Monsanto Co.*, the Court held that these principles, as reflected in the Restatement (Second) of Torts, Section 433A (1965), represent the correct and uniform federal rules applicable to CERCLA cases. Where the conduct of two or more persons liable under CERCLA has combined to violate the statute, and one or more of the defendants seeks to limit his liability on the ground that the entire harm is capable of apportionment, the burden of proof as to apportionment is upon each defendant. When the environmental harm was 'indivisible', all the defendants were jointly and severally liable for the Government's response costs. Thus, the courts have continued to impose joint and several liability on a regular basis reasoning that where all of the contributing causes can not fairly be traced, Congress intended for those proven at least partially culpable to bear the cost of the uncertainty.

Therefore, CERCLA is one of the chief means of controlling and remedying the problems associated with hazardous substances in the U.S. The Act imposes liability if a hazardous substance is released, or threatened to be released, such release or threat has caused some one to incur response costs, and the party from whom the costs are to be recovered falls within one of the four categories of PRPs. Response costs may be incurred by a private party or the federal government. Once the Government or a private party has spent money to clean up the hazardous substance problems caused by a PRP, CERCLA provides a mechanism to recover the response costs. Liability under the Act is strict, joint,
and several. Although the Original Act of 1980 did not contain any reference to joint and several liability, courts soon interpreted the Act as providing strict, joint, and several liability. The fundamental object of this type of liability scheme is to ensure that parties handling hazardous substances adopt proper disposal practices or otherwise bear the costs of clean up. Since the cost of clean up is far greater than the cost of proper disposal, safer disposal of hazardous substances has been encouraged.

7.5.2 Control of Toxic Substances

Besides the above stated liability regime for the proper management and control of hazardous substances, potentially toxic substances have also been extensively and specifically regulated in the U.S. ‘Toxic substances’ may be loosely defined as ‘substances capable of causing adverse human health or environmental effects under anticipated conditions of exposure’. The term ‘toxic’ is applied on the basis of the ability of a substance to cause serious adverse health and environmental effects at low levels of exposure. The toxic effects of chemicals on human health may range from irritation and skin rashes to carcinogenesis and death.

Concerns over the unknown health effects of toxic substances resulted in the enactment of many federal laws which are listed in the following table.

### Federal Laws Related to Exposure to Toxic Substances*

<table>
<thead>
<tr>
<th>Legislation</th>
<th>Area of Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food, Drug and Cosmetic Act</td>
<td>Food, drugs, food additives, color additives, new drugs, animal and feed additives, and medical devices.</td>
</tr>
<tr>
<td>Federal Insecticide, Fungicide and Rodenticide Act</td>
<td>Pesticides.</td>
</tr>
<tr>
<td>Dangerous Cargo Act</td>
<td>Water shipment of toxic materials.</td>
</tr>
<tr>
<td>Atomic Energy Act</td>
<td>Radioactive substances.</td>
</tr>
<tr>
<td>Federal Hazardous Substances Act</td>
<td>Toxic household products.</td>
</tr>
<tr>
<td>Federal Meat Inspection Act</td>
<td>Food, feed, color additives, and pesticides residues</td>
</tr>
<tr>
<td>Poultry Products Inspection Act</td>
<td></td>
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<tr>
<td>Egg Products Inspection Act</td>
<td></td>
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<tr>
<td>Occupational Safety and Health Act</td>
<td>Workplace toxic chemicals.</td>
</tr>
<tr>
<td>Poison Prevention Packaging Act</td>
<td>Packaging of hazardous household products.</td>
</tr>
<tr>
<td>Clean Air Act</td>
<td>Air pollutants.</td>
</tr>
<tr>
<td>Clean Water Act</td>
<td>Water pollutants.</td>
</tr>
<tr>
<td>Marine Protection, Research, and Sanctuaries Act</td>
<td>Ocean dumping.</td>
</tr>
<tr>
<td>Consumer Product Safety Act</td>
<td>Hazardous consumer products</td>
</tr>
<tr>
<td>Lead-Based Paint Poison Prevention Act</td>
<td>Use of lead paint in federally assisted housing.</td>
</tr>
<tr>
<td>Safe Drinking Water Act</td>
<td>Drinking water contaminants</td>
</tr>
<tr>
<td>Resource Conservation and Recovery Act</td>
<td>Solid waste, including hazardous wastes.</td>
</tr>
<tr>
<td>Toxic Substances Control Act</td>
<td>Hazardous chemicals not covered by other laws, including pre-market review.</td>
</tr>
<tr>
<td>Federal Mine Safety and Health Act</td>
<td>Toxic substances in coal and other mines.</td>
</tr>
<tr>
<td>Comprehensive Environmental Response, Compensation, and Liability Act</td>
<td>Hazardous substances, pollutants, and contaminants.</td>
</tr>
</tbody>
</table>

* Dates of enactment and amendment omitted.

*Note: In the table, the Emergency Planning and Community Right-to-Know Act (EPCRA) may also be added. EPCRA was enacted by the U.S. Congress in 1986 in response to Bhopal disaster in India. The Act establishes a comprehensive regime for emergency planning and the reporting of chemical releases.*
It is not feasible to cover all the laws listed above. However, the Toxic Substances Control Act of 1976 (TSCA) deserves a brief mention since it is considered to be the legal basis for chemical strategy in the U.S.\textsuperscript{159} TSCA grants EPA broad powers to promulgate and enforce regulations specifying testing, reporting, and record keeping requirements for manufacturers and processors of chemical substances. EPA also has the power to restrict, regulate and prohibit the manufacture, handling, processing, and distribution of chemical substances that present an unreasonable risk of injury to human health or the environment.\textsuperscript{160} It is unlawful for any person to fail to comply with the provisions of TSCA or any of the EPA's regulations, including reporting and record keeping requirements. The use of any chemical substance or mixture for commercial purposes has also been forbidden if there is a reason to know that the substance was manufactured, processed, or distributed in violation of any of the conditions imposed by the EPA.\textsuperscript{161} The EPA can bring an action in a federal Court for specific enforcement and for seizure of chemicals manufactured, processed, or distributed in violation of TSCA. The primary tool for enforcement is the assessment of administrative penalties under Section 16 of the Act. Citizens can also bring action against any person violating the Act or against EPA Administrator to compel him to perform his duties under TSCA.\textsuperscript{162} A penalty of $25,000 can be imposed for each violation and each day counts as a separate violation.

\textsuperscript{160} Sections 3-6.
\textsuperscript{161} Section 15.
\textsuperscript{162} Section 20.
The assessment of administrative penalty by the EPA is a mandatory prerequisite under Section 16(a) of TSCA to a penalty action in the federal Court. In this first mandatory stage, EPA has wide discretion in assessing the amount of the penalties and enforcing payment of the penalty. The nature, circumstances, extent, and gravity of the violation; the violator's ability to pay; and the violator's prior compliance record are some of the factors which may be taken into account in assessing the penalty. EPA's administrative action begins by filing an administrative complaint before an administrative law judge (ALJ) who assesses the penalty on behalf of EPA by issuing an order. The EPA or the violator can prefer an appeal against the order to the Environmental Appeals Board. If the alleged violator still feels that he has not committed a violation or that the penalty is excessive, he can contest the EPA's action in the U.S. Court of Appeals. The assessed penalty becomes final if the alleged violator chooses not to appeal or when the Court of Appeal delivers the final judgment. Thereafter, the violator must pay the penalty without any delay otherwise interest begins to accumulate. If he fails to pay the penalty, the Attorney General would file an action in the district Court on behalf of EPA to recover the assessed amount plus accumulated interest. At this stage, the Court can not review the validity, amount, or appropriateness of the penalty and its only function is to implement the EPA's decision.

Therefore, TSCA launches a comprehensive programme to anticipate and forestall injury to health and the environment from activities involving toxic chemical substances. Congress structured the Act to fill 'conspicuous gaps' in the protection afforded by preexisting 'fragmented and inadequate' statutes, ...
and committed administration of the Act to EPA. The assessment proceeding by the EPA which seeks to impose civil penalties is a prerequisite to, and thus a part of, the measures for the enforcement of a civil penalty. Immediately upon the violation of TSCA, EPA may institute the proceeding to have the penalty imposed. Polychlorinated biphenols (PCBs) and asbestos have been extensively regulated under TSCA. PCB's use is heavily restricted because PCBs have been thought to be highly toxic and their release into the environment is typically difficult and expensive to clean up.

7.6 Statutory Liability and Compensation Regime in India

Articles 21, 48A and 51A(g) as well as various entries in the three lists of the Constitution of India constitute the kernel of Indian legal system in respect of environment. The judicial enthusiasm has further strengthened the constitutional mandate. Since hazardous substances have significant potential to disturb the environment and thereby cause severe damage to human health and other living creatures, the persons or institutions charged with their mishandling and mismanagement have to face legal consequences. They may be asked to compensate the victims and to reinstate the damaged environment. Besides their liability under the Constitution, civil and criminal liability may be imposed on them under different general and special statutes dealing with the subject in India. The civil liability can be enforced through legal proceedings by way of a traditional civil suit for damages under Section 9 of the Code of Civil Procedure, 1908 (C.P.C) or class actions under Order 1, Rule 8 of the C.P.C.

165. 3M Company (Minnesota Mining and Manufacturing) v. Browner, 17 F. 3d 1453 (D.C. Cir. 1994).
or a suit filed in the district Court for declaration and injunction under Section 91 of the C.P.C. Moreover, civil liability provisions have been specifically incorporated under certain statutes. For example, under the Offshore Areas Mineral (Development and Regulation) Act, 2002, the civil liability provision for contravention of general terms and conditions includes a mandatory minimum amount of five lakh rupees and which may extend to one crore rupees to be paid to the Central Government. For contravention of particular terms and conditions, an additional amount of not less than one lakh rupees and which may extend to ten lakh rupees has to be paid. However, the main thrust of the statutory liability regime in India appears to be on penal liability. This includes the payment of fines which may range from two hundred rupees to one crore rupees and sentence of imprisonment which may range from one month imprisonment to life imprisonment depending upon the trivial nature or gravity of the offence charged. In case of an offence involving 'special category explosive substance' under the Explosive Substances Act, 1908, even death penalty may be imposed. Besides, there are provisions for the imposition of mandatory minimum fine and imprisonment. The Indian judiciary has also tried to enforce the provisions relating to liability and compensation under these statutes in spirit.\(^{166}\) Many of these enactments establish an administrative set up also to enforce the provisions. Moreover, the Indian legal regime specifically incorporates 'precautionary principle' and 'polluter-pays principle' by declaring these principles as part of the law of the land. These principles have been recognised by the courts of the land as fundamental objectives of the governmental policy to prevent and control pollution caused by hazardous substances.

\(^{166}\) For detailed discussion of the relevant provisions relating to liability vis-a-vis judicial response, see supra chapters V & VI.
In India, the legislature has enacted three Acts, namely, the Water Act, Air Act and EPA to deal with the problems of water pollution, air pollution and environmental degradation in general respectively. These three special statutes along with the rules framed and notifications issued thereunder endeavour to protect and improve the environment. The rules and notifications issued under the enabling provisions of the EPA relating to hazardous waste, solid waste and hazardous chemicals are of far reaching importance. A comprehensive scrutiny of the provisions of these three statutes reveals that our environmental law operates on a deterrent theory of criminal justice administration. A person contravening the provisions of any of the three Acts may be prosecuted and punished with imprisonment and fine or both. For example, the Water Act was enacted with the purpose for the prevention and control of water pollution and maintaining and restoring of wholesomeness of the water. Major sources of pollution of our water resources are the industrial and community wastage which cause threat to the water courses rendering them unfit for human consumption. The very object of the Act is to ensure that the water which is a very essential natural resource available to the society is maintained in its purity, that some powerful, influential and greedy persons do not corner the same for themselves and do not cause pollution to the detriment of the society at large. It is for protecting the interest of the society and for ensuring the ecological preservation of nature that such enactments are made. When the industry flouts various provisions of the Act and conditions imposed thereunder only for its own benefit, such act can not be entertained at the cost of the

For restraining the person or industrial concern from causing water pollution, the Water Act provides for stiff penalties for violation of its provisions including mandatory minimum imprisonment and fines.

Likewise, a person violating the provisions of the Air Act may also be dealt with severely. For example, in *M.C. Mehta v. Union of India*, despite orders of the Court regarding closure / relocation and allotment of an alternative site, the respondent continued running his hot mix plant industry (a hazardous and noxious industry) in the city of Delhi. The Court observed that he has violated not only the Court’s orders but also the provisions of the Air Act. Finding him guilty of Contempt of Court, the apex Court held:

> The pollution of air is causing deleterious effect on the health of the entire society. We have also considered the larger interest of the society and orders passed by this Court are for the interest of the society at large. Liberty of an individual which is so dear to every citizen of this country must necessarily be balanced with his duties and obligations towards his fellow citizens. Every citizen of this country has freedom to breathe unpolluted air. In air pollution-related matter or in any matter relating to environmental hazard, if the orders of the highest Court are disobeyed as sought to be done in this case, the health of the entire society is at great risk. We are, therefore, convinced to send strong signal by imposing exemplary punishment so that like-minded people would not repeat and such recurrence is thwarted.

In this background, the Court sentenced the contemnor, a 53 years old industrialist, to one week simple imprisonment and directed him to deposit costs amounting to Rs. 1 lakh.

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170. *Id.* at 387-388.
In *Indian Council for Enviro-Legal Action case*,\(^\text{171}\) the Court, while referring to Sections 2(a), 3, 4 and 5 of the EPA, observed that these provisions empower the Central Government to take all measures and issue all such directions as are necessary or expedient for the purpose of protecting and improving the quality of the environment. The Court held:

...In the present case, the said powers will include giving directions for the removal of sludge, for undertaking remedial measures and also the power to impose the cost of remedial measures on the offending industry and utilise the amount so recovered for carrying out remedial measures. This Court can certainly give directions to the Central Government / its delegate to take all such measures, if in a given case this Court finds that such directions are warranted. We find that similar directions have been made in a recent decision of this Court in *Indian Council for Enviro-Legal Action case*, (1995) 3 SCC 77. That was also a writ petition filed under Article 32 of the Constitution. Following is the direction:

'It appears that the Pollution Control Board had identified as many as 22 industries responsible for the pollution caused by discharge of their effluents into Nakkavagu. They were responsible to compensate to farmers. It was the duty of the State Government to ensure that this amount was recovered from the industries and paid to the farmers'.

...Sections 3 and 4 of the EPA confer upon the Central Government the power to give directions of the above nature and to the above effect. Levy of costs required for carrying out remedial measures is implicit in Sections 3 and 4 which are couched in very wide and expansive language. Appropriate directions can be given by this Court to the Central Government to invoke and exercise those powers with such modulations as are called for in the facts and circumstances of this case.\(^\text{172}\)

The EPA, the Water Act and the Air Act have enough provisions applicable not only to new industries proposed to be established but also to the existing industries.\(^\text{173}\)

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\(^\text{171}\) *supra* note 9.

\(^\text{172}\) *Id.* at 243, 247.

\(^\text{173}\) *A.P. Pollution Control Board II v. Prof. M.V. Nayudu (Retd.)*, (2001) 2 SCC 62.
In India, the Court has started calculating environmental damages keeping in mind the factors such as the deterrent nature of the award. In *M.C. Mehta v. Kamal Nath*, the Span Motels Pvt. Ltd. was causing widespread pollution by various construction activities on the banks of River Beas (Himachal Pradesh) and by discharging untreated effluents into the river. The Court observed:

> The various laws in force to prevent, control pollution and protect environment and ecology provide for different categories of punishment in the nature of imposition of fine as well as imprisonment or either of them, depending upon the nature and extent of violation... Keeping in view all these and the very object underlying the imposition of imprisonment and fine under the relevant laws to be not only punish the individual concerned but also to serve as a deterrent to others to desist from indulging in such wrongs which we consider to be almost similar to the purpose and aim of awarding exemplary damages, it would be both in public interest as well as in the interests of justice to fix the quantum of exemplary damages payable by Span Motels Pvt. Ltd. at Rupees Ten lakhs only. This amount we are fixing keeping in view the undertaking given by them to bear a fair share of the project cost of ecological restoration which would be quite separate and apart from their liability for the exemplary damages.

Therefore, the statutory liability models available in India create a deterrence on persons / industries involved in causing pollution by hazardous substances. The emphasis has been on criminal liability with penal and deterring sanctions. However, keeping in view the fact that in a developing country like India the setting up of hazardous industries is unavoidable for the economic development of the nation, the appropriateness of this deterrent liability approach can be easily questioned. Industrialists will hesitate in establishing such industries which in turn may seriously jeopardise the economic progress. Moreover, the basic ingredient of criminal liability is the proof of *mens rea* or the guilty state.

of mind. The words such as knowingly, maliciously, wilfully etc. used in different statutes denote *mens rea*. This is very difficult to prove in hazardous substance litigation. The causal connection is extremely difficult to prove. In this scenario, any legal regime concerning hazardous substances needs to primarily focus on preventive approach to ensure sustainable development. The sanctioning mechanisms ought to primarily aim at preventing the harm. Industries may be exhorted to adopt safety measures and continuous monitoring of such measures is necessary. The environmental impact assessment procedure may be incorporated as a mandatory requirement. Deterrence is, of course, necessary but preventive approach is equally important.

Besides the above stated liability regime in India under the general and special central enactments, the Indian legislature has also enacted two special statutes, namely, the Public Liability Insurance Act, 1991 and the National Environment Tribunal Act, 1995 with the sole object of effective and expeditious disposal of cases arising out of accidents involving 'hazardous substances'. Both the Acts establish strict liability regime in case of death, injury or damage caused due to accidents occurring while handling hazardous substances. A brief discussion of the salient features of these two enactments vis-a-vis judicial response is necessary to determine how far the provisions contained therein are capable of meeting the challenges arising out of hazardous substances.

7.6.1 *The Public Liability Insurance Act, 1991*

The Public Liability Insurance Act\(^{175}\) (hereinafter to be referred to as ‘PLIA’) was enacted on 22nd January, 1991. The object of the Act is to ensure

\(^{175}\) Act No. 6 of 1991.
immediate relief to the persons affected by accidents involving handling of any 'hazardous substance'. Where an accident results in death or injury to any person or damage to property, the owner is liable to give such relief as is specified in the Schedule of the Act. The claimant is not required to prove wrongful act, neglect or default of any person.

Every owner handling any hazardous substance is required to take out one or more insurance policies to cover such situations. The policies are to be renewed from time to time till the handling of hazardous substances continues. Besides this, the owner should pay to the insurer an amount, not exceeding the sum equivalent to the amount of premium, to be credited to the Environmental Relief Fund established under the Act. In case the owner is Central or State Government, any corporation owned or controlled by them, or any local authority, they may be exempted from taking such insurance policies provided a fund has been established and is being maintained by them.

The procedure of preferring claims for relief has been laid down in the Act. The Collector under whose jurisdiction an accident occurs, should verify the

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176. “Accident” means an accident involving a fortuitous, or sudden or unintended occurrence while handling any hazardous substance resulting in continuous or intermittent or repeated exposure to death of, or injury to, any person or damage to any property but does not include an accident by reason only of war or radio-activity. [Section 2(a)]

177. “Handling”, in relation to any hazardous substance, means the manufacture, processing, treatment, package, storage, transportation by vehicle, use, collection, destruction, conversion, offering for sale, transfer or the like of such hazardous substance. [Section 2(c)].

178. “Hazardous substance” means any substance or preparation which is defined as hazardous substance under the Environment (Protection) Act, 1986, and exceeding such quantity as may be specified, by notification, by the Central Government [Section 2(d)].

179. “Owner” means a person who owns or has control over handling any hazardous substance. [See Section 2(g)].

180. Section 3.

181. Section 4.
occurrence and invite applications for claim for relief.\textsuperscript{182} The application has to be made in the prescribed form accompanied with prescribed documents and within five years of the occurrence. The application may be made by the injured person, owner of damaged property and in case of death, by all or any of the legal representatives of the deceased.\textsuperscript{183}

On receipt of an application, the Collector holds an inquiry and after giving the parties an opportunity of being heard may make an award determining the amount of relief to be deposited by the owner within thirty days. For the disposal of application for claim for relief, the Collector may adopt summary procedure and shall act as a Civil Court. Where the insurer or the owner fails to comply with the terms of the award, the amount is recoverable from them as arrears of land revenue or of public demand. The Act desires that a claim for relief in respect of death or injury should be disposed of within three months.\textsuperscript{184}

PLIA was amended in 1992 by Public Liability Insurance (Amendment) Act.\textsuperscript{185} A provision for the establishment of Environmental Relief Fund was incorporated.\textsuperscript{186} The Fund should be utilised as per the scheme specified by the Central Government.

In case of death or injury, the right to claim compensation under some other law is available but the amount of such compensation shall be reduced by the amount of relief paid under the Act.\textsuperscript{187}

\textsuperscript{182} Section 5.
\textsuperscript{183} Section 6.
\textsuperscript{184} Section 7.
\textsuperscript{185} Act No. 11 of 1992.
\textsuperscript{186} Section 7A.
\textsuperscript{187} Section 8.
Any person authorised by the Central Government may require any owner to furnish necessary information. He has a right to enter and search any place, premises or vehicle and may seize any hazardous substance, the handling of which amounts to contravention of the provisions of the Act. In order to prevent an accident, he may dispose of any hazardous substance and recover the cost of disposal from the owner.\textsuperscript{188}

\textit{In exercise of its powers and performance of its functions under the Act, the Central Government may issue directions to any owner, person, officer, authority or agency, including directions to prohibit or regulate the handling of any hazardous substance or to stop or regulate the supply of electricity, water or any other service.}\textsuperscript{189}

In case of contravention of any of the provisions of the Act, the Central Government or any person authorised by it, may make an application to a Court of Metropolitan Magistrate or a Judicial Magistrate of the first class for restraining the owner. The Court may make such order as it deems fit and the cost of implementation of any direction issued by the Court shall be recoverable from the owner as arrears of land revenue or of public demand.\textsuperscript{190}

For violation of Sections 4 and 12, a mandatory minimum punishment has been provided. The penalty is imprisonment for a term which shall not be less than one year and six months but which may extend to six years or fine which shall not be less than one lakh rupees or both. In case the offence is repeated, the punishment will be imprisonment for a term which shall not be less than two

\begin{itemize}
\item \textsuperscript{188} Sections 9-11.
\item \textsuperscript{189} Section 12.
\item \textsuperscript{190} Section 13.
\end{itemize}
years but which may extend to seven years and fine which shall not be less than one lakh rupees. 191

If an owner fails to furnish information as required or does not render all assistance to the person authorised by the Central Government in the performance of his duties, he shall be punished with imprisonment which may extend to three months or with fine which may extend to ten thousand rupees, or with both. 192

There are provisions under the Act laying down the penal liability of corporations 193 and the Head of Government Departments 194 with the usual exemption in favour of a person proving lack of knowledge or exercising all due diligence to prevent the commission of offence.

The Court can not take cognizance of any offence under the Act except on a complaint made by the Central Government or its authorised officer or any person who has given notice of not less than sixty days to the Central Government of his intention to make a complaint. 195

The Central Government can delegate its powers and functions under the Act except the power to make rules. 196 No suit or prosecution can lie against the Government or its authorised officer or agency for anything done in good faith. 197 The Act authorises the Central Government to constitute an Advisory

191. Section 14.
192. Section 15.
193. Section 16.
194. Section 17.
195. Section 18.
197. Section 20.
Committee to advise on matters relating to insurance policies, consisting of representatives of the Central Government, owners, insurers and experts of insurance or hazardous substances.\textsuperscript{198}

PLIA is till date the most important legislation on the subject of claims for accidents due to hazardous substances and is likely to be of great significance for business and industry in the years to come. It was enacted to provide for public liability insurance for providing immediate relief to the persons affected by accidents due to hazardous substances. The word 'insurance' in the title of the Act is not to be construed in the narrow sense of insurance by insurance companies; it includes the concept of liability without fault (strict liability). Section 3(2) of the Act places strict liability in cases of accidents due to 'hazardous substances', and it is not necessary for the claimant to plead that the death or injury was caused by a wrong or negligent act of any person. Section 4, which requires owners who handle hazardous substances to take out insurance policies, is for the protection of the owners, and it can not be said that if no insurance policy is taken out the owner will escape liability.\textsuperscript{199}

The advent of the industrial revolution, while conferring many benefits on mankind has also led to certain hazards which were not faced by the people living earlier e.g., the hazards of industrial accidents, pollution etc. Although many statutes were enacted in India for protection of workers in industries e.g. the Workmen's Compensation Act, 1923, Employee's State Insurance Act, 1948, etc. the remedy available to other members of the public for accidents

\textsuperscript{198} Section 21.
\textsuperscript{199} \textit{U.P. State Electricity Board v. District Magistrate, Dehradun,} AIR 1998 Allahabad 1.
due to hazardous substances was only to file a civil suit for damages, which apart from involving heavy expenditure in the form of Court fees, etc. takes years to decide. Realising this difficulty of the general public, the PLIA was enacted by Parliament for giving compensation to the persons (or their legal representatives) who suffer in accidents caused by hazardous substance. In India, while rapid industrialisation is absolutely essential for modernisation of the country, we need to avoid the evils caused by unplanned industrialisation e.g. air and water pollution, discharge of harmful chemicals, explosion etc. In the event of an industrial accident, prompt compensation must be paid to the victims. The 1991 Act is a significant step forward towards securing social justice to such victims.200

In U.P. State Electricity Board's case,201 the question before Allahabad High Court was whether electricity is a hazardous substance and the petitioners (parents and legal representatives of the deceased) can claim award of compensation under PLIA for the death of their son due to electric shock after coming into contact with a high tension wire which was hanging at a low height. M. Katju, J. held:

...There can hardly be any doubt that electricity is 'hazardous' since it can injure or even kill people if not properly handled. Hence, the main question is whether electricity is a 'substance'... In my opinion, electricity is clearly a substance, since electrons, which constitute electricity, are material particles having specific physico-chemical properties... Since electricity is both hazardous as well as a substance, in my opinion, it is clearly a 'hazardous substance'.
As regards the contention that since electricity is not mentioned in the notification of the Central Government issued under Section 2(d) of the 1991 Act, it does not come within the definition of 'hazardous substances' under the 1991 Act, Katju, J. observed:

...The 1991 Act is a beneficial legislation for a social objective and hence it should be given a liberal interpretation, and if two views are possible, the view in favour of the public should be preferred. According to the settled principles of interpretation, welfare or social legislation should be given a liberal and not a strict construction... Hence in my opinion 'hazardous substance' as defined in Section 2(d) of the 1991 Act is not to be confined to a substance specified in the notification issued by the Central Government, but it includes all substances which come under the definition of 'hazardous substance' under the Environment (Protection) Act, 1986....

The Court, therefore, held that since the deceased was a bachelor, the claimants, being his parents, are his heirs and hence their claim for the award of compensation is maintainable.

In M.P. State Electricity Board, Jabalpur v. Collector, Mandla,\(^{202}\) the husband of the claimant / respondent died due to electrocution when he came into contact with the electric wire. The Collector awarded a compensation of Rs. 25000 to her holding that the electricity was a hazardous substance as per PLIA.

The Electricity Board filed a writ petition in the M.P. High Court against the order of the Collector contending that the electricity is not a hazardous substance as the same has not been notified as such by the Central Government under Section 2(d) of the PLIA. The Court while relying on the decision of Allahabad High Court in U.P. State Electricity Board's case,\(^{203}\) held that when

\(^{202}\) AIR 2003 Madhya Pradesh 156.

\(^{203}\) supra note 199.
something is hazardous irrespective of quantity, it is not necessary for the Central Government to issue a notification. A thing which is known as intensely hazardous has to be treated as hazardous substance so as to effectuate the purposes for the enactment of the Act of 1991. Some article may not be hazardous in small quantity but electricity is not one of such article. Only those hazardous substances have to be notified which may be dangerous on exceeding a particular quantity and then it becomes necessary to specify the quantity. Since electricity, in any quantity, is hazardous, notification is not necessary and it has to be taken as hazardous substance within the meaning of Section 2(d) of the Act of 1991. Section 2(d) of the Act of 1991 does not have the effect of narrowing down the meaning of ‘hazardous substance’ as defined in Section 2(e) of the EPA. The Court further held:

Section 3(2) of the Act of 1991 speaks about the strict liability without fault in case of such accidents involving death due to hazardous substance and it is not necessary for the claimant to plead and establish that the death, injury or damage in respect of which the claim has been made was due to any wrongful act, neglect or default of any person. No policy was taken out by the Board. That will not affect the liability of the owner. The main aims and objects of the Board are to generate, transform and transmit the electricity and these are its activities. It can not escape from its liability by saying that no policy was taken by the Board. 204

Therefore, the rapid growth of hazardous industries, operations and processes in India with inherent risk of accidents led to the enactment of PLIA. The object of the Act is to provide immediate relief to the victims of such accidents. The owner of an installation handling hazardous substances has to compulsorily take out insurance policies to cover his liability under the Act which is strict. ‘Environmental Relief Fund’ has been created to supplement the insurance

204. supra note 202, at 161.
coverage. Non-compliance with the provisions of the Act may also result in penal consequences with mandatory minimum imprisonment and fine. However, after going through the provisions of PLIA, two questions necessarily arise, namely:

1. What is the relationship between this enactment and National Environment Tribunal Act, 1995 (NETA),\(^\text{205}\) which has a concurrent jurisdiction over the subject matter? Although it appears that a claim preferred under NETA will override the one made before the District Collector.

2. What is the actual operational ambit of Environmental Relief Fund? It appears that the purpose of relief is reimbursement of loss caused to person or property. Whether the money available under the Fund can be utilised for restoring the damage caused to the environment as a result of mishandling of hazardous substance?

It would be better if a clarification is issued on the above mentioned aspects.

7.6.2 National Environment Tribunal Act, 1995

...There are important differences between the quest for truth in the Court room and the quest for truth in the laboratory. Scientific conclusions are subject to perpetual revision. Law, on the other hand, must resolve disputes finally and quickly.\(^\text{206}\)

National Environment Tribunal Act\(^\text{207}\) (hereinafter to be referred to as NETA) came into force on 17th June, 1995. The object of the enactment as set out in the preamble is to provide for strict liability for damages arising out of any...

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205. Infra at 473.
accident occurring while handling any hazardous substance\textsuperscript{208} and to establish a National Environment Tribunal for effective and expeditious disposal of such cases, with a view to give relief and compensation for damages to persons, property and environment.

The need for the establishment of Environment Court was emphasised by the Supreme Court as early as in 1986 in \textit{Shri Ram Mills case}.\textsuperscript{209} While deciding this case, the Court was confronted with highly scientific and technical issues Although it delivered a bold and innovative judgment giving relief to the victims of oleum gas leakage but noticed that to decide a case based on environmental pollution and ecological destruction is a ‘difficult and by its very nature, unsatisfactory exercise’. The Court held:

\begin{quote}
We would in the circumstances urge upon the Government of India to set up an Ecological Sciences Research Group consisting of independent, professionally competent experts in different branches of science and technology, who would act as an information bank for the Court and the government departments... We would also suggest to the Government of India that since cases involving issues of environmental pollution, ecological destruction and conflicts over natural resources are increasingly coming up for adjudication and these cases involve assessment and evolution of scientific and technical data, it might be desirable to set up Environment Courts on the regional basis with one professional Judge and two experts drawn from the Ecological Sciences Research Group keeping in view the nature of the case and the expertise required for its adjudication. There would of course be a right of appeal to this Court from the decision of the Environment Court.
\end{quote}

In \textit{Indian Council for Enviro-Legal Action v. Union of India},\textsuperscript{210} the apex Court held:

\textsuperscript{208} “Hazardous substance” means any substance or preparation which is defined as hazardous substance in the EPA, 1986, and exceeding such quantity as specified by the Central Government under the PLIA, 1991. [Section 2(f)].
\textsuperscript{209} supra note 1.
\textsuperscript{210} supra note 9.
The suggestion for establishment of environment courts is a commendable one. The experience shows that the prosecutions launched in ordinary criminal courts under the provisions of the Water Act, Air Act and Environment Act never reach their conclusion either because of the workload in those courts or because there is no proper appreciation of the significance of the environment matters on the part of those in charge of conducting of those cases. Moreover, any orders passed by the authorities under Water and Air Acts and the Environment Act are immediately questioned by the industries in courts. Those proceedings take years and years to reach conclusion. Very often, interim orders are granted meanwhile which effectively disable the authorities from ensuring the implementation of their orders. All this points to the need for creating environment courts which alone should be empowered to deal with all matters, civil and criminal, relating to environment. These courts should be manned by legally trained persons/judicial officers and should be allowed to adopt summary procedures. This issue, no doubt, requires to be studied and examined in depth from all angles before taking any action.

Inspired by the recommendations of the Supreme Court, NETA was enacted by Parliament under Article 253 of the Constitution to give effect to the decisions taken at the United Nations Conference on Environment and Development held at Rio de Janeiro in June, 1992 in which India participated, calling upon the states to develop national laws regarding liability and compensation for the victims of pollution and other environmental damages. It was considered expedient to implement the decisions of the Conference so far as they relate to the protection of environment and payment of compensation for damage to persons, property and the environment while handling hazardous substances.

Where death or injury to any person or damage to any property has resulted from an accident, the owner is liable to pay compensation as per the heads specified in the Schedule, without the proof of wrongful act, neglect or default.

211. See Principle 13 of the Rio Declaration. As regards hazardous materials and activities, the relevant part of Principle 10 of the Declaration may also be quoted which reads - "...At the national level,... effective access to judicial and administrative proceedings, including redress and remedy, shall be provided".
of any person. Where damage is the combined effect of several activities, the liability is apportioned on an equitable basis.\(^2\)\(^1\)\(^2\)

An application for claim for compensation containing prescribed particulars, documents and fee\(^2\)\(^1\)\(^3\) may be made to the Tribunal within five years of the occurrence, by the person injured; owner of damaged property; in case of death by the legal representatives; agent duly authorised; any representative body or organisation; or the Central Government, State Government or a local authority. If the relief has already been received or an application is pending before the Collector under the provisions of the PLIA, no application can be made to the Tribunal.\(^2\)\(^1\)\(^4\)

The Tribunal may, after inquiry, either reject the application or after giving the parties an opportunity of being heard, make an award determining the amount of compensation to be paid. Although the Tribunal has the same powers as are vested in a Civil Court but is not bound by the procedure laid down under the Code of Civil Procedure, 1908 and should only be guided by the principles of natural justice.\(^2\)\(^1\)\(^5\) The Act requires that on an application, interim orders (injunction or stay) should not be made except in cases where money can not be adequate relief. Any interim order, if not vacated earlier, ceases to have effect on the expiry of a period of fourteen days.\(^2\)\(^1\)\(^6\)

The amount of compensation payable under the Act shall be reduced by the amount of relief or compensation paid under any other law.\(^2\)\(^1\)\(^7\)

\(^{212}\) Section 3.
\(^{213}\) Not exceeding one thousand rupees.
\(^{214}\) Section 4.
\(^{215}\) Section 5.
\(^{216}\) Section 6.
\(^{217}\) Section 7.
Where compensation is awarded by the Tribunal on the ground of any damage to environment, the amount shall be credited to the Environmental Relief Fund established under Section 7A of the PLIA. The award of the Tribunal is executable as a decree of a Civil Court and the Collector executes the award. If an owner fails to comply, the amount is recovered as arrears of land revenue or of public demand. An appeal shall lie only to the Supreme Court, within a period of ninety days, against the award or order of the Tribunal.

Whoever fails to comply with the order of the Tribunal, shall be punished with imprisonment for a term which may extend to three years, or with fine which may extend to ten lakh rupees, or with both.

There is corporate responsibility with the usual exemption in favour of a person proving lack of knowledge or exercising all due diligence to prevent the commission of such offence.

The proceedings before the Tribunal are judicial proceedings within the meaning of Sections 193, 219 and 228 of the Indian Penal Code, 1860 and office bearers are deemed to be public servants within the meaning of Section 21 of that Code. No suit, prosecution or other legal proceeding can lie against them for anything done in good faith.

218. Section 22.
219. Section 23.
220. Section 24.
221. Section 25.
222. Section 26.
223. Section 27.
224. Section 28.
225. Section 29.
The Central Government has been empowered to make rules for carrying out the purposes of the Act but every rule so made is to be laid before each House of Parliament for approval.226

However, the scope of NETA is restricted to giving relief and compensation 'for damages arising out of any accident occurring while handling any hazardous substance’. This falls substantially short of the recommendations of the Supreme Court to set up Environment Courts to deal with the increasing number of cases ‘involving issues of environmental pollution, ecological destruction and conflicts over natural resources’ and ‘to deal with all matters, civil and criminal, relating to environment’. There is a need for ‘a multi-faceted, multi-skilled body which would combine the services provided by existing courts, tribunals and inspectors in the environmental field. It should be a ‘one-stop shop’, which should lead to faster, cheaper and the more effective resolution of disputes in the environmental area. It would avoid increasing the load on already overburdened lay institutions by trying to compel them to resolve issues with which they are not designed to deal.227

The Act provides strict liability in case of death or injury to any person (other than a workman) resulting from an accident. It is hard to understand why 'workmen' have been excluded although they will be the first victims of an accident being present on the spot. Their cases are to be governed by the provisions of Workmen's Compensation Act, 1923. It is quite possible that claimants under NETA may get better monetary compensation than the

226. Section 31.
workmen directly involved. Moreover, the strict liability regime established under NETA is made inapplicable to corporate offences.

The Officials of the Tribunal are to be appointed from amongst the members of higher judiciary or central or state bureaucracy. It means that only retiring or retired Judges and officers of Indian Administrative Service may be appointed. There is no provision for recruitment of members from the Bar, academic institutions or from amongst the activists working in the field of environment.

Moreover, as pointed out by the apex Court:

... The Tribunal under the National Environment Tribunal Act, 1995, which has power to award compensation for death or injury to any person (other than workmen), under Section 10 consists of a Chairman who could be a Judge or retired Judge of the Supreme Court or High Court and a technical member. But Section 10(1)(b) read with Section 10(2)(b) or (c) permits a Secretary to the Government or the Additional Secretary who has been a Vice-Chairman for two years to be appointed as the Chairman. These are instances of grave inadequacies.\footnote{228}

The Court further pointed out:

The Land and Environment Court of New South Wales in Australia, established in 1980, could be the ideal. It is a superior court of record and is composed of four Judges and nine technical and conciliation assessors. Its jurisdiction combines appeal, judicial review and enforcement functions. Such a composition in our opinion is necessary and ideal in environmental matters.\footnote{229}

In \textit{A.P. Pollution Control Board II v. Prof. M.V. Nayudu (Retd.)},\footnote{230} the Court observed:

Inasmuch as most of the statutes dealing with environment are by Parliament, we would think that the Law Commission could

\footnote{228} A.P. Pollution Control Board's case, \textit{supra} note 29, at 722.\footnote{229} \textit{Id.} at 736.\footnote{230} \textit{supra} note 173, at 85.
kindly consider the question of review of the environmental laws and the need for constitution of Environmental Courts with experts in environmental law, in addition to judicial members, in the light of experience in other countries.

NETA does not contain any provision as to whether actions or claims already initiated in various courts of the country, can be transferred to the Tribunal. It also does not preclude public interest litigation launched under the writ jurisdiction of the High Courts and the Supreme Court. It means that the Indian judiciary, already burdened with heavy case load, has to still perform a 'difficult and by its very nature, unsatisfactory exercise'. Specialised judicial structure with the sole task of enforcing environmental laws in the country is still lacking even after the enactment of NETA.

7.7 Conclusion

In this chapter, we have reviewed the liability and compensation regime specially developed to meet the problems arising out of hazardous substances. The regime incorporates both 'preventive' and 'command and control' mechanisms. Still, large volumes of hazardous wastes are produced and vast majority of hazardous chemicals are being manufactured. The hazardous chemicals are being marketed without adequate evaluation of the hazards they pose. These substances, as pointed out, cause serious and irreversible degradation of the environment and harm to present and future generations. In this scenario, there is a need to strengthen the current network of liability and compensation and to provide for a comprehensive regime in such cases. This will inevitably include some of the best mechanisms evolved under different systems of law to meet the challenges posed by hazardous substances and processes. Specifically, the following suggestions may be offered:
1. The principle of absolute liability ought to be incorporated. The boundaries of traditional tort law may be relaxed in such cases so that tortuous liability can really become an effective supplement to current environmental regulation. Existing uncertainties arising due to the preponderance of evidence may be resolved in public’s favour.

2. There is a need to set up mechanisms to induce compliance with relevant international instruments and to regulate the consequences of their breach. In case, these instruments are not yet in force due to ratification problem, the required number of states should, on priority basis, ratify such instruments so as to bring them in force at an early date. Efforts need to be strengthened to encourage countries to ratify these instruments. The process of ratification be expedited by understanding the reasons of delay. The relevant international agreements already in force may be amended to specifically address the questions of liability.

3. The precautionary approach suits better as a guiding force behind decision making process. This may be overprotective in the interests of avoiding harm. The principle of reversal of burden of proof may be followed in case of an inherently and potentially hazardous activity.

4. In case precautionary approach fails, the polluter-pays principle may be applied to ensure restoration of the damaged environment and compensation to the victims. An ideal liability and compensation regime links itself with economic instruments, such as mandatory insurance coverage or the creation of funds, in order to effectively implement the polluter-pays principle.
5. The concept of 'duty of care' may be given statutory recognition. The evidence relating to breach of this duty in respect of hazardous substances may be made admissible in civil and criminal legal proceedings. This statutory duty should be distinct from ordinary duty of care in negligence cases, the breach of which must entail civil and penal consequences.

6. The administrative set up established under statutes needs strengthening to ensure that permitted hazardous activities are carried out only with proper authorisation. Regular monitoring by the responsible authorities is necessary to ensure compliance with the terms and conditions of authorisation. These authorities may be vested with power to impose administrative penalties against violators. Any laxity on the part of administrative authorities must entail consequences. Moreover, the authorities must be entrusted with the task of immediate remediation / rehabilitation work with a provision to subsequently recover costs from the polluter. For this, environmental funds must be established / created like 'Superfund' under the U.S. law.

7. For effective regulation and comprehensive control of hazardous substances, the 'cradle-to-grave' approach needs to be incorporated. The producers and manufacturers may be exhorted to accept this approach while designing their products.

8. Citizens may be empowered to initiate action against administrative / enforcement authorities who fail to perform their statutory duties as well as against those who violate legal provisions. The fundamental
principle of responsibility and accountability needs to be firmly established

9. A system may be developed to identify potentially responsible parties causing pollution in order to fix responsibilities

10. Special environmental courts may be established to deal with highly scientific and technical issues. This will ensure effective and expeditious disposal of environmental cases and reduce the burden of already overburdened ordinary courts. Special courts are needed because ordinary courts are ill-equipped to handle such cases

11. Last but not the least, the provisions relating to exemplary punishments and fines ought to be retained. In view of the extent of potential damage that hazardous substances may cause, the deterrent theory of criminal justice administration can deliver goods in such cases also