

LEGAL AND INSTITUTIONAL PROVISIONS FOR PROTECTION OF ENVIRONMENT IN INDIA

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I. ENVIRONMENTAL POLICIES - AN OVERVIEW

A. Policies during Pre-Independence Period

Environmental concern in India is as old as Indian civilization. The earlier environmental concerns were mostly focused on conservation of forest, wildlife and natural resources. The policies were mostly linked with culture and religions. In the early days of British rule the prime concern was for exploitation of natural resources available in the forests. The decimation of forests was primarily for military purposes and for teak export trade. In 1806 when reservation of Malabar teak was declared, the Europe had been completely deforested and demand for wood especially for ship building, iron smelting and tanning was to be met with Indian teak. The most critical period in the history of Indian forestry was the building of the railway network. This was created to meet the need for rapid troop communication and for enabling the characteristic pattern of colonial trade. The early years of railway expansion saw an unprecedented assault on the more accessible forests. Monopoly right to the states to demarcate valuable tract of forest, was given through the Indian Forests Act 1865, which was replaced by a much more comprehensive legislation in 1978. Monopoly right was established by a legal provision, which sought to establish that the customary use of forest by villagers was not as a right but on a privilege basis. During Second World War also Indian forests were extensively used.¹

The protection of wild life during British period was primarily to protect specific area and particular species. In 1873, Madras enacted the first wildlife statute for the protection of wild elephants. After six years, Central Government passed the Elephants Preservation Act of 1879. In 1912, the Central Government enacted a broader Wild Birds and Animals Protection Act, specifying closed hunting seasons and regulating hunting of designated species through licences. These regulations related primarily to hunting and did not regulate trade in wildlife and wildlife products, which are major factors in the decline of wildlife. As a consequence, wildlife continued to decline and many species became extinct. The first comprehensive law for protection of wildlife and its habitat was perhaps the Hailay National Park Act of 1936 which

established the Hailey (now Corbett) National Park in Uttar Pradesh.²

B. Post Independence Period

(i) Prior to Human Environment Conference, 1972

The period after independence up to 1972 is the period of continuous deterioration of the environment due to fast industrialization, urbanization, population growth and increasing poverty. While during British period expansion of agriculture, railways, timber trade and World Wars were the guiding factors. During post independence period it is the expansion of industries which is the major guiding factor for formulation of forest policy. In the wake of national development through fast industrialization, to be self sufficient in food and other basic needs of the growing population, environment continue to degrade due to deforestation, loss of wild life, increasing air, water and soil pollution, development of slums and occurrence of droughts and floods all leading to degradation of environment and quality of life.³ Although the water supply and sanitation were attended to in the Government's plans but control of pollution and environment as such was not emphasised much. The Government of India had appointed an Environmental Hygiene Committee in 1948-49 which had recommended a comprehensive plan to provide water supply and sanitation facilities for ninety percent of the population within a period of 40 years,⁴ however, no concerted efforts have been made to fulfil this target. In 1954 the Union Health Ministry announced the National Water Supply and Sanitation Programme under health schemes and made specific provision to assist the states to implement the programme. The budget provisions for water supply and sanitation has been continuously increased in the Five Year Plans since 1956.⁵ Thus all the efforts during this period were mainly focused towards the public health and sanitation, and not to control pollution. As a result, the pollution level in the environment has increased to an alarming level especially in the large urban areas in the country. The concern for preserving the quality of life and promoting environment while undertaking the industrialization and other developmental activities was stressed for the first time in the Fourth Plan (1969-74),⁶ and it was felt necessary to regulate the pollution in a stricter manner.

(ii) Policy Percepts After 1972 Conference

The year 1972 marks a watershed in the history of environmental managements in India. Prior to 1972, environmental programmes were dealt by different ministries of the Government of India, and each persuaded these objectives without any proper coordination system. When the 24th UN General Assembly decided to convene a conference on Human Environment in 1972, a National Committee on Environmental Planning and Co-ordination

(NCEPC) was established in the Department of Science and Technology. The NCEPC was an apex advisory body in all matters relating to environmental protection and improvement. The promotion of environmental quality was emphasised for the first time in the Fourth Plan (1969-74). During the Fifth, Sixth and Seventh Plans such a concern was turned into concrete actions by launching several programs for enhancing the quality of life and incorporating environmental concerns while assessing economic and technical feasibility of a project.

The forests of India are devastated to an alarming extent. As per the satellite pictures only ten percent of the land has adequate forest cover, against 33 percent required to ensure ecological stability. India continues to lose over 1 million hectares of forest annually. Over 60% of India's land, some 175 million hectares is already degraded.⁷ The debate over how to balance the various demands of the nation on the forests has intensified in the last decade. The Forty Second Amendment Act of 1976 transferred forests and wildlife from the state list to the concurrent list of the Constitution. This transfer empowered the Central Government to act directly in managing India's forests and wildlife. Since then the Central Government has enacted several legislations for the protection of forests and wildlife.

The Water (Prevention and Control of Pollution) Act, 1974 (hereinafter referred to as Water Act) was passed for restoration and maintenance of wholesomeness and cleanliness in our national aquatic resources. To implement the provisions of the Act at central level, Central Pollution Control Board and at state level, State Pollution Control Boards were formed.

The major environmental concerns of India were focused on water pollution, air pollution, soil erosion, deforestation, desertification and loss of wildlife.⁸ The most challenging problem in protection of environment is the nation's desire to industrialise faster. This challenge is manifested in policy pronouncements of the Government of India. Hence, the major policies are focused on integrating the environment with developmental activities. These concerns are reflected in the national planning process, constitutional provisions, and the administrative machinery set up to accommodate developmental policies that focus on environmental conservation.

The environmental issues gained political attention only after Silent Valley controversy where a major hydroelectric cum irrigation project was to be constructed causing damage to the world's richest biological and genetic heritages⁹ and Mathura Refinery which might cause acid rain on Taj Mahal.¹⁰ In 1980 General Election, when Congress-I came to power, it immediately set-up a committee chaired by N.D. Tiwari to recommend legislative measures and administrative machinery to ensure environmental protection. It was on the

recommendation of this committee that the Department of Environment at the Centre was created to recognise the important role of environmental conservation in sustainable national development.¹¹

The Air (Prevention and Control of Pollution) Act (hereinafter referred to as Air Act) was passed in 1981 for the control of air pollution in the country conferring on Water Pollution Control Boards such powers and functions related to air pollution prevention and control. The continuing decline in the quality of the environment together with the tragedy at Bhopal in which a leak of Methyl-iso-cyanate from a pesticide factory killed more than 2500 people and injured several thousands has spurred the Central Government and a few State Governments to adopt stronger environmental policies, to enact fresh legislation and to create, re-organise and expand administrative agencies.

The most significant central legislation in recent times is the broad Environment (Protection) Act, 1986 (hereinafter referred to as EPA) which empowered the Central Government to take all necessary measures to protect and improve the environment. In 1987, a new chapter regulating hazardous industrial processes was introduced into the Factories Act, 1948. The amendments to the Air Act in 1987 and Water Act in 1988 empowered the enforcing agencies to close polluting industries and to stop their electricity or water supply. The penal provisions in both these laws were also strengthened.

Supported by recent legislative, administrative and judicial initiatives, environmental regulation in India has become very powerful. The new regulations cover noise, vehicular emissions, hazardous wastes and chemicals, hazardous micro-organisms and transportation of toxic chemicals. Stringent penalties were introduced in the older pollution control laws. The licensing regime is supplemented by 'citizen suits' provision together with a statutory 'right to information', now enable an aggrieved citizen to directly prosecute a polluter after examining the government records and data. The technology-forcing deadlines issued under the Central Motor Vehicle Rules, 1989 compel the manufacturer of vehicles to upgrade the technology to the standards. Under the EPA, rules have been notified for mass based standards for the manufacturer of vehicles for the then and for year 1995 and 2000. In March 1992, rules have been notified for environmental auditing of all the industries which may cause water or air pollution or generate solid or hazardous wastes. Mandatory worker's participation in plant safety and stringent penalties on high level management for the breach of factory safety regulation are expected to reduce industrial accidents. Vesting of enormous administrative powers in the enforcing agencies is also an encouraging step towards improvement of environment. Gigantic project like Ganga Action Plan is also a sign of high concern for environment. Recently, the Ministry of Environment and Forests has adopted

a 'Pollution Abatement Policy'¹² which includes adoption of clean technology, conservation of resources, change of concentration based standards to mass based standards, incentives for pollution control, public participation, environmental auditing and Eco-mark on environment friendly products.

II. PROTECTION AND IMPROVEMENT OF ENVIRONMENT AND PREVENTION OF HAZARDS

A. Laying down of Standards for Environmental Pollutants

The simplest administrative approach to regulate industrial pollution would be to promulgate permissible limits for various pollutional parameters on a general basis, make them binding on all discharges and prosecute and punish offenders. Control of pollution at sources is the immediate short-term objective adopted by all the State Pollution Control Boards. To control pollution at source, the industries must know the extent up to which their effluent or emission must be treated/controlled so that they can discharge the treated effluent to receiving environment without significant effect. The cost of treatment should be such that the industry is able to take the burden. The Central Pollution Control Board has initiated evolving industry specific Minimum National Standards (MINAS) as early as in 1977-78.¹³ At present it has evolved effluent standards for 23 categories and emission standards for 21 categories of industries. The State Boards use these guidelines for necessary follow-up action. No State Board is permitted to relax the MINAS. On the contrary if situation so demands, the State Boards may make them more stringent. These standards have been notified under Environmental (Protection) Act, 1986 by the Government of India.¹⁴

B. Hazardous Substances Management

Hazardous substances are spreading throughout the modern industrialised societies. These substances are generated, used and discarded by large number of industries in India. Use of pesticides is increasing day by day for the protection of crops and public health from different pests. The hazardous substances are extensively regulated by law in India.

C. Coastal Area and Tourism Management

For protecting the ecological, cultural and aesthetic values of coastal areas and to ensure that the use and activities in the coastal areas are consistent with the environmental conservation principles, the Ministry of Environment and Forests has issued a notification under Environment (Protection) Act, 1986 to ban certain activities and to categorises the coastal areas into certain regulation zones. The notification identifies prohibited activities within the 500 m of the high tide line and those that are to be permitted in accordance with the guidelines given in the notification.

D. Environmental Impact Assessment and Environmental Clearance for Projects

The Government's policy to promote the environment while undertaking any developmental activity has made it necessary to introduce the environmental aspects into planning and development. A new procedure to protect environmental concern was introduced which requires Ministry of Environment and Forest's appraisal before it is approved by the Planning Commission. Similarly any major industrial project requiring licence from the Ministry of Industry, the Licensing Committee will grant licence only after the Ministry of Environment and Forests has reviewed the project to ensure that suitable provisions for protecting environment have been made. The basic objective of Environmental Impact Assessment (EIA) is to identify, predict and evaluate the likely economic, environmental and social impact of any developmental activities and to prepare an action plan for remedy as a part of the overall Environmental Management Plan (EMP). At present there is no statutory/mandatory requirement for conducting EIA, but any project costing Rs. five crore and above needs to get environmental clearance. The Ministry of Environment and Forests is contemplating for mandatory EIA.

III. LAWS AND INSTITUTIONAL PROVISIONS

In the urban environmental protection, prevention and control of nuisance was the only regulation available during the nineteenth century. The Shore Nuisance (Bombay and Kolaba) Act, 1853 one of the earliest law concerning water pollution, authorised the collector of land revenue in Bombay to order the removal of any nuisance below the high water mark in Bombay harbour. Oriented Gas Company Act 1857 regulated the pollution produced by the Oriented Gas Company by imposing fine on it and giving a right of compensation to any one whose water was fouled by the company's discharges.¹⁵

Indian Penal Code enacted in 1860, imposed a fine on a person who voluntarily foul the water of any public spring or reservoir. In addition, the Code penalised negligent acts with poisonous substances that endangered life or caused injury and public nuisances. The Indian Easement Act, 1882 provides protection against pollution by upstream users to the riparian owners. The Indian Fisheries Act, 1897 penalise the killing of fish by poisoning water and by using explosives. Indian Port Act, 1908 prohibits discharge of oil into port waters. Indian Forest Act, 1927 prohibits poisoning of water in forests.¹⁶

There are two post independence laws touching on water pollution. Section 12 of the Factories Act, 1948 required all factories to make 'effective arrangements' for waste disposal and empowered State Governments to frame rules implementing this directives. Second, River Boards, established under the River Boards Act, 1956 for the regulation and development of interstate

rivers and river valleys were empowered to prevent water pollution. In both these law, prevention of water pollution was only incidental to principal objective of the enactment.

As early as 1962, the Ministry of Health has appointed an expert committee on water pollution problems in the country. The committee recommended to enact central and state laws. The central council has recommended to enact a single law by the Parliament. A bill was drafted and circulated to all the states in 1965, with a request to pass enabling resolutions to enable Parliament to enact the above law on their behalf as required in Article 252(1). The Prevention of Water Pollution Bill, 1969 was introduced in Rajya Sabha after six states had adopted enabling resolutions. In August 1970, the Rajya Sabha decided to refer the bill to a joint committee which modified it in many respects and then presented it to Parliament in 1972. Parliament passed the bill in 1974.¹⁷

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

(i) Objectives and Legal Provisions

The basic objectives of the Act is to maintain and restore the wholesomeness of our national aquatic resources by prevention and control of pollution.

The Water Act, 1974 represented one of India's first attempt to deal comprehensively with environmental issue. Parliament adopted minor amendments to the Act in 1978 and revised the Act in 1988 to closely conform to the provisions of the Environment (Protection) Act, 1986.

Water is a state subject under the Constitution. Consequently, the Water Act, a central law, was enacted under Article 252 (1) of the Constitution which empowers the Union Government to legislate in a field reserved for the states. All the states have approved implementation of the Water Act.

The Water Act is comprehensive in its coverage, applying to streams, inland waters, subterranean waters, and sea or tidal waters. Standards for the discharge of effluents or the quality of the receiving waters are not specified in the Act, but it enables State Boards and Central Board to prescribe these standards.

The Act provide for a permit system or 'consent' procedure to prevent and control water pollution. The Act generally prohibits disposal of polluting matter in streams, wells and sewers or on land in excess of the standards established by the State Boards. A person must obtain consent from the State Board before establishing any industry operation or process, any treatment and disposal system or any extension or addition to such a system which might result in the discharge of sewage or trade effluent into a stream well or sewer

or onto land. The State Board may condition its consent by orders that specify the location, constructions and use of the outlet as well as the nature and composition of new discharges. The Act empowers a State Board, upon thirty days notice to a polluter, to execute any work required under consent order which has not been executed. The Board may recover the expenses for such work from the polluter. The Act gives the State Boards the power of entry and inspection to carry out their functions. Moreover, a State Board may take certain emergency measures if it determines that an accident or other unforeseen event has polluted a stream or well. These measures include removing the pollutants, mitigating the damage and assuming orders to the polluter prohibiting effluent discharges.

(ii) Pollution Control Boards

The Water Act establishes a Central and State Pollution Control Boards. The Central Board may advise the Central Government on water pollution issues, co-ordinate the activities of State Pollution Control Boards, sponsor research relating to water pollution, and develop a comprehensive plan for the prevention and control of water pollution. The Central Board was also performing functions of a State Board for the Union Territories till 1991. During 1991 these functions were transferred to the local administration of respective Union Territories. In a conflict between a State Board and the Central Board, the Central Board prevails. Since 1982 the Central Board has been attached to the Department of Environment, Government of India.

The State Boards were established by the State Governments under the provision of the Act to perform functions specified in the Act. The State Boards may plan comprehensive pollution abatement programme and advise the State Government on water pollution issues. They also collaborate with Central Board, inspect sewage or trade effluent, grant consent for the discharge of the effluent, lay down and modify the standards, evolve economic methods of treatment and disposal of sewage and trade effluent, advise the State Government on location of industries, collect and disseminate the data in relation to pollution status in the State and prosecute the offenders under the provisions of the Act.

(iii) Penal Provisions

The Act chiefly employ a system of criminal sanction to discourage the polluters from polluting the water courses. The penal provisions can be categorised in four classes :

1. Penal provision for not providing information as required under the provision of the Act, is punishable with imprisonment up to three months or a fine up to ten thousand rupees or both.

2. Penal provision for disposal of polluting matters in water bodies more than the prescribed limit in the consent order or providing new outlets without obtaining consent of the State Pollution Control Board is punishable with minimum imprisonment of one and a half years which may be extended up to six years. For repeating the above offence, the penalties are enhanced.
3. Penalty for continuing contravention of provisions of the Act is punishable with fine of rupees five thousand per day till the compliance with the provisions of the Act.
4. There is a provision of publishing name of the offender in the newspaper at the offenders cost.

The 1988 Amendment Act introduced a new Section 33A which empowers State Boards to issue directions to any person, officer or authority, including orders to close, prohibit or regulate any industry, operation or process and to stop or regulate the supply of water, electricity or any other service. The State Boards can also apply to courts for injunction to prevent water pollution under Section 33 of the Act. Under Section 41, the penalty for failure to comply with a court order under Section 33 or a direction from the Board under Section 33A is punishable by fines and imprisonment. The Amendment Act also increased the power of the Central Board relative to the State Boards. Under Section 18 of the Act, the Central Government may determine that a State Board has failed to comply with Central Board's directions and that because of this failure an emergency has risen. The Central Government may then direct the Central Board to perform the function of the State Board.

B. The Water Cess Act, 1977

Objectives and Legal Provisions

To strengthen the Pollution Control Boards by providing money for equipment and technical personnel and to promote water conservation by recycling, Parliament adopted the Water Cess (Prevention and Control of Pollution) Act, 1977. The Act empowers the Central Government to impose a cess on water consumed by industries listed in Schedule I of the Act. Specified industries and local authorities are subject to the cess if they use water for purposes listed in Schedule II of the Act.

The Act was amended and notified on 28th of February, 1992 to enhance the rate of cess charges.

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

(i) Objectives and Legal Provisions

The basic objectives of the Air Act, 1981 is to prevent control and abate air pollution and preserve quality of air in the country. The Air (Prevention and Control of Pollution) Act, 1981 was enacted by invoking the Central Government's power under Article 253 to make laws implementing decisions taken at international conference.

Procedurally, the Air Act follows the basic structure of the Water Act with a Central Board and State Boards administering a system of consent orders, monitoring activities, and enforcement through fines and criminal prosecutions. The Act grants discretion to each State Government to designate particular areas as 'air pollution control areas'.¹⁸ Polluters located outside such air pollution control areas cannot be prosecuted by the State Board, but every industrial operator within an air pollution control area must obtain a consent from the State Board.

(ii) Pollution Control Board

The Air Act specifies that Central and State air pollution control authority is to be exercised by the Central and State Water Boards. These Boards have dropped the terms 'Water' from their title and are usually known as "State or Central Pollution Control Board".

(iii) Penal Provisions

To discourage the polluters, the Act provides following penal provisions:

1. Failure to comply with the provisions of the Act or with the directives issued under the Act is punishable with imprisonment not less than one and a half years which may extend up to six years.
2. Failure to provide information or perform certain acts specified under Section 38 of the Air Act is punishable with imprisonment up to three months, or a fine up to rupees ten thousand or both.
3. Whoever contravenes any of the provisions of this Act is punishable up to three months or fine up to rupees ten thousand or both. For continuing controversy additional fine is rupees five thousand per day during which such contravention continued.

The Air Act, 1981, is amended in 1987 on the similar lines as Water Act to make it more effective. Several sections have been modified to match with the Environment (Protection) Act, 1986.

*D. Nodal Administrative Ministry for Environment and Forest***Tiwari Commission Report**

As mentioned earlier, the environmental planning and co-ordination was done by the NCEPC during seventies. At its inception the Committee consisted of the members drawn from various disciplines concerned with environmental management. Most of the non-official members were specialists. The Committee was to plan and co-ordinate while the responsibility for execution remained with the various ministries and agencies of the Government. The Committee was assisted by Department of Science and Technology.

In the beginning of 1980, it was felt necessary to set up a committee chaired by N. D. Tiwari to recommend legislative measures and administrative machinery to ensure environmental protection. The Tiwari Committee report submitted on September 15, 1980 made far reaching recommendations on administrative and legislative measures for environmental protection. It has recommended the creation of a Department of the Environment at the Centre which could solely devote to the environmental conservation in sustainable national development. It further recommended the creation of environmental advisors in all ministries, a cabinet sub-committee on the environment under the chairmanship of the Prime Minister, and a comprehensive and systematic review of the relevant central and state legislation on environmental management.

On the basis of recommendations of the Tiwari Committee, a separate Department of Environment was established on November 1, 1980. The functions hitherto performed by the Department of Science and Technology were transferred to the newly created department. On the recommendations of the Tiwari Committee, the NCEPC has been replaced by a National Committee on Environmental Planning (NCEP). Its functions were mainly advisory. To improve the implementation of environmental law, policy and directives, the Department of Environment was replaced in 1985 by an integrated Department of Environment, Forests and Wildlife which later on became an independent Ministry.

At the instance of the NCEPC, almost all the States and the Union Territories have established environmental boards under terms similar to those of the national committee. To give stature and executive authority to the boards, they are chaired by the respective Chief Ministers. An official of the Department of Environment is invariably a member of the State Boards to provide good liaison between them and the national committee. Subsequently, these boards were replaced by the State Department of Environment. These departments also follow the functions similar to the Central Department of Environment. They co-ordinate the activities of the Central Department of

Environment in their states. They also co-ordinate the activities of respective State Pollution Control Boards.

E. Ministry of Environment and Forest, Government of India

The Ministry of Environment and Forests plans, promotes and co-ordinates environmental and forestry programmes in the country. The Ministry's main activities include conservation and survey of flora and fauna, forests and wildlife; prevention and control of pollution; afforestation and regeneration of degraded areas, protection of environment and research related to these topics. These functions are performed through environmental impact assessment; eco-regeneration; assistance to organizations implementing environmental and forestry programmes; promotion of environmental and forestry research; extension of education and training to augment manpower; collection, collation, storage and dissemination of environmental information and creation of environmental awareness at the national level.²⁰

After the implementation of the Environment (Protection) Act, 1986, the Ministry of Environment and Forests has taken several steps to provide legal and institutional basis which include issue of several rules, notification of standards, action regarding environmental laboratories, strengthening of State Department of Environment and Pollution Control Boards, delegating of powers, carrying out various activities in the field, hazardous wastes/chemical management and setting up of the Environmental Protection Councils in the States. Additional responsibilities have been placed on Central and State Pollution Control Boards under the provisions of Water and Air Acts.

F. The Environment (Protection) Act, 1986

(i) Objectives and Provisions

In the wake of Bhopal gas tragedy, the Government of India enacted Environment (Protection) Act, 1986 under Article 253 of the Constitution. The purpose of the Act is to implement the decisions of the United Nations Conference on the Human Environment of 1972, in so far as they relate to the protection and improvement of the human environment and the prevention of hazards to human beings, other living creatures, plants and property. The Act is an 'Umbrella' legislation designed to provide a framework for Central Government to co-ordinate the activities of various central and state authorities established under previous laws such as Water Act and Air Act.

The potential scope of the Act is broad with 'environment' which include water, air and land and interrelationship which exist among water, air, land, human beings, other creatures, plants, micro organisms and property. Section 3(1) of the Act empowers the Centre to take all such measures as it deems necessary or expedient for the purpose of protecting and improving the quality

of the environment and preventing, controlling and abating environmental pollution. Central Government is authorised to set new national standards for ambient quality of the environment and standards for controlling emissions and effluent discharges; to regulate industrial locations; to prescribe procedures for managing hazardous substances; to establish safeguard for preventing accidents; and to collect and disseminate information regarding environmental pollution.

The Environment (Protection) Act (EPA) was the first environmental statute to give the Central Government authority to issue direct written orders including orders to close, prohibit or regulate any industry operation or process or to stop or regulate the supply of electricity, water or any other services.²¹ Other powers granted to the Central Government to ensure compliance with the Act include the power of entry for examination, testing of equipment and other purpose²² and power to take samples of air, water, soil or any other substance from any place for analysis.²³ The Act explicitly prohibits discharge of pollutants in excess of prescribed standards.²⁴ There is also a specific prohibition against handling, hazardous substances except in compliance with regulatory procedures and discharges.²⁵ Persons responsible for discharges of pollutants in excess of prescribed standards must prevent or mitigate the pollution and must report the discharge to government authorities.²⁶

The Act provides for severe penalties. Any person who fails to comply with or contravenes any of the provisions of the Act, or the rules or directions issued under the Act shall be punished for each failure or contravention, with a prison term of up to 5 years or a fine up to rupees 1 lakh or both. The Act imposes an additional fine up to rupees five thousand for every day of continuing violation.²⁷ If a failure or contravention occurs for more than one year after the date of conviction, an offender may be punished with a prison term which may extend to seven years.²⁸

The Act empowers the Central Government to establish standards for the quality of the environment in its various aspects, including maximum allowable concentration of various environmental pollutants (including noise) for different areas. These standards could be based on ambient levels of pollutants sufficiently low to protect the public health and welfare. Emission or discharge standards for particular industries could be adjusted to ensure that such ambient levels are achieved. The Environment (Protection) Rules, 1986 allow the state or central authorities to establish more stringent standards based on recipient system.

The EPA includes a citizen's suit provision²⁹ and a provision authorising the Central Government to issue direct orders to protect the environment.³⁰ The Central Government may delegate specified duties and powers under the EPA

to any officer, State Government or other authority.³¹

(ii) Framework for Enforcement of Provisions

The Department of Environment, Forests and Wildlife of the Central Ministry of Environment and Forests is responsible for making rules to implement the EPA. The Department has also delegated the powers to carry out enforcement to the Central and State Pollution Control Boards in the country.

(iii) Rules and Regulations Enforced

The Ministry of Environment and Forests has so far enforced several rules and regulations. It has adopted industry specific standards for effluent discharge and emissions for 23 and 21 categories of industries respectively. The Department has also designated certain state and central officials to carry out specified duties under the Act and has designated specific laboratories for testing the samples of air, water and soil obtained under the Act.

(iv) Hazardous Wastes and Hazardous Substances Management

The Hazardous Waste (Management and Handling) Rules issued under the Act in July 1989 have introduced a permit system administered by the State Pollution Control Boards to regulate the handling and disposal of hazardous wastes. The regulatory quantity of hazardous wastes is also notified under the Rules. These Rules fix responsibility for the properly handling, storage and disposal of such wastes. No person without Board's authorization may collect, receive, treat, transport, store or dispose of hazardous wastes. Moreover, the Rules provide for the packaging, labelling and transport of hazardous wastes and require State Governments to compile and publish an inventory of hazardous waste disposal sites. Significantly, the import of hazardous wastes into India for dumping and disposal is prohibited under the Rules.

The Manufacture, Storage and Import of Hazardous Chemicals Rules of November 1989 gives responsibilities of those handling hazardous substances (other than hazardous wastes). Under these Rules, hazardous industry is required to identify major accident, hazards, take adequate preventive measures and submit a safety report to the designated authority. An importer of hazardous chemicals must furnish complete product safety information to the competent authority and must transport the imported chemicals in accordance with the Central Motor Vehicle Rules, 1989. A set of rules on the transportation of hazardous chemicals by road have also been notified under the Motor Vehicle Rules, 1989 by the Ministry of Surface Transport. A few amendments clearly indicating the responsibilities of the occupier, transporter, driver are being included in the Rules. The State Governments have identified hazardous installations and operations in their States and implemented the notified rules. Rule 3 prescribes the duties of various governmental authorities, for example,

the Central and State Pollution Control Boards are required to enforce governmental directives and procedures pertaining to the isolated storage of hazardous chemicals, and the district collectors or other designated authority is required to prepare off-site emergency plans to contain major chemical accidents. Under Rule 4, an occupier must identify the major hazards posed by his industry, take steps to prevent and limit the consequences of an accident and train workers in operational safety.

Under Rule 18, an importer of hazardous chemicals into India must disclose complete product safety information. Where the imported chemical is likely to cause a major accident, the designated governmental authorities are empowered to issue directions, including an order to stop the import. The importer must also ensure that the transport of the chemicals from the port of entry is in accordance with the Central Motor Vehicle Rules, 1989.

Rules to regulate the manufacture, use, import, export and storage of hazardous micro-organisms and genetically engineered cells were issued under the EPA in December 1989.³² These Rules cover industries, hospitals, research institutions and other establishments that handle micro-organisms or are engaged in genetic engineering. Committees of experts established, under Rule 4 play a pivotal role in administering regulation.

Besides the rules issued under Environment (Protection) Act, 1986, provisions touching on certain other aspects of storage, transportation and regulation of hazardous substances are contained in the Central Motor Vehicle Rules, 1989; the Insecticides Act, 1968; the Explosive Substances Act, 1908; the Inflammable Substance Act, 1952 and the Atomic Energy Act, 1962. In addition, the 1987 amendment to the Factories Act, 1948 introduced a new chapter on hazardous industrial activities. This chapter aims at increasing plant safety by such measures as increased worker participation in the monitoring of safety measures and stiff penalties against employees for non-compliance with safety norms.

In December 1989, the Environment (Protection) Rules were amended to prescribe ambient air quality standards in respect of noise. These standards lay down the day time and night time limits of noise in industrial, commercial and residential areas as well as in "Silence Zones". A silence zone is an area up to 100 mt. around hospitals, educational institutions, courts *etc.* which is so declared by the competent authority. The use of vehicular horns, loudspeakers and bursting of crackers is banned in silence zones.

Under Rule 5, Central Government may prohibit or restrict the location of any industry and the conduct of certain activities in notified areas. Any aggrieved person, including an affected industry may file an objection against the prohibitions and restrictions.

G. Public Liability Insurance Act, 1991

Public Liability Insurance Act, 1991 makes it mandatory to cover insurance for public which may be affected by use, transport of all the hazardous chemical industries. It provides immediate relief to the victim of hazardous accidents. Every person who has control over handling of hazardous substance has to take insurance policies against liability to give relief to the affected persons. Whoever contravenes any of the provisions of the Act is punishable with imprisonment for a minimum period of one and a half years which may be extended up to 6 years.

H. Environmental Auditing

Recently, the Government of India has promulgated an amendment in the Environment (Protection) Rules called the Environment (Protection) Second Amendment Rules, 1992. According to these Rules every person carrying on an industry, operation or process requiring consent under Water Act, 1974 or Air Act, 1981 or Hazardous Waste (Management and Handling) Rules, 1989 issued under EPA, 1986, shall submit an environmental auditing report for the financial year ending the 31st March in the form prescribed under the Rules to the concerned State Pollution Control Boards. The main components of the form are information on quantity of raw material consumed including water, per unit of product/s, total production, quantity of pollutants generation in terms of air and water and quantity of hazardous and solid waste generation and their recycling and reuse.

I. Supportative and Allied Legislations

There are more than 200 central and state laws today which can be interpreted one way or another to protect the environment.

(i) The Factories Act, 1948

The Factories Act, 1948 was amended to introduce special provision on hazardous industrial activities. The 1987 amendment to the Factories Act empowers the states to appoint site appraisal committees to advise on initial location of factories using hazardous process. Factory Inspector and the local authority must provide all particulars regarding health hazards at the factory and preventive measures taken. These preventive measures must be publicised among the workers and nearby residents. Every occupier must also draw-up an emergency disaster control plan, which must be approved by the Chief Inspector. The occupier is required to maintain workers medical records and must employ operations and maintenance personnel who are experienced in handling hazardous substances. The permissible limits of exposure to toxic substances are prescribed in the Second Schedule to the Act. Safety Committees consisting of workers and managers are required to review the safety

measures.

The Factory Act after its 1987 amendment defines 'occupier' as a senior level manager. Such person is held responsible for non compliance with the Act. There is heavy penalty on non-compliance.

(ii) The Insecticide Act, 1968

The Act established a Central Insecticide Board to advise Centre and States on technical aspects of the Act. A committee of the Board registers insecticide after verifying their safety and efficacy. The manufacture and distribution of pesticides is regulated through licensing. The Central and State Government are vested with emergency powers to prohibit the sale, distribution and use of dangerous insecticides.

The Insecticide Rules, 1971 prescribe the procedure for licensing, packaging, labelling and transportation of insecticides. They also provide for workers safety during manufacture and handling of insecticides through protective clothing, respiratory devices and medical facilities.

(iii) The Atomic Energy Act, 1962

The regulation of nuclear energy and radioactive substance in India is governed by the Atomic Energy Act, 1962 and Radiation Protection Rules, 1971. Under the Act, the Central Government is required to prevent radiation hazards, guarantee public safety and safety of the workers handling radioactive substances and ensure the disposal of radioactive wastes.

(iv) Motor Vehicles Rules, 1989

In 1989, the Central Motor Vehicle Rules introduced nationwide emission levels for both petrol and diesel driven vehicles. Rules 115 (1) requires that every motor vehicle be manufactured and maintained so that smoke, visible vapours, grits spark ashes cinders are not emitted when the vehicle is driven. Rules 115 (2) prescribe carbon monoxide level for petrol driven and smoke level in diesel driven vehicles. Vehicles manufactured after 1st April 1992 must meet the addition emission standards prescribed for petrol and diesel vehicles under Rule 115 (3) and 115 (4) respectively. Rule 115 (6) requires every manufactures to certify that his new vehicle conform to the prescribed standards.

(v) Indian Easement Act, 1882

A riparian owner is one who has title to land adjacent to a natural stream. The Indian legal system has recognised the right of riparian owners to unpolluted waters since the adoption of the Indian Easement Act, 1882. Under Section 7 of that Act every riparian owner has the right to the continuous flow

of the waters of a natural stream in its natural condition without obstruction or unreasonable pollution.

J. Constitution of Special Purpose Authority

Apart from the government machinery described above, there are large number of different institutes and organizations including educational, research, training, mass awareness and special purpose authorities in the country which are directly or indirectly working for the environment. Some important ones are mentioned here.

(i) The Central Ganga Authority

The Government of India announced an ambitious new plan for cleaning up Ganga river in 1985. A newly created Ganga Authority headed by the Prime Minister, is ultimately responsible for the river's restoration. The eight member authority includes the Central Government's planning and environmental ministers and the chief ministers of the states through which the Ganga flows.

(ii) National Waste Land Development Board

National Wasteland Development Board (NWDB) was established in May 1985 with primary objectives of undertaking wasteland development in the country. NWDB seeks to achieve this through a massive programme of afforestation with people's participation. First four years of Seventh Plan saw coverage of 7.16 million hectares of land under it. Besides providing impetus to on-going programmes such as rural fuel wood plantation, operation soil watch, decentralized nurseries, etc., several new initiatives like seed development agencies, aerial seeding marginal financial assistance to autonomous bodies, minor fuel wood and fodder projects were taken up.

(iii) National Environmental Engineering Research Institute

The Institute was established in 1957 under Council of Scientific and Industrial Research, Government of India to carry out research in the field of water supply and waste water management, sanitation, industrial effluent treatment, solid waste management, microbiological pollution problems. It has done considerable work in the field of rural sanitation programmes apart from carrying out the above research. Recently, it has been involved in hazardous waste management and environmental impact assessment.

(iv) G.B. Pant Himalayan Paryavaran Evam Vikas Sansthan

This autonomous organization of the Ministry of Environment and Forests was established in 1988 to restore Himalyan ecology. The Institute comprises of a Central Unit at Almora, three regional units each at Srinagar (Garhwal),

Gangtok and Mokakchung. The major activities of the Institute includes restoration of degraded land and sustainable rural development, afforestation, integrated watershed management, maintenance of biological diversity, environmental impact, assessment of mining and other developmental activities.

(v) Industrial Toxicology Research Centre

The Institute was established in 1966 under Council of Scientific and Industrial Research, Government of India, mainly to evaluate toxicity of chemicals used in the industries. The Institute at present is mainly engaged in research to identify through systematic epidemiological surveys the health hazards to which industrial and agricultural workers are exposed; to undertake safety evaluation of the chemicals used in the industries and day to day life; to conduct studies on mode of action of chemical pollutants; to develop suitable diagnostic tests and remedial measures; to collect and disseminate information on hazardous waste.

K. Non-Government Agencies

The number of voluntary agencies, community groups, academic societies, corporate entities (non-governmental organizations) working for environment has increased significantly in the last few years. This is mainly due to growing awareness on environmental degradation and its importance for survival of mankind. At present there are about 900 NGO's working in different parts of our country for the welfare of the environment.³³ The National Environmental Awareness Campaigns, promoted by the Ministry of Environment and Forests have successfully encouraged many NGO's whose primary concern was rural development, civil right, women's development, tribal welfare, appropriate technology *etc.* as there is a direct link between environmental protection and human welfare.

The main objective and activities related to environment of all the NGO's are to promote the environmental education and awareness through organisation of film shows, workshops, seminars, training programmes especially for the students; to collect, compile and disseminate data related to environment and preparation of documentary films for public awareness to promote environmental friendly technology and sanitary practices in daily life through awareness programmes; to make aware the public and authorities about the problem areas and extent of environmental degradation including harm to the public health and other resources; afforestation; protection of wildlife; and conducting research related to protection of environment.

NOTES AND REFERENCES

- * Senior Scientist, Central Pollution Control Board, Delhi.
- ** Senior Scientific Assistant, Central Pollution Control Board, Delhi.
- 1. Ramachandra Guha, *Forestry in British and Post - British India : A Historical Analysis*, ECONOMIC AND POLITICAL WEEKLY OF INDIA, October 29, 1983.
- 2. A. Rosencranz *et.al.*, ENVIRONMENTAL LAW AND POLICY IN INDIA - CASES, MATERIALS AND STATUTES (Bombay : Tripathi, 1991).
- 3. N.D. Tiwari, REPORT OF THE COMMITTEE ON LEGISLATIVE MEASURES AND ADMINISTRATIVE MACHINERY TO ENSURE ENVIRONMENTAL PROTECTION, Government of India, 15th September, 1980.
- 4. *Supra* n.2.
- 5. 1ST TO VIIITH FIVE YEAR PLANS (1952 TO 1991), Planning Commission, Government of India.
- 6. IVTH FIVE YEAR PLAN (1970), Planning Commission, Government of India.
- 7. *Supra* n.2.
- 8. *Supra* n.3.
- 9. D'Monte, *Storm Over Silent Valley*, QUARTERLY, India International Centre, 1982 at 288.
- 10. HIGH POWER COMMITTEE ON PROTECTION OF TAJ MAHAL FROM AIR POLLUTION (1977), Government of India.
- 11. *Supra* n.3.
- 12. POLICY STATEMENT FOR ABATEMENT OF POLLUTION (1992), Ministry of Environment and Forests, Government of India.
- 13. ANNUAL REPORT (1977-78), Central Board for the Prevention and Control of Water Pollution, Government of India.
- 14. THE ENVIRONMENT PROTECTION RULES, 1986.
- 15. *Supra* n.2.
- 16. *Ibid.*
- 17. *Ibid.*
- 18. SECTION 19, AIR (PREVENTION AND CONTROL OF POLLUTION) ACT, 1981.
- 19. *Id.*, Section 21.
- 20. ANNUAL REPORT, (1990-91), Ministry of Environment and Forests, Government of India.
- 21. SECTION 5, ENVIRONMENT (PROTECTION) ACT, 1986.
- 22. *Id.*, Section 10.
- 23. *Id.*, Section 11.
- 24. *Id.*, Section 7.
- 25. *Id.*, Section 8.
- 26. *Id.*, Section 9.
- 27. *Id.*, Section 15(1).
- 28. *Id.*, Section 15(2).

29. *Id.*, Section 19(6).
30. *Id.*, Section 5.
31. *Id.*, Section 31.
32. *Rules for the Manufacture, Use, Import, Export and Storage of Hazardous Micro-organisms/Genetically Engineered Organisms or Cells*, Notification No. GSR 1037(E) December 5, 1989, GAZETTE OF INDIA, Extraordinary Part II, Sec. 3(ii).
33. ENVIRONMENTAL NGO'S IN INDIA, A DIRECTORY, 1989, Compiled by the ENVIS Centre 07 Environmental Services Group, World Wide Fund For Nature, India.