ENFORCEMENT MACHINERY FOR ENVIRONMENTAL LAWS IN INDIA

Dissertation submitted to the Jawaharlal Nehru University in partial fulfilment of the requirements for the award of the Degree of MASTER OF PHILOSOPHY

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TO MY PARENTS

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CHAPTER I INTRODUCTION

INTRODUCTION

It has become evident that protection of the local as well as the global environment must be integral to the development process throughout increasingly interdependent world. The United Nations Conference on Human Environment (Stockholm, 1972)¹ secured its place in history as the first effort to diagnose the global environment problem. The outcome of this conference led to the creation of United Nations Environment Programme (UNEP) as an international instrument to build environmental awareness and stewardship.

The Stockholm Declaration recognized the links between environment and development. But little was done to integrate this concept for international action until the acclaimed report <u>Our Common Future</u> of the World Commission on Environment and Development, Chaired by Norwegian Prime Minister, Gro Harlem Brundtland was presented to the General Assembly in 1987.²

The "Brundtland Report", as it is widely known, stimulated debate on development policies and practices in developing and industrialized countries alike, and called

U N Doc. A/CON./48/14/Rev.1, United Nations Conference on Human Environment, Stockholm, 5-16 June 1972.

^{2.} See <u>U N Chronicle</u>, vol.29 (June 1992), pp.40-43. The report emphasized on eco-development i.e. environmentally sustainable development.

for an integration of our understanding of the environment and development into practical measures for action.³

Environmental pollution may be described as unenforceable alteration of our surroundings and occurs mainly because of the human action. The degradation of air, water and land poses a serious threat to our environment. The indiscriminate use of natural resources and development has landed mankind in a vicious circle and created environmental imbalances, unplanned and uneven development, breakdown of self sustaining economy, widening gap between rich and poor, desertification of lands, acid rain, global warming and depletion of ozone layer.

The nature of the environmental problems is different in developed and developing countries. In developed countries, these problems have mainly emerged due to the advanced scientific and technological development, whereas the environmental problems of developing countries are mainly those that have arisen from the lack of development. The problem being faced by developing countries is how to strike a balance between the need for raising the

^{3.} Ibid, p.42.

Lothar Gundling, "Our responsibility to future Generation", <u>American Journal of International law</u>, vol.84, (1990), pp.207-221.

^{5.} Harold Heimsoeth, "The Protection of the Ozone Layer", Environmental Policy and Law, vol.10 (1983), pp.34-36.

living standard of the people and its costs in terms of deterioration of physical environment and the quality of life. 6

There is an increasing trend in environmental pollution. The industrial revolution and modern civilization turn the air we breathe into a waste basket in which dust, noxious fumes, toxic gases, mist, odour and smoke are thrown. Ambient air quality trends in the major cities of India indicate that levels of suspended particulate matter are higher than the prescribed standards, especially in summer months.

Air pollution is due to natural and human activities. The pollutant may be gases as well as liquids and solid particulate matter. They are detrimental to man, to flora and fauna and to material objects. Air pollution affects on inanimate as well. Effect of air pollution on Taj Mahal is a glaring example. Untill early eighties, Government of India did not pay much attention to air pollution. This problem is not only confined to a particular city but it has spread at national and international level.

^{6.} Manfred Lachs, "The Challenge of the Environment", <u>International and Comparative Law Quarterly</u>, vol.39 (1990), p.663.

^{7.} Air Pollution Control: An Integrated Approach, Fifth Report, Cmnd, 6371(1976).

Water pollulion is a serious problem ever since servage and industrial effluents are being disposed off into the rivers. 8 Water is polluted by four kinds of substances : traditional organic waste, waste generated from the industrial processes, chemical agents for fertilisers and pesticrop protection and silt from catchments. 9 While it is estimated that three-fourths by volume of the waste water generated is from municipal sources, industrial water though small in volume contributes over one half of the total inanimate pollutant load and the major portion of this comes from large and medium industries. 10 For class I cities of India, less than five percent of the total waste water generated is collected and less than one fourth of this is treated. Apart from water and air pollution, attention should also be given to the pollution caused by noise. Increased industrial operations, vehicular and air traffic and modern day-to-day life activities contribute much to noise pollution. In brief, population density and per capita gross national product which is generally

^{8.} S.N. Jain, "Legal control of Water Pollution in India," in Indian Law Institute (ed.) <u>Legal Control of Environment Pollution</u> (1980), p.8.

^{9.} Rahmatullah Khan, "Marine Pollution and International Legal Controls," <u>Indian Journal of International Law</u>, vol.13 (1973), p.389.

^{10.} Ibid.

a result of industrialisation are considered to be the general indicators of pollution sources. When any country moves towards higher levels in these two aspects, it is likely to undergo environmental deterioration. 11

I. Development of Environmental Laws

It has been considered that law is a good potential tool to harmonise development and environmental protection. The aim of all the environmental laws is of two types. First, to maintain a balance between development and environment; 12 and second, to improve environmental quality. Following the historic Stockholm Conference, 13 it has been realised that clean environment is one of the basic need of the society. In the post-Stockholm period, several statutory and constitutional measures have been taken in India to control water, air, land and noise pollution. 14

In 1976 for instance, the Constitution was amended to include statements that both the government and citizen have

^{11.} Lachs, n.6, p.664

^{12.} A.M. Varkey, "Industrialisation and Environmental Problems" in Leelakrishnan (ed.) <u>Law and Environment</u> (Lucknow, 1992) p.92.

^{13.} See n.1

^{14.} N.S. Chandrasekaran, "Structure and Functioning of Environmental Protection Agency: A Fresh Look", <u>Cochin University Law Review</u>, vol.8 (1984) pp.201-208.

duty to protect and improve the environment under Article $48A^{15}$ and $51 A(g)^{16}$ respectively. The Water (Prevention and Control of Pollution) Act, 1974, (hereinafter cited as Water Act) was passed with a view to bring about prevention and control of water pollution. The Water Act is now applicable throughout the country except for a few states. The Act envisages constitution of a Central Pollution Control Board (CPCB) by the Central Government and State Pollution Control Boards (SPCB) by the respective State Governments as the main enforcing authorities under the Act. The Central Board was constituted in September, 1974. In 1978, the coverage of the Water Act was extended to pollution of land through industrial effluents.

The Air (Prevention and Control of Pollution) Act, 1981, (hereinafter cited as Air Act) is another important Act which has been passed by the Parliament. The Act makes provisions for prevention, control and abatement of air pollution, for establishment of Boards for conferring powers and functions relating thereto, for matters connected

^{15.} Art 48 A, a Directive principle of State Policy, reads as: "The State shall endeavour to protect and improve the environment and to safeguard the forests and wild life of the country".

^{16.} Art 51 A(g) is in the chapter entitled "Fundamental Duties", which says: "It shall be the duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wild life and to have compassion for living creatures..."

therewith. These Boards have been empowered to establish air laboratories to enable them to perform their functions efficiently. In fact, no separate machinery was created for this purpose. Instead, the existing water pollution control boards were conferred with an additional responsibility for prevention and control of air pollution.

The Government of India has enacted another important statute with a broader range, known as the Environmental (Protection) Act, 1986 (hereinafter cited as Environment . The Act seeks to achieve the following objectives: protection and regulation of discharge of environmental pollutants, handling of hazardous substances, speedy rein the event of accidents threatening environmental .damage and giving deterrent punishment to those who endanger environment, safety and health. Under this Act, Central Government has been empowered to take all appropriate measures to prevent and control pollution and to establish an effective machinery to achieve this objective. The Act enables the citizen to approach a court provided he given a notice of 60 days. A similar commensurate also inserted in the Air Act in 1987 and the Water Act 1988. The Act also authorises the Central Government to issue directions for closer, prohibition or regulation of industry's operation. It also authorises the Government to stop or regulate the supply of electricity water or any other service directly without obtaining court order.

For every problem, "there ought to be a law" is a cry frequently heard from people. But putting a law on the statute book does not necessarily mean putting it into effect. The laws are only a preliminary stage and its effectiveness depends on its enforcement. Merely adding new laws just because they look good on paper is an inadequate and ultimately ineffective approach to all the regulations. 17

In order to protect the environment, a series of laws have been passed. But according to Tiwari Committee Report, most of these laws lack provisions for helping the enforcement machinery. Tiwari Committee, appointed in 1980, noted the following short comings of the existing Indian environmental legislations:

- i) Many of these laws are outdated.
- ii) They lack statement of explicit policy objectives.
- iii) They are mutually inconsistent.
- iv) They lack adequate provisions for helping the implementing machinery.
- v) There is no procedure for reviewing the efficacy of the law.

^{17.} P. Leela Krishnan (ed.) <u>Law and Environment</u> (Lucknow, 1992).

How the purpose of environmental laws is translated into practice explains the need for enforcement machinery. ¹⁸ For this purpose to be achieved, however, the organizational aspect of enforcing environmental laws must be focussed.

II Problem of Enforcement :-

The problem has two dimensions

- a) Inadequacy of law, and
- b) Inadequacy of enforcement machinery

a) Inadequacy of law :-

Numerous laws having provisions for environment protection have been enacted. But many of these laws are out dated and have no relevance with the present enforcement machinery. Only few major acts like Air Act, Water Act, Environment Protection Act and Water Cess Act are relevant in this respect. A close study of these Acts reveals that they lack adequate provision for helping the enforcement machinery. There is no procedure for reviewing the efficiency of the law. Apart from this, most of these laws are inconsistent. For example, the legislature made stringent laws to protect the pollution, yet Sec. 24(2)¹⁹

^{18.} Estimates Committee, Sixty-first Report (1987-88), p.26.

^{19.} Sec 24(2): "where an act or omission constitutes an offence punishable under this Act and also any other Act, then the offender found guilty of such offence shall be liable to be punishable under the other Act and not under this Act!"

of Environment Protection Act, 1986, diluted the position. From legislation point of view, there are some other lacunaes also which hinder the proper enforcement. For example, Acts have been passed to control the air and water pollution, but they have lost their significance in the absence of similar provisions made for the control of noise pollution. One of the main defects of Water Act itself is that it is not uniformly adopted. This Act is criticised on the ground of its approach regarding 60 days notice which gives a long time to the offender to escape liability under the Act.²⁰

Yet another loophole of Environment Act is undue centralisation of powers. Even the authorities constituted to enforce it are subject to the supervision and control of Central Government. Secondly, the Kerala High Court's comment, 21 that a proper enforcement of environmental laws will require:

"an effective organisation with officers of proved integrity and well tested dedication and devotion...(with) a special section manned by able officers with specialised skill and guided by an expert head deserves serious consideration".

^{20.} Section 19(b) of the Environment (Protection) Act, 1986.

^{21. &}lt;u>Nillikka Achuthran V. Deshabhimani Printing and Publishing House Ltd</u>. (AIR 1986 Kerala 41 at 47).

b. Inadequacy of Enforcement Machinary

A preliminary enquiry shows that many of the officers of the Pollution Control Boards and Ministry entrusted with the formulation and administration of the environmental have neither the necessary experience nor the expertise warranted for the purpose. 22 In 1987, a proposal to establish a National Environment Protection Authority (NEPA) with various sub-groups, like an environmental impact assessment group, environmental courts, an interim relief cell, and a standards and enforcement division was mooted. The function this agency would be to monitor enforcement of various environmental protection laws and to serve as a coordinating body on environmental protection taken or proposed to be taken by various State Governments. However, so far, such an agency has not been established in India. There is no coordination between the different controlling agencies. The Central Pollution Control Board is entrusted with the task of laying down standards, harmonising the activities of counterparts (SPCBs) in the states. A close analysis shows that the State Boards did all the "dirty work" Central Board did nothing but lord over them. 23

^{22.} See, Times of India (New Delhi), 10 April 1989. A Conference on the "New Environment Protection Act" was sponsored by the Indian Law Institute, New Delhi and the Consumer Education and Research Centre, Ahmedabad.

^{23.} Chattrapati Singh, "Legal Policy for Environmental Protection" in Leelakrishnan (ed.) <u>Law and Environment</u>, p.26.

The constitution of the agency is such that vested interest creeps into it. The officers of these agencies are prone to corruption. When it comes to a question of taking an enforcement decision against the interest of the Government, the Boards are not able to function effectively and independently. This is so because the members, being nominated by the Government, can be disqualified and can also be removed from the office. In brief, the Boards are not free from external influence in the exercise of their powers and functions. 24

A close analysis of the functions, structure and power of statutory and administrative agencies reveals that they are ill-suited to ensure adoption of adequate pollution control measures. It is a well known adage that a liberal law that is strictly enforced is better than a lossely enforced strict law. As a result, enforcement remains the crux of the problem. Therefore, it becomes all the more important to work on enforcement machinery. 25

^{24.} Renu Khator, "The Enforcement Gap: A Compasative Study of India, British and American Pollution Regulation", Indian Journal of Polic Administration, vol.35 (1989), pp.593-606.

^{25.} Bharat Desai, "Some Enforcement Issues for Water Pollution Control in India" <u>International Studies</u> (New Delhi), vol.30 (1993), pp.319-33.

This study covers various aspects of the enforcement machinery such as composition, functioning and weaknesses of. legislative and administrative bodies involved in Different levels of enforcement which enforcement. the machinery adopts will also be highlighted, since the aim of all kinds of laws and their enforcement is to abate pollution. Therefore, it becomes all the more important to throw light on the existing laws, state of environment and dimension of the problem. Actual functioning of the machinery, legislative and administrative will be discussed with the help of annual reports of Pollution Control Boards and Ministry of Environment and Forests (MEF).

Certain constitutional and statutory mechanisms which help tremendously in the enforcement and conceptual aspect of enforcement will be briefly discussed. The proposed study will also cover the reasons which make the enforcement difficult such as lack of resources, lack of will to enforce, inavailability of the sampling equipments, lack of coordination between different bodies of the machinery. The problem relating to prosecutions, penalties and funds etc. will be discussed in detail.

CHAPTER II ENFORCEMENT MACHINERY

The Stockholm Conference¹ emphasised the need to defend and improve the human environment for present and future generation as an imperative goal for mankind and called upon governments to extend common efforts at this level. "It laid down principles on which Nations should act and make law."² It did significantly influence the governmental awareness regarding the necessity of the legal and organisational framework for the protection of environment.³ The Indian delegation was led by the then Prime Minister of India Mrs. Indira Gandhi. It played a leading role at Stockholm on behalf of the developing countries.

I. Statutory Basis

By virtue of its participation in the Conference and acceptance of the Stockholm Declaration, India assumed certain obligations. The Government of India proceeded to take certain legislative and administrative steps for addressing environmental problems. In fact, India became one of the first countries whose constitution includes a commitment to environmental protection and improvement. Environ-

^{1.} UN Doc. A/CONF./ 48/14//Rev.1, United Nations Conference on Human Environment, Stockholm pp.5-16, 1972.

P. Leelakrishnan, <u>Law and Environment</u>, (Lucknow, 1992), p. 397.

^{3.} S.N. Jain, "Legal Control of Water Pollution" in Indian Law Institute(ed.), <u>Legal Control of Environment Pollution</u>, (New Delhi, 1980), pp.8-31.

mental protection and improvement were explicitly incorporated into the constitution by the Constitution (Forty-Second Amendment) Act of 1976. Article 48 A was added to the Directive Principles of State Policy prescribing an obligation on the part of the state to protect and improve the environment. 4 Similarly, in a new chapter on "Fundamental" Duties", a responsibility was imposed on every citizen for this purpose. 5 The Forty-Second Amendment also expanded the Concurrent List of the Constitution to include the subjects which were earlier left exclusive to the states to legislate upon. The laws made for the protection of the environment also enjoy immunity from judicial scrutiny. 6 The constitution provides environmental legislative powers under three lists. The evolution of the national environmental policies resulted in Parliament enacting specialised laws in the field of water pollution and air pollution. The Water Act

^{4.} It provides: "The state shall endeavour to protect and improve the environment and to safequard the forests and wild life of the country".

^{5.} It provides, "It shall be the fundamental duty of every citizen to protect and improve the natural environment including forests, lakes, rivers and wildlife, and to have compassion for living creatures".

^{6.} By virtue of Article 252 of Indian Constitution.

^{7.} The Three lists (as per Seventh Schedule, Article 246) of Indian Constitution are:

Union List - Entries 52, 53, 54, 55, 57. State List - Entries 6, 7, 14, 18, 21, 24, 25.

iii) Concurrent List - Entries 17A, 17B, 20.

represented India's first attempt to deal exhaustively with an environmental issue. Water is a subject in the State List under the Constitution. The Water Act, a central law, was adopted under Article 252(1) of the Constitution, which empowers the Indian Government to legislate in a field reserved for the States, where two or more State legislatures consent to a central law. All the states have approved implementation of the Water Act as enacted in 1974. In 1984 the Environment Protection Act, which is also known as an Umbrella Act, was passed. These Acts were followed by amendments tightening the laws relating to air and water pollution. Which is also known as an Umbrella Act, was passed.

^{8.} Entry 17, List II, Seventh Schedule.

^{9.} Article 252(1) reads as, "If it appears to the Legislatures of two or more States to be desirable that any of the matters, with respect to which Parliament has no power to make laws for the States except as provided in articles 249 and 250, should be regulated in such states by Parliament by law, and if resolutions to that effect are passed by all the Houses of the legislatures of those States, it shall be lawful for Parliament to pass an Act for regulating that matter accordingly, and any Act so passed shall apply to such States and to any other State by which it is adopted afterward by resolution passed in that behalf by the House or, where there are two Houses, by each of the Houses of the Legislature of that State."

^{10.} However, the 1988 Amendment Act has yet to be adopted by all the States.

^{11.} Armin Rosencranz and others, <u>Environmental Law and Policy in India: Cases, Materials and Statutes</u> (Bombay: 1991) p.64.

Article 253 suggests that in the wake of the Stockholm Conference, Parliament has the power to legislate on all matters linked to the preservation of national resources. 12 Article 253 13 of the Indian Constitution empowers Parliament to implement India's international obligations under any treaty or agreement etc. Article 253 apparently gives the Parliment power to enact laws on virtually any entry contained in the State List. Parliament has used this power, among others, to enact the Air Act of 1981, the Environment (Protection) Act of 1986, the Public Liability Insurance Act, 1991 and the National Environment Tribunal Bill, 1992.

a. Statutory Machinery

In the footsteps of the historic Stockholm Declaration, the Government of India proceeded to enact the Water Act,

^{12.} In 1980, the Tiwari Committee recommended that a new entry on "Environmental protection" be introduced in the Concurrent List to enable the central government to legislate on environmental subjects. The committee's recommendation was based on a note from the Indian Academy of Environmental Law which observed that there was no direct entry in the 7th Schedule enabling parliament to enact comprehensive environmental laws. The note, however, did not consider Parliament's power under Article 253. See Department of Science and Technology, Government of India, Report of the Committee for Recommending Legislative Measures and Administrative Machinery for Ensuring Environmental Protection, Para 3, p.15 (1980).

^{13.} Article 253 runs as, "Notwithstanding anything in the foregoing provisions of this Chapter, Parliament has power to make any law for the whole or any part of the territory of India for implementing any treaty, agreement or convention with any country or countries or any decision made at any international conference, association or other body."

1974. This is the major water pollution control law in India which came into force on 23 March, 1974. The subject-matter of the Act is covered in the State List. 14 The history and the preamble of the Water Act suggest that only state legislatures can enact water pollution legislation. Therefore, the Act was passed in pursuant to Article 252 (1) of the Constitution, by the houses of Legislatures of 12 states, empowering the Parliament to enact a law on the matter. 15

The Water Act, 1974 aims at maintenance and restoration of wholesomeness¹⁶ of water and providing for establishment of the machinery to carry out this purpose. The Statement of objects and reasons of the Act states that the problem of pollutions¹⁷ of rivers and streams has assumed considerable

^{14.} Rozencraz, n.11, p.52.

^{15.} Entries Nos. 6 and 7 of the State List.

^{16.} Preamble of the Water Act runs as, "An Act to provide for the prevention and control of water pollution and the maintaining or restoring of wholsomeness of water, for the establishment, with a view to carrying out the purposes aforesaid, of Boards for the prevention and control of water pollution, for conferring on and assigning to such Boards powers and functions relating thereto and for the matters connected therewith".

^{17.} Section 2 (e) defines "Pollution" as, "Such contamination of Water or such alteration of the physical, chemical or biological properties of water or such discharge of any sewage or trade effluent or of any other liquid, gaseous or solid substance into water which render such water harmful or injurious to public health or safety to domestic, commercial, industrial, agricultural or animals or plants or aquatic organisms".

importance and urgency. It seeks to ensure that the domestic and industrial effluents are not allowed to be discharged into water courses without adequate treatment. The Act is quite comprehensive in its coverage of various types of water. For the purpose of the Act a "Stream" includes river, water course (whether flowing or for the time being dry), inland water (whether natural or artificial), subterranean waters and sea or tidal water to the extent specified in notification in the offical Gazette. 18

This Act created the Central Pollution Control Board (CPCB) and the State Pollution Control Boards(SPCBS). These Boards are to undertake preventive and control measures in accordance with the powers conferred on them under the Act. It is important to note that the Boards are legal entity under the Act. The Act vests regulatory authority in State Boards and empowers these Boards to establish and enforce effluent standards for factories discharging pollutants into water bodies. A Central Board performs the functions of a State Board for Union Territories and coordinates activities among the State Boards.

The CPCB was constituted in September, 1974. All the twenty five states of the Union have adopted the Act and respective SPCBs have been constituted. Since May 1981, the

^{18.} See Section 2 (j) of the Water Act.

CPCB and the SPCBs have been entrusted with the added responsibility of prevention and control of air pollution under the Air Act, 1981. Originally, the Board was named the Central Board for the Prevention and Control of Water Pollution. The name did not reflect the functions of the Board under the Air Act, 1981. Hence, under the Water (Prevention and Control of Pollution) Amendment Act, 1988, the name of the Board was changed to the present name. Enactment of the Environment (Protection) Act, 1986, which is a comprehensive legislation for the enforcement measures for protection of environment, Amendments in the Air Act in 1987 and the Water Act in 1988, the Rules on various aspects under the EPA, 1986 and the enactment of Public Liability Insurance Act, 1991 have further widened the scope of activities of the Boards. 20

Constitution of Board Under the Water Act is as follows:

Section 2 (a), (b) and (h) 21 define the Board, Central Board and State Board respectively as:

Sec 2 (a) "Board" means the Central Board or the State Board;

^{19.} Environment (Protection) Act, 1986.

^{20. &}lt;u>Central Pollution Control Board, Annual Report</u>, New Delhi, (1992-93), p.1.

^{21.} Section 2 (a), (b) and (h) of the Water Act.

Sec 2 (b) "Central Board" means the Central Pollution Control Board constituted under Sec 3(1) of this Act,

Sec 3 (1) reads as:

The Central Government shall, with effect from such date (being not later than six months of the commencement of this Act in the State of Assam. Bihar, Gujrat, Haryana, Himachal Pradesh, Jammu & Kashmir, Karnataka, Kerala, Madhya Pradesh, Tripura and West Bengal and in the Union territories as it may, by notification in the official Gazette, appoint, constitute a Central Board to be called the [Central Pollution Control Board] to exercise the power conferred on and perform the functions assigned to that Board under this Act.

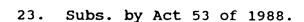
Sec 2 (h) "State Board" means a State Pollution Control Board constituted under Sec 4(1)of this Act.

Sec 4(1) reads as:

"The State Government shall, with effect from such date²² as it may, by notification in the official Gazette, appoint, constitute a²³ [State Pollution Control Board] under such name as may be specified in the notification, to exercise the powers conferred on and perform the functions assigned to that Board under this Act.²⁴

The statutory authority of these Boards was expanded after the Air Act, 1981. The Air Act lays down that the Boards constituted under the Water Act shall also function

^{22.} Omitted by Act 44 of 1978.



^{24.} Section 2, 3 and 4 of the Water Act.





as the Boards under the Air Act. Only states not having a Water Pollution Control Board were required to set up an Air Pollution Board. This is an added responsibility which the Boards have been entrusted with under the provisions of Air Act, without additional infrastructure for the purpose. Under this Act, all the industries operating within designated air pollution prevention and control areas²⁵ obtain a "consent" ²⁶ from the State Boards. The State Boards are required to prescribe emission standards for industry and automobiles after consulting the Central Boards and noting its ambient air quality standards. The Air Amendment Act, 1987 strengthened the authority of these Boards. The Boards may close down a defaulting industrial plant or may stop its supply of electricity or water. A Board may also apply to a court to restrain emissions that exceed prescribed standard. 27

^{25.} Section 3 reads as follows, "The Central Pollution Control Board constituted under section 3 of the Water (Prevention and Control of Pollution) Act, 1974 shall, without prejudice to the exercise and performance of its powers and functions under this Act, exercise the power and perform the functions of the Central Pollution Control Board for the prevention and control of air pollution under this Act".

^{26.} See Section 21 of Air (Prevention and Control of Pollution) Act, 1981.

^{27.} Section 33-A of Water Act, Section 31-A of Air Act.

Apart from the above set of enforcement machinery, the Act does not envisage any other mechanism. But the Environment Protection Act [EPA] lays down that the Boards created under the Water Act and the Air Act could be conferred power under the EPA too. Under the EPA, the Central Government is authorised to constitute an authority or authorities to perform the powers and functions of the Central Government. These powers include taking such measures "for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution." The Central Government may appoint officers with such designations as it thinks fit and may entrust to them such of the powers and functions as it may deem fit.

^{28.} Section 3(3) of EPA says, "The Central Government may, if it considers it necessary or expedient so to do for the purpose of this Act, by order, published in the Official Gazette, constitute an authority or authorities by such name or names as may be specifed in the order for the purpose of exercising and performing such of the powers and function (including the power to issue directions Under Section (5) of the Central Government under this Act and for taking measures with respect to such of the matters referred to in subsection (2) as may be mentioned in the order and subject to the supervision and control of the Central Government and the provisions of such order, such authority or authorities may exercise the powers or perform the functions or take the measures so mentioned in the order as if such authority or authorities had been empowered by this Act to exercise those powers or perform those functions or take such measures."

^{29.} Section 3 clause (1) of <u>Environment Protection Act</u>, 1986.

b Administrative Machinery

Apart from the statutory machinery, as mentioned earlier, there is an administrative structure which takes environmental policy decisions, initiates statutory measures and oversees functioning of the enforcement machinery. In November 1980, a fullfledged Department of Environment (DOE) was set up by the Central Government. The present integrated Department of Environment, Forests and Wildlife in the Ministry of Environment and Forests (MEF), was created in September 1985. The MEF serves as a focal point in the administrative structure of the Central Government for planning, promotion and coordination of environmental and forestry programmes. 30 The main activities of the Ministry are: conservation and survey of flora, fauna, forests and wildlife; prevention and control of pollution; afforestation and regeneration of degraded areas and protection of environment. 31 The National Committee on Environment Planning and Coordination, a high advisory body to the Government, appraises the progress of development projects, human settlements, planning, survey of natural ecosystem. There are Environmental Protection Councils in several States and Union Territories. In some big cities like Calcutta, Chandigarh, Kanpur, Bangalore, etc. there are Zonal Offices to

^{30.} Guha and Gadgil, "Forest Policy: Missing the Woods for the Trees", <u>Times of India</u> (New Delhi), 9 May 1989.

^{31.} Ministry of Environment and Forests, <u>Annual Report</u>, 1990-91, pp.14-22.

facilitate close coordination between the State and Central Boards. ³² Apart from the above, there are thirteen Autonomous Agencies assisted by the Ministry and eighteen Associated Units under the administrative control of the Ministry. ³³

Necessity for structural and Functional Freedom

To act effectively, freedom of action is the basic requirement of any agency, especially in the field of environmental pollution control. The constitution of the agency should be such that no vested interest enters into it. Its structural framwork should be structured in such a way that it can resist easily any external influence on decision making and implementation.

Following the Stockholm Conference, the Government of India decided to set up a committee on Human Environment under the chairmanship of Pitambar Pant. The report of this committee suggested for establishing greater coordination and integration in environmental policies and programmes. 34 As suggested by this committee, a National Committee on Environmental Planning and Coordination (NCEPC) was estab-

^{32.} Ministry of Environment and Forests, <u>Annual Report</u>, 1988-89, Annexure I, p.88.

^{33.} Ministry of Environment and Forests, <u>Annual Report</u>, 1993-94, Annexure 1, pp.112-13.

^{34.} National Committee on Environmental Planning and Coordination, Inaugural Function, 12 April 1972, p.1.

lished in February, 1972 by the Department of Science and Technology. 35

The NCEPC consisted of members drawn from various disciplines related to environmental management. The committee was assisted by the Department of Science and Technology and an Office of Environmental Planning and Coordination (OEPC) was setup under the direction of the chairman of the committee. The committee of For a considerable period of time, the composition of NCEPC was changed significantly. The duration of committee members was for a two-year term. Although, the membership of NCEPC increased to 29 from 1972 to 1977 and to 35 from 1977 to 1979, the proportion of non-officials decreased.

The Department of Environment was established on the recommendations made by a committee constituted under the Chairmanship of N.D. Tiwari in February, 1980.³⁷ The duty of this Ministrywas to suggest the legislative and administrative measures needed to ensure environmental protection. It came into existence on 1 November, 1980. Another major development in the field of environment was taken in septem-

^{35.} Ibid., p.2.

^{36.} O.P. Dwivedi and B. Kishore, "Protecting the Environment from Pollution: A Review of India's legal and Institutional Mechanisms", <u>Asian Survey</u>, vol.22, (1982), p.895.

^{37.} Chhatrapati Singh, "Legal Policy for Environmental Protection" in P. Leelakrishnan ed., <u>Law And Environment</u> (Lucknow 1992), p.27.

ber, 1985; when a full-fledged Ministry of Environment and Forests was Constituted. 38

II. Organisational Structure:

I. The Central Board for Prevention and Control of Water Pollution.

The Central Pollution Control Board (CPCB) was constituted in September, 1974 under the Water Act, 1974. According to the provision of Water Act, the Central Board Consists of a full-time chairman, being a person having special knowledge or practical experience in respect of (matters relating to environmental protection) or a person having knowledge and experience in administrative institution dealing with the matters aforesaid, to be nominated by the Central Government. ³⁹ Five members to be nominated by the state government to represent that Government. ⁴⁰ Five members nominated by the Central Government from amongst the members of the State Boards, of whom not exceeding two shall be from those referred to in clause(c) of sub-section (2) of section 4 of the Water Act. ⁴¹ Three members to be nominated

^{38.} Bharat Desai, "Some Enforcement Issues for Water Pollution Control in India", <u>International Studies</u>, vol.30, (1993), p.320.

^{39.} Section 3(2)(a) of Water Act runs as "such number of persons, not exceeding five to be nominated by the State Government to represent that Government".

^{40.} Section 4(2)(b) of the Water Act.

^{41.} Section $\mu'(2)$ (c) of the Water Act.

by the Central Government to represent the interest of Agriculture or fishery or industry or trade or any other interest which in the opinion of the Central Government ought to be represented. Two persons to be nominated by the Central Government torepresent the companies or corporations owned, controlled or managed by the Central Government. And afull-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control appointed by the Central Government.

During the period 1992-93, there was only one change. Dr. K.R. Ranganathan, Member Secretary took voluntary retirement and Dr. K.R. Khan, Senior Scientist Central Board took over the charge of member Secretary. 45

^{42.} Section 3(2)(d) of the Water Act.

^{43.} Section 3(2)(e) of the Water Act.

^{44.} Section 4(2)(f) of the Water Act.

^{45.} Central Pollution Control Board, Annual Report, 1992-93,

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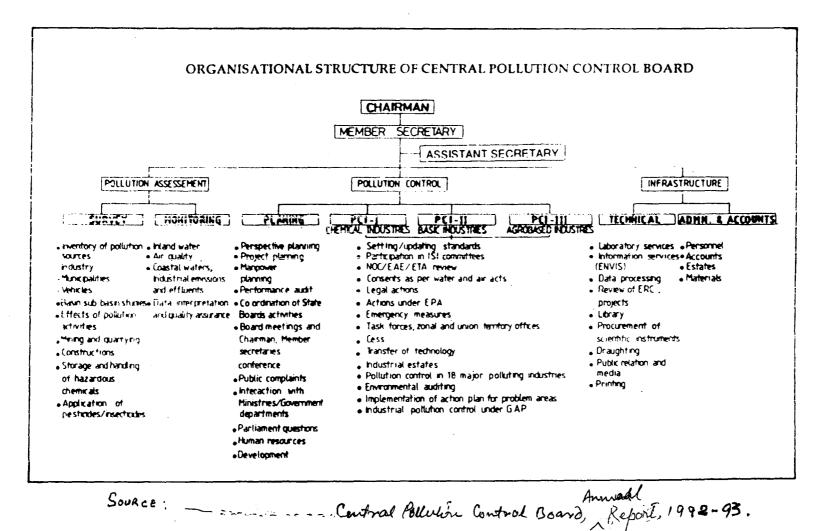
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Central Pollution Control Board has a sanctioned staff strength of 464 but has been able to fill only 300, including ad-hoc appointees. In the context of legal enforcement, it is important to note that the Board has a sanctioned strength in this category of one Legal Advisor, one Law Officer, three Assistant Law Officers, one part-time Legal Advisor, three Junior Law Officers, and one legal Assistant, constituting a total number of ten. The top position of Legal Adviser was vacant untill recently. There is one vacancy of Assistant Law Officer and one of the Legal Assistant. Vacancy of top position of Legal Officer for such a long time is significant. Presumably, the part-time Legal Officer performed the functions of the regular one. In 1988-89, the Central board resolved to delegate its powers in respect of sanctioning prosecutions and direction under the Air and Water Acts to the Chairman. The fact, that the top five positions 46 were vacant for such a long time, makes it clear as to what kind of advise the Chairman of the Board must be receiving.

The formation of CPCB was the government's key response to the needs of water pollution control-a necessary complement to rapid industrialization and a growing population. The CPCB, being an apex body, has been instrumental in

^{46.} Rahmatullah Khan, "Enforcing Environmental Laws", in Environmental Challenges, eds., Varshney C.K.— Sardesai, D.R. (New Delhi, 1993), pp.47-56.

spreading the message of pollution control across the country. Due to its efforts, already twenty four States have adopted Water and Air Acts and have set up respective State Pollution Control Boards for effective control. These states are Andhra Pradesh, Assam, Bihar, Goa, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Meghalya, Manipur, Mizoram, Nagaland, Orissa, Punjab, Rajashtan, Sikkim, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal.

II. State Board for the Prevention and Control of Water Pollution

The Water Act provides for a permit system or "Consent" procedure to prevent and control water pollution. The Act generally prohibits disposal of polluting matters in streams, wells and sewers or on land in excess of the standards established by the State Boards. State standards are set by the State Boards. Very few, however, have chosen to set different standards from those formulated by the CPCB. A person must obtain consent order from the State Board before taking steps to establish any industry, operation or process, any treatment and disposal system or any extention or addition to such a system which might result in the discharge of sewage or trade effluent into a

^{47.} Section 25(c) of the Water Act.

^{48.} Section 24 of the Water Act.

stream, well or sewer or on land. 49

Other functions of the State Boards specified by the Water Act include:

- (a) Planning a comprehensive programme for prevention, control and abatement of water pollution in the State.
- (b) Encourage, conducting and participating in the investigations and research of water pollution problem;
- (c) Developing economical and reliable methods for the treatment of sewage and trade effluents. 50

Moreover, the Act gives the State Boards the power of entry and inspection to carry out their functions. ⁵¹ The 1988 Amendment Act⁵² 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 services.

If we look at the Annual Reports of the Pollution Control Boards, performance of the State Boards has been

^{49.} Section 26 requires that persons releasing water pollutions prior to the adoption of the Water Act must also meet the consent requirement of Section 25.

^{50.} Section 17 of the Water Act.

^{51.} Section 23 of the Water Act.

^{52.} Section 33A of 1988 Amendment Act.

patchy.⁵³ A meagre number of prosecutions launched by the State Boards reflect their poor performance. It is distressing to find that a large number of prosecutions are dragging on for years in the court during which the defaulting units continue to discharge pollution effluents posing risk to lives of the people in the concerned areas.

III. Central and State Boards for the Prevention and Control of Air Pollution.

The Air (Prevention and Control of Pollution) Act of 1981 was enacted by invoking the Central Government's power under Article 253 to make laws implementing decisions taken at international conferences. 54.

In practice, the Air Act follows the basic structure of the Water Act. It has provisions for the constitution of new State Boards in those state in which the Water Act is not in force, or that Act is in force but the State Government has not constituted a (State Pollution Control Board) under that Act. ⁵⁵ A State Board constituted under this Act shall consist of the following members, namely Chairman, number of officials not exceeding five, not more than five

^{53.} Rahmatullah Khan, "Enforcing Environmental Laws", in Environmental Challenges, eds. Varshney, C.K. - Sardesai, D.R. Wiley Eastern Ltd., New Delhi, 1993, pp. 47-56.

^{54.} See Rozencranz, n.11, pp.191-192.

^{55.} Section 5 of the Air Act.

members to be nominated by State Government from amongst the members of local authorities functioning, not more than three members may be chosen by State Government to represent the interest of agriculture, fishery or industry or trade or labour or any other interest which in the opinion of State Government ought to be represented. ⁵⁶

Every State Board constituted under this Act shall be a body corporate with the name specified by the State Government. The Air (Prevention and Control of Pollution) Act of 1981 has further widened the scope of the Board's activity.

IV. General Powers of the Central Government under The Environment (Protection) Act, 1986⁵⁸

The Environment Protection Act enacted by Parliament also empowers the Central Government to constitute an authority or authorities for the administration of the Act apart from the Pollution Control Boards. Under this Act;

The Central Government may, if it considers it necessary or expedient so to do for the purpose of this Act, by order, published in official Gazette, constitute an authority or authorities by such name or names as may be specified in the order for the purpose of excercising and performing such of the powers and functions (including the power to

^{56.} Section, 5 (2) (d) of the Air Act.

^{57.} Section 5(3) of the Air Act.

^{58.} Received the assent of the President on May 23, 1986, Published in the Gazette of India, Extraordinary, Pt.II, Sec. I, dated 26 may 1986, pp.1-11.

issue directions under section (5) of the central Government under this Act and for taking measures with respect to such of the matters referred to in sub-section(2) as may be mentioned in the order and subject to supervision and control of the Central Government and the provisions of such order, such authority or authorities may exercise the powers or perform the functions or take measures so mentioned in the order as if such authority or authorities had been empowered by this act to exercise those powers or perform those functions or take such measures.

V. Establishment of National Environmental Tribunal

The National Environmental Tribunal Bill⁶⁰ is pending before the Parliament. This bill provides for the establishment of a tribunal to be known as National Environmental Tribunal. The preamble to the Bill seeks its mandate from the Earth Summmit (Rio de Janeiro), 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; and whereby it is considered expedient to implement the decisions of the aforesaid 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. As proposed, the Tribunal shall consist of a chairman and such number of vice chairmen, judicial members and technical members as the Central Government may deem fit

^{59.} Section 3(3) of Environment Protection Act.

^{60. &}lt;u>National Environmental Tribunal Bill</u> (NET), Bill No.133 of 1992. (to be passed in Lok Sabha), pp.1-20.

and subject to the other provisions of this Act, the jurisdictions, powers and authority of the Tribunal may be exercised by Benches thereof. ⁶¹ It is clearly mentioned under this bill that chairman ⁶² is or has been judge of the Supreme court or High Court, or has for atleast two years held the office of vice-chairman, ⁶³ qualified for the post of chairman.

It provides clear cut duration of chairman, vicechairman and other member who shall hold office for a term of five years from the date on which they enter upon this office but they are eligible for re-appointment for another term of five years.⁶⁴

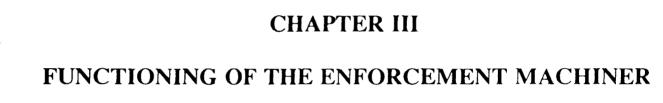
To summarize, environmental decision making body must be based on rational and related criteria. The environmental central agency must be an independent and expert body. A reorientation of the structural ad functional framework of environmental protection agency is called for. In developing countries like India, industrialisation has to be harmonised with environmental protection.

^{61.} Section 10(1) of National Environmental Tribunal Bill.

^{62.} Section 11(1) (9) of NET Bill.

^{63.} Section 11(2) (b) of NET Bill.

^{64.} Section 13 of NET Bill.



The preceding two chapters make it clear that the Government of India has taken several steps in Constitutional, Legislative and Administrative fields in order to protect the environment. In spite of such efforts made by the government, the problem of environmental pollution is increasing day by day. It seems that the fault lies either with the enactments or with the enforcement machinery. It is not enough for the government to make laws which are to be complied with by the polluters. A positive attitude on the part of the government and everyone else in the society is essential for the prevention of pollution. A comprehensive approach is the need of the hour. Looking at the magnitude of the problem, particularly with regard to the pollution caused by industries, it is high time now to have a concrete environmental policy.

I Objectives

While framing the policies, certain objectives should be kept in mind. Stress must be laid on the preventive aspects of pollution and strict enforcement of the laws to

^{1.} Armin Rosencranz and others, <u>Environmental Law and Policy in India: Cases</u>, <u>Materials and Statutes</u>, (Bombay, 1992), pp.50-75.

^{2.} M.S. Chandrasekharan, "Structure and Functioning of Environmental Protection Agency: A Fresh Look", in P.Leelakrishnan ed., <u>Law and Environment</u>, (Lucknow, 1992), pp.153-161.

reduce pollution. To achieve this, the following objectives should be taken into consideration:

- i) The objective should be to prevent pollution at the source itself.³
- ii) The best technical solutions should be encouraged and applied.⁴
- iii) The policy must provide for the compensation to the affected parties by the polluters.⁵
- iv) Adequate provisions should be made to strengthen the enforcement machinery.⁶
- v) Specific duties should be imposed on the law enforcing agency to carry out the legislative will.⁷
- vi) Special care and attention should be paid to heavily polluted areas and river stretches.⁸
- vii) Provisions must be made for the active participation of the public in enforcement of the environmental policy. 9

^{3.} See MEF, <u>Policy Statement For Abatement of Pollution</u>, <u>Government of India</u>, (New Delhi, 1992), p.4.

^{4.} Ibid.

^{5.} Ibid.

^{6.} Tiwari Committee's Report, Department of Science and Technology, Government of India, 1981, pp.19-24.

^{7.} See n.3.

^{8.} See for data n.3.

^{9.} Ibid.

viii)Action must be taken for setting up of Environmental
Courts. 10

I. The objective should be to prevent pollution at the source itself

Steps should be taken to see that various standards laid down by the laws are complied with by all industries and multi-national companies. Pre-emptive steps should be taken as regards pollution prone industries. Recycling of industrial waste should be encouraged and also be made compulsory, alongwith the growth of environment friendly industries and products.

ii) The best technical solutions should be encouraged and applied

It is necessary that the existing industrial units should be provided with fiscal assistance for adopting pollution prevention measures. Small scale industries should be provided with technical know how for implementation of environmental policy. They should also be encouraged to have joint facilities for treatment of effluents and solid waste.

^{10.} M.C. Mehta Vs. Union of India (Shriram Gas Leak Case) AIR 1987 SC 965.

iii) The policy must provide for the compensation to the affected parties by the polluters

In this regard, decision of Supreme Court in M.C.Mehta v Union of India 11 must be taken into consideration. It was held in Sriram Gas Leakage Case that, pending consideration of the issue whether the caustic chlorine plant should be directed to be shifted and relocated at some other place, the plant should be allowed to be restarted by the management, subject to certain conditions. One of these conditions laid down that:

The Management of Shriram will obtain an undertaking from the Chairman and Managing Director of the Delhi Cloth Mills Ltd., which is the owner of the various units of Shriram as also from the officer or officers who are in actual management of the caustic chlorine plant that in case there is any escape of chlorine gas resulting in death or injury to workmen or to the people living in the vicinity, they will be personally responsible for payment of compensation for such death or injury and such undertakings shall be filed in Court within one week from today. 12

iv) Adequate provisions should be made to strengthen the enforcement machinery.

After reviewing the environmental laws in India, the Tiwari Committee (1980), noted major shortcomings in the

^{11.} Ibid. In this case, the Court also raised the question as to the extent of the liability of such corporations and remedies that can be devised for enforcing such liability with a view to securing payment of damages to the person affectably such leakage of liquid or gas.

^{12.} Ibid.

existing environmental legislations.¹³ One of the shortcomings is that there are no adequate provisions for helping the implementing machinery. Apart from this, the poor performance of the Pollution Control Boards also substantiates the above findings.¹⁴

v) Specific duties should be imposed on the law enforcing

The officers of the Pollution Control Boards are entrusted with the task of taking stringent measures against the offenders but sometimes it has been observed that they are reluctant to perform their duties effectively. In such cases, provision should be made whereby they should be held liable for non-performance of duties. 15

vi) <u>Special care and attention should be paid to heavily</u> <u>polluted areas and river stretches</u>

It is necessary to evolve certain mechanism for reducing the concentration of pollutants in complex industrial

^{13.} Estimates Committee, (1987-88), See report no.7, Lok Sabha Secretariat, New Delhi, pp.24-26.

^{14.} Central Pollution Control Board, <u>Annual Reports</u>, 1990-91, 1991-92, 1992-93, New Delhi.

^{15.} Rahmatullah Khan, "Enforcing Environmental Laws" in Environmental Challenges, eds. Varshney, C.K.; Sardesai, D.R. (New Delhi, 1993), pp.47-56.

sites. Existing units must be directed for reducing pollution and bringing it down to the minimum. New units in these areas should be required to comply with specific standards. For the environmental quality objectives to be effective, environmental policy must be subject to review at regular intervals. For this purpose, an effective monitoring system is required to be created.

Disposal of wastes has led to severe pollution of agricultural land & rivers. There has been an increase in the amount of waste water produced from urban communities and industries. ¹⁶ In the coming years, due to rapid growth in population, urbanisation, industrial development and better water supply, the amount of waste water may increase manifold. Generally, this water is discharged into lagoons or dumped on low lying areas without any pre-treatment, thereby creating sewage pools, contaminating ground waters, salinizing good quality lands around cities, creating foul smell, etc. Therefore, attention should be paid to develop systems to treat sewage waters. ¹⁷

^{16.} Ministry of Environment and Forests, <u>Policy Statement</u> <u>for Abatement of Pollution</u>, New Delhi, 1992, p.5.

^{17.} Ibid.

vii) Provisions must be made for the active participation of the public in enforcement of the environmental policy

It is imperative to bring awareness among the public about pollution and its effect on humanity. ¹⁸ For this purpose, a national awareness is necessary in the field of environment. Responsibility of the government is to educate public about environmental risks. Tragedies like Bhopal and Chernobyl and other accidents must be brought to the notice of the public through media and government controlled environmental agencies. ¹⁹

viii) Action must be taken for setting up of Environmental Courts

Another important aspect is efficient disposal of the environment related cases through setting up of environmental courts. In M.C.Mehta v. Union of India, 20 the Supreme Court has suggested for the establishment of environmental court, consisting of experts for proper implementation and

^{18.} C.M.Jariwala, "Changing Dimensions of Indian Environmental Law", P.Leelakrishnan ed. <u>Law and Environment</u>, (Lucknow, 1992).

^{19.} P.Leelakrishnan, "Public Participation in environmental decision-making" in <u>Law and Environment</u> pp.162-174.

^{20.} See n.10.

speedy disposal of cases. 21

Effective pollution control demands dedicated and genuine efforts on the part of all concerned to promote a clean environment. Earlier, pollution was regarded as a mere public health problem. Now, it is increasingly appreciated as a socio-economic problem affecting the industrialists, the farmers and the custodians of public interests. The industries should together endeavour to promote a clean environment by developing cooperative programme of pollution control.

II. Coordination

The CPCB is entrusted with the task of laying down standards, harmonizing the activities of its counterparts (SPCBs) in the states. A close analysis shows that CPCB and SPCBs work altogether in a different fashion and without any coordination between them. ²² Infact, lack of proper coordination and cooperation among the different agencies is an important loophole in the whole institutional set up. ²³

^{21.} C.M.Abraham and Sushila Abraham, "The Bhopal Case and the Development of Environmental Law in India" <u>Interna-</u> <u>tional and Comperative Law Quarterly</u>, vol.40 (1991), pp.334-365.

^{22.} Ibid, p.337.

^{23.} See Report, n.13, p.25.

Without proper coordination between Central Pollution Control Board and State Pollution Control Boards, it is futile to think of proper enforcement of environmental policies. The problems faced at both the levels are numerous. Therefore, it is necessary to throw some light on the importance of coordination.²⁴

It is important that the work of the enforcement machinery should be properly coordinated to attain the desired results. 25 The main duty of CPCB is to discharge its statutory obligations in cohesive manner and properly coordinate with SPCBs. 26

The coordination activities between Central Board with State Boards comprise of many areas. Some of the specific important coordinated activities are as follows²⁷: -

- a) Preparation of comprehensive industry documents showing pollution status of different polluting industries in the states.
- b) Developing minimal national standards for effluents.

^{24.} Estimates Committee, <u>Lok Sabha Secretariat</u>, New Delhi, see report, n.7, pp.24-26.

^{25.} Bharat Desai, "Some Enforcement Issues for Water Pollution Control in India", <u>International Studies</u> (New Delhi), Vol.30, (1993), pp.319-333.

^{26.} Section 16(2)(b) of Water Act. A similar provision also exists under Section 16(2)(c) of the Air Act.

^{27.} Rosencranz, no.1, p.24.

- c) Implementation of standards with the help of task forces constituted at regional level as well as national level.
- d) Maintenance and working of the National Water quality Monitoring Stations situated in the States.
- e) River basin studies.
- f) Maintenance and working of the National Air quality Monitoring Stations situated in the states; and
- g) Compilation of data, preparation of reports, development of strategies for pollution control and environmental management by the Central Board with the help of the State Boards. 28

Central Board quarterly organises meetings of Member-Secretaries of the State Boards. The main purpose of this meeting is proper coordination among the State Boards and Central Board. So far more than 90 such meetings have been held. ²⁹ During April 1992 to March 1993, four more meetings of the Central Board were held. ³⁰

Another function of Central Board is that it also gives guidance and assistance to the State Boards for the implementation of various provisions of the relevant statutes and

^{28.} Rosencranz, n.1, p.25.

^{29.} Ibid.

^{30.} Ibid.

also launches prosecution against the polluters. The polluters may be industries and local bodies. 31

With regard to coordination between Central Pollution Control Board and State Pollution Central Boards, there are specific provisions under the Water Act. In this Act, Central Pollution Control Board has been given the explicit mandate to "coordinate the activities of the State Boards and resolve disputes among them". 32 In fact, this function is very crucial because very few states have an independent source of funding. Financially, they are entirely dependent upon their respective State Governments.

Success and effectiveness of a State Pollution Control Board depends to a great extent on the policy and guidance of the State Government concerned although there have been variations from state to state in this regard. For effective coordination of activities, the laboratory standards set up at the Central level and the State level should match so that positive test results should come out. Another problem faced by the Central Board in the field of applied research projects is that the studies related to a particular region could not be assigned to respective State Boards because

^{31.} See section 16(2)(b) of the Water Act. An identical provision is also enshrined under the Air Act, 1981.

^{32.} See section 16(2)(b) of the Water Act.

they are not well equipped.³³ Last but not least, problem in this field is that State Boards do not have any electronic computer data storage and retrieval system.³⁴ These handicaps in the coordination between State Boards and Central Board should be removed immediately.

These are some of the problems posing obstacles in proper coordination between State Boards and Central Board. Proper co-ordination among the concerned agencies is necessary for the effective implementation of environmental laws. In fact, State Boards are generally looking for help and guidance from Central Pollution Control Board.

Greater degree of coordination and cooperation is needed for the enforcement of the environmental programmes between Central, State and Local Government, between different Administrative institutions and ministries, and between institutions themselves. To overcome environmental crisis, the Ministry of Environment and Forests and eco-development agencies will have to make efforts to ensure that environmental awareness spreads to bureaucracies within the govern-

^{33.} Bharat Desai, n.25, p.332.

^{34.} Tbid., p.25.

^{35.} Ibid, pp.331-32.

ment and among the masses as well. 36 Environment should not be regarded as just another sector of development.

In the process of coordination of the activities of the State Boards by the Central Board, some of the difficulties of the difficulties of the difficulties of the difficulties.

- The policy and guidance provided by different State Governments determine to a great extent the effectiveness of the State Boards. State Governments should help in the smooth functioning of the Boards.
- ii) To ensure uniformity of test results of sample ctc., at the laboratories of the Central Board and State Boards.
- iii) Lack of electronic/computer storage and retrieval
 systems.

Provision of adequate funds for the State Boards will greatly facilitate elimination of infrastructural problems and ensure proper coordination with the Central Board. 38

III. Financial Provisions

Funds are necessary for smooth functioning of enforcement machinery. The provision for funding is mentioned under chapter VI of Water Act. 39 For the effective performance of

^{36.} Ibid, p.322.

^{37.} Bharat Desai." Waler Pollukin in Inchin: Law and Enforcined,"

^{38.} See, n. 36, pp. 324-26. New Delhi, 1990, 1. 152.

^{39.} Ibid.

enforcement machinery, it is necessary to have sufficient funds under respective State Pollution Control Boards. It is clearly mentioned under the Water Act that every State Board shall have its own fund. 40 Almost the same provision also exists in section 33 of the Air Act. 41 However, just laying down provisions for funding under both the Acts (Water Act and Air Act) is not sufficient for countering financial problems. In fact, from time to time, it came to the notice of Central Pollution Control Board that in some cases, due to paucity of funds, the State Boards were not able to cope up with their statutory obligations. Financial constraint has also forced a number of State Boards to restrict their activities. Not only this, sometime they have even ignored the problems deliberately. 42

The availability of funds for the Central Board is not much of a problem. The Central Board has been regularly getting generous grants-in-aid from the Government of India.

^{40.} Section 37(1) of the Water Act says: "The State Board shall have its own fund, and the sums which may, from time to time, be paid to it by the State Government and all other receipts (by way of gifts, grants, donations, benefactions [fees] or otherwise) of that Board shall be carried to the fund of the Board and all payments by the Board shall be made therefrom".

^{41.} See Section 32 of Air Act.

^{42.} Bharat Desai, n.25, p.325.

The grant-in-aid reached the figure of Rs.21.2 million in 1987-88 - a more than tenfold increase in ten years. 43 The activities of the Central Board, by way of monitoring or control of pollution in the Union Territories, account for a major part of its expenditure. 44

Annual plan of the Central Board for 1993-94 has been prepared keeping in view the need spelt out in the "Policy Statement for Abatement of Pollution" and "National Conservation Strategy and Policy Statement on Environment and Development" laid down by the Ministry of Environment and Forests. 45 The Central Board receives 100% grant-in-aid from the Ministry of Environment and Forests. For 1993-94, Rs.339.5046 lacs have been allocated on Plan Expenditure. The allocation47 amount is as follows;

^{43.} See Desai, n.25, p.329, also cited in Central Pollution Control Board, <u>Annual Report</u>, 1987-88 (New Delhi, 1988), p.57.

^{44.} Ibid, p.329.

^{45.} Central Pollution Control Board, Annual Report, 1992-93, p.79.

^{46.} Ibid.

^{47.} Ibid.

Table No.II Grant-in-aid Recieved by Central Pollution Control Board, 1993-94.

s.N	o. Head Project	Amount Allocated (Rs. in lacs)		
1)	Monitoring	79.50		
2)	Laboratory Development	68.00		
3)	Development of Standard	31.50		
4)	Training	09.00		
5)	Data Base Management & Library	26.50		
6)	Pollution Control Enforcement	47.50		
7)	Development and Application of Pollution			
	Prevention and Control Technology	27.00		
8)	Mass Awareness & Publication	16.00		
9)	Hazardous Waste Management	34.50		
	Total	339.50		

Source: Central Pollution Control Board, Annual Report, 1992-93.

Although, Central Board is receiving enough funds for proper functioning, but on the other hand State Boards are getting meagre financial help from their respective State Governments. For example, in Uttar Pradesh (being the largest state of India), the U.P.State Pollution Control Board received a grant of barely two million rupees as against its total budget of Rs.20.36 million for the year 1989-90. In this situation, any pollution prevention and control activity on the part of these Boards will become difficult.

^{48.} See Uttar Pradesh Pollution Control Board, <u>Annual</u> Report, 1989-90 (Lucknow, 1990), p.7.

The provisions of Water Cess Act (1977)⁴⁹ are also not helpful in this regard. There is a provision under this Act for the levy of a cess on every person carrying on a specific industry or on every local authority on the basis of consumption of water.⁵⁰ The main purpose of the Water Cess Act is to augment resources of the Central and State Boards. The Central Government, after deducting the expenses of cess collection, pays the Central Board and the State Boards such sums as it deems necessary to enforce the provisions of the Water Act. The Cess Act gives a polluter 70 percent rebate of the applicable cess upon installing effluent treatment equipment.⁵¹

Almost all State Boards are facing problems regarding the purchase of equipment and laboratory facilities for their monitoring, research and assessment work. The facili-

^{49.} The Water (Prevention and Control of Pollution) Cess Act (No. 36 of 1977), 1977.

^{50.} According to Section 2(1) of the Cess Act, Schedule I specifies the following industries as falling within its ambit: (1) the ferrous metallurgical industry; (2) the non-ferrous metallurgical industry; (3) the mining industry; (4) the ore-processing industry; (5) the petroleum industry; (6) the petrochemical industry; (7) the chemical industry; (8) the ceramic industry; (9) the cement industry; (10) the textile industry; (11) the paper industry; (12) the fertilizer industry; (13) the coal (including coke) industry; (14) the (thermal and diesel) power-generating industry; and (15) the animal or vegetable products processing industry.

^{51.} Rosencranz, n.1, p.65.

ties available are only for routine measurement and laboratories are not equipped with advanced analytical instruments to analyse parameters like gaseous emission at source, radio activity, etc.⁵² The Central Government agreed to provide Rs.15.7 million to sixteen State Boards during the Seventh Plan as against their demand for Rs.52.7 million.⁵³

These are the problems which State Pollution Control Boards are facing in the enforcement of law related with control of environmental pollution. It is the need of the hour to provide enough funds to State Pollution Control Boards and distribution of funds should be on the size and population of the state.

IV. Means

- a) Persuasion
- b) Legal Muscle

a) Persuasion

The latest policy followed by Pollution Control Boards is prevention, persuation and mitigation (P.P.M.). 54 These

^{52.} Estimates Committee, <u>Sixty First Report</u>, (1987-88), (New Delhi: Lok Sabha Secretariat, 1988), p.29.

^{53.} Desai, n.25, p.326.

^{54.} As elaborated by Mr. D.K.Biswas, Chairman, CPCB in his lecture in a workshop on "Legislative Approaches to Environment Protect" at SIS, JNU, New Delhi in January 1994.

three steps are adopted now a days before going for prosecution. In the first instance, the Boards try to prevent pollution at the source itself. They will not allow any industry or project to be set up which is detrimental to the environment. Moreover, consent order, a precondition for the establishment of an industry, will not be given to those industries which are not environment friendly.

The next step is persuation. It seems that the main strategy of the Boards has been "persuasive". In this regard, an observation made by P.R. Gharekhan, former Member Secretary of the CPCB, is very pertinent:

Pollution Control Boards monitor the quality of wastes, discharges and emissions from time to time. If any industry fails to comply with the consent condition, the Pollution Control Boards coaxes, cajoles and then threatens legal action. When all efforts fail, the Board is supposed to prosecute the erring industry. 55

In a sense this "extra legal" approach caused damage to the efficacy of the Boards as it resulted in laxity in the exercise of their statutory powers. ⁵⁶ Therefore, the consent order practically has become a licence to pollute, with the Boards finding it difficult to persuade the industries to comply with consent conditions. This could have been avoided

^{55.} See, The Economic Times (New Delhi), 7 April 1987.

^{56.} Khan, no.15, p.51.

if the Boards had not relied too much on the persuasive policy. But now, the Boards seem to discard this approach and pursue their statutorily envisaged. 57

Prosecution being the last resort, Boards try to mitigate and reach on some solution outside the court. In those cases, where the concerned industries comply with the consent conditions imposed upon them, the Boards tend to enter into a compromise with these industries. 58

ii) Legal Muscle

- a) Central Boards
- b) State Boards

a) Central Boards

The Central Board performs two fold functions:

- i) as the National Board, and
- ii) as the State Board for all the Union Territories.

In its role as a National Board, it performs functions of assessment, prevention and control of water pollution. As a State Board, it launches prosecutions in the respective Union Territories. A number of prosecutions under the Water

^{57.} Bharat Desai, n.25, pp.320-22.

^{58.} Ibid.

Act and Air Act have been launched under Section 33⁵⁹ or Section 44.⁶⁰

Despite of the approval in it's 45th meeting to institute legal proceedings against M/s. Swadeshi Cotton Mills (Pondicherry) and 26 other industries in Delhi, the Board failed to do so in 1982. In 1982-83, M/s. Delhi Cloth Mills and M/s. Delhi Milk Scheme were prosecuted by the Board under section 33 of the Water Act and both the industries were directed to install an effluent treatment plant. The year 1985-86 witnessed low key prosecutions. In view of the courts direction towards M/s. Modella Woolen Ltd., Chandigarh the application and complaint filed under section 33 and 44 respectively were not pursued further. Similarly, in a case against M/s. Nita Trading Co., Delhi, the complaint was not pressed in view of the undertaking given by the accused and the court passed the order accordingly. 63

^{59.} Section 33 of Water Act deals with apprehension of pollution.

^{60.} Section 44 of Water Act deals with violation of conditions of consent order.

^{61.} Central Pollution Control Board, <u>Annual Report</u>, 1981-82, p.35.

^{62.} The orders were passed on 18 September 1982 and 4 October 1982 respectively.

^{63.} Central Pollution Control Board, <u>Annual Report</u>, 1985-86, New Delhi, p.27.

In the year 1986-87, prosecutions were launched against 104 industries in the Union Territory of Delhi under sections 33 and 44 of the Water Act. In a case against M/s. Chandigarh Paper Board Mills Pvt. Ltd., Chandigarh, the Court allowed the factory to run and discharge the effluent into sewers upto April 1987, by which date it was to set up necessary treatment plant. 64

During 1987-88 no conviction was secured, although prosecutions were filed against 17 industries under section 44 of the Water Act and against two industries under section 33 of the Water Act. 65 In the year 1989-90, a fresh prosecution was launched against hot mix plant of Municipal Corporation of Delhi under section 37 of the Air Act. In a case filed against M/s. Band Box (P) Ltd., Trial Court had restrained the industry from discharging the effluent, but the complaint was not pressed in view of the positive steps taken by the industry to control the pollution within the specified time. 66

^{64.} Central Pollution Control Board, <u>Annual Report</u>, (New Delhi) 1986-87, p.39.

^{65.} Central Pollution Control Board, <u>Annual Report</u> (New Delhi), 1987-88, p.54.

^{66.} Central Pollution Control Board, <u>Annual Report</u> (New Delhi), 1989-90, p.48.

During the period 1991-92, no fresh prosecutions were launched against any industry. This was in view of the fact that the Central Pollution Control Board had delegated it's powers and functions as a State Board in respect of Union Territory of Chandigarh and Delhi (w.e.f. Ist April, 1991 and 1st June, 1991) to Chandigarh and Delhi Administrations respectively. The two cases which were filed against Central Poultry Breeding Farm (CBPF), Chandigarh, were settled as CBPF gave an undertaking for the construction and commission of the effluent treatment plant within the specified period. Hence, the prosecutions were not pressed. 67

In 1991, under section 31-A of the Air Act, the Board had issued direction for the closure of M/s. HAMCO located in Dadra & Nagar Haveli for causing air pollution. Later on, based on the industry's undertaking to install pollution control equipment within the specified period, the writ petition was disposed of by the Hon'ble Court. Afterwards, the industry did install the pollution control device. But, prosecution in respect of 36 cases was still pending in 1991-92.68

^{67.} Central Pollution Control Board, <u>Annual Report</u> (New Delhi), 1991-92, p.76.

^{68.} Ibid.

During 1992-93, no fresh prosecutions were launched against any industry in view of the fact that the Central Board had delegated its power and functions as a State Board in respect of the Union Territories of Pondicherry, Daman & Diu and Dadra & Nagar Haveli (w.e.f. April 1, 1992; November 1, 1992; & November 26, 1992 respectively) to Pondicherry, Daman & Diu & Dadra & Nagar Haveli Administrations. In case of other Union Territories, the delegation of power had been done already. 69

In respect of the 36 cases of the previous year, the decision was pending in 1992-93 also. But, decision was given in the case of M.C. Mehta etc. Vs. Union of India and others (in the matter of stone crushers) whereby the court directed the closure of the units which were operating in residential localities in an area of Delhi, thereby polluting the air, water and land of the area. 70 In the second case of Sh. Mohd. Iqbal Qureshi Vs. Manager, Delhi Slaughter House and Others, the court directed for the construction of a new modern slaughter house in an area which was not populated on or before December 31, 1993. 71

^{69.} Central Pollution Control Board, <u>Annual Report</u>, (New Delhi), 1992-93, p.75.

^{70.} Ibid.

^{71.} Ibid.

b) State Boards

Looking at the performance of the different State Pollution Control Boards on the basis of the available data, we find that their work is no better than that of the Central Pollution Control Board.

The Gujarat Pollution Control Board (GPCB), for instance, has launched the largest number of prosecutions in the country. The land monitors more than 600 units per month. It analysed 5,439 water samples and 33,599 air samples during 1989-90. The Board has a good monitoring network with four regional offices at Gandhinagar, Baroda, Surat and Rajkot as well as sub-regional offices at Vapi and Bharuch. The ambient air quality of three major cities viz., Ahmedabad, Baroda and Surat, is being monitored round the clock. Moreover, the coastal monitoring at 20 stations is being continued.

The detailed break-up and status of prosecutions 73 launched by the GPCB, as on 18 August 1993, is as follows:

		Total Cases	Disposed	Pending
i)	Water Act	1813	259	1354
ii)	Air Act	328	116	212

^{72.} Gujarat Pollution Control Board, Annual Report, 1989-90, p.1.

^{73.} Central Pollution Control Board, Status of Court Cases as on February, 1994.

The Gujarat Board conducts regular monitoring of the industries in the State through its regional offices. In this process, inspection, analysis and serving legal notices are part of its enforcement paraphernalia. The GPCB analyses samples of effluents in its own laboratory. It offers this facility to the industry too and earns considerable fees. The samples are measured in terms of the standards set by the State Government in the Official Gazette. 74

The break-up and status of prosecutions launched by the Maharashtra Pollution Control Board as on 15 January 1994 is as follows; 75

		<u>Total</u> <u>Cases</u>	Pending	<u>Decisions</u>
i)	Water Act, sec. 33	322	144	178
ii)	Air Act	143	24	119

The Maharashtra Board was reconstituted on 1 June 1981 according to the Water Act, 1974. The Board has seven regional offices. Inadequacy of staff as well as finances pose a big problem for the Board. The Board has been assigned with the additional task of air pollution control, without additional funds.

^{74.} Bharat Desai, n.25, p.329.

^{75.} See n.73.

In case of the West Bengal Pollution Control Board, the detailed break-up and status of prosecutions launched (as on $27 \text{ July } 1993)^{76}$ is as follows:

		Total Cases	<u>Pending</u>	<u>Decisions</u>
i)	Water Act	36	30	G
ii)	Air Act	1	1	-

The West Bengal Pollution Control Board has a poor record of successful prosecution of erring industries. 77 The Orissa Pollution Control Board, in comparison, has a better record of prosecutions. Out of 54 cases under the Water Act, 19 cases were decided and out of 24 cases under the Air Act, 10 were decided. 78

Environment (Protection) Bill 1986

By analysing the prosecutions launched and their undue delay in the court of law, it becomes next to impossible to enforce the law properly. To overome these problems, the Government of India brought out the Environment (Protection) Bill, 1986.

^{76.} Ibid.

^{77.} Ibid.

^{78.} Ibid.

The scope and objects of the Environment Act are wider than that of the Water Act and the Air Act. Concentration of powers with the Central Government is the predominant characteristic of the Environment Act. Section 3 of the Act reads as follows:

Subject to the provisions of this Act, the Central Government shall have the power to take all measures as it deems necessary or expedient for the purpose of protecting and improving the quality of the environment and preventing, controlling and abating environmental pollution.

The Act provides that the Central Government can create authorities or agencies, appoint officers, issue directions to close any industry and prohibit or regulate any operation or process. Its directions can extend to regulation or stoppage of supply of electricity, water or any other service to an industry. Provision for immediate preventive action against apprehended pollution, not available in the earlier law, is another remarkable feature of the new Act. The power of seizure is provided in the Water and Air Acts only for the narrow purpose of procuring evidence to support a prosecution. Under the Environment Act, power of Central and State boards has been widened. Now, they can seize any equipment, industrial part or other objects under the Environment.

^{79.} P.G. Kurup, "Environment (Protection Act): A Scientists View" <u>Cochin University Law Review</u>, Vol.12 (1987), pp.13-15.

ronment Act. Thus the power becomes more sharper and effective in the hands of enforcement personnel. Further, the Environment Act gives more emphasis on monetary sanction than on imprisonment. Unlike the prior laws, the Act confers on an individual the right to make complaint against environmental offence after sixty days notice.

The title, preamble and section 3(1)⁸⁰ of the Environment Act give an impression that the Act makes a shift from control of pollution to environmental protection. Environment pollutant' is defined as "any solid, liquid or gaseous substance present in such concentration as may be, or tend to be injurious to environment". "Environmental pollution" is defined as "the presence in the environment of any environmental pollutant". According to experts, including scientists, these definitions are not comprehensive enough to include matters like heat, radiation and plasma and organisms like bacteria. 82

The Indian legal system is still in infancy stage of

^{80.} Section 3(1) of Environment (Protection) Act \(\mu: \)."For the purposes of protecting and improving the quality of the environment and preventing and abating environmental pollution, the standards for emission or discharge of environmental pollutants from the industries, operations or processes shall be specified in the schedule."

^{81.} P.Leelakrishnan ed., Law and Enviornment. (Lucknow, 1992),

^{82.} Ibid.

the process of Environmental Impact Assessment (EIA) of development projects. On the other hand, in United States, a remarkable legislation, known as National Environmental Policy (NEP) Act, 1969; makes it possible to subject environmental impact statement, which should accompany every project proposal, to a thorough scrutiny by the general public, governmental and non-governmental agencies, and even by the judiciary. Many other countries have since then adopted this practice. Had there been a statutory mandate for environmental study within a legal framework, Bhopai disaster and its terrible aftermath would never have occurred. Union Carbide had to seek licences and permission from general agencies at state level and central level before the plant was located in the city. 83

It is necessary to establish environmental courts with power to grant quick remedies, reliefs and compensation. These courts should have jurisdiction to examine and decide disputes on all environmental matters. Its decision should be final, a subject only for the jurisdiction of the Supreme Court by special leave under Article 136 of the Constitution. 84

^{83.} G.S. Nair, (Environmental Offence: Crime Against Humanity,"

1. Ledakrishnan (ed) Laws Environment, (Lucknow), 1992.12, 185=2

184. M. K. Brasad, G. Environment-Act. Suggestions for Modifications,

1. Ledakrishnan (ed). Laws & Environment, (Lucknow), 1992.12, 185=2

1. Ledakrishnan (ed). Laws & Environment, (Lucknow), 1992.

1. 279.

In spite of all these acts, the problem of pollution remains as such. Therefore, to overcome this difficulty the Government of India has proposed National Environment (Protection) Bill in 1991-92 (NET) which is yet to be passed by the Parliament.

CHAPTER IV EVALUATION

In this chapter, evaluation of the enforcement machinery will be made on the basis of the number of prosecutions launched, penalties imposed and some of the leading cases decided by the courts. An inquiry into the actual enforcement of the laws also calls for an evaluation of the role of the machinery entrusted with this task. The present set-up of the Central and State Pollution Control Boards in India faces several problems in the enforcement of statutes concerned. It is generally felt that enforcement of pollution control laws in India has been sporadic and uncertain. 1 To ensure their full enforcement is a major problem. Poor enforcement is generally attributed to lack of bureaucratic and political commitment, inadequacy of laws, absence of awareness and absence of information. 2 This fact can also be proved by the meagre number of prosecutions launched by the Pollution Control Boards against the erring industries. Identification of some of the major issues would perhaps help in understanding the status of pollution control in India.

Susan G.Hadden, "Statutes and Standards for Pollution Control in India", <u>Economic and Political Weekly</u> (Bombay), vol.22, no.16, 1 April, 1987, p.715.

^{2.} Ibid.

I. Prosecutions

A study of the prosecutions launched by the Pollution Control Boards under the Water Act and the Air Act shows that the bulk concern violation of the conditions laid down in the consent orders rather than any failure on the part of the industries concerned to obtain consent. This means that a rational use of power to grant consent can serve as an effective weapon in the enforcement of the laws. As mentioned earlier, the main strategy of the Boards is to use "PPM" approach. It is only when every other effort fails that the Boards resort to prosecutions.

Both the Central Board and the State Boards have filed a number of prosecutions under the Water Act and the Air Act. While functioning in its capacity as a State Board, the Central Board has filed prosecutions in the Union Territories of Delhi, Goa and Pondicherry. In fact, Delhi accounts for the bulk of these prosecutions. A total number of 186 cases were filed under the Water Act and Air Act as on

^{3.} See section 44 of the Water Act.

^{4.} Prevention, Persuasion and Mitigation method.

^{5.} The Central Board delegated its powers and functions as a State Board in respect of the Union Territories of Delhi and Pondicherry w.e.f. June 1 1991 and April 1 1992 to Delhi and Pondicherry Administrations respectively. The data for the Union Territory of Goa is not available. Source: Central Pollution Control Board, Annual Report, New Delhi, 1991-92, p.76.

December 31,1993.⁶ In Chandigarh, Central Pollution Control Board filed only four cases under the Water Act. No prosecution was launched under Air Act.⁷ Though the number of prosecutions filed cannot be taken as an indicator of the performance, yet it does reflect laxity on part of the Boards to take positive steps in this regard. Although, a number of prosecutions are launched by the Central Board but the cases drag on for years in the courts and many of them are not pursued seriously till the end. Even in the few cases which are pursued seriously, the magistrate may, at the most, direct the defaulting industries to install a treatment plant⁸ which is a basic requirement normally prescribed in the consent order.⁹ Only in few cases, closure orders against the erring industries have been passed by the courts.

^{6. 184} cases were filed under Water Act and 2 cases were filed under Air Act.

^{7.} Data supplied by Central Pollution Control Board, New Delhi, 1992, Status of Court Cases as on 28 February 1994.

^{8.} Two complaint cases which were filed against the Central Poultry Breeding Farm (CBPF), Chandigarh were settled as the authorities of the CBPF gave an undertaking before the court for constructing and commissioning the effluent treatment plant within the specified period. See Central Pollution Control Board, Annual Report, 1991-92, New Delhi, p.76.

^{9.} Bharat Desai, "Some Enforcement Issues for Water Pollution Control in India", <u>International Studies</u> (New Delhi), vol.30, no.3, 1993, p.328.

For instance, in the case of <u>M.C.Mehta etc. Vs. Union</u> of <u>India and others</u>, the Supreme Court of India directed the closure of mechanical stone crushers which were operating in residential localities with effect from August 15, 1992. 10

The scenario as regards the prosecutions launched by the State Boards is even more disappointing. The Boards have exercised their power variedly. According to the reports of the Estimates Committee of the Lok Sabha, a total number of 1,602 cases were filed till 1987-88. Out of these, only 288 cases were decided. Rest of the cases were pending at various stages in the courts throughout India. 11

The Kerala State Pollution Control Board has a good record of successful prosecutions against erring industries. Out of a total number of 59 cases filed under the Water Act and 3 cases filed under the Air Act, decisions were given in 50 and 3 cases respectively as on March 4, 1994. The Tamil Nadu Pollution Control Board filed 311 cases under the Water Act, out of which 165 cases were decided. It filed 131 cases under the Air Act, out of which 103 cases were decided by

^{10.} Central Pollution Control Board, <u>Annual Report</u>, 1992-93, New Delhi, p.75.

^{11.} See Estimates Committee, <u>Sixty First Report</u>, 1987-88 (New Delhi: Lok Sabha Secretariat, 1988), pp.10-11.

^{12.} For data n.7.

the courts as on February 22,1992. 13 Similarly, Andhra Pradesh Pollution Control Board also showed a high record of successful prosecutions. Out of total number of 15 prosecutions launched under the Water Act, decisions were given in 13 of the cases whereas under the Air Act, only 1 case was filed which was successfully decided as on December 7, 1992. 14

The Rajasthan Pollution Control Board, in contrast, has a very poor record in terms of prosecutions. Out of a total of 304 cases filed under the Water Act¹⁵ and the Air Act, ¹⁶ only 65 cases were decided. ¹⁷ Similarly, Madhya Pradesh Pollution Control Board launched a total of 154 cases, out of which only 25 cases were decided as on 6 January 1994. ¹⁸ The data for the cases filed by Pollution Control Committees of Union Territories is not available. ¹⁹ Strangely enough, in the north eastern states, the Pollution Control Boards have a different story altogether. They have failed to file

^{13.} As per data supplied to Central Pollution Control Board. See for detail no.7.

^{14.} Ibid.

^{15.} Ibid.

^{16.} Ibid.

^{17.} Ibid.

^{18.} Ibid.

^{19.} Ibid.

even a single case under any of the Acts so far. 20 Goa, Nagaland and Sikkim have also failed to file any case so far against the polluting industries. 21

By analysing the data with regard to the number of prosecutions launched by the Central Board and the State Boards, it is apparent that they have not been either very enthusiastic or much successful in the matter. Various reasons are generally attributed for this sad state of affairs. This includes lack of will on the part of the enforcement machinery, meagre fees paid to the lawyers representing the Boards, routine court delays and recalcitrunt attitude of the polluters. The Boards can also do nothing once the case is *subjudice*. Meanwhile, the environmental degradation may go unchecked.²²

^{20.} The States who failed to file any case so far are Assam, Arunanchal Pradesh (in case of these two States, the dates available in the report (data, n.7) are 17 December 1992 and 23 July 1993 respectively)), Meghalaya, Manipur, Mizoram and Tripura (in case of these States, the dates available in the report are 19 May 1993, 1 December 1992, 20 September 1993 and 29 April 1993 respectively). See Source n.7.

^{21.} Regarding Sikkim and Nagaland, exact information is not available with the Central Board. In case of Goa, the date available in the report is as on April 28 1993, n.7.

^{22.} Chattrapati Singh, "Legal Policy for Environmental Protection" in P.Leelakrishnan (ed.) <u>Law and Environment</u> (Lucknow, 1992), p.29.

II Penalty

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Mere filing of prosecutions alone is not sufficient for the control of pollution. As far as fine is concerned, it often acts as a "licence to pollute". There should be provision for stringent penalties as a deterrent. The Water Act, for instance, envisages criminal sanctions for ensuring its effective enforcement. The Act provides for the penalties in Chapter VII. 23 Section 41, 43, 44 and 45 provide for a minimum mandatory sentence. The Water Act provides that it shall be lawful for the court to cause offender's name and place of residence, the offence and penalty imposed to be published at his cost in such newspapers or in such other manner as the court deems necessary.

Section 42 of the Water Act prescribes a sentence that may extend to 3 months or entail a fine or both. Since it gives the option to impose either a fine or imprisonment or both, in almost all the cases, the magistrates have imposed a fine. Even the amount of fine imposed is nominal. It can, at the most, be upto Rs.10,000. As the case drags on the court for years, it is usually profitable for the defaulting

^{23.} Thrust of Chapter VII, "In view of the anomaly traced in section 24(2) of the Environment Protection Act, a commensurate enhancement was made in penal Provision of the Water Act through the Amendment Act of 1988".

industry to pay the fine and continue polluting the environment rather than to set up an effluent treatment plant. 24

Section 41(1), 43 and 44 provide for a minimum mandatory sentence which is not to be less than a year and 6 months (the maximum sentence is upto six years with fine). Section 41 (3) and 45 provide for imprisonment for a period not less than two years (this may extend upto seven years with fine). 25

For severe penalty, the punishment may extend to six years imprisonment and fine upto Rs.1,000. The word 'and' used in sections 42 and 43 of the Water Act indicates that imprisonment and fine both have to be imposed and not one or the other. Severe penalty covers offences like substantial aggravation of water pollution.²⁶

The Air Act of 1981 provides for the residuary penalty clause which says that if any person contravenes the provision of this act and no penalty is prescribed under the Act, then such person may be punished with fine which may extend

^{24.} Although, there are a few exceptions in this regard. An undertaking was also given by M/s. Band Box (P) Ltd. for constructing and commissioning the effluent treatment plant within the specified period. Source: Central Pollution Control Board, <u>Annual Report</u>, 1989-90, New Delhi, p.48.

^{25.} As amended by Sections 21, 23 and 24 of the Water Amendment Act, 1988.

^{26.} Section 43 read with section 24; section 44 read with sections 25 and 26 of the Water Act, 1974.

opto Rs.5,000 and an enhanced fine of Rs.100 each day for the continuance of the Act.

In view of the meagre penalties prescribed under the Water Act and the Air Act; the Environment Protection Act, 1986 laid down stringent penalties. For non-compliance with the provisions of the Act or any order or direction issued thereunder, the punishment provided is imprisonment which extends to five years or fine exceeding Rs.1,00,000 or both. There is also provision for enhanced fine of Rs.5,000 per day in case the offence continues after conviction under section 15(2).

In 1987, a new Section 33-A was inserted in the Air Act, which penalises action of "any person, officer or authority", who does not comply with the order issued by the Board. The penalty prescribed is that at the first non-compliance, it shall be "not less than 1 year and 6 months but may extend upto 6 years with fine". If it continues even afterwards then an additional fine of Rs.5,000 per day is imposed and if it continues beyond one year then the punishment is imprisonment which may extend to seven years.²⁷

Though the EPA was enacted with great expectations to protect the environment, a mischief inserted in section

P.Leelakrishnan, <u>Law and Environment</u>, Lucknow, 1992, p.20.

24(2) has nullified its deterrent effect. This section, which still continues on the statute book, provides:

Where any act or omission constitutes an offence punishable under this Act and also under any other Act, then the offender found guilty of such offence shall be liable to be punished under the Act and not under this Act.

Thus, an offender booked under this provision is let off entirely if an act or omission in question falls within the ambit of some other statute too (either the Water Act or the Air Act). Hence, where an act or omission constitutes an offence under both the Water Act and the Environment Pollution Act, only the meagre penalty prescribed under the Water Act is applicable. This led to a belated enhancement in the penalties under Chapter VII of the Air Act in 1987 and the Water Act in 1988. A commensurate enhancement was also effected in the provisions of the Air Act, 1981. 28

As sub-section (2) of section 24 is still on the statute book, no prosecution has so far been filed exclusively under the EPA in the court of Law. As of today, the so-called deterrent penalty laid down in the statute is of no use. ²⁹ Apart from the penal sanction, there are other

^{28.} The Act was amended through the Air (Prevention and Control of Pollution) Amendment Act (No.47 of 1987), 1987.

^{29.} Desai, n.9, pp.326-329.

provisions also which deserve special mention as they help in the control of pollution by one way or the other. For instance, the EPA authorises the Central Government to issue directions, including the power to direct the closer of any industry, or the prohibition or regulation of any operation or process or stoppage or regulation of the supply of electricity, water or any other service. 30

The above penalties give us an idea about the sanctions given in the Water Act, Air Act and Environment Act. In view of increasing pollution, sanctions must be deterrent. Even a minor act may affect the environment adversely and therefore the quantum of punishment must commensurate with harm caused to environment. Therefore, those provision in the concerned statutes which dilute the strictness of the laws should be done away with.

III. Judicial Decisions

The third important factor for the evaluation of the enforcement machinery is the judicial pronouncements. It is a sheer irony that the duties which ought to be discharged by the enforcement machinery are now being discharged by the High Courts and the Supreme Court. Some of the decisions or order given by the higher courts in environmental matters

^{30.} See section 5 of Environment Protection Act.

are quite revealing as regards the performance of the enforcement machinery.

It is being felt that due to the poor bureaucratic and political commitment, lack of procedures and system, lack of awareness and poor data base and information, the enforcement agencies are unable to fulfil the statutory obligations imposed upon them. Moreover, the need for the technical expertise to handle environmental cases, lengthy delays and hence accumulation of cases in the courts hamper the effective enforcement of the existing environmental laws. This is precisely where the role of an active judiciary comes in.

The beginning of this judicial response can be traced in the Ratlam Municipality³¹ case, in which justice Krishna Iyer highlighted the need for environmental consciousness vis-a-vis the magistrate's power to abate public nuisance under the procedural law.³²

In <u>Ratlam Municipality v. Vardhi Chand</u>, the Supreme Court has rendered justice through judicial activism. In this case, Supreme Court recognised the importance of pollution free environment and gave it the status of a human

^{31.} Municipal Council, Ratlam, v. Vardnichand, AIR 1980, SC 1622.

^{32.} C.M.Abraham and Sushila Abraham, "The Bhopal case and the Development of Environment law in India", <u>Interna-</u> <u>tional and Comparative Law Quarterly</u>, vol.49, (1991), p.360. [hereinafter cited as Abraham & Abraham].

right. The circumstances of the case are typical and overflow the particular municipality and the solutions to the key questions emerging from the matrix of facts are capable of universal application. The Ratlam Municipal town, like many other Indian urban centres, is populous with human and sub-human species, is punctuated with affluence and indigence in contrasting co-existence, and keeps public sanitation a low pricrity item, what with cess-pools and filth menacing health. The rich have bungalows and toilets, the poor live on pavements and litter the street, with human excreta because they use roadsides as latrines in the absence of public facilities. The demand of residents for basic sanitation and public drains fell on deaf ears. Another contributory cause to the insufferable situation was the discharge from the Alcohol plant of malodorous fluids into the public street. The residents of a locality within limits of Ratlam municipality tormented by stench and stink caused by open drains and public excretion by nearby slumdwellers moved the magistrate under Section 133 of Criminal Procedure Code to require municipality to do its duty towards the members of the public. The magistrate gave directions to municipality to draft a plan within six months for removing nuisance. In appeal, Sessions court reversed the order. The High Court approved of the order of magistrate. In further

appeal, the Supreme Court expanded the scope of section 133 of the code of criminal procedure to uphold a magistrate's order directing municipality to carry out its duty to its residents. 33

The Supreme Court in Ratlam case clarifies that public nuisance, because of pollutants being discharged by big factories to the detriment of the poorer sections, is a challenge to the social justice component of the rule of law. The law is the grievous failure of local authorities to provide the basic amenity of public conveniences derives the miserable slum-dwellers to ease on the streets, on the sly for a time, and openly thereafter, under Nature's pressure, bashfulness becomes a luxury and dignity a difficult art.

Concerning the provisions under the Indian Penal Code and Code of Criminal Procedure, the court observed: "Although these two codes are of ancient vintage the new social justice orientation imparted to them by the constitution of India makes it a remedial weapon of versatile use". 35

^{33.} Act 2 of 1974 as amended by Acts 38 and 45 of 1978, is based on the first code of 1861. Section 133 of the Cr.P.C.empowers the magistrate to issue conditional orders for removal of nuisance.

^{34.} See Ratlam v. Vardhichand, n.31,p.1629.

^{35.} Ibid., p.1631.

Social justice is due to the people and, therefore, the people must be able to trigger off the jurisdiction vested for their benefit in any public functionary like a magistrate under Section 133 of the Criminal Procedure Code. 36 In the exercise of such power, the judiciary must be informed by the broader principle of access to justice necessitated by the conditions of developing countries and obligated by Article 38 of the constitution. The judgement is an eye-opener and has opened the doors for further developments in environmental jurisprudence.

In Doon Valley case, ³⁷ the Supreme Court was approached in 1985 to decide directly on environmental and ecological issues. In this case, two writ petitions, brought before the Supreme Court under Article 32 of the Constitution of India³⁸ as public interest litigation, sought to abate pollution caused by limestone quarries in the Doon Valley in

^{36.} For detail see section 133 of Criminal Procedure Code.

^{37.} Rural Litigation and Entitlement Kendra, Dehradun and Others Vs. State of U.P. and others, AIR, 1985, SC. 652.

^{38.} Art 32 of the Constitution of India confers the right to move the Supreme Court for enforcement of the fundamental rights and it also empowers the Supreme Court to grant appropriate remedies for the same.

the Mussorie Hills of the Himalayas. The court observed that:

Preservation of the environment and to keep the ecological balance unaffected is a task not only governments but every citizen must undertake. It is a social obligation and let us remind every Indian citizen that it is his fundamental duty as enshrined in Article 51A (g) of the constitution. 39

The Andhra Pradesh High Court in T.Damodar Rao Vs. Municipal Corporation of Hyderabad⁴⁰ has treated Right to pollution free environment as a part of right to life guaranteed in Article 21 of the Constitution of India. The broad question that falls for consideration is whether the Life Insurance Corporation of India and the Income Tax Department, Hyderabad can legally use the land own by the recreational zone within the city limits of Hyderabad for residential purposes contrary to the developmental plan.

The Court pointed out that it is clear that protection of the environment is not only the duty of the citizen but it is also the obligation of the State and all other State organs including the Courts. Examining the matter from the

^{39.} AIR 1987, SC, pp.354-359.

^{40. &}lt;u>T.Damodar Rao Vs. Municipal Corporation of Hyderabad</u>, 74 AIR, SC. p.171 (1987).

above constitutional point of view, it would be reasonable to hold that the enjoyment of life and its attainment and fulfilment guaranteed by Article 21 of the Constitution embraces the protection and preservation of nature's gifts without (which) life cannot be enjoyed. 41 There can be no reason why practice of violent extinguishment of life alone should be regarded as violative of Article 21 of the Constitution. The High Court also pointed out that the slow poisoning by the polluted atmosphere caused by environmental pollution and spoilation should also be regarded as amounting to violation of Article 21 of the Constitution. Thus, it is judicially established by the Andhra Pradesh High Court that the right to life guaranteed under Article 21 of the Constitution includes protection and preservation of the environment.

The judicial attitude towards promoting a clean and pollution free environment has in fact gained momentum throughout the Country over the last few years. The Supreme Court delivered a landmark judgement in <u>Delhi Oleum Gas</u>

<u>Leakage case</u> 42 and laid the foundation of Indian environmen-

^{41.} Ibid.

^{42. &}lt;u>M.C.Mehta</u> <u>Vs</u> <u>Union</u> <u>of</u> <u>India</u>, 74 A.I.R.,S.C. p.965.(1987).

tal law. The case originated in a writ petition⁴³ filed in the Supreme Court by an environmentalist and lawyer M.C.Mehta as a public interest litigation. The main issue raised under this petition was for closure and relocation of Shriram Foods and Fertilisers Industry's caustic chlorine and sulphuric acid plants located in a thickly populated area of Delhi.

The oleum gas leakage took place on 4 December 1985 - a day after the first anniversary of the Bhopal gas leak and caused widespread panic in the surrounding community. The oleum gas leakage took place in the SFFI, which had several manufacturing units, all set up in a single complex, situated in approximately 76 acres and they were surrounded by thickly populated colonies. The leakage of oleum gas resulted from the bursting of the tank containing oleum gas as a result of the collapse of the structure on which it was mounted and it created a scare amongst the people residing in the area. There were prohibitory orders under the Factories Act under which the plants were not allowed to work till safety measures were adopted. The Supreme Court, after considering the reports of expert committees appointed by the government and also by the Court, permitted the plants

^{43.} Writ Petition (Civil) no.12739 of 1985.

to be restarted but imposed strict observance of conditions laid down by the court. 44

In the opinion of the Supreme Court, when science and technology are increasingly employed in producing goods and services calculated to improve the quality of life, there is a certain element of hazard or risk inherent in the very use of science and technology and it is not possible to eliminate such hazard or risk altogether. 45 The Supreme Court impressed on the Government of India to evolve a national policy for location of chemical and other industries in areas where population is scarce and there is little hazard or risk to the community, and when hazardous industries are located in such areas, every care must be taken to see that large human habitation does not grow around them. Moreover, the Supreme Court further observed that the effect of permanently closing down the caustic chlorine plant would be to throw about 4000 workmen out of employment and that such closure would lead to their utter impoverishment. The Supreme Court, therefore, did not order the permanent closure

^{44.} See n.42.

^{45.} Ibid

of the plant but imposed stringent conditions for its functioning. 46

While delivering the judgement in M.C.Mehta's case, the Supreme Court has made most valuable suggestions in the area of protection and promotion of environment. The Supreme Court suggested that a High Powered Authority⁴⁷ should be set up by the Government of India, in consultation with the Central Pollution Control Board for overseeing functioning of hazardous industries with a view to ensuring that there are no defects or deficiencies in the design, structure or quality of their plant and machinery. The Authority would further ensure that there is no negligence in maintenance and operation of the plant and instruments are installed and are in operation and proper and adequate safety standards and procedures are strictly followed.

In this judgement, Supreme Court also felt that in most of the environmental pollution and ecological destruction cases coming up before Courts, there is need for neutral scientific expertise as an essential input to inform 'judicial decision' making. 48 These cases require expertise at a

^{46.} Ibid

^{47.} Ibid.

^{48.} Ibid.

high level of scientific and technological sophistication. The Supreme Court, therefore, found it absolutely essential that there should be an independent centre with professionally competent and public spirited experts to provide the needed scientific and technological input. In the circumstances, the Supreme Court urged upon the Government of India to set up an Ecological Sciences Research Group 49 consisting of independent professionally competent experts, who would act as an information bank for the Court and the government departments.

Lastly, the Supreme Court suggested to the Government of India to set up Environmental Courts⁵⁰ on 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. The Supreme Court favoured a right of appeal to the Supreme Court from the decision of the Environmental Court.

Again in the <u>Ganga Pollution Case</u>⁵¹ the petitioner had filed writ petition for prevention of nuisance caused by the

^{49.} Ibid.

^{50.} Ibid.

^{51.} M.C.Mehta Vs Union of India AIR 1988, sc.1115.

pollution of the river Ganga.⁵² This was filed in the interest of the public for protecting the lives of the people who make use of the water flowing in the river Ganga. Taking a serious view of the matter, the apex court ruled that:

The nuisance caused by the pollution of the river Ganga is a public nuisance, which is widespread in range and indiscriminate in its effect and it would not be reasonable to expect any particular reason to take proceedings to stop it as distinct from the community at large. 53

The petition, was therefore, entertained as a Public Interest Litigation. The Court also endorsed the petitioner's right to move the Supreme Court in order to enforce the statutory provisions which impose duties on the municipal authorities and the Boards constituted under the Water Act. 54

In their judgement, E.S. Venkatakamiah and K.N.Singh J.J. lamented:

Although Parliament and the State legislature have enacted many laws imposing duties on the Central and State Boards and Municipalities for prevention and control of pollution of water, many of those provisions have just remained on paper without any adequate action being taken pursuant thereto, on account of failure of authorities to obey the

^{52.} Ibid.

^{53.} Ibid.

^{54.} Ibid.

statutory duties several years, the water in the river Ganga at Kanpur has become so much polluted that it can no longer be used by the people either for drinking or for bathing. The Nagar Mahapalika of Kanpur has to bear the major responsibility for the pollution of the river near Kanpur City.

Conclusion

The Supreme Court viewed seriously laxity on the part of the enforcement machinery to carry out their statutory obligations. This is a telling commentary on their perform-The environmental jurisprudence of India visualises the need for establishment of environmental tribunals. The existing civil courts lack in environmental expertise and disperse delayed justice. We find that the Supreme Court in the process of broadly laying down the legal framework for environmental protection in India has often chastised the enforcement machinery. All doubts and criticisms about the lack of environmental consciousness of the Indian judiciary have to be reviewed in the light of the developments in the last few years. Although, some innovative judgements delivered by the dynamic judges of the Supreme Court and the High Courts of different states give a new direction to the development of environmental laws in India. Till today, India's sincere efforts and schemes for the legal protection of the environment and for the protection of citizens from pollution and its threats to life have worked out satisfactorily.

CHAPTER V CONCLUSION

The UN Conference on Human Environment held in Stockholm in 1972, significantly influenced the awareness regarding the necessity of legal and organisational framework for protection of environment in India. It interjected a new dimension to public responsibility by making it obligatory for the Central Government, State Government and every citizen to protect and improve the environment for the present and future generations.

By virtue of its participation in the Stockholm Conference, India assumed certain obligations. Although some provisions in the Indian Constitution relating to the improvement in the quality of life had been made since the Constitution came into being in 1950, but a direct reference to the environmental protection and improvement was introduced with the Constitution (42nd Amendment) Act of 1976. The amendment added Article 48A to the Directive Principles mandating the state to endeavour to protect and improve the environment and to safeguard the forests and wild life. It also added Article 51A with the heading "Fundamental Duties". clause (g) of this Article requires every citizen to protect and improve the natural environment and to have compassion for living creatures. Through this amendment, some subjects which were solely under the State List were transferred to the Concurrent List. Although Directive

Principles and Fundamental Duties are not enforceable in a court of law (because of Article 37), they do aim at the establishment of economic and social democracy pledged in the Preamble to the Constitution of India. But, while determining validity of any law, if a court finds that it seeks to give effect to any of the fundamental duties it may consider such law to be reasonable (in relation to Article 14 and 19) and thus save it from unconstitutionality.

During the last two decades, there has been considerable legislative activity in India in respect of environmental protection. The Water (Prevention and Control of Pollution) Act 1974, the Air (Prevention and Control of Pollution) Act 1981 and the Environment (Protection) Act 1986 deal exclusively with one or the other aspect of the problem of environment. The Central Board and the State Boards, created under the Water Act and the Air Act, are empowered to establish and enforce effluent standards for factories discharging pollutants into bodies of water. The Central Board is also entrusted with the task of coordinating the activities of the State Boards.

The Air Act is similar to the Water Act except for the provision empowering the concerned government to notify and declare air pollution control areas. The Boards under the Water Act are now also exercising the powers and carrying

the functions, envisaged under the Air Act. The Environment Protection Act is an "umbrella" legislation aiming at protecting and improving the environment.

Although a number of laws have been passed but merely putting a law on the statute does not necessarily mean putting it into effect. The laws are only a preliminary stage and their effectiveness depends on proper enforcement. It is generally felt that the enforcement of pollution control laws in India is sporadic and uncertain. The Kerala High Court's comment in Nellikka Achuthan V. Deshabimani Printing and Publishing House (Ltd.) (AIR, 1986 Kerala 41, at 47), that a proper enforcement of environmental laws will require "an effective organisation with officers of proved integrity and well tested dedication and devotion with a special section manned by able officers with specialised skill and guided by an expert head", deserves a special mention. Most of the officers of the Ministry of Environment and Forests and Central and State Boards do not seem to fulfil these qualifications. In M.C.Mehta V. Union of India (AIR 1987), the Supreme Court pointed out as follows: "It was observed that although Parliament and the State Legislature have enacted many laws imposing duties on the Central and State Boards and the Municipalities for prevention and control of water, many of those provisions have just remained on paper without any adequate action being taken pursuant thereto".

There are many reasons responsible for the poor enforcement of pollution control laws. They include, lack of resources for enforcement, lack of power to enforce, unavailability of sufficient laboratory equipments and lack of will to enforce. Apart from these reasons, for an effective enforcement the machinery should be free from the influence of the government and ragaries of grant-in-aid. Any agency requires freedom of action if it is to be effective. Unfortunately, the existing enforcement machinery is a statutory one but "autonomous" only in name.

The structure of the legislative and administrative enforcement machinery deserves a special mention at this juncture. The Water Act and Air Act have created machinery for State Boards and Central Board. The Central Board under the Water Act has to exercise its powers and has perform the functions of a State Board under the Air Act. This Board consists of seventeen persons including the Chairman and a Member Secretary. Strangely enough, it is possible that fifteen out of these members could be persons without any experience or qualification in pollution control or environmental protection. Out of seventeen, five could be official members of Central Government; five from State Government,

three representing the interest and agriculture or fishery or trade industry or any other interests and two representing companies or corporations owned, controlled or managed by the Central Government. Similarly, under the Air Act, the State Boards also consist of seventeen members but only two persons need having knowledge or experience in prevention and control of Air Pollution.

The Ministry of Environment and Forests serves as a focal point in the administrative structure of the Central Government for planning, promotion and coordination of environmental and forestry programmes. The Ministry's main activities include survey and conservation of natural resources, protection of environment, its regeneration, etc. The question arises as to how far we can attain in object. For the proper enforcement of law, there should be some objective in the mind of those entrusted with the task. For instance, the pollution should be protected at the source itself, best available and practical solutions should be applied, involvement of public in decision making should be included and enforcing the law and polluters should not go unpunished etc.

It is imperative that the work of the enforcement machinery should be properly coordinated to attain the objectives of environmental laws. As there are twenty five

State Boards in India, it is the Central Board which is entrusted with the task of laying down standards and harmonising the activities of the its counter parts (SPCBs) in the states. But after analysing the whole scenario, it appears that Central Board and State Boards work in an altogether different fashion. Infact, lack of proper coordination and cooperation among the different agencies of enforcement machinery is a major loophole in the whole institutional set-up. According to Sixty First Report of the Estimate Committee, although Central Board has decentralised its activities on a regional basis to ensure proper coordination, yet there are some obvious problems which should be sorted out immediately.

Funds are necessary for the smooth functioning of enforcement machinery. The availability of funds does not appear to be much of a problem for the Central Pollution Control Board. The Central Board receives generous grant-in-aid from the Government of India. This grant-in-aid reached the figure of Rs.21.2 million in 1987-88, as more than ten fold increase in 10 years. For the year 1993-94 this figure reached Rs.33.95 million. The basic source of funds for the State Boards is the grant-in-aid they receive from their respective State Governments. The financial difficulties being faced by various State Boards in India has thrown

their basic activities out of gear and made them almost nonfunctional.

For the proper enforcement of laws, the enforcement machinery adopts some legal and extra-legal means. According to the Chairman of the Central Pollution Control Board, the Board has now adopted prevention, persuation and mitigation (PPM) approach. But this persuasive approach followed by different Boards has caused some laxity in the exercise of their statutory powers. It has, in turn, marred the efficacy of the Boards. The Boards use legal muscle as the last resort. Although different Boards have launched several prosecutions, litigation is uncertain due to undue delay in the cases and complexities of laws. In some Public Interest Litigation matters before the higher courts, the Pollution Control Boards (being one of the respondents) have often been found not to be cooperative. In some instances, the Courts have in exasperation, passed strictures against these Boards.

The consent regime prescribed under the Water Act has also not proved effective. The Boards have somehow been "lenient" in passing consent orders which allow polluters to discharge effluents, albeit subject to certain conditions. A study of the prosecutions launched under the Water Act and Air Act shows that the bulk concern violation of the condi-

tions laid down in the consent orders. The Central Board launched a number of prosecutions but did not pursue them seriously.

The scenario as regards the prosecutions launched by the State Boards is even more dismal. Even if the prosecutions are launched, they drag on for years in the courts. States like Sikkim and Assam have not filed any prosecution in any court of law as of today. Howeer, mere filing of prosecution does not do any good. The penal regime of the concerned statutes should be severe enough to act as a deterrent for the polluters. In the past two decades, imposition of meagre fine under the Water Act or the Air Act has often turned out to be a "license to pollute".

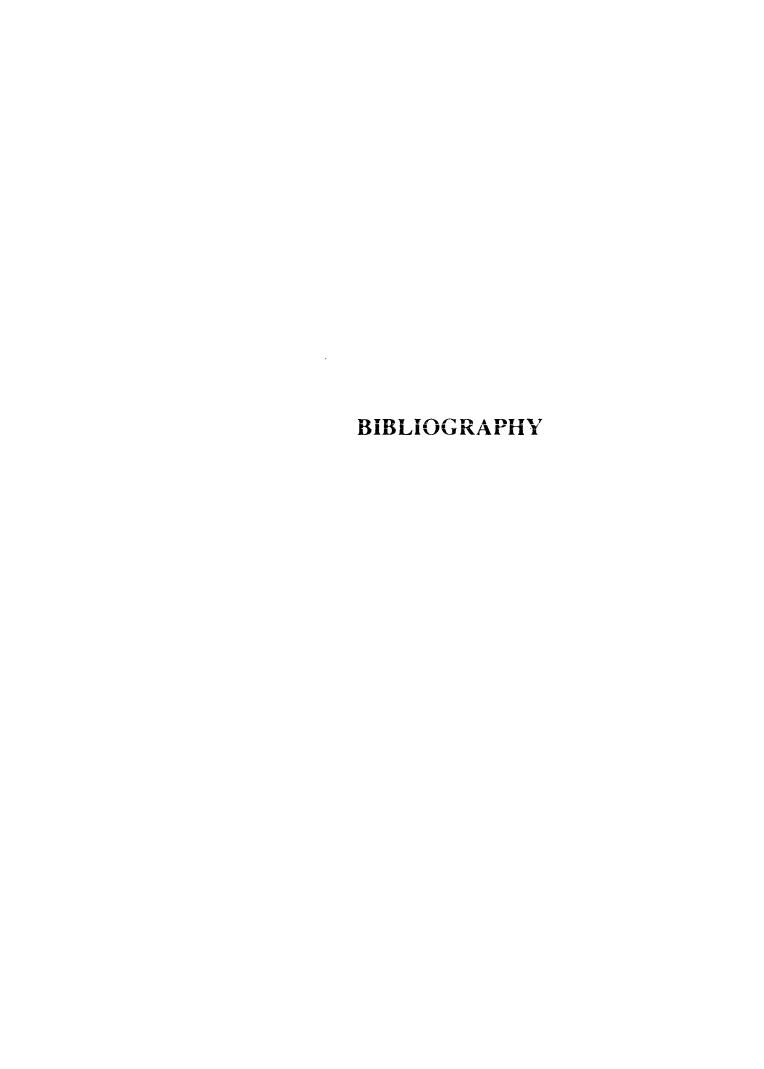
The Environment Protection Act does provide for stringent penalties. However, section 24 (2) of the Environment Protection Act has made it non-effective. It says that if an act or omission is punishable under the Environment Protection Act and also under any other Act, then the penalt under the other Act will apply. There are other sanction which help in the enforcement of laws by one way or the other. For instance, section 5 of the Environment Protectic Act authorizes the Central Government to issue a directic even for the closure or prohibition or regulation of the industries or any other operation or process.

Most of the problems mentioned above have often drawn the attention of the Supreme Court and the High Courts. Because of the inability of the enforcement machinery to deliver the goods, the higher courts, especially the Supreme Court of India, have intervened in several cases (brought under Public Interests Litigation) to provide relief. The authority or the Supreme Court has proved quite effective in cases like Doon Valley case, Delhi Oleum Gas Leakage case, Ganga Pollution case, Stone Crushers case, Taj Mahal case etc. The rapidly growing body of Public Interest Litigation jurisprudence in India has generated some salutary norms. This has been amply demonstrated in the on-going mammoth Ganga Pollution case (M.C. Mehta V Union of India: AIR 1987, AIR 1988).

To sum-up, an assessment of the performance of the enforcement machinery for environmental laws in India during the last two decades is quite revealing and gives a mixed picture. On one hand, the volume of environmental laws has grown considerably. At the same time, the enforcement machinery has also been expanded. Now all States in the Indian Union have separate Pollution Control Boards. Inspite of all this, environmental deterioration has continued unabated. For this dismal scenario, the enforcement machinery has to share part of the blame. This also underscores

the fact that the machinery has not lived upto its statutorily envisaged role. Though many reasons can be given for
such "non-performance" on the part of the Pollution Control
Board, yet the net result has been poor enforcement of
environmental laws in India. The growing volume of Public
Interest Litigation (PIL) before the Higher Courts only
helps to explain the scenario. The need for Public Interest
Litigation has been felt only because the enforcement machinery has not been able to deliver the goods. Hence,
quite obviously, the higher judiciary, adopted an activist
role, has stepped in to "remedy the situation".

In these circumstances, there is a need for a fresh look at the structure and functioning of the Pollution Control Boards. A package of measures which may include more autonomous functioning of the boards, minimising government control, financial viability, conferment of quasijudicial powers in appropriate cases, establishment of environmental courts on a regional basis, etc. should be adopted. Some of these measures will help the enforcement machinery for effectively reviewing the objectives of the relevant environment laws in India.



SELECT BIBLOGRAPHY

I. PRIMARY SOURCES

- A. DOCUMENTS, B. REPORTS:
- Central Pollution Control Boards (New Delhi), <u>Annual Reports</u> 1983-84, 1985-86, 1986-87, 1987-88, 1988-89, 1989-90, 1990-91, 1991-92, 1992-93, 1993-94.
- Department of Science and Technology, Government of India,

 Report of the Committee for Recommending

 Legistative Measures and Administrative

 Machinery for Ensuring Environmental Protection (The Tiwari Committee Report), 15 September, 1981.
- Estimates Committee, Sixty-First Report, 1987-88 (Lok Sabha Secretariat: New Delhi, 1988).
- ------ Sixty-Second Report, 1987-88 (Lok Sabha Secretariat : New Delhi, 1988).
- Government Resolution No. 1401/4/84-EPC (I) (Establishing Central Ganga Authority), the Gazette of India, Extraordinary, 16 February 1985).
- International Law Association, Report of the Forty-Seventh Conference (Dubrovnik, 1956).
- ----- Report of the Forty-Eighth Conference (New York, 1958).
- ----- Report of the Forty-Ninth Conference (Hamburg, 1960).
- ----- Report of the Fiftieth Conference (Brussels, 1962).
- Madhya Pradesh Pollution Control Board (MPP), Annual Reports, 1988-89, 1989-90, 1990-91,
- Maharashtra Pollution Control Board (Bombay), Annual Reports, 1982-1988-89, 1989-90, 1990-91.
- Recommendation of the Council on the Implementation of the Polluter-Pays principle, OECD Doc. C(74), 21 November, 1974.

- Rajasthan Pollution Control Board (Jaipur), Data from Executive Engineer (Admn.), 30 September 1985.
- Report of the High Powered Comm ission, Study on the Problems of People Affected by Large Undertakings in Gujarat, vol. I (Govt. of Gujarat, 1985), Annexure IV.
- Report of the UN Conference on Human Environment, Stockholm, 5-16 June 1972 (united Nations: N.Y...1973), A/CONF.48/14/Rev.1.
- UNITAR, International Cooperation for Pollution Control, UNITAR Research Report, No. 9 (Feb. 1972), United Nations Pub. Sales No. E-7, SN RR/9.
- United Nations Conference on Water Pollution Problems in Europe, Documents submitted to the Conference, vol.I, II and III (Geneva, 1961) (61.II.E/Mim.24).
- ----- Annual Report of the Executive Director (Nairobi, 1983), No. UNEP/GC.12(2).
- ----- Register of International Treaties and other Agreements in the field of Environment (Nairobi, 1984), No. UNEP/GC/Information/11.
- ----- The State of the Environment 1985 (UNEP: Nairobi, 1985).
- West Bengal Pollution Control Board (Calcutta), Annual Reports, 1988-89, 1989-90, 1990-91.
- World Commission on Environment and Development (WCED),
 Draft Reports of the Advisory Panels on
 Energy, Industry and Food Security (Geneva,
 1986).
- ----- Mandate for Change, (WCED: Geneva, 1985).
- ----- Our Common future (Oxford Uni. Press : Oxford, 1987).
- World Conservation Strategy, Living Resource Conservation for Sustainable Development (1980).

World Health Organisation, Control of Water Pollution: A Survey of Existing Legislation (WHO: Geneva, 1967).

B. CASES :

Badhua Mukti Morcha V. Inion of India, AIR, 984 SC 802.

Charan Lal Sahu V. Union of India, 1980, S.C, Delhi M/S
Delohi Bottling Company Private Limited, V.
C.B for P&C of Water Pollution, AIR 1986 Delhi
52.

M.C. Mehta V. Union of India, AIR 1987 SC 963.

M.C. Mehta V. Union of India, AIR 1987 SC 987.

M.C. Mehta V. Union of India, AIR 1987 SC 1036.

M.C. Mehta V. Union of India, AIR 1988 SC 1017.

M.C. Mehta V. Union of India, AIR 1988 SC 1115.

M.C. Mehta V. Union of India, 1990 Scale 609.

Nellika Achuthan V. Deshabhimani Printing and Publishing House Limited, 1986 Kerala 41.

R.L. & E. Kendra, Dehradun V. State of U.P., AIR 1985 SC 652.

R.L. & E. Kendra, Dehradun V. State of U.P., AIR 1985 SC 1259.

R.L. & E. Kendra, Dehradun V. State of U.P., AIR 1987 SC 395.

R.L. & E. Kendra, Dehradun V.State of U.P., AIR 1988 SC 2187.

Raylands V. Fletcher, (1868) LR 3 HL 330.

Society for Protection of Silent Valley V. Union of India (Unreported).

T. Damodor Rao V. Municipal Corporation, Hyderabad, AIR 1987 AP 171.

Tehri Bandh Virodhi Sangharsh Samiti V. State of U.P., JT (1990) 4 SC 519.

- <u>Union Carbide Corporation V. Union of India</u>, AIR 1990 SC 273.
- U.P. Pollution Control Board V. M/S Modi Distillery and others, AIR 1988 SC 1128.
- MK. Nandi V. Amitabha Banerjee, Calcutta H.C., 28 Jan. 1983.
- M.C. Mehta V. Union of India (Writ Petition (Civil) No. 3727 of 1985). Judgment No. 1 dated 22 September, 1987 and Judgment No. 2 dated 12 January, 1988.
- M.C. Mehta V. Union of India (Writ Petition (Civil) No. 12739 of 1985), Supreme Court Order, 19 August. 1985.

SECONDARY SOURCES

BOOKS

- AGARWAL, V.P. and S.V.S. Rana. <u>Science Development and Environment</u>. (Muzaffarnagar: Society of Biosciences, 1987).
- AHMAD, Yusuf. J. (ed.) <u>Environment Decision-Making</u>: <u>An Introduction to the Application of Cost-Benefit Analysis</u> (London: Hodder and Stoughton, 1983).
- ANDERSON, Frederick R. and others <u>Environmental Improvement</u>

 <u>Through Economic Incentives</u>. (Baltimore:

 John Hopkins, 1978).
- ANDREWS, RICHARD N.L. <u>Environmental Policy and Administrative Change: Implementation of the National Environmental Policy Act</u>. (Lexington: Lexington Books, 1976).
- BACOW, Lawrence S. And Michael Wheeler. Environmental Dispute Resolution. (New York: Plenum Press, 1984).

- BADEN, John and Richard L. Stroup (eds.). <u>Bureaucracy vs.</u>

 <u>Environment : The Environmental Cost of Bureaucratic Governance</u>, (Ann Arbor : University of Michigan Press, 1981).
- BANERJEE, Brojendra Nath. <u>Environmental Pollution and Bhopal Kilings</u>, (Delhi: Gian. 1987).
- BARRETT, Richard N. (ed.). <u>International Dimensions of the Environmental Crises</u>. (Boulder: West View, 1982).
- BARTELMUS, Peter. <u>Environment and Development</u>. (London: Allen and Unwin, 1986).
- BAUMOL, William J. and Wallance E. Oates. The Theory of Environmental Policy, (Cambridge Cambridge University Press, 1988).
- BEALE, Jack G. The Manager and the Environment: General
 Theory and Practice of Environmental Management, (New York: Pergamon, 1980).
- BENVENISTE, Guy. Regulation and Planning: The Case of Environmental Politics, (Boyd and Fraser, 1980).
- BHARGAVA, Gopal. <u>Environmental Pollution and Law</u>, (Bombay: Commerce Pamphlets, 1981).
- BHATT, S. <u>Environmental Laws and Water Resources Management</u>, (New Delhi: Radiant, 1986).
- BIELENSTEIN, Dieter (ed.). One World Only Industrialisation and Environment, (Tokyo: Friedrich-Ebert-Stiftung, 1974).
- BISWAS, A.K. and Qu Geping (ed.) <u>Environemtal Impact Assessment for Developing Countries</u>, (London: Tycooly International for U.N. University, 1987).
- BOLLIER, David and Joan Claybrook. Freedom from Harm: The Civilizing Influence of Health, Safety and Environmental Regulation, (New York: Democracy Project Jointly with Public Citizen Washington, 1986).

- CALDWELL, Lynton K. <u>International Environmental Policy :</u>
 <u>Emergence and Dimensions</u>. (Duke : Duke Press, 1984)
- CALDWELL, Lynton K. Man and His Environment : Policy and Administration. (New York : harper & Row, 1975)
- CARSON, Daniel H. <u>Man-Environment Interactions</u>: <u>Evaluations</u>
 and <u>Applications</u>. (St. Roudsburg: Hutchinson, 1974)
- CENTRE for Science and Environment. The State of India's Environment |484-85 : the Second Citizen's Report (New Delhi : The Centre, 1985)
- CLARK, B.D. and others. <u>Environmental Impact Assessment: a Bibliography</u> with Abstracts. (London: Mansell, 1980. 516p).
- CLARK, B.D and Tomlinson, P. (ed.) <u>Perspectives on Environ-mental Impact Assessment</u>. (Dordrecht: Riedel, 1984)
- CONSERVATION, <u>Foundation</u>. <u>State of the Environment</u>, 1982. Massachusetts Ave: Conservation Foundation, 1982. 439p.
- DANEKE, Gregory A. and others (ed.) <u>Public Involvement and Social Impact Assessment</u>. (Boulder: Westview, 1983)
- DECAT. Bronder, Waler Pollulin in India tais & triforemal,
- DIWAN, Paras (ed.). <u>Environment Protection</u>: <u>Problems</u>, <u>Policy Administration</u>. (New Delhi : Deep and Deep, 1987)
- EICHER, George J. The Environmental Control Department in Industry and Government: Its organization and Operation. (Beaverton: Words press, 1982)
- EL-HINNAWI, Essam and Manzur-ul-Haque Hashmi. Global Environmental Issues: United Nations Environment Programme. (Dublin: Tycooly International, 1982)

- EI-HINNAWI, Essam and Manzur H. Hashmi. (The State of the Environment. London: Butterworth, 1987)
- FEDOSEYEV, P.and T. <u>Timofeyev. Social Problems of Man's Environment: Where</u> We live and Work. (Moscow: Progress, 1981)
- FIRESTONE, David B. and Frank C. Reed. <u>Environmental Law for Non Lawyers</u>. (Ann Arbor: Ann Arbor Science Publishers, 1983)
- JOSHI, S.C. and G. Bhattacharya (ed.) Mining and Environment in India. (Nainital: Himalayan, 1988)
- JOYCE, Frank. Local Government, Environment Planning and Control. (Brookfield: Gower, 1982)
- KAMIENIECKI, Shelden. <u>Public Representation in Environmental</u>

 <u>Policy Making: The Case of Water Quality</u>

 <u>Management</u>, (Boulder: Westview, 1980)
- KATYAL, T. and M. Satake. <u>Environmental Pollution</u>. (New Delhi: Anmol, 1989)
- KUMAR, R. (ed.) <u>Environmental Pollution and Health Hazards</u>
 <u>in India</u>. (New Delhi: Ashish, 1987)
- LAKE, Laura M. <u>Environmental Regulation</u>: <u>The Political Effects of Implementation</u>. (New York: Praeger, 1982)
- LAST, F.T and others (ed.). <u>Land and its Uses: Actual and Potential: An Environmental Appraisal</u> (new York: Plenum, 1980)
- MAGAT, Wesley A. <u>Reform of Environmental Regulation</u> (Cambridge: Ballinger, 1982)
- MALVIYA, R.A. <u>Environmental</u> <u>Pollution</u> <u>and its Control Under</u> <u>International</u> <u>Law</u>. (Allahabad: Chugh, 1987)
- NAGCHAUDHURI, B.D. and S. Bhatt. <u>The Global Environment Movement</u>: A <u>New Hope for Mankind</u>. (New Delhi : Sterling, 1987)
- NATHAWAT, C.S. <u>Man, Nature</u> and <u>Environmental</u> <u>law</u>. (Jaipur: RBSA, 1988)

- RUSTER, Bernd and other (ed.). <u>International Pretection of</u>
 the <u>Environment</u>: <u>Treaties and Related Docu-</u>
 ments (New York: Oceana, 1982)
- SAPRU, R.K. (ed.) <u>Environment Management in India</u>. (New Delhi: Ashish, 1987)

B. ARTICLES :

- Anand, R.P., "Development and Environment: The Case of the Developing Countries", <u>Indian Journal of International Law</u>, vol.20, 1980, pp. 1-19.
- Baskar, H., "Environment Planning, Protection, Preservation and Perpetuation", <u>Administrator</u>, vol.31, no.3, July-Sept. 1986, pp.323-35.
- Baxi, Upendra, "Agro-economic System: Emerging Legal Issues", Mainstream, vol.23, no.18, 29 Dec. 1984, pp.10-14.
- Baxi, Upendra, "Taking Suffering Seriously: Social Action Litigation in the Supreme Court of India", 8&9 <u>Delhi Law Review</u> 91 (1970-80), pp.
- Gaine, Stanford E., "Pollutor-pays Principle: From Economic Equity to Environment Ethos", <u>Texas International Law Journal</u>, vol.26, no.3, Summer 1991, pp. 463-96.
- Goldblat, Josef, "Legal Protection of the Environment against the Effects of Military Activities", Bulletin of Peace Pyoposals, vol.22, no.4, Dec.1991, pp.399-406.
- Gupta, Gulab, "Public Interest Litigation as an Instrument of Social Justice", <u>Central India Law Quarterly</u>, vol.5, Jan-March 1992 part 1, pp.1-168.
- Jain, Suresh, "Environmental law in India", <u>Indian Journal</u>
 of <u>Public Administration</u>, vol.31, no.2,
 April-June 1985, pp.424-30.

- Khan, Rahmatullah, "Environment Control and International Law", <u>Indian Journal of International Law</u>, vol.11, 1971, pp.106-11.
- Khanna, Gopesh Nath, "Problems of Human Environment: Peoples Participation and Legal Solutions", Social Action, vol.39, no.3, July-Sept. 1989, pp.275-97.
- Lang, Winfried, "Environment Pollution: The Challenge for International Law", <u>Journal of World Trade Law</u>, vol.20, no.5, Sept/Oct. 1986, pp.489-96.
- Mandal, Hrishikesh, "Study of Environment Crisis: An Ecological Approach", <u>Human Science</u>, vol.38., no.4, Dec.1989, pp.274-82.
- Musseh, Ingovon, "International Environmental Law: Some Remarks", <u>Indian Journal of International Law</u>, vol.23, 1983, pp.210-24.
- Nanda, Ved P., "International Environment Protection and Developing Countries Interest: Role of International Law", <u>Texas International Law Journal</u>, vol.26, no.3, Summer 1991, pp.497-520.
- Peiris, G.L., "Public Interest Litigation in the Indian Subcontinent: Current Dimensions", <u>International and Comparative Law Quaterly</u>, vol.40, January 1991, pp.65-90.
- Rao, P.C., "The Environment Perspective in the Indian Constitution", <u>Indian Journal of International Law</u>, vol. 23, 1983, pp. 501-12.
- Sapru, R.K., "Environment Administration: Structural and Policy Issues in India", <u>Management in Government</u>, vol.16, no.4, Januray-March 1985, pp.476-93.
- Shah, S.M., "Towards Sustainable Development", <u>Yojana</u>, vol.36, no.16, 15 Sept. 1992, pp.16-21.
- Sumitra, S., "Basis and Extent of State Responsibility/Liability in International Law for Environment Pollution", Indian Journal of International Law, vol.27, 1987, pp.385-410.

Uberoy, Asha, "For Environmentally Cleaner Technologies", Yojana, vol.36, no.16, 15 Sept. 1992, pp.16-17.

C. NEWSPAPERS :

The Deccan Herald (Madras).

The Economic Times (New Delhi).

The Financial Express (New Delhi).

The Hindu (Madras).

The Hindustan Times (New Delhi).

The Indian Express (New Delhi).

The Times of India (New Delhi).