CHAPTER - 3
RELATION BETWEEN INTERNATIONAL ENVIRONMENTAL LAW AND THE INDIAN MUNICIPAL LAW

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3.1. Introduction

India has been an active participant in International environmental negotiations, often assuming a leadership role among developing states. India has a good record in ratifying major environmental treaties and has an active NGO community engaged in debates about international environmental issues.

Despite this level of internationalism, domestic environmental statutes remain concerned with problem of local pollution and resource degradation. Such localism is inevitable and indeed essential in a society where problems of polluted drinking water pose immediate threat to human survival and health.

Environmental law emerged as a distinct field of law about the time of the 1972 United Nations Stockholm Conference on the Human Environment. Since then environmental law has become a significant corpus of law practically in every country.

Environmental law can rarely be examined from an isolated, sectoral perspective. For instance, the prospective purchase of an industrial site must be examined from numerous environmental legal points related to past manufacturing practices on the site, waste disposal, pollution control technologies, presence of surface water adjacent to residential or other land uses that may be affected by factory operations, energy supply, transportation infrastructure and other possible environmental issues. No one law covers all these aspects.

Law must provide the procedures for societies to “think globally, act locally.” We must build a system that provides international guidance as to goals and priorities. Honest and non-corrupt governance at all levels will be essential. It is through institutions that civil society, our economy and all our social systems operate.
Environmental law can be seen as a connecting link between the municipal and international law. States, being part of the international law making, have acted as a means through which the international environmental law is applied at the level of the village and local authority. A series of multilateral environmental agreements, adopted since the 1972 Stockholm Conference on the Human Environment, have begun to establish norms by which national obligations can be pursued in a co-ordinated way to maintain the environment of the commons. The only way these agreements become effective, however, is through the effectiveness of each State’s system of municipal environmental law. Environmental law seeks to maintain the quality of life for humans as well as all flora and fauna in the biosphere, so that the socio-economic systems that depend on stable natural resources can prosper and attain an equitable distribution of social well being.

Environmental law is one of the primary pillars supporting each nation’s patterns of ‘sustainable development’ originating in the laws for conservation of nature and control of pollution. The field of environmental law has long addressed issues relating to scientific sustenance of the yield of renewable natural resources and avoidance of wastage of non-renewable resources and protection of the public health. These themes have come to be recognized as essential to the integration of economic development and environmental protection, and fall broadly under the rubric of ‘sustainable development.’

3.2 Role of International Law in the Constitutional Order:

3.2.1. Impact of Federalism:

The authority to legislate is divided on the basis of subject areas, with the Union Parliament empowered to legislate on any of the 97 topics appearing on the ‘Union List’. In theory the states are responsible for most matters of day-to-day administration. The division of power with respect to the environmental law may be directly related to the power to enter into treaties vested in the Union
government. Although the Constitution is silent on the point, treaty making is regarded as an executive rather than a legislative activity.

Art. 253 of the Constitution endows Parliament with the power to make laws to implement treaties and international agreements. The provision is unusual in two ways, first, legislation incorporating a treaty may apply to the whole or any part of India, thereby making the prospect of applying international obligations to only a part of Indian territory. Second, it provides similar powers to implement any decision made at any international conference, association or other body. The Constitution explicitly provides that Parliament may make laws with extra-territorial effect, which might be useful should parliament wish to extend environmental protection to the global commons.¹

3.2.2. Legislation pursuant to environmental agreements

India has ratified most of the global environmental treaties, but no legislation has been introduced specifically to incorporate these treaties into Indian law. For the most part, the Government of India has taken the view that its existing statutory framework is adequate to meet its obligations under International environmental treaties. In part this is due to the very wide powers available under the Environment (Protection) Act 1986 to introduce new regulations through secondary legislation.

There is a close link between international law and environmental legislation. Both the 1981 Air (Prevention and Control of Pollution) Act and the 1986 Environment (Protection) Act make preambular reference to decisions taken at the 1972 United Nations Conference on the Human Environment held in Stockholm. Both Acts were promulgated under the aegis of Art.253 of the Constitution for the explicit purpose of implementing decisions taken at the Stockholm Conference.²
3.2.3. A constitutional duty to implement International Law

The Constitution specifically deals with international law and international relations in Art.51, which provides for promotion of international peace and security; The State shall endeavour to:

a) promote international peace and security
b) maintain just and honourable relations between nations
c) foster respect for international law and treaty obligations in the dealings of organized peoples with one another and
d) encourage settlement of international disputes by arbitration

Art. 51 appears to have had little impact on the treatment of international law by the courts since it features in part IV of the Constitution and as such is not directly enforceable by the courts. The approach of the higher judiciary is to effectively reading the provision of the Directive Principles into the interpretation of the enforceable fundamental rights, thereby making certain parts of the directive principles directly justiceable.

In particular, the court has been willing to expand the right to life to include the aspirations of directive principles, so it is conceivable that a writ petition seeking to enforce international law in conformity with Art.51 could be entertained.³

3.3. The human right to environmental protection

Indian courts have recognized that it is the constitutional right of each individual to live in a healthy, pollution free and ecologically balanced environment. Most of the litigations relating to the environment in India are brought under this provision. Although this development relates to recent international instruments, the jurisprudence appears to be home-growth rather than imported.
The Apex Court’s landmark assertion of the right of the people to live in a healthy environment with minimal disturbance of ecological balance was made without reference to international instruments.

The jurisprudential basis for the right rests on an interpretation of the right to live found in Art. 21 of the Constitution although subsequent judgments have invoked the 1972 Stockholm declaration.

3.4. Polluter pays principle

The polluter pays principle implies that the polluter should bear the expenses of carrying out pollution prevention measures or paying for damage caused by pollution. Instituting the polluter pays principle ensures that the prices of goods reflect the costs of producing that good, including costs associated with pollution, resource degradation, and environmental harm. Environmental costs are reflected in the price of every good. The result is that goods that pollute less will cost less and consumers may switch to less polluting substitutes. This will result in a more efficient use of resources and less pollution.

National authority should endeavour to promote the internalization of environmental costs and the use of economic instruments taking into account the approach that the polluter should in principle bear the cost of pollution, with due regard to public interest.

The polluter pays principle means that the costs of clean up or prevention of environmental (pollution) damage should be borne by the polluter. This principle has a comparatively long history in European Community environmental policy. The EC adopted the principle in its first programme of action on the environment in 1973. In 1975, the council recommended that the EC, at the community level, and the member states in their national environmental legislation, apply the polluter pays principle according to which, “natural or legal powers governed by public or private law who are responsible
for pollution must pay the costs of such measures as are necessary to eliminate that pollution or to reduce it so as to comply with the standards or equivalent measures…. Laid down by the public authorities.” Accordingly, provisions of EC environmental law that lay down maximum values for permissible discharges, that prohibit certain activities or the use of certain substances or that specify that individuals are to be informed or consulted can be seen as having direct effect.

Where member states have violated rights provided for in environmental directives, liability for damages may result by application of Art 5 of the European Community treaty which requires member states to take all appropriate measures to ensure fulfillment of their obligations under community law. The liability is on the state to fulfill its obligations to take all the measures necessary to achieve the result prescribed by the directive. It gives rise to a right to compensation where, the following three conditions are met.

1. The result required by the directive includes conforming rights for the benefit of individuals.
2. It is possible to identify the content of these rights by reference to the provisions of the directive and
3. There is a casual link between the breach of the state obligation and the harm suffered by the injured parties.

These three directives require the establishment of measuring stations in areas where the concentration of pollutants is considered to be the most heavy. However, they leave to the member states the choice of the precise location where these stations are to be installed.5

The Supreme Court first introduced the ‘Polluter pays principle’ into the Indian law in the H. Acid case (1996 3 SCC 212 at 247) invoking Article 130 R
(2) of the European Community Treaty on Environment as sources for the principle. The Supreme Court read the principle into the provisions of the Environment Act, thus requiring the Central Govt. to issue orders against factories producing highly acidic waste. The immediate significance of this decision was that it shifted the costs of recommendation from the govt. to the polluting industries. The Supreme Court affirmed the polluter pays principle in Indian law and requires the polluter to pay compensation to injured parties as well as to cover the cost of remediation of the damaged environment.

3.5. Precautionary Principle

The precautionary principle is not defined in the treaty, however, in international law, the precautionary principle “ensure that of substance or activity posing a threat to the environment is prevented from adversely affecting the environment, even if there is no conclusive scientific proof linking that particular substance or activity to environmental damage.” The precautionary principle is a fundamental principle of law and policy for the protection of global environment.

The precautionary principle requires a non scientifically based evaluation of the relative costs of regulatory inactivity and involves a balancing of social, political, cultural and economic considerations. Precautionary action generally applies where irreversible damage is threatened and can be applied to, global warming, loss of species.

Precautionary principle is one of the most important general environmental principles for avoiding environmental damage and achieving sustainable development. As set in Rio declaration of 1992, the precautionary principle states that:

“Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”
Each party shall strive to adopt and implement the preventive, precautionary approach to pollution problems which entails inter alia, preventing the release into the environment of substances which may cause harm to humans or the environment without waiting for scientific proof reading such harm.

In *Vellore Citizens Welfare Forum* case the court laid down that for the purposes of municipal law, the precautionary principle means:

i) Environmental measures by the state government and the statutory authorities must anticipate, prevent and attack the causes of environmental degradation.

ii) Where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation.

iii) The onus of proof is on the actor of the development industrialist to show that his action is environmentally useful.

The Supreme Court applied the principle and noted that the leather industry in India has become a major foreign exchange earner and Tamilnadu accounts for 80% of the national export production. Although the industry generates foreign exchange and provides employment, the Court concluded that the industry has no right to destroy the ecology, degrade the environment and pose a health hazard. The decision of the Court was based on the jurisprudential value of equitable balancing where competing interests are involved.

The Court has used the precautionary principle as a technique to circumvent the usual requirements in respect of causation and evidence, thereby facilitating quick action against industries it deems to be polluting in ecologically sensitive areas.
3.6. **Sustainable Development**

The principle has been recognized as a principle of customary international law incorporated into domestic law. Sustainable development is widely accepted as a primary goal of economic and social activity.

It contains within, it two key concepts

- the concept of ‘needs’ in particular the essential needs of the world’s poor, to which overriding priority should be given and
- The idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs.

Development involves a progressive transformation of economy and society. A development path that is sustainable in physical sense could theoretically be pursued even in a rigid social and political setting.

The satisfaction of human needs and aspirations is the major objective of development. The essential needs of vast numbers of people in developing countries for food, clothing, shelter, jobs are not being met, and beyond their basic needs these people have legitimate aspirations for an improved quality of life. Sustainable development requires meeting the basic needs of all and extending to all the opportunity to satisfy their aspirations for a better life.

Living standards that go beyond the basic minimum are sustainable only if consumption standards everywhere have regard for long term sustainability. Yet many of us live beyond the world’s ecological means. Perceived needs are socially and culturally determined and sustainable development requires the promotion of values that encourage consumption standards that are within the bounds of the ecologically possible and to which all can reasonably aspire.

Meeting essential needs depends in part on achieving full growth potential and sustainable development clearly requires economic growth in
places where such needs are not being met. Elsewhere, it can be consistent with
economic growth, provided the content of growth reflects the broad principles of
sustainability and non-exploitation of others. But growth by itself is not enough.
High levels of productive activity and widespread poverty can exist, and can
endanger the environment. Hence sustainable development requires that
societies meet human needs both by increasing productive potential and by
ensuring equitable opportunities for all.

An expansion in numbers can increase the pressure on resources and slow
the rise in living standards in areas where deprivation is widespread. Though the
issue is not merely one of population size but of the distribution of resources,
sustainable development can only be pursued if demographic developments are
in harmony with the changing productive potential of the ecosystem.

A society may in many ways compromise its ability to meet the essential
needs of its people in the future by over exploiting resources. The direction of
technological developments may solve some immediate problems but lead to
even greater ones. Large sections of the population may be marginalized by ill-
considered development.

Settled agriculture the diversion of water courses, the extraction of
minerals, the emission of heat and various gases into atmosphere, commercial
forests and genetic manipulation are all examples of human intervention in
natural systems during the course of development. Until recently, such
interventions were small in scale and their impact limited. Today’s interventions
are more drastic in scale and impact, and the more threatening to life support
systems both locally and globally. The accumulation of knowledge and the
development of technology can enhance the carrying capacity of the resource
base. But ultimate limits there are, and sustainability requires that long before
these are reached, the world must ensure equitable access to the constrained
resource and reorient technological efforts to relieve the pressure.
Economic growth and development obviously involve changes in the physical eco-system. Every eco-system everywhere cannot be preserved intact. A forest may be depleted in one part of watershed and extended elsewhere, which is not bad thing if the exploitation has been planned and effects on soil erosion rates, water regimes and genetic losses have been taken into account. In general, renewable resources like forests and fish stocks need not be depleted provided the rate of use is within the limits of regeneration and natural growth. But most renewable resources are part of a complex and inter linked eco-system, and maximum sustainable yield must be defined after taking into account system wide effects of exploitation.

Development tends to simplify ecosystems and to reduce their diversity of species. And species once extinct are not renewable. The loss of plant and animal species can greatly limit the options of future generations, so sustainable development requires the conservation of plant and animal species.

So-called free goods like air and water are also resources. The raw materials and energy of production processes are only partly converted to useful products. The rest comes out of wastes. Sustainable development requires that the adverse impacts on the quality of air, water and other natural elements are minimized so as to sustain the eco-system’s overall integrity.

In essence, sustainable development is a process of change in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations.

Many problems of resource depletion and environmental stress arise from disparities in economic and political power. An industry may get away with unacceptable levels of air and water pollution because the people who bear the brunt of it are poor and unable to complain effectively. A forest may be
destroyed by excessive felling because the people living there have no alternatives or because timber contractors generally have more influence than forest dwellers.

As a system approaches ecological limits, inequalities sharpen. Thus when a watershed deteriorates, poor farmers suffer more because they cannot afford the same anti-erosion measures as richer farmers. When urban air quality deteriorates, the poor, in their more vulnerable areas, suffer more health damage than the rich, who usually live in more prestige neighborhoods. When mineral resources become depleted, late comers to the industrialization process lose the benefits of low cost supplies. Globally wealthier nations are better placed financially and technologically to cope with the effects of possible climatic change.

Critical objectives for environment and development policies that follow from the concept of sustainable development include (a) reviving growth, (b) changing the quality of growth, (c) meeting essential needs for jobs, food, energy, water and sanitation, (d) ensuring a sustainable level of population, (e) conserving and enhancing resource base, (f) reorienting technology and managing risk, (g) merging environment and economics in decision making.

In its broadest sense, the strategy for sustainable development aims to promote harmony among human beings and between humanity and nature. The pursuit of sustainable development requires

→ A political system that secures effective citizen participation in decision making.
→ An economic system that is able to generate surpluses and technical knowledge on a self-reliant and sustained basis.
→ A social system that provides for solutions for the tensions arising from disharmonious development.
→ A production system that respects the obligation to preserve the ecological base for development.
→ An international system that fosters sustainable patterns of trade and finance and
→ An administrative system that is flexible and has the capacity for self-correction.

These requirements are more in the nature of goals that should underlie national and international action on development. What matters is the sincerity with which these goals are pursued and effectiveness with which departures from them are corrected.⁹

Sustainable Development means, “Development that meets the needs of the present without compromising the ability of future generation to meet their own needs.”

In *People United for Better Living in Calcutta Vs. State of West Bengal*¹⁰ the Calcutta H.C. observed that “there shall be a proper balance between the protection of the environment and the development process, the society shall have to prosper, but not at the cost of the environment and in the similar way, the environment shall have to be protected but not at the cost of the development of the society.

### 3.7. Inter-Generational Equity and Responsibility

Sustainable development is closely associated with the goal of inter-generation equity. Sustainable development recognizes each generation’s responsibility to be fair to the next generation, by leaving an inheritance of wealth no less than they themselves had inherited. At a minimum, meeting this goal will require emphasizing the sustainable use of natural resources for subsequent generations and avoiding any irreversible environmental damage.
The Court has made explicit reference to the principle of intergenerational equity as a salient principle of sustainable development. Presumably, the principle has therefore been incorporated into Indian law as one aspect of customary International Law, although it has yet to perform any work within the framework of judicial reasoning.

In *Vellore Citizens Welfare Forum Vs. Union of India*, the Court admitted the case under art 32, 48A, 57A (9) of constitution of India, Water Act, Air Act and Environmental Protection Act, the Pollution Control Board of Tamilnadu had the responsibility to prevent pollution. The Court read the ‘precautionary principle’ and the polluter pay principle’ as essential features of sustainable development and they have been accepted as part of the law of the hand. Art 21 of the Constitution guarantees protection of life and personal liberty.

An authority to be constituted under Sec. 3(3) of Environment Protection Act 1986 which would have the power to determine compensation and take measures to prevent the pollution and power to direct the closure of industries; creation of environment protection fund; request to Madras High Court to create ‘Green Bench’ to monitor these matters; closure of certain polluting industries. The social cause for judgment is identified in the instant case. Environmental measures by the State Government and statutory authorities must anticipate, prevent and attack the causes of environmental degradation; where there are threats of serious and irreversible damage, lack of scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation; the ‘onus of proof’ is on the actor or the developer/industrialist to show that his action is environmentally benign.

Although there are references to sustainable development in judicial decisions and it has now been explicitly recognized as a principle of customary international law incorporated into domestic law, the concept has not found a
clear role in the *ratio decidendi* of environmental judgment, since the main jurisprudence has evolved in the context of environmental rights. However, many of the decisions on environmental rights have been concerned with striking a balance between environmental protection and economic development. There should be a proper balance between the protection of the environment and the development process, the society shall have to prosper but not at the cost of the environment and in the similar way the environment shall have to be protected but not at the cost of the development of the society.

A similar observation was made in a case involving industrial water pollution before the Patna High Court in *Rajiv Ranjan Singh Vs. State of Bihar*. The Supreme Court came closest to applying the principle directly in Vellore Citizen Welfare Forum in which the status of polluting tanneries in Tamilnadu was considered. The Court noted that the leather industry in India has become a major foreign exchange corner and that Tamilnadu accounts for roughly 80% of the national export production. Although the industry generates foreign exchange and provides employment, the Court concluded that the industry has no right to destroy the ecology, degrade the environment and pose a health hazard and went on to cite the principle of sustainable development. This principle will serve as a legal justification for the kind of equitable balancing which judges conduct on a routine basis where competing interest are involved.

It is important to emphasize that legislation by itself can achieve little or nothing by way of social regulation. It must be seen as an integral part of multidimensional process towards achieving social and economic goals. Perhaps there is nothing more counter-productive, even dangerous, than to establish legal and institutional norms and regimes which cannot be implemented, thereby giving the illusion of progress where none exist. On the other hand, simple and implementable legislation based on an institutional and policy framework that has attracted wide consensus and public support, even though it may be less than
ideal, could still be the most effective and expeditious means promoting the goals of sustainable development at national level.

3.8. Role of Legislation in Environmental Management

Law is one of the key instruments of social regulation. This is achieved through the establishment of norms of conduct and the creation of the required machinery with their accompanying empowerment for ensuring that such norms are effectively complied with. In the field of environmental management, law both international law and national legislation has been extensively applied, especially in the past thirty years to promote pollution control, natural resource conservation and use, and protection of the cultural and aesthetic environment, the triple goals of environmental management.

The function of national legislation is to –

i) Reflect the particular policies and schemes considered by the legislature to be most appropriate for achieving the desired goals,

ii) Establish the institutional machinery for giving effect to those principles and schemes.

iii) Empower the related institutions to function efficiently within the framework of the established policy parameters.

Legal evolution is often a result of an important interplay of socio-economic and political factors.  

The following are among the fundamental premises for developing effective environmental legislation.

First, the integrative character of environmental legislation highlights the need for a consensus on the underlying policies and procedures. This presupposes the wide participation of and consultation with all interest groups and accommodation of their respective interests and concerns to the best extent
possible. A consultative and participatory approach to policy and legislative development is necessary for environmental management.

The second has to do with achieving a judicious balance between environment and development in the particular context of developing countries. Many laws prohibit various types of activities which are considered inimical to accepted norms of society. Environmental pollution on the other hand is an inevitable byproduct of any kind of productive economic activity, something that cannot be entirely prohibited without causing serious economic dislocation. It is a necessary evil, one which must be tolerated at least to some extent, if economic activity we depend on is to continue and to flourish. It is the success of the development process that is the only guarantee against spiraling environmental degradation and unsustainable use of natural resources, poverty and unemployment.

Thirdly, the legislative and institutional strategies must be firmly set within each country’s national milieu. The country’s specific character of national environmental legislation has been repeatedly stressed in Agenda 21 (Report of the United Nations Conference on Environmental and Development Rio de Janeiro, 3-14 June 1992, Vol. I) and reaffirmed in the Rio declaration on Environment and Development. Principle 11 of the Declaration states environmental standards, management objectives and priorities should reflect the environmental and developmental context to which they apply. Standards applied by some countries may be inappropriate and unwarranted economic and social cost to other countries in particular developing countries.16

The substance of legislation will be determined largely by the socio-economic and political context of particular country. The most important challenges of environmental management is prohibition, control and management of polluting activities.
Prior to the Stockholm Conference, legislative provisions relating to environmental quality criteria and standards were largely related to the protection of human health and the prevention of industrial accidents. Environmental quality and anti-pollution regulations still remain the most widely used legislative technique for pollution control. These laws usually deal with air quality, water, marine pollution, solid waste disposal and establish quality criteria, define pollutants, set permissible limits and regulate control, compliance and enforcement methods. One of the most widely used technique of environmental control is the system of authorizations (permit, certification, license) administered by govt. departments.

To be effective as a means of regulating and controlling pollution, the standards must be implementable in the particular socio-economic circumstances and technological capabilities of each country. One sure way of achieving this is through consultative process involving the public and private sectors, relevant NGOs, academic institutions and affected sections of the public.\textsuperscript{17}

3.8.1. Compliance and Enforcement Mechanisms

Several countries have sought to stimulate compliance through positive sanctions such as public’s awards and financial incentives. In this regard the application of economic instruments for environmental management has attracted increasing interest. These include tax incentives, user pay schemes, environment funds and the polluter pays principle. The 1997 Philippines environment code provides financial assistance for investments in environmental improvement and series of tax benefits, ranging from the import tax rebates for anti-pollution equipment to income tax deductions on development costs for pollution control technologies.

The creation of special funds that each be drawn upon by governments where necessary to deal with environmental concerns has become a standard practice in several developing countries. These resources are often used for
financing capital expenditures in environmental protection systems and responding to environmental emergencies. Contributions to such funds are received from the regular budget, fines or licensing fees received from polluting industries or activities or even international donations. In Thailand the environment fund composed of moneys received from the oil fuel fund, the government budget, service fees and fines and donations from international sources is to be used for investment in and operation of public waste water treatment or waste disposal systems, air treatment equipment or can be loaned to the private sector where there is legal responsibility to install air, water or waste treatment. The legislation provides for an environmental guarantee fund to be established by certain companies. The companies are required to set up a private trust under the management of the company and the community and supervised by the government into which negotiated amounts are deposited daily or weekly to cover the cost of environmental programmes.

User fees are one of the most common means of making the Polluter pay. In Thailand, user fees or service fees are charged to those utilizing public waste treatment service such as toxic waste disposal or water treatment plants. In order to discourage evasion, a penalty of four times the service fee can be imposed for failure to deal with waste in the prescribed manner. User fees are a simple and direct means of collection reverence to pay for the capital and operating costs of waste treatment services.

Governments have also targeted certain consumer practices that pollute by imposing direct taxes on products that are deemed to be environmentally unfriendly. An eco-mark programme was commenced in the Republic of Korea in 1992 launched by the ministry of environment to encourage the development of environmentally sound products. Products which have been identified as environmentally friendly, may bear a mark indicating such designation.
3.8.2. Institutional Arrangements

Following the Stockholm Conference which brought into sharp focus the need for coordination of sectoral activities with a view to achieving environmental protection, there was a trend towards establishing bodies for coordinating these activities. Inter-ministerial coordination committees and councils of officials drawn from various ministries and departments, NGOs and the public have contributed to defusing these tensions and promoting confidence building on the process of coordination. In some instances, such environmental management bodies are the office of the President or of the Prime Minister to facilitate effective coordination. Since, institutions and processes are managed by people, it is in the minds of the people that the key to the success of these institutions and process lie.

Legislation can also be an instrumentality for instituting novel approaches to dispute avoidance and settlement and promoting public participation at all levels in environmental decision making and implementation. Such participation can be secured through the establishment of appropriate local level dispute mediation, conciliation and settlement institutions and the definition of ‘citizens rights’ to enforce legislation.19

3.9. International Environmental Law Principles

Much of international environmental law relates to a general obligation of states to cooperate in investigating, identifying and avoiding environmental harms. The duty to co-operate has become inevitable in the context of international scientific research. Virtually every international environmental treaty has general provisions requiring cooperation in generating and exchanging relevant information.

The principle of prior notification obliges any state planning a potentially damaging activity to provide potentially affected states all necessary information in time for the latter to prevent damage to its territory, and if necessary, enter
into consultation with the acting state. Principle 19 of the Rio declaration confirms this principle. States shall provide prior and timely notification and relevant information to potentially affected states on activities that may have a significant adverse trans-boundary environmental effect.  

The principle of consultation requires states to allow potentially affected parties an opportunity to review and discuss a planned activity that may potentially cause damage. The acting state is not necessarily obliged to conform to the interests of affected states, but should take them into account. The consultation be ‘in good faith and over a reasonable period of time.’

It is necessary for every state sharing a natural resource with one or more other states:

a) to notify in advance the other state or states of the pertinent details of plans to initiate or make a change in the conservation or utilization of resources which can reasonably be expected to affect significantly the environment in the territory of the other state or states and

b) Upon request of the other state or states, to enter into consultations concerning the above mentioned plans.  

Prior informed consent is another important principle. When one state wants to act in the territory of another state, simple notification and notification alone has not been deemed sufficient; most treaties now require the acting state to obtain the other states prior informed consent. E.g. a party to Basel Convention that seeks to export hazardous wastes must inform the importing state. Other activities require prior informed consent include transporting hazardous wastes through a state.

One of the most important aspects of international cooperation in the environmental sphere is the obligation to notify affected parties in the case of an
emergency that has transboundary effects. Principle 18 of the Rio declaration codifies this principle in the following way:

“States shall immediately notify other states of any national disasters or other emergencies that are likely to produce sudden harmful effects on the environment of those states.” Emergency notification is intended to allow affected parties, the greatest possible opportunity to prepare for and mitigate potential damage.\textsuperscript{23}

It is widely accepted principle of international environmental law that states are required to ensure that activities within their jurisdiction or control do not damage the environment of the other states or the commons. Principle 2 of Rio declaration states, states have in accordance with the Charter of the UN and principles of international law, the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction. No state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another. The duty to prevent harm is often written to require states to take all “practicable” steps to avoid harm. Art. 194 of the UN Convention on the Law of the sea requires that “States shall take individually or jointly as appropriate, all measures consistent with this convention that are necessary to prevent, reduce and control pollution of the marine environment from any source, using for this purpose the best practicable means at their disposal and in accordance with their capabilities and they shall endeavour to harmonize their policies in this connection.

Similarly, in an effort to reduce environmental pollution, the Basel Convention requires the ‘environmentally sound management of hazardous wastes’ which it defines as;
Taking all practicable steps to ensure that hazardous wastes or other wastes are managed in a manner which will protect human health and the environment against adverse effects which may result from such wastes.\textsuperscript{24}

3.9.1. Non-discrimination between States:

One narrower variation of the general obligation to prevent environmental harm is the obligation not to take actions to shift pollution from one state’s territory to that of another state. This principle of non-discrimination ensures that;

Polluters causing trans-frontier pollution should be subject to legal or statutory provision no less severe than those which would apply for any equivalent pollution accruing within their country.

More particularly, this means that domestic environmental regulations and rules E.g. those setting acceptable pollution levels, providing for environmental liability access to courts or similar substantive and procedural rules, should apply equally regardless of whether the pollution affects domestic resources or resources in another state.\textsuperscript{25} Pollution prevention principle is the general duty to avoid environmental damage. The focus on pollution prevention by industry reflects a growing knowledge that avoiding or reducing pollution is almost always less expensive than attempting to restore a contaminated area.\textsuperscript{26}

3.9.2. The duty to compensate for harm

The states are responsible for injuries caused to the environment of another state or the global commons resulting from violations of a generally accepted international rule or standard.

1. A state is responsible both for its own activities and for activities of private corporations or individuals under its jurisdiction or control. Even if a state is not directly polluting, the state can still be responsible for failure to stop or
control the polluting activities of others. Under this rule, states may be responsible for not enacting or enforcing necessary environmental laws, for not terminating dangerous activities or for letting violations go unpunished.

2. There must be no justifying circumstances, such as the consent by the affected state or an intervening cause, such as an act of god.

In practice most pollution cases are settled not at the international level but through private international rules of civil liability (i.e. directly between private individuals involved.)

3.9.3. State and Civil Liability

A distinction continues to emerge in international environmental law between international ‘responsibility’ and international liability. The former arises from unlawful acts, the latter focuses primarily on lawful acts imposing liability for acts not prohibited by international law irrespective of fault or the lawfulness of the activity emphasizes the harm, rather than the conduct. The 1989 Basel Convention contains an obligation for the parties to cooperate with the view to adopting, a protocol setting out appropriate rules and procedures in the field of liability and compensation for damage resulting from the trans-boundary movement and disposal of hazardous wastes and other wastes.

3.9.4. Origin of Public Trust Doctrine: Gift of Roman Emperor Justinian in 530 AD

Roman Emperor Justinian in 530 AD gathered together his top legal scholars and ordered them to put in writing all of the laws of Empire. Thus the ‘Institutes of Justinian, the body of Roman Civil Law, were written, Tucked away in these numerous volumes covering every aspect of Roman life and Commerce, was the provision that

“By the law of nature these things are common to all mankind; the air, running water, the sea and consequently the shores of the sea.”
No one, therefore, was forbidden the access to seashore. From an American perspective, the law of England adopted much of the Roman civil law, recognizing the public nature of tidelands and waters, and giving them protection in the name of the king for the use of all English subjects.

As the kings of England granted charters to the colonies, the English law of public shorelands came to America. With the only true highways for commerce being the rivers, boys and Open Ocean, nearly all commerce depended upon ships and harbors. Free use of shore lands and waters were imperative, not only for commerce, but also for sustenance and survival.

Early court records are replete with the colonists using the stores for hunting, fishing, swimming, bathing and washing clothes; beaching their boats; collecting sedge, seaweed and shell fish, cutting ice, watering their cattle, and as a clear passage for walking, riding horses or driving carriages from cabins to town.

So important were the shore lands to the colonists that when the thirteen colonies formed the union and granted to the new federal government vast expanses of land known as the Northwest Territory. The 13 States kept the shore lands under their control. As the next 37 states entered the union, they did so on an “equal footing” with the original 13, and they too, gained control over their shore lands. The shore lands were now given protection, in the name of the state, for the use and enjoyment of the public, both living and future generations.

These rights of the public to the shore lands and waters are known today a public trust rights, and the shore lands and waters known as public trust lands and waters. States hold these lands and waters, not as they “own” uphand for state parks or forests, but in trust for the benefit of the public. Hence the name public trust doctrine.
Anywhere in the United States, with some limited exceptions of other ‘private beaches’ one can stroll the beach at east, just as long as you stay on the beach and don’t trespass on the hand ward private property. With the proper fishing licence, you have the right to fish form shore.29

**Public Trust Doctrine application in India**

Our legal system includes the public trust doctrine as part of its jurisprudence. The state is the trustee of all natural resources which are by nature meant for public use and enjoyment. Public at large is the beneficiary of running waters. The state as a trustee is under a legal duty to protect the natural resources. These resources meant for public use cannot be converted into private ownership. The public trust doctrine primarily rests on the principle that certain resources like air, sea, waters and the forests have such a great importance to the people as a whole that it would be wholly unjustified to make them subject of private ownership. The said sources being the gift of nature, they should be made freely available to everyone irrespective of the status of life. The doctrine enjoins upon the government to protect the resources for the enjoyment of the general public rather than to permit their use for private purposes.

Three types of restrictions on governmental authority are often thought to be imposed by the public trust.

1. The property subject to the trust must not only be used for a public purpose, but it must be held available for use by the general public.
2. The property may not be sold even for a fair cash equivalent and
3. The property must be maintained for particular types of use.

It is an affirmation of the duty of the state to protect the people’s common heritage of streams, lakes, tanks. The state has an affirmative duty to take the public trust into account in the planning and allocation of water resources and to protect public trust use whenever feasible.
The public trust doctrine was first applied by the Supreme Court in the *M.C. Mehta Vs. Kamalnath* on the basis of the Supreme Court of California in *Mono Lake case (National Audubon Society Vs. Superior Court of Alpine Country*) (33 Cal 3d 419), the environmentalists filed a suit against the city of Los Angeles which was drawing water from streams that fed mono lake, a large lake rich in brine shrimps and bind life. As a result of diversion, the lake level was falling, moving the scenic beauty and imperiling the binds. Upholding the plaintiffs claim that the public trust doctrine could be used to superset Los Angles water diversion. The observation of the Supreme Court of California clearly show the judicial concern in protecting all ecologically important lands, fresh water, wet lands and riparian forests.

**Facts**

In this case, the court took notice of an article in a leading daily alleging ecological damage in Kulhi valley due to illegal construction of Motel (in 1995, Spon Motels built a resort on the bank of Beas river, “Kamalnath Former minister of Environment and Forests had links with the hotelier, who had encroached a swath of forest land. The encroachment was validated in 1993-94 during Nath’s tenure as Minister. During the 1995 monsoons, the river engulfed part of the land and threatened the resort. Span Motels carried out work to deflect the flow of the river, which was causing environmental damage. An article to this effect was published in one of the leading dailies of which the Court took notice.

**Point of Law: The Court held the doctrine of public trust, to be a part of the law of the land and observed.**

The ancient Roman Empire developed a legal theory known as the ‘Doctrine of Public Trust.’ It was founded on the ideas that certain common properties such as rivers, seashore, forests and the air were held by the government in trusteeship for the free use of the general public. Our contemporary concern about the environment bears a very close conceptual
relationship to this legal doctrine. Under the Roman law, these resources were either owned by no one (*Res Nullius*) or by everyone is common (*Res communius*). Under the English common law, however, the sovereign could own these resources but the ownership was limited.

The source of modern public trust law is found in concept that received much attention in roman and English Law, the nature of property rights in rivers, the sea and the seashore. This has been given considerable attention in the legal literature, certain interests, such as navigation and fishing were sought to be preserved for the benefit of the public, property used for those purposes was distinguished from general public property, which the sovereign could routinely grant to private owners, second, while it was understood that in certain common properties such as the seashore, highways and running water – perpetual use was dedicated to the public, it has never been clear whether the public had the enforceable right to prevent infringement of these rights. Although the state apparently did protect public use, no evidence is available that public rights could be legally asserted against a recalcitrant government.

The Doctrine of Public Trust primarily rests on the principle that certain resources like air, sea, water and the forest have such a great importance to people as a whole that it would be wholly unjust to make them a subject of private ownership. The said resources being a gift of nature they should be made freely available to everyone irrespective of the status of life. The doctrine enjoins upon the government to protect the resources for the enjoyment of the general public rather than to permit their use for private ownership or commercial purposes. According to Professor Sax the Doctrine of Public trust imposes three restrictions on governmental authority. First, the property subject to the trust must not only be used for a public purpose, but it must be held available for use by the general public, second, the property may not be sold, even for a fair cash equivalent, and third, property must be maintained for particular types of uses.
Decision

The Court held that the Motel interfered with the natural flow of the river by trying to block the natural spill of the river and thus directed cancellation of the lease deed in favour of the motel. The motel was also asked to pay compensation by way of restriction of the environment and ecology of the area. Besides, several other directions were issued to the Motel and the government.\textsuperscript{31}

3.10. Role of International Law in Waste Management Regime

International law is certainly not the magic instrument solving whatever problems may arise whenever the transport or disposal of waste affects more than one country. In building an international regime, international law can perform a variety of tasks.

- It can strive towards harmonizing national legislation. Thus reducing incentives to export waste for the sole purpose of its disposal.
- It can provide rules regulating the transport across boundaries. Need for integration of International Trade Law and environmental law for the purpose of harmonization between the two.
- It can provide machinery necessary for monitor compliance, to impose sanctions to amend and further develop regulations in accordance with scientific evidence and technological progress, to ensure compensation for damage suffered by foreign states, individuals.

International law not being the master, but the instrument of international politics may perform these functions only to the extent that the political will of all governments concerned.

International law will meet the expectations only to the extent that it is built on a sound basic; administrative agencies and law courts applying the rules
with the maximum efficiency and reprimanding whatever criminal activities have developed in this specific area. International law has largely to rely on the national level order to pursue and punish persons involved in illegal waste traffic.\textsuperscript{32}

\section*{3.10.1 Enforcement of State Responsibility for Environment Damage}

The experts group on environmental law of the World Commission on Environment and development submitted a report in June 1986. It reads as follows:

1. A state is responsible under international law for a breach of international obligation relating to the use of a natural resource or the prevention or abatement of an environmental interference.

2. It shall –
   a) Cease the internationally wrongful act
   b) As far as possible, re-establish the situation which would have existed if the internationally wrongful act has not taken place.
   c) Provide compensation for the harm which results from the internationally wrongful act.
   d) Where appropriate, give satisfaction for the internationally wrongful act.

The convention on the law of the sea provisions clearly reflect the present state of international legal rules.

1. States are responsible for the fulfillment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law.

2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the marine environment by natural or judicial persons under their jurisprudence.
3. With the objective of assuming prompt and adequate compensation in respect of all damage caused by pollution of the marine environment, states shall cooperate in the implementation of existing international law and the further development of international law relating to responsibility and liability for the assessment of and compensation for damage and the settlement of related disputes, as well as, where appropriate, development of criteria and procedures for payment of adequate compensation, such as compulsory insurance or compensation (Art.235).

**Torrey Canyon Oil Spill Case:**

During the last few decades of the 20th Century, the pollution of the world’s ocean has become a matter of increasing international concern. Substantial contribution to marine pollution come from land based sources including the by-products of industry run-off from agriculture activities such as biocides as well as effluents from urban areas.

A significant amount of marine pollution is caused by shipping and marine activities, generally. In tonnage terms, the most important pollutant resulting from maritime activities is oil. The potential for oil to pollute was finally recognized by International Convention for Prevention of Pollution of the Sea by oil, [OIL POL 1954] 1954, which was adopted in London at a Conference organized by U.K. The Convention provided for certain functions to be undertaken by the International Maritime Organization [IMO] when it came into being. The IMO Convention entered into force in 1958 just few months before the OILPOL. OILPOL recognized that most oil pollution resulted from routine shipboard operations such as the cleaning of cargo tanks. In the 1950’s, the normal practice was simply to wash the tanks out with water and then pump the resulting mixture of oil and water into the sea. OILPOL 54 prohibited the dumping of oily wastes within a certain distance from land. In1956 IMO set up a sub committee on oil pollution under the auspicious of its Maritime Safety Committee to address oil pollution issues. But the possibility of massive
pollution resulting from a tanker accident was not seriously recognized until 1967 when a “Torray Canyon” ran aground while entering the English Channel and spilled her entire Cargo of 1,20,000 tonnes of crude oil into the sea. This resulted in the biggest oil pollution incident ever-recorded upto that time. The incident raised questions about measures then in place to prevent oil pollution from ships and also exposed deficiencies in the existing system for providing compensation following accident at sea. It was essentially this incident that set in motion the chain of events that eventually led to the adoption of MARPOL as well as host of conventions in the field of liability and compensation.

1973 International Convention for the Prevention of Pollution from Ships (MARPOL)

In 1973 an International treaty covering marine pollution was adopted and it covered chemicals, harmful substances carried in packaged form, sewage and garbage. It specified requirements for continuous monitoring of oily water discharges and included the requirement for governments to provide shore reception and treatment facilities at oil terminals and parts. Regulation 13 required segregated ballast tanks on new tankers over 70,000 deadweight tonnes. The aim was to ensure that ballast water (taken on board to maintain stability, such as when a tanker is sailing empty to pickup cargo) is never going to be contaminated by oil carried as cargo or fuel.

1978 Conference on Tanker Safety and Pollution Prevention

The Conference adopted a protocol to the 1973 MARPOL Convention absorbing the parent convention and expanding on the requirements for tankers to make them less likely to pollute the marine environment.

The Protocol expanded the requirements for segregated ballast tanks to all new crude oil tankers of 20,000 dwt (dead weight tonnes) and above and all new product carriers of 30,000 dwt and above.
New tankers over 20,000 dwt were required to be fitted with crude oil washing system. Crude oil washing or washing to cargo tanks with high pressure jets of crude oil. This reduces the quantity of oil remaining on board after discharge. It was also allowed for some tankers to use clean ballast tanks, whereby specific cargo tanks are dedicated to carry ballast water only.

The following table shows the estimate of oil entering the oceans in 1979.34

(Metric tonnes per annum)

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vessels</td>
<td>1,500,000</td>
</tr>
<tr>
<td>Accidental</td>
<td>257,000</td>
</tr>
<tr>
<td>Operational / deliberate</td>
<td>1,243,000</td>
</tr>
<tr>
<td>Of which</td>
<td></td>
</tr>
<tr>
<td>Deballasting &amp; Tank washing – Load on top</td>
<td>105,000</td>
</tr>
<tr>
<td>Deballasting &amp; Tank washing – non Load on top</td>
<td>529,000</td>
</tr>
<tr>
<td>Tank washing before maintenance</td>
<td>360,000</td>
</tr>
<tr>
<td>Bilge pumping</td>
<td>23,000</td>
</tr>
<tr>
<td>Bulk / Oil carriers</td>
<td>46,000</td>
</tr>
<tr>
<td>Other ships</td>
<td>180,000</td>
</tr>
<tr>
<td>Off-shore operations</td>
<td></td>
</tr>
<tr>
<td>Accidental</td>
<td>80,000</td>
</tr>
<tr>
<td>Other sources</td>
<td></td>
</tr>
<tr>
<td>Tanker Terminal Operations</td>
<td>70,000</td>
</tr>
<tr>
<td>Refinery effluents</td>
<td>300,000</td>
</tr>
<tr>
<td>Pipelines and handling spillage</td>
<td>40,000</td>
</tr>
<tr>
<td>Discarded Lubricants</td>
<td>1,300,000</td>
</tr>
<tr>
<td>Total</td>
<td>3,29,000</td>
</tr>
</tbody>
</table>

**Oil pollution townships reached its peak in 1979**

In 1990, the Naitonal Research Council Marine Board of the United States credited MARPOL 73/78 with making ‘a substantial positive impact in
decreasing the amount of oil that enters the sea.” A study carried out by the Board showed that in 1981, some 1,470,000 tonnes of oil entered the world's oceans as a result of shipping operations. Most of it came from routine operations, such as discharges of machinery wastes and tank washings from oil tankers. Accidental pollution contributed less than 30% of the total.

On Wednesday, Nov. 13, 2002, a furious Ocean storm caught the tanker prestige off the Coast of Spain, within a week, the Greek owned ship had broken in half, sending its cargo of 70,000 metric tonnes of fuel oil to the briny deep, but not before enough sludge had washed ashore to seriously threaten sea binds and aquatic life.

Another tanker disaster, another assault on the environment. There are some 14,000 reported oil spills a year around the world. Many are small, easily contained and cleaned up. Others are much bigger – some very big indeed.

The prestige carried fuel oil, which actually is more dangerous to the environment than unrefined crude. It is heavier, more toxic and more difficult to clean up than crude. Before the crack up of the prestige, the table of worst tanker spills in the world looked like this

1. Amoco Cadiz off Britany – 220,000 tonnes
2. Atlantic Empress Off Tobago – 160,000 tonnes
3. Torrey Canyon off Britain – 119,000 tonnes
4. Braer Off Shetland Isles – 85,000 tonnes
5. Sea Empress off Milford Haven – 72,000 tonnes

A ban has been imposed on fishing along the Gabician bank. An early estimate of the cost of the clean up of the lobster-rich water is $ 65 million. It could take six months.
French president Jacques, Chirac reached to the sinking of the prestige by demanding ‘draconian’ measures to prevent these sorts of shipping disasters.

- The prestige, a Greek owned, Bahamian – flagged tanker, was bound from Latvia to Singapore.
- By international law, tankers are the responsibility of the state that registers them, known as the ‘flag state’; Thus, the prestige is the responsibility of the Bahamas.
- A BBC report says tanker owners, under rules of Compensation set by the International Oil Compensation Funds, must insure against pollution, and the amount depends on the size of the tanker. For the prestige, this would amount to about $25 million US.
- The prestige was built in Japan, one of the leading ship building nations in the world.
- The prestige was 26 years old when it sank.

Under European Union rules, tankers more than 25 years old will not be allowed to trade with Europe after 2005.

**Polluters responsible for clean up**

In Canada, the law makes polluters responsible for the clean up of oil spilled in Canadian waters. They pay for clean up and for any resulting losses from environmental damage.

Oil companies and shops operating in Canadian waters are required to set up an agreement with a certified, Canadian based, private sector response organization that will help them in the event of a spill. But the type of oil spilled is not the only thing that affects clean up. Local environmental conditions like weather, tides and currents, wind speed and direction, the difference between air and sea temperature, and the presence of ice floes, affect the behavior of spilled oil as well as the ability of crews to work on a spill.
Crews control the movement of an oil slick by containing or diverting the oil. Floating boom systems are mechanical barriers that extend above and below the surface of the water to stop the flow of oil. They can be used in three ways:

- To surround a slick completely and reduce its spread
- To protect harbour entrances or biologically sensitive areas
- To divert oil to an area where it can be recovered

How effective a boom is depends on the wind and waves at the site. Skimmers are used to remove oil from water without changing the chemical or physical properties of the oil. How well a skimmer works depends on the type of oil spilled, the thickness of the slick and, again, the weather. Manual recovery of oil with buckets and shovels is common, especially when the oil has made it close to shore.

Cleaning up of a shoreline can be very difficult and time consuming. Usually, it’s a hands on task with many people using rakes, shovels, wheelbarrows and garbage bags to do the job. Sometimes chemical cleanup agents are used – but they are not allowed in fresh water or near sensitive areas. High pressure water hoses wash oil from coarse sediments, rocks and man made structures. Low pressure water flushing is used to remove oil from fine sediments, shores with vegetation and marshes. Sometimes, such as when a beach is hit by a slick, the environment is so contaminated that sand and plant material are simply removed.

Cleaning wildlife involves lot of work, expensive, and usually ineffective. Even if an oil spill is small, it can have a dramatic impact on bird and animal populations.

Not only does the oil coat the outside of the organisms affected, they often ingest it in water and on their food effectively poisoning themselves.
After the oil is recovered, it is separated from the water and the oil is disposed of, along with any remaining, clean up materials and other debris.

The disposal of oil and debris is regulated by local, provincial and federal governments. Relatively fresh oil many be re-refined. In other cases the recovered oil is burned. Sometimes clean up crews can’t get to a stick because the bad weather conditions. In these cases, waves re-circulate the oil in the water, and natural processes eventually break the oil down. Chemicals can also be used to dispose the oil. This helps some bird species because it removes the oil from the surface, however underwater creatures are hit instead. Sometimes the oil is burned off the water. It must first be contained to make it thick enough, and then set alight. Studies have shown the resulting smoke plume is an acceptable trade-off under some circumstances.

3.11. International Responsibility in the Protection of the Environment

The best way to protect environment is to prevent damage instead of trying to restore what has been spoiled or lost. This need of prevention can only be met either by previous regulations or by the existence of a general feeling that environmental damage must be compensated at such a high level that it is cheaper to avoid it. Such a deterring effect on potential polluters does not exist presently not in international law, because of the uncertainties of the enforcement of responsibility rules when the violation of international treaty is at stake, there is no need to prove the existence of a damage; the mere fact that the concerned state did not cope up with the rules enacted by the treaty is enough for claiming for compensation, for the future respect of the treaty.35

3.11.1. International legal regime on marine waters

The process of development of International Law on marine conservation evolved with adhoc attempts to regulate specific problems arising out of various maritime operations. The international legal regime on maritime areas began to develop with agreements dealing solely with pollution by oil. This was followed
by agreements on the prohibition and regulation of dumping practices of strips at sea. It was only with the growing realization that prevention of marine pollution should be a matter of comprehensive legal obligation that general principles and guidelines for the preservation of marine environment began to emerge. Likewise, the regime for conservation of both living and non-living marine resources also developed first with regulation of the various uses of these resources. The regulation of exploitation of sea resources meant that international law had to first address the problems of allocation of the rights over these resources. The basis for regulation and enforcement was the sovereign right of the states over the natural resources in their territorial seas.

However, in recent times, the perception that various mineral and living marine resources need to be conserved, has led to the rise of a more sophisticated international legal regime on marine conservation.

Pollution arising out of various maritime activities in the seas includes both operational and accidental pollution. In keeping with this classification of the nature of pollution, the legal regime seeking to readdress the same can be understood and analyzed under two broad categories.

a) Laws relating to marine operations and pollution prevention.
b) Laws on marine casualties and pollution prevention

The objective of the international law for prevention of pollution arising out of marine operations is to eliminate the need for noxious discharges by way of technical solutions and by augmenting shore facilities. The provisions and recommendations of various international conventions and norms have to be seen keeping an eye on the aforesaid objective. The safeguards provided under the international convention for regulating maritime operations and ensuring safety at sea include –
i) the construction, equipment and seaworthiness of ships
ii) the manning of ships, labour conditions and the training of crews, taking into account the applicable international instruments and
iii) the use of signals, the maintenance of communications and the prevention of collisions (Art 94(3) of the United Nations Convention on the law of the Sea December 1992 & Art. 10 of the convention on High Seas, April 1958).

In addition to the above international regulations also seek to redress pollution caused by dumping of wastes and other noxious matters in the sea. Thus, states are obligated to prevent, reduce and control pollution of the marine environment by dumping and to take all measures to ensure that dumping is not carried out without the permission of competent authorities. (Art 210 of UNCLOS and Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, Washington 1972.38

The strict compliance and monitoring of the above mentioned administrative responsibilities has wide ranging implications not only for protecting marine habitat but also in ensuring conservation of various marine species.

The International Convention for the Pollution of the Sea by Oil (OILPOL) concluded at London in 1954, was the first comprehensive International Regulation for preventing oil pollution from tankers operating at sea. This Convention was not confined to dealing with oil pollution but also regulated other types of ship based pollution, including noxious liquids, garbage etc, the discharge of oil in small quantities is permitted only enroute 50 miles from land and not in special areas. As per the Convention, the Flag States have two main responsibilities (a) the state must inspect the vessels at periodic intervals and (b) the state must issue an International Oil Pollution prevention in
certificate. Besides strips required to hold a certificate are subject additionally to inspection by any party in whose ports they are present.\textsuperscript{39}

The above said scheme of certification, inspection and reporting involves the active co-operation of the coastal states, port states and Flag States (Art 6 provides that “parties to the convention shall co-operate in the detection of violations and the enforcement of the provisions of the present convention, using all appropriate and practicable measures of detection and environmental monitoring, adequate procedures for reporting and accumulation of evidence.

Art 24 & 25 of the Convention on the High Seas, 1958 mandates that every state shall draw up regulations to prevent pollution of the Sea by discharge of oil or by exploitation and exploration of the sea-bed and its sub-soil. Further every State shall take measures to prevent pollution of the seas from the dumping of radio active wastes, taking into account any standards and regulations which may be formulated by the competent international organizations. The numerous provisions enumerated arms the contracting state to take measures to prevent marine pollution and ensure greater protection to marine species.\textsuperscript{40}

3.11.2. Laws on Marine Casualties

The objective of international law in preventing accidental pollution and minimizing marine casualties is to strive for minimizing risk, providing coastal states with protective means and facilitating securing of compensation. It is now generally agreed to control pollution emergencies in the affected state jurisdiction would be a violation of the customary law.

The International Convention on civil liability for oil pollution damage concluded in 1969, applies exclusively to pollution damage caused on the territory included in the territorial sea of contracting state and seeks to ensure measures to prevent or minimise such a damage. Art 3(2) & (3) of the
Convention fixes liability on the ship owner for any pollution damage caused by oil which has escaped or been discharged from the ship as a result of any incident. It is clear from a collective rearing of the provisions of Art 3 that the liability of the ship owner is a strict liability and not an absolute liability.\footnote{41}

The International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, 1974 establishes ‘the international oil pollution compensation fund’ to provide compensation for pollution damage to the extent that the protection afforded by the civil liability convention is inadequate.\footnote{42}

International law regarding liability and compensation for the victim of pollution and environmental damage needs to be developed further. Both Stockholm declaration of the UN Conference on the Human Environment and the Rio declaration on Environment and Development lay down the responsibility of nations in this regard. Thus, the Rio Declaration mandates that States shall co-operate in an expeditions and more determined manner to develop further international law regarding liability and compensation for adverse effects of environmental damage caused by activities within their jurisdiction or control to areas beyond their jurisdiction. [Principle 13 of Rio Declaration on Environmental Development, 1992 and Principle 22 of Stockholm Declaration of the UN Conference on Human Environment, 1972].\footnote{43}

\section*{3.11.3 Private Liability for oil spill}

A case of private liability illustrates the problems that arise in measuring environmental damage in In re Oil Spill by Amoo Coudiz Off the Coast of France: (March 16, 1978 No. MDL 376, 1988 WL 2796 (ND III, 1988). The case was brought by France and other injured parties as a result of extensive damage to the Coast of Brittany from the oil tanker spill. The United States District Court where the case was brought examined in detail the question of damages after rendering an initial decision on issues at liability. In awarding the
plaintiffs $ 85.2 million, the Court’s opinion addresses the claims made by France, the harmed cities and towns, individuals, farmers, fishermen and environmental protection groups. The decision discusses the following categories of damages.44

Clean up operations made by public employees; the chain for costs of the clean up was accepted to the extent that public employees took time from their regular duties or put in overtime to assist. This extended beyond municipal employees took time from their regular duties or put in overtime to assist.

This extended beyond municipal employees to all public employees, including elected officials and the military. Travel costs incurred in the cleanup also were reimbursed. The time of volunteers was not compensated because their efforts were donated, but the proven costs of transportation, food and lodging be claimed.45

Gifts made by local communities in money or goods to volunteers or military officials were found to be inappropriate for inclusion in the damage claim in the nature of recognition of and gratitude for the services rendered. Costs of using public buildings, the damage suffered by buildings during the clean up operations was compensated. The extra costs arising from use of building during the clean up were reimbursed, such as increased water, power and telephone usage. The Court did not award damages for injury to the biomass, the totality of life in the sea and on the bottom in the affected areas (zone) deeming it complex, speculative and based on a chain of assumptions. The most important of these conventions is the 1969 International Convention on Civil Liability for Oil Pollution Damage Protocol signed in London in 1976 & Second Protocol in 1984.46

Compensation for environmental determination is limited under the civil liability convention to reasonable measures of restoration. Art 3, as amended in
1984, channels responsibility onto the owner of the ship at the moment of the accident, expressly excluding any action against any other person, unless such person acted internationally to cause such damage or knew that such damage would result from his or her action. The Convention thus establishes strict liability, it is not necessary to prove fault to obtain compensation. Art 9 provides that the exclusive forum for actions for compensation is the state or states where the pollution damage has occurred. Any enforceable judgment given by a court with jurisdiction and not subject to further appeal must be recognized in all contracting states, absent specified irregularities in the proceedings.\textsuperscript{47}

\section{3.12. Bangalore Declaration on the application of International Human Rights Norms}

In 1988 a high level judicial colloquium applied the following principles for judicial determination. In most countries whose legal systems are based upon the common law, international conventions are not directly enforceable in national courts unless their provisions have been incorporated by legislation into domestic law. However, there is a growing tendency for national courts to have regard to these international norms for the purpose of deciding cases where the domestic law, whether constitutional, statute or common law is uncertain or incomplete. This tendency is entirely welcome because it respects the universality of fundamental human rights and freedoms and the vital role of an independent judiciary in reconciling the competing claims of individuals and groups of persons with the general interests of the community.

It is within the proper nature of the judicial process and well established judicial functions for national courts to have regard to International obligation which a country undertakes. Whether or not they have been incorporated into domestic law for the purpose of removing ambiguity or uncertainty from national constitutions, legislation or common law.
3.13. National Legal Regime on Marine waters

The conservation of marine waters including coastal waters stand on a unique footing, as the threats to marine resource conservation are more indirect than direct. The threats from the Economic activities, perhaps pose a greater challenge than direct and uninhibited attempts at polluting sea waters. The exploitation of marine products and sea resources and consequences thereof, that adversely affect the aquatic life is clear indirect threat that emerges. Further, it is aggravated by the loss of marine habitats and pollution of the coastal environment. It is therefore, crucial to build safeguards that enable the coastal habitat to withstand the onslaught of rampant industrialization including industrial activities like trawl fishing near shore waters.  

The sea waters have been divided into zones. These zones fragment the marine eco-system into various administrative categories not necessarily based on ecological principles. The maritime zones such as territorial waters, continental shelf, Exclusive Economic Zone, Coastal Regulation Zone, Ocean Regulation Zone. Although ORZ is not a formally recognized category it provides a range of classifications entailing different consequences for use and conservation of marine waters. The Exclusive Economic Zone of India lies adjacent to the territorial water and extends upto 200 nautical miles. The Central Government also has the power to declare an Exclusive Economic Zone (EEC) as a designated area wherein the Central Government can make provisions aimed at protecting such a designated area under Sec. 7 of (MZA) Maritime Zone Act 1976.

The 1976 Act (Maritime Zone Act) is notably the most important legislation that governs the various maritime zones. The Union of India has exclusive jurisdiction to preserve and protect the marine environment as well as prevent and control marine pollution (Sec. 6(3) of MZA 1976). The Government of India has control over territorial waters of India and over the Sea bed and Sub soil underlying and the air space over such waters under Sec. 6(1) of MZA. The
Central Government further has the power to impose any enactment as regards the contiguous zone and it shall have the same effect as it were a part of the Indian territory itself.50

Coastal Regulation Zone Notification 1991 was issued by the Central Government Under Sec. 3(1) and 3(2) (v) of the Environment (Protection) Act 1986 and regulation 5(3)(d) of the Environment (Protection) Rules 1986, declaring coastal stretches as Coastal Regulation Zone (CRZ) prohibiting certain activities within the CRZ while regulating certain other permissible activities. The notification also lays down guidelines for development of beach resorts and hotels. Section 7(2) further prohibits the construction of beach resorts / hotels in ecologically sensitive areas. The notification arms the Central Government with adequate powers to regulate construction activities in and around the coastal zone and has unambiguous provisions to protect ecologically sensitive areas and marine habitats from the threats of industrial development.51

The marine resources have been of prime concern under the Constitution. The land, minerals and other things of value underlying the ocean within the various zones such as the territorial waters or the continental shelf or the Exclusive Economic Zone vests with the Union of India under Art 297 of the Constitution. A comprehensive legislation on Territorial Waters, Continental Shelf, Exclusive Economic Zone and other Maritime Zones Act 1976 was enacted. The constitutional mandate has expanded the territorial zones to include not only the territorial waters or the continental shelf or the Exclusive Economic Zone, but also all other marine living resources of the Maritime Zones Act 1976. In addition to this, the provision under Art 48A, which mandates the state to protect, safeguard and improve the environment with the co-relating fundamental duty under Art 51A (9) to the citizens to protect and improve the natural environment, clearly arms the state to take all necessary legal step to not only protect, but also improve the marine environment.52
The department of ocean development has issued an ocean policy statement post the UN Conference on Law of the Sea, which has established a new international order for the oceans. The statement recognises the economic jurisdiction of a coastal state as well as provides that the exclusive right to utilize living and non-living resources within the maritime zones, vests with the nation. It also recognizes that the complexity and uncertainty of the ocean environment requires that a co-ordinated centralized response needs to be based on adequate knowledge of marine space including sea bed, water and air columns in order to control, manage and utilize the rich and varied natural resources available in the sea. The policy statement is on ‘marine development’ linked with scientific and technological inputs, it also mandates the surveillance of conservation of marine environment and its resources through an integrated legal framework and its concomitant enforcement. Several laws have been enacted which covers the various aspects of preservation and use of maritime zones. The Coast Guard Organization is the nodal agency which looks after the enforcement of several of these legislative measures.53

The Coast Guard Organization set up under the Coast Guard Act of 1978, has the large mandate of ensuring the safety of Navigation in our waters, protection of our offshore installations and fishing interests, and pollution control measures and enforcement of national laws in our maritime zones. Under the Act, it is the duty of the coast guard to protect ‘maritime and other national interests of India in the maritime zones of India for which it may employ any measure as it thinks fit and this significantly includes measures necessary for preserving and protecting ‘marine environment’ and prevention of marine pollution under Sec. 14(1) & (2) (c) of the Coast Guard Act 1978.54

In pursuance of the directions of the Supreme Court in Jagannathan Vs. Union of India55 the Central Government has proposed to enact the Aquaculture Authority Act so as to establish an Aquaculture Authority in order to regulate aquaculture farming in the coastal areas.
Facts

The petition was filed by a voluntary organization for
a) Enforcement of CRZ notification dated 19th February 1991
b) Stoppage of intensive and semi-intensive types of prawn farming in ecologically fragile coastal areas.
c) Prohibition from using the wasteland or wetland for prawn farming and
d) Constitution of a national coastal management authority to safeguard the marine life and coastal areas etc.

On the point of law involved the Supreme Court observed that Sea Coast and beaches are a gift of nature to mankind. The aesthetic qualities and recreational utility of the said area has to be maintained. Any activity which has the effect of degrading the environment cannot be permitted.56

We are of the view that before any shrimp industry or shrimp pond is permitted to be installed in the ecology fragile coastal area, it must pass through a strict environmental test. There has to be a high powered ‘Authority’ under the Act to scrutinize each and every case from the environmental point of view. There must be an Environmental Impact Assessment (EIA) before permission is granted to install commercial shrimp farms the conceptual framework of the assessment must be broad based primarily concerning environmental degradation linked with shrimp farming. The assessment must also include the social impact on different population strata in the area. The quality of assessment must be analytically based on superior technology. It must take into consideration the inter-generational equity and the compensation for those who are affected and prejudiced.57

The Court held that since shrimp culture industry was neither ‘directly related to waterfront ‘nor’ directly needing foreshore facilities, the setting up of
shrimp culture farms other than traditional and improved traditional types within the prohibited areas under CRZ notification could not be permitted.

Further, the Court also issued several directions:
1. Central Government was directed to constitute an authority under Sec. 3(3) of Environment (Protection) Act and to confer on such authority all powers necessary to protect ecologically fragile coastal areas, seashore, water front and other coastal areas and specially to deal with the situation created by the shrimp culture industry in the coastal states.
2. Authority constituted to implement precautionary principle and polluter pays principle;
3. Court directed closure of all aquaculture industries / shrimp culture industries / shrimp culture ponds operating in CRZ (Coastal Regulation Zone).

3.14. Protection of Water in times of armed conflict

Water, life giving and bounteous, the symbol of fertility and purity, is also a source of fear, risk and danger, of Covetousness and conflict. Serving many purposes, all equally necessary, it constitutes to vital resource of which man has always tried to regulate the use and management. But unlike peace time legislation, reflected in the customs and practices of the most ancient societies as well as the domestic and international legal instruments of modern times, the law of armed conflicts has devoted only few of its provisions expressly and related to water. There are few works dealing with the question, all the more credit being due to the International Law Association, which, at its 57th conference in Madrid in 1976, adopted a resolution on the protection of water resources and water installations in times of armed conflict. The Association had already adopted the Helsinki rules on the uses of waters of international rivers in which Art. 20 was worded as follows:

“In times of war, other armed conflict, or public emergency constituting a threat to the life of the state, a riparian state may take measures derogating from
its obligations under this chapter to the extent strictly required by the exigencies of the situation, provided that such measures are not inconsistent with its other obligations under international law. The riparian state shall in any case facilitate navigation for humanitarian purpose.” This is an observation by the fact that water is indispensable in all circumstances.

Apart from the consequences of natural disasters, when water may be either threatening or threatened, some human activities can harm the environment and impair the populations’ means of survival, of which water is the most essential. The effects of pollution or armed conflict are a case in point. The experience of modern warfare has shown that the civilian population and civilian objects are exposed to military operations and that in some cases thirst can prove to be more deadly than weapons. The only remedy lies in respect of the universally recognized rules, and in the following article attention is drawn to the provisions of humanitarian law which apply to the protection of water in war time. Both customary law and treaty law contains rules which apply to the protection of the environment in war time. [Art 35 para 3 and 55 of 1977 protocol I and the convention on the prohibition of Military or any other hostile uses of Environmental Modification Techniques adopted by UN General assembly on 10th December 1976]. There is also the rule prohibiting any destruction of enemy property unless demanded by necessities of war.

3.15. Protection of Water in International Humanitarian Law

International humanitarian law is known to protect certain categories of persons and objects. It does not contain any specific rules regarding water, since the latter comes under peace time law. Nevertheless, hostilities may affect water and certain rules of humanitarian law, containing specific prohibitions must be applied to it. There are further provisions explicitly stating that water is indispensable to the basic needs of the protected persons.
3.15.1. Prohibitions relating to the conduct of hostilities

Besides the general protection applicable to all civilian objects, water as an element indissociable from the environment is covered, albeit indirectly, by all the protective rules which apply to the latter. Both customary law and treaty law contains rules which apply to the protection of the environment in war time. In addition to article 35, para 3 and 55 of 1977 protocol I and the convention on the prohibition of Military or any other hostile uses of environmental modification techniques adopted by the UN General Assembly on 10thy December 1976.

Without dwelling on the environmental aspect, mention must be made of four basic prohibitions with a direct bearing on the present subject. (1) They relate to the use of prisoner as a means of warfare. (2) The destruction of enemy property, (3) attack on subjects indispensable to the survival of the civilian population and (4) attacks on installations containing dangerous forces.

1. Prohibition of the use of poison

The customary rule is enshrined in the Hague Regulations, where Article 23 (9) stipulates that it is forbidden “to employ poison or poisoned weapons.” The earlier Lieber Code (1863) destined for the United States armed forces, had already stipulated that military necessity “does not admit of the use of poison in any way, nor of the wanton devastation of a district.” (Lieber Code, Article 16). The Brussels Declaration (1874) and Oxford Manual, adopted by the Institute of International Law in 1980, both contain the same rule (Article 8(a) & 13(a) respectively). Even though the text does not refer directly to water, the prohibition extends to that vital substance, especially as it is general in scope and does not relate only to weapons. The Islamic law explicitly forbids the poisoning of water (The Evolution and present status of the Laws of War” course texts of the academy of International Law of The Hague, Vol. 92, 1957 (11) p. 657.)
2. **Prohibition of the destruction of enemy property**

Water may be part of either public or private property, codifying a well-established rule, the Hague Regulations, in Article 23 (9), State that it is forbidden “to destroy or seize the enemy’s property, unless such destruction or seizure be imperatively demanded by the necessities of war.” The same principle reappears in the charter of the International Military Tribunal [IMT] of Nuremberg and in the Fourth Geneva Convention of 1949 (Art 6(b) and 53 respectively).

3. **Prohibition of the destruction of objects indispensable to the survival of the civilian population**

The innovation introduced by the provisions adopted in 1997 is very significant. It is designed to protect objects indispensable to the survival of the civilian population, quoting as examples “foodstuffs, agricultural areas for the production of foodstuffs, coops, livestock, drinking water installations and supplies and irrigation work (Protocol I of 1977, Article 54, paragraph 2). Only imperative military necessity entitles a warring party to destroy indispensable objects, with the proviso that they must be situated within the territory of its own control. The words used to designate acts like to harm such objects are intended to cover all possibilities. (It is prohibited to attack, remove or render useless “such objects) including pollution by chemical or other agents. The same formula is used in Article 14 of Protocol II, which quotes as examples of indispensable objects “drinking water installations and supplies and irrigation works.”

A derogation from the immunity of indispensable objects is allowed only if they serve as sustenance solely for the members of the armed forces or in direct support of military action. Even in those cases, belligerents have to abstain from any action which may be expected to reduce the civilian population to starvation or deprive it of vital water supplies. (Protocol I Art 54 para 3).
4. **Prohibition of attacks on works and installations containing dangerous forces**

The 1977 Protocol prohibits attacks on three types of works or installations, they are dams, dykes and nuclear electrical generating stations. Observance of these rules governing the conduct of hostilities is sufficient to ensure effective protection of water resources and installations, which are indispensable to the survival of the civilian population. Parties to conflict are also under further obligations with regard to the protection of victims. One of these is the provision of water.

3.15.2. **Water as an indispensable resource for the survival of protected persons**

Humanitarian law seeks to ensure at least minimum normal living conditions for the persons it is intended to protect. Humane treatment constitutes the basis of such “normality,” it finds ponactical expression in the satisfaction of basic human needs, the basic needs mean water. Generally speaking, assistance and care for the wounded and sick is inconceivable without water. To be able to do their works, medical staff need water. The same applies to medical equipment and installations as well as to the hygiene and maintenance of any place where there are protected persons.

In some context, an explicit reference has to be made, as in some provisions of the Third & Fourth Conventions. Transport by water is also a major and in some cases indispensable means of conveyance and even rest facility for protected persons. Art 54 and 56 Protocol I mentions water in other articles which reflect a broad approach and which grant medical facilities and persons extensive protection.” Whether at sea or in other waters” (Protocol I, Art. 8(b) 23, para 1 and 44, para 8). In a different context, water is referred to as a means prisoners of war can use for their escape. (Third Convention, Art 91, part (3)).
Art. 20, paragraph 2 of the Third convention stipulates that prisoners of war who are being evacuated must be supplied by the detaining power with sufficient food and potable water and with the necessary clothing and medical attention. This brief reminder of the relevant rules is enough to show that the protection of water in times of armed conflict is an integral part of humanitarian law. Among its draft articles on the law of non-navigational uses of international water courses, the United Nations International Law Commission adopted Art. 29, entitled, “International Water course and Installations in time of armed conflict,” which stipulates that ‘International water courses and related installations, facilities and other works shall enjoy the protection accorded by the principles and rules of international law applicable to international and internal armed conflict and shall not be sued in violation of these principles & rules.

It also shows that this law, in its most recent codification, has taken account of the impact of modern warfare on water installations and reserves of drinking water, for indeed the damage caused to water as a result of hostilities could jeopardize the fauna and flora of the region, force entire population to leave their homes and eliminate any sign of life.

3.16. Role of ICRC and other components of International Red Cross and Red Crescent Movement:

In its humanitarian work to assist the victims of armed conflict the ICRC, in accordance with its mandate under the Geneva Conventions, gives priority to the immediate interests and benefit of protected persons. Any step it takes to protect water or other civilian objects are essentially only a means of helping the victims. If water installations and civilian supply systems are spared by the belligerents, as required by humanitarian law, the ICRC must concentrate on other tasks of which they are many in war time. Several recent or past conflicts have shown how acute problems caused by damage to water storage or supply...
systems can be. Two aspects merit particular attention here, water distribution and the repair of supply systems.

3.16.1. Water distribution

To give only one example of this type of action, from the start of the 1990/91 Gulf War the ICRC supplied water, food and medicines to tens of thousands of foreign nationals who had fled Iraq and Kuwait. With the help of the Jordan National Red Crescent Society, the transit camps set up in Jordan were able to provide satisfactory conditions of hygiene.

In Iraq itself, help was needed to restore drinking water supplies both for the population and for local public services. A special programme was set up to distribute purified water in one-litre plastic bags to meet the needs of hospitals and health centres. In some urban centres in the South & North of the country, tanker trucks were used to supply people in neighborhoods deprived of drinking water. This method of water distribution has the advantage in such circumstances of being quick and effective, but cannot replace the classic system of distribution through a network, which is more effective but often requires more lengthy repairs.

3.16.2. Repair of supply systems and purification of drinking water reserves:

In situations of armed conflict, power plants are often put out of action. This can totally disrupt water supply and sewerage systems. Apart from ensuing privations, the risk of epidemics increases and repair work takes longer, costs more and may even be impossible. In such circumstances the ICRC must take urgent action to ensure a minimum degree of protection for objects indispensable to the survival of the civilian population and to preserve or guarantee minimum conditions of health and hygiene.

The relief operation in Iraq in March 1991 can again serve as an example. The ICRC organized a programme to restore drinking water supplies throughout the country, based not only on water distribution, but also on the restoration of
water treatment and distribution systems. For this purpose the Iraqi water services were provided with maintenance equipment, spare parts and chemicals to treat water. The ICRC completed a programme to provide spare parts enabling the Iraq water services to maintain or rehabilitate about 100 medium sized water treatment units.

In Yemen, the big Nassir pumping station, supplying Aden, was damaged after civil war broke out in Yemen in 1994. This would have had disastrous consequences for the population of Aden, but for the water of city’s wells. With the help of local authorities, teams of ICRC engineers improved the production of wells in public places and mosques to working order, installed generators and pumps, and repaired and replaced water pipes and storage tanks, after the conflict had ended. The ICRC set up a system to distribute water by tanker truck to the entire population, displaced people, detainees, people in hospital, but in particular Yemen engineers with logistical support from the ICRC. Also repaired the pumping stations at Bir Nassir and Labaj and the Yamini water services were provided with logistic support. Any deliberate attack on water installations or reserves of drinking water for civilian use must accordingly be followed by appropriate representations to ensure that violations are stopped, that any recurrence is prevented that all necessary action is taken against the offenders.

Attention must be given first and foremost to need of water and to the requirements of public health facilities.

In armed conflict, water sometimes becomes a target or is even used as a means of warfare. In either case, so long as water is a civilian object and indispensable to the survival of the population, warfare against or by means of water is utterly incompatible with the principles and rules of humanitarian law specified above. The importance of the provisions concerned and the obligation to implement there effectively cannot be over emphasized.
Threats to water are the same as threats to the environment. The ICRC’s mandate with regard to the protection of the environment in times of armed conflict is recognized by the entire international community. This recognition should also benefit water, a vital resource in all circumstances, and emphasis should be placed on the need to protect water as such against the polluting and destructive effects of armed conflict. Water related tensions and attacks on water resources and installations are sometimes more frequent in situations of internal conflict and disturbances.

The nature of present day conflicts is inducing the ICRC to show greater initiative and within the limits of its resources, to find appropriate solutions. To this effect, it must help populations affected by armed violence and the services concerned to repair damaged installations and where necessary, must supply technical know-how, since the survival of such populations and the operation of their production systems depend on water.

Whatever the objectives and priorities of action to protect water may be, any initiatives taken by the main parties concerned should be based on consultation, co-ordination and exchange of information. The role of ICRC is highly commendable in restoration of water supply and provide water to the War victims.  

The right of water as a human right is very well recognized under the rules of warfare and destruction of public property is not justified especially with regard to drinking water resources for civilians and protected persons during armed conflict.

3.17. Conclusion

The role of international law in the formulation of municipal law is considered significant for the reason that those principles are recognized in the enforcement of the provisions of the Water Act 1974 and Environment (Protection) Act 1986. The impact of those principles is implicitly recognized as a constitutionally recognized right to wholesome environment.
END NOTES


2 Ibid.

3 Ibid., p. 24.

4 Ibid., p. 28.


6 Ibid.

7 AIR 1996 SC 2715.

8 Ibid.


10 AIR 1993 Cal. 215 at 227.


13 AIR 1992 Pat 86 at 91.


16 Ibid., p. 2.

17 Ibid., p. 9.

18 Ibid., p. 10.

19 Ibid., p. 13.

21 Ibid., p. 159.
22 Ibid.
23 Ibid., p. 160.
24 Ibid. p. 161.
25 Ibid.
26 Ibid.
27 Ibid., p. 164.
28 Ibid., p. 165.
37 Ibid.
38 Ibid., p. 68.
39 Ibid.
40 Ibid., p. 70.
41 Ibid. p. 72.
42 Ibid.
43 Ibid., 73.
45 Ibid.
46 Ibid., p. 648
47 Ibid.
49 Ibid., p. 58.
50 Ibid.
51 Ibid., 59.
52 Ibid., p. 60.
53 Ibid., p. 61.
54 Ibid.
56 Ibid., p. 82.
57 Ibid.
58 Ibid., p. 81.