CHAPTER – IX
CONCLUSION AND SUGGESTIONS

The problem of pollution from various angles is discussed in previous chapters. It is clear that the water, is so much a part of our daily life and existence, that we are inclined to take it for granted, believing that it will always be available in abundance. But this is not the true position. The polluted water is the main source of diseases in our country. The surface and ground waters of almost whole of India has been polluted. The question of the inquiry was to see whether the present legal system is sufficient for controlling the Water Pollution. In view of keeping the present socio-economic and political circumstances, it has been assumed that total or absolute prevention of the pollution is not possible. No doubt, the judiciary in India has done a great service by declaring the right to pollution-free air, water and clean environment as fundamental right, but the question remains to be determined is how to find out the quality of air and water which would infringe the fundamental right of the persons. Can the legislative actions even through constitutional provisions and the courts alone by any method control the ‘quality of the environment’ and ensure the citizens ‘safe environment’? These are the questions of great complexity, which cannot be solved by the legislature and the judiciary alone. In this regard, the cooperative efforts by the administrative wing of the state and realization of the fundamental duties of the citizens regarding the safety of environment are required. The awareness about the control of the environmental pollution is essential.1

Environmental problem in India can be identified as three categories. Which are
a) Problems arising from conditions of poverty and under-development. Poverty is the real pollutant.

b) Problems arising in negative-effects of the very process of development.

c) Problems arising from improper implementation of the directives and Laws of Environmental Protection.

The first category pertains to the impact on the health and integrity of our natural resources like land, soil, water, forests, wildlife etc., as a result of poverty and the

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inadequate availability, for a large section of population which is presently 1 Billion is expected to be 1.5 to 1.8 Billion by the year 2050 of the means to fulfill the basic human needs such as food, fuel, shelter, clothing, employment etc., This implies the urgent necessity to increase water storage capacity, keeping in mind that the main source of water in India is rainfall. The uneven occurrence of rainfall in India is yet another major cause of drought.

The second category deals with the unintended side effects of efforts made to achieve rapid economic growth and development.

The third category would fall distortions imposed on national resources from ecologically unsound, unplanned and unscientific development projects like inter-linking of major rivers, Sardar Sarovar project, Tehri Dam project and programmes as well as from lack of attention to long-term public interests by commercial and vested interests. Thus, it is clear that a concern for environment essentially is a desire to see that national development proceeds along ecologically sustainable line Environmental conservation is in fact, the very basis of all developmental activities.

India is a federal country where all the rivers are interstate and the water is a state subject. An upper riparian state may frustrate the attempts of a lower riparian state to control pollution of its rivers by using its river water for various purposes, which may have adverse effect of changing the quality and quantity of water flowing to the lower riparian state. As the position stands today, there are separate authorities all over the country dealing with irrigation and pollution which results in the administrative problems. People in the locality where the development project is to commence are potential victims of pollution. Their interests are to be protected. They should know who applies for consent, what kind of pollutant is to be discharged, and to what extent water in the stream or well or on land in the neighborhood would be contaminated is consent is granted.

**Environmental Education and Management:**

Between 1974 Water ‘Prevention and Control of Pollution’ Act and 1997 National Environmental Appellate Authority Act, about two dozen acts have been enacted in India exclusively for environmental pollution control. According to the Ministry of Environment and Forests, the Central Pollution Control Board, State
Pollution Control Board and the Pollution Control Committee of the Union Territories have filed Government of India several cases under the Water and Air Acts. But large number of cases is still pending in various courts. The loopholes in environmental laws make it easier for the lawyer to support the cause of the polluter. These laws if implemented properly can contribute a large extent to this end.

Various Government agencies and NGO’s in their effort towards environmental protection and law organize seminars and workshops involving the judiciary, advocates, academicians and students. These seminars and workshops’ discuss and suggest strategies on various aspects and issues involving problems and contraventions of environmental laws.

Education has a very important role to play in dealing with this global issue, education has been used by mankind not only as a conserving agency and a mechanism of social control but also as a creative and regenerative influence to bring about positive changes in existing modes of thinking and living in beliefs, values, attitudes and customs. In a crisis of the kind we are witnessing vis-à-vis environmental problems, there are greater demands on education to take a more active part and make purposeful contributions in the form of developing an awareness and sensitizing in the first place, of the challenges and consequences of manhandling of the environment, a proper understanding and appreciation of the phenomenon of better living and the formation and sustaining of desired values and attitudes through it.

A nation may take pride in its industrial and economic growth. While investment on a large scale in these sectors would result in increased products, unchecked erosion of environment will nullify the effects of industrial growth. It will create an imbalance in the ecosystem, not withstanding scientific and industrial progress, making life on this planet miserable.

More specifically, the objectives of Environmental education are:

a) Awareness - to help individuals and social groups acquire an awareness of and sensitivity to the total environment and its allied problems.

b) Knowledge – to help individuals and social groups acquire basic understanding of the total environment, its associated problems and humanity’s critically responsible presence and role in it.
c) Attitude – to help individuals and social groups acquire social values, strong feelings and concern for the environment and the motivation for actively participating in its protection and improvement.

d) Skills – to help individuals and social groups acquire the skills for solving environmental problems.

e) Evaluation ability – to help individuals and social groups evaluate environmental measures and education programmes in terms of ecological, political, economic, social, aesthetic and educational factors.

f) Participation – to help individuals and social groups develop a sense of responsibility and urgency regarding environmental problems to ensure appropriate action to solve those problems.

Education must attempt to imbibe in learners a value oriented thought to take care of the environment. The success of Environmental Education would depend on internalizing the following principles.

1  Environmental Education considers environment in its totality.

2  Environmental Education is not a one shot learning approach. It is a challenging area requiring both disciplinary and interdisciplinary approach. This calls for a holistic rather than a piece meal subject oriented approach.

3  Environmental hazards are controllable and every citizen has a moral obligation and responsibility towards this.

4  Concerns of environment are concerns of several agencies. Formal and non-formal education system and programmes must work in unison.

5  Education must cater to all sections of society – the general public, and non-specialists, socio-professionals groups and technologists as well.

6  Promote the value and necessary of local, national and interpersonal cooperation in the prevention of and solution to environmental problems.

7  Help learners discover the symptoms and causes of environmental problems.

The importance of the Environmental Protection has long been recognized in our country. Article 51 (g) of the constitution states “it shall be the duty of every citizen to protect and improve the natural environment, include forests, lakes, rivers, and wild life and to have the compassion for living creatures.” The National Policy on Education 1986
reiterated the need for education to play a more proactive role in regard to educating learners ‘about’ the environment ‘for’ the environment. There is a paramount need to create a consciousness of the environment. It must permeate all ages and all sections of society beginning with the child and ‘in’ the environment. Environment consciousness should be included from school and college levels.

a) Education about environment provides learners with the know how on environment.

b) Education for environment will be concerned about conservation, preservation and up gradation.

c) Education in environment would result in using environment as a medium for learning and activities become possible.

The Supreme Court heard a public interest litigation case on the urgent need to impart environmental education for all the future citizens of the country to enable them to protect the public health, prevent pollution and save all forms of life as envisaged under Article 51- A (g) of the constitution which has directed all National Organizations.

**Government’s Initiative:**

Ministry of Environment and Forests, Government of India and Department of Environment and Forests of each State Government have been deeply engaged in the protection, preservation and conservation of Environment. Several possible policies, programmes and implementation strategies have been evolved from time to time by these governmental organizations towards their effort for better environmental management. The programmes and activities are directed towards all aspects of environment and ecology with the purpose of protection and conservation of environment and ecology. Their missions include

- Developing a good and sustainable environment through land and water management.
- Conservation and restoration of the ecological heritage.
- Involving NGO’s and women in all environmental related activities.
- Help government to formulate laws and regulations.
- Under take special measures in afforestation and harnessing wastelands.
- Supporting environmental education in all educational institutions.

**Need for public awareness:**

About 80% of our natural water resources are highly polluted. Even the mighty and holy Rivers like Gangas, Yamuna, Cauvery, Godavari and Krishna and their tributaries have polluted reaches and people have lost their livelihood due to fish kills from pollution. Industrial pollution in patancheru near Hyderabad has seriously effected public health, fishing and agricultural operations. Similar problems are reported from several industrial belts in the state and the country. Air pollution from industries and automobiles is posing a serious threat to the health and welfare of the man. The pollution of air and water due to automobiles and industries and the pesticides result in food adulteration and the consequential reduction in natural powers immunity. The fast growing incidence of cancer, AIDS and other debilitating sicknesses are posing threats to the survival of man.

**Environmental crisis and sustainable development:**

Our present environmental crises lie in the paradigms of scientific materialism and economic determinism which fails to recognize the physical limits imposed by ecological systems on economic activity. The economies must expand within ecosystems which have limited regenerative capacities.

The emergence of concept of sustainable development in recent years has brought in the general realization that societal perceptions must shift towards ecological determinism so as to achieve qualitative growth within the limits of the ecosystem’s carrying capacity. A carrying capacity-based planning process, innovative technologies for enhanced material and energy, affectivity of production and consumption, structural economic change towards less resource-intensive sectors, and preventive environmental management through increasingly interventionist policies of ecological capacities, is highly essential for achieving sustainable development.

**Action Strategies for Sustainable Management:**

- Control the population growth.
- Conserve natural resources like water, forests, soil, and biodiversity.
- Reduce the waste of matter and energy resources.
- Place more emphasis on pollution prevention and waste reduction.
- Compost, recycle and reuse at least 60% by weight of matter from the resources we use.
- Make things that last longer and are easier to reuse, recycle and repair.
- Shift to more dependence on locally available renewable energy from the sun, wind, flowing water and biomass.
- Help sustain Earth’s biodiversity with emphasis on protective vital habitats for wild species.
- Use potentially renewable resources such as water, soil, plant, and animals judiciously less fast than they are renewed.

Use or modify economic and political systems to develop a mix of economic incentives, taxes and regulations that reward Earth-sustaining behaviour and that discourage Earth-degrading behaviour. Careful evaluate which environmental problems are best reduced or solved through free-marked environmental, governmental subsidies and taxes and government regulations.

**Ground water Protection:**

The era of integrated urban water management has arrived. Be it piped water, surface water, ground water, rain water or waste water – urban waters need management at unprecedented levels. Institutional integration or at least convergence is urgently required to manage the waters holistically.

Equity and access will need focus; ecological sustainability demands the protection of lakes and groundwater. Managing waste – solid and liquid – generated from urban areas remains a challenge and providing basic sanitation in the poorer areas of cities is an unfinished agenda.

For managing, controlling and regulating indiscriminate and excessive extraction of groundwater and for conservation, protecting and developing water resources in the county, the State level Authority would be the highest authority and all other authorities were placed under the control of it.

The main functions of the State Level Authority are proposed to be:
- Taking homological view of the water resource management in the State.
- Providing a sustainable solution to water resources and the land use problems.
- Conservation through recharge, replenishment and recycle and reuse.
- Imposing restrictions to ensure equitableness in water availability and pragmatic land use,
- Imposing restrictions on disturbing ecological balance and rendering any area barren because of over exploitation and extraction.
- Creating mass awareness and ensuring the people's participation and involvement in planning and actual management of water resources.

The State Level Authority was given power for various purposes. Some of them are:

- Planning for the sustainable water developments.
- Transfer of surplus water from one river to another river basin suffering from insufficient rainfall in the catchments area.
- Acquisition of lands and for excavating water channels, water storage tanks, reservoirs, surface tanks etc.,
- Preparation of long-term and the medium plans for conservation, maintenance and utilization of groundwater and surface water including agricultural practices, human settlement patterns and industrial topology based on area – specific water –supportive capacity in consultation with the other Departments of the State Government.
- Assessment of existing irrigation practices and cropping pattern of, with respect to high water-consuming crops and laying down agriculture water use policy.
- Analyzing, studying and reviewing physical, chemical and bacteriological and virological qualities of groundwater and surface water and devising and implementing pragmatic water strategies.
- Raising the water quality standards specified by the Bureau of Indian Standards,
- Ensuring minimum flow of water in rivers.
- Protecting conserving and managing traditional water retaining structures and natural and man-made wet-lands.
Promoting the rainwater harvesting practices in human settlement, particularly in crowded cities and rural areas.

Ensuring the minimum extraction of ground water.

Ensuring techno-economic feasibility of, and implementing programmes on:

a) Sewage for agriculture,

b) Industrial wastewater, on industrial process,

c) Sewerage in social, forestry and public parks in municipal areas, and

d) Waste water in housing complexes for non-consumptive use.

Fixing and implementing guidelines for water rate structures for the various water usages commensurate with the production and scarcity value of resources.

Ensuring community participation.

In environmental offences, the victims are indeterminate and common and weaker sections of the society. They are not interested even to lodge a complaint. Our system of police and criminal justice administration is such that nobody will be encouraged to go to the court voluntarily as witness. This may be a direct confrontation between a victim, who are commonly poorer people, and the polluter, who are, in general richer people. Thus a special criminal court absolutely for the environmental matters will serve the twofold purposes – Speedy trial and Trail by the environmentally expert judges. As the term environment has a close relationship with various branches of knowledge, the judge properly trained in the environmental laws and environmental matters should be the best presiding officer of an environmental court.

**Tackling ground water contamination:**

Arsenic contamination of drinking water causes a disease called arsenicosis, for which there is no effective treatment, though consumption of arsenic-free water could help people in the early stages get rid of the symptoms of arsenic toxicity. Arsenic contamination is by far the biggest mass poisoning case in the world putting 20 million people from West Bengal and Bangladesh. In the Indian contest it is not economically visible to clean aquifers. In the case of arsenic, methods for *in situ* treatment have already been in use in developed countries.
In India, ground water quality monitoring is primarily the concern of the Central Ground Water Board and State Ground Water Agencies, where each sets up their monitoring network. The network of monitoring stations is not dense enough and water quality analysis excludes critical parameters that help detect pollution by fertilizers and pesticide, heavy metals and other toxic effluents.

The Central Pollution Control Board (CPCB) and the State Pollution Control Boards (SPCBs) are the pollution watchdogs in India. Monitoring of groundwater quality has come under their purview only recently and water quality of rivers is being monitored. But this does not cover “non-point” pollution from agriculture.

Ground water contamination most often occurs due to geo-hydro chemical processes activated by pumping. Once contamination starts, very little can be done to check it except a total ban on pumping. But it is very difficult, as millions of rural families in India depend on ground water to sustain irrigated agriculture and livelihoods. Any legal/regulatory interventions to ban pumping would mean depriving communities of their traditional rights. Though de jure rights in ground water are not clear, land owners enjoy de facto right to extract groundwater under their land. While nitrate pollution can be properly controlled by applying recommended dosage of fertilizers, crop rotation, proper timing of fertilizer application, and use of organic manure instead of chemical fertilizers, there are no institutional regimes governing fertilizer use and dumping of animal waste.

Removal of pollutants:

The various physio-chemical techniques devised for removal of chemical, biological or radio-biological pollutants involve adsorption, electrodialysis, ion exchange and Reverse Osmosis (RO). Of the various techniques, reverse-osmosis deserves a special mention. This technique is based on the removal of salts and other substances from water by forcing the latter through a semi permeable membrane under a pressure that exceeds the osmotic pressure so that flow is in the reverse direction to the normal osmotic flow. In practice, this technique involves the use of a porous membrane whose chemical nature is such that it has a preferential attraction for solvent while repulsion for the solute. Reverse Osmosis is commonly used to desalinate brackish water and has been
found suitable, effective and economical method for the purification of water polluted by sewage effluents.

Reverse Osmosis (RO) is a process to get rid of all the impurities in drinking water including deadly ions and organisms and pesticides residues. RO systems are suitable to remove several toxic substances present in water in dissolved form, including fluoride, fertilizer and pesticide residues, and heavy metals. Demineralization using the RO system can remove all hazardous impurities from drinking water and would be cost effective in many situations where Nitrate & Fluoride in ground water are above permissible level. India is only one of the countries identified by the UNICEF as having a serious public health problem associated with fluoride in drinking water.

The Ministry of Water Resources itself acknowledges that “serious ground water pollution can be caused by agricultural activities…much less attention has been given in this country to the leaching of pesticides from agricultural land to the underling ground water in spite of the dramatic increase in the use of pesticides formulation over the last years. There are few laboratories with the capability of analyzing pesticides.” The existing rules on ground water development and the water quality are sketchy. Both concentrate and minimizing extraction and on allowing aquifers to regenerate; These regulations are necessary but are one dimensional since they lack a policy interference with other Ministries. A change is also required in the existing monitoring structure. The Ministry of Environment & Forest sees to the water related matter of all the Thermal Power Plant while the Ministry of Water Resources divides water into various uses.

Multiplicity of Authorities:

Various authorities are entrusted to look into our pollution control system. Apart from this, protection of the surface water in the ponds, lakes are looked by the Fisheries Department, the rivers by the Department of Irrigation and Waterways. The municipal authorities are empowered to take care of the water bodies within their jurisdiction. The bare fact is that, except in some cases of pond filling, none cares for the pollution aspects. Many departments and municipal authorities either expressed their ignorance about their powers or tried to avoid their responsibility assigning it to other authorities. For removing nuisance in a municipal area, a number of legal instruments are available. The municipal authority itself has the power to remove the nuisance; the Criminal Procedure Code under
section 133 empowers to remove the public nuisance. The common people may be confused as to who will they approach, further, one authority may shirk its responsibility to another. Multiplicity of authorities creates another problem in controlling the pollution. The quality of water depends not only on the amount of pollutants going into the stream but also on the quantity of water into the stream. Abstraction of water from the stream is not under the control of Pollution Control Board. Practically there is none to look after this aspect of the ground water.

Action of a pollution board or other authorities of a lower riparian state may be nullified by an upper riparian state either by abstracting a greater quantity of water from the stream or allowing pollution to enter the stream. In this regard, one of the important functions of the Central Board is to coordinate the activities of the State Boards and resolve disputes among them.

**Water pollution due to air and from non-point source:**

Even air pollution may cause water pollution. Fortunately, we have the Air (Prevention and Control of Pollution) Act, 1981. The task of controlling air pollution is entrusted to the water pollution boards under the Act. It is hoped that the water boards acting under the air pollution statute will take suitable measures to control air pollution which may lead to water pollution. The non-point source of water pollution is more dangerous than the point source pollutants (sewage and industrial effluents) as the latter is detectable and controllable by proper plans. But the former is neither detectable, nor controllable and manageable except by the large scale planning and management, in the national level. But this will affect various sectors of the economy and industry. For example, control of pesticides in the agricultural sector will require alternative system of killing the pests, which may not be accepted by the farmers. This may result the less production of crops and may lead to scarcity of food. Even the pesticide industry may be adversely affected. Similar is the case of chemical fertilizers. Strong opposition from the powerful agricultural and industrial lobbies will not allow it to be implemented. All the point source pollutants should be dealt with at source by removing, recycling or reusing. Point source releases normally have a more immediate and obvious effect and sensitive species are rapidly lost close to the source (Freedman, 1989; Hopkin, 1989). In sewage
treatment, use of nutrient stripping, tertiary treatments, separation of effluents and storm overflows etc. should be done.

**Effects of Marine Pollution and preventive measures:**

Degradation of the marine environment can result from a wide range of sources. Land-based sources contribute 70% of marine pollution, while marine time transportation and dumping at sea contribute 10% each. A wide range of activities on land contributes to the contamination of marine environment. Human settlements, land use, construction of coastal infrastructure, agriculture, forestry, urban development, tourism and industry can affect marine environment. Coastal erosion and siltation cause serious problems.

Marine oil pollution is caused by shipping and sea based activities. Approximately 600,000 tons of oil enter the oceans each year, as a result of normal shipping operations, accidents and illegal discharges from off-shore oil and gas activities are currently regulated internationally and the nature and the extent of environmental impacts from these activities generally account for very small proportions of marine pollution.

Many fresh water and marine ecosystems are greatly endangered due to runoff of the chemical fertilizers from soils, discharge of sewage, industrial effluents, hot water, and silt and oil spillage. The chemistry of the natural water varies considerably and this contributes to the diversity of species and habitats found in fresh and marine waters. Damage starts when human activities modify the chemical environment to such an extent that it cannot be repaired by the existing flora and fauna in the ecosystem. Diversity of coastal environment is the result of many complex interactions, and the development having potential to disrupt this fine balance must be viewed seriously. Industrial wastes, sewage and wash out oil from ships and boats in the ocean cause much more damage to marine life.

Agenda 21 recognizes that protecting the marine environment requires an approach that anticipates problems rather than reacts to difficulties and recommends that such an approach should involve the use of environmental impact assessment, application of specific criteria of classifying hazards, substances and a comprehensive approach towards addressing damaging impacts from air, land and weather pollution, systematic data on marine environment will be needed to apply comprehensive management
approaches and predict the effects of global climate change on fisheries. In order to determine the role of oceans in driving global systems, mechanisms that collect, analyze and disseminate ocean information from research and monitoring activities need to be restructured and reinforced considerably.

The ship-breaking industry’s potential for steel recovery was recognized as early as 1979. As a result, the ship-breaking yards in Alang and Mumbai developed at an accelerated pace. Alang, with 184 ship-breaking plots, is one of the largest in the world, dismantling about 300 ships each year. Unfortunately, the ship-breaking industry is also one of the most polluting – the discharge and emissions of toxic materials to sea, sediments, ground and air cause both acute and long-term pollution.

International Environmental safety laws have been in existence since 1992 when India signed the Basel Convention on the control of Transboundary movements of the Hazardous wastes and their disposal. Before India became a signatory to the Basel Convention, Alang was literally an environmental time bomb. Waste oil was carelessly disposed of on the shore or in the water; ships that were too large were cut in the water and often these hulks were left to rust in the saline water. Glass wool, thermocol and Asbestos insulation, all with no resale value, were strewn all over the beaches or floated in and out with the tide. Even after signing the Basel Convention, the same scenario continued for at least another decade.

The nature of the materials being dealt with makes ship-breaking a highly polluting industry. When a ship is broken, the following materials are suddenly exposed to the environment: Asbestos, carcinogenic polycarbonate biphenyls or PCBs, glass wool, thermocol, toxic chemicals and other environmentally hazardous substances like furnace oil and coolants. If these were of any further commercial value, they would pose less of an environmental challenge than they do at present. Unfortunately there is what is referred to as ‘dead’ materials – commodities that no longer have any commercial value – and hence are a nuisance to ship-breakers who tend to dump rather than dispose them properly. Previously, oil, asbestos, glass wool and thermocol were dumped on beaches. Left exposed, they slowly disintegrate over the seasons. If it had not been for the Basel Agreement, the situation would still be the same. The agreement forces the country of origin to strip the ship of as many hazardous wastes as possible before sale.
Waste generated by the ship-breaking process should be classified into hazardous and non-hazardous categories, and their quantity should be made known to the concerned authority or the State Maritime Board.

The ship-breaking industries should be given authorization under rule 5 of the hazardous wastes Rules, 2003, only if they have provisions for the disposal of the waste in environmentally sound manner. All authorization should be renewed only if an industry has facilities for disposal of waste in environmentally sound manner.

The state maritime board should insist that all quantities of waste oil sludge and other similar mineral oils and paint chips are carefully removed from the ship and taken immediately to areas out side the beach for safe disposal.

There should be an immediate ban on burning of any material, whether hazardous or non-hazardous, on the beach. State Pollution Control Board (of Gujarat and other coastal states where this ship-breaking activity is done) should be directed to order closure of all those units that are not authorized under the Hazardous Waste Rules.

In 2003, the Supreme Court issued an order that essentially said that hazardous wastes had to be handled in conjunction with the Basle Convention. The order is complete in it but for some reason the Supreme Court appointed another committee in March 2006 whose mandate is to identify infrastructure lacunae at Alang in the handling of toxics.

The new procedures are being implemented by the Gujarat Pollution Control Board (GPCB) at Alang for environmental safety:

- Asbestos covered pipes to be brought to the shore for scraping and not to be scraped on board ship.
- Cables not to go to scrap traders since they crudely burn the PVC to get at the copper. Cables will now go to a cable reprocessing unit where the cable coating is peeled off by machines. Scrap traders have opposed this.
- Batteries will have to be sent for recycling instead of being resold (since they were still operational). The earlier system made it difficult to track the batteries and monitor their final disposal. Scrap traders used to crudely break the casings and sell the lead.
- The ship-breaker will have to clean and pay for pollution created by him.
Ship-breaking is a global business, so it needs a global solution for real change. Unilateral measures can only have a limited impact, not all of it positive, especially for business in India.

The Government of India, therefore, has little choice but to take up the struggle on behalf of ship-breakers, environmentalists and Indian society at large, and represent these interests at the International level. If the Government of India would work closely with the International Maritime Organization (IMO), it can influence the establishment of a mandatory regime for ship-breaking.

The IMO, being the highest international body regulating the marine industry, has little choice but to accept its responsibility and take immediate action to stop pollution and protect human lives in ship-breaking countries.

Suggestions:
1. There is a strong need for amending the legislation relating to municipalities with a view to create the environment management department in the municipal corporations and large municipalities and corporations. The municipal legislation should be amended in such a manner that the environment management covers all such functions of the municipalities relating to the environmental pollutions and improvement. The urban environment management should be treated as an integrated and comprehensive activities encompassing all municipal functions relating to urban environment, such as, drinking water supply, sanitation, drainage, health services, sewage treatment and disposals, solid waste, slum improvement etc.,

2. The main thrust in our national environment policy, as declared in the year 1993, is on industrial pollution. The industrial pollution, though, is a major source of pollution but its contribution to the environment, so far as the water pollution is concerned, is less than the contribution made by the domestic pollution. Thus, the adequate thrust should be made on the domestic pollution.

3. Our environmental laws do not recognize or provide any provision for public participation for the enforcement or implementation of the environmental legislation. All the powers have been given to the pollution control boards. The Section 19 (b) of the Environment (Protection) Act imposed restrictions on the
power of the court to take cognizance of an offence. Under the Act the complainant should give a notice of at least 60 days to the central government. This provision of the prior notice to the government has made the law ineffective. Similarly, the water (Prevention and Control of Pollution) Act contains the same provision. The public participation is not fully recognized by either of the Acts, which is inconsistent with the national environment policy, which contains the provisions of public partnership.

- The public must be made aware in order to be able to make informed choices. Affected citizens and NGO’s will be allowed to play their role to supplement the regulatory system. Access to information to enable public monitoring of environmental concerns will be provided for,

- Public Interest Litigation has successfully demonstrated that responsible non-governmental organizations and public spirited individuals could be bring about significant pressure on polluting units for adopting abatement measures. This commitment and expertise will be encouraged.

- Householders, as consumers, will be encouraged to be environmentally conscious and to use goods that will be declared as ‘environmental friendly’ through a system of certification.

- A special legal institution will be set up to redress the present system of jurisprudence which could not provide for compensation to individuals for damage caused by pollution.

- Professionals and Non-governmental bodies will be encouraged to be more active in environmental training and building awareness.

- Society accepted many practices, which cause pollution. Social action in these matters by voluntary organizations and individuals will be promoted through knowledge, education, training camps and public information campaigns.

4. Sometimes law prescribes more than one remedies in respect of the same cause of action. In case of public nuisance action may be brought either under section 91 of the civil procedure code or under 133 of the criminal procedure code. Of course the nature of relief is not the same. When section 133 of the Cr.P.C. gives
an efficacious remedy to remove the public nuisance, the procedure under the Civil Procedure Code is lengthy ad cumbersome. A proper reconciliation is required.

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So far as the penal provisions are concerned, all are bound by general criminal justice system. Presumption of innocence in case of environmental pollution may not be helpful to abate the pollution. In most case of industrial pollution, the polluters are well organized, rich and influential and the victims are the common people. The presumption of innocence may be utilized as the stool to avoid the criminal liability. But in case of domestic pollution, both the polluters and the victims are the common people. Thus, in case of industrial pollution once the pollution is established from a particular industrial unit, the occupiers and other concerned should not be allowed to rest on that presumption. In this case, with the advancement of technology, the premises of the criminal liability should also be modified. But, in other cases of domestic pollution the same rule may create injustice to the accused. Thus, a selective change of criminal justice system should be introduced in the problems of environmental pollution.

6. In all the enactments, unless a notice is given to the Central Government under Sec.19 of the Environment (Protection) Act or to the State pollution Control Board under Sec.49 of the Water (Prevention and Control of Pollution) Act, no court takes any cognizance of a complaint. There is similar provision in the Air (Prevention and Control of Pollution) Act. These provisions made the law less effective. These require to suitably amending.

7. The quantum of punishment under the laws is not sufficient. Similarly the amount of fine is too low. To have more deterrent effect of the laws, the quantum of punishment and the fine should be proportionate to the damage of the environment.

8. In many cases, the standards are far behind the international standard. The environmental standards should be more stringent.
9. As the environment is the genus and the various components are species, the pollution is part of the environment protection. The present name and role of the Pollution Control Board should be changed. It maybe renamed as the Earth Protection Board, having all the powers to protect the environment, in general, from degradation.

10. One of the important facets of the environment movement is the recognition of environment right. In our country, this right is well established by various decisions of the Supreme Court. One of the most important incidents of this right is the right to know. Unless the affected citizens have the right to know, right to access to the information of the environment, this right cannot be established. Unfortunately, in our country, this right is not well established. For this proper legislation recognizing this right should be made.

11. So far as the functioning of the Appellate Authority is concerned, the regular sitting of the body is highly required to sit regularly.

12. The inconsistencies among the various laws should be removed.

13. Stringent inspections by the various authorities should be made.

14. Proper training and awareness among the lower courts, common people and especially the students should be inculcated.

15. Economic incentives to the companies adopting pollution abating mechanism should be provided.

16. A proper mixture of economic measure and command and control system should be adopted.

17. Voluntary organizations should be encouraged to act regularly.

18. Clean water is the main concern of all people across the world, irrespective of the place or country they come from like indigenous people, Buddhists, Jews, Christians and Muslims, who all strive for the conservation of water for their future generations. Whereas, for Hindus water is regarded as life, giving energy and source. Thus, irrespective of the religious background, people of all nations support the preservation and conservation of water and its quality.
19. Establish a National Wetland Inventory and Monitoring programme. Such a programme should be analogous to the current national forest inventory and monitoring. The survey should be done at least once in two years.

20. Bring wetland management in the overall context of watershed development.

21. Develop economic evaluation and integrate it with national resource accounting. The economic and ecosystem service values of the wetlands should be assessed using different valuation techniques and the results brought out regularly.

22. Restoration, the village level planning should have provision to revive and restore the dying wetlands.

23. Promote a strong scientific base for policy and management initiatives. Fundamental knowledge base on ecology should be strengthened.

24. Establish international linkages and cooperation to share waters involving trans-boundary issues and to conserve wetlands of mutual interest.

25. A comprehensive approach needs to be adopted for wetland conservation on sound ecological basis. The experience gained over till date for wetland conservation would help to draw an appropriate strategy for refining the objectives and addressing issues relating to ecological and social aspects. This would help in rehabilitation of selected water bodies and sustainable utilization of their resources improving water quality enhancing biodiversity and restoring the aesthetic value of wetlands.

26. Wetlands are an important part of our national heritage. Stress is being laid on environmental education particularly in area of wetland conservation.

27. There is a need to create wetlands conservation awareness, in this regard, encouraging NGO’s in wetlands restoration projects, participatory environment management, educational institutions involvement, the authorities should include wetland conservation concept in the curriculum, both at formal and non-formal level.

28. A number of laboratories have to be strengthening for scientific research which helps in overall wetland conservation.

29. Planners and decision-makers should be able to make objective choices, based on adequate scientific date, between competing claims to wetland resources and
watercourse uses taking into account responsibility for other states and to future generation.

30. Our economic well-being and quality of life largely depend on our nation’s wealth of natural resources and wetlands are the vital link between our land and water resources.

31. A nationwide awareness programmes on the need for conservation of this ecological system and involve people in this activity.

32. People’s participation at all level is essential to curb the scourge of pollution. If corruption is cancerous corroding the development of a nation, pollution is degrading the environments essential for the welfare and well being of the people of India.

33. The need for a highly independent National Environmental Authority is to be established to monitor the pollution in general and Water Pollution in particular, apart from the already existing Environmental Tribunals at National and State Levels.