CHAPTER- 6

CONCLUSIONS AND SUGGESTIONS

Present study was carried out with a view to understand Water Pollution- Effects and Legal Controls in India with Special Reference to Bathinda District of Punjab. The objective of the study was to study the efficacy of constitutional and statutory provisions in preventing, controlling and abating water pollution. Role of judiciary in this regard along with the causes and effects of water pollution in the District of Bathinda have also been looked into.

Three research hypotheses had been formulated:

Growing population, industrialization and excessive use of pesticides are the main causes of water pollution.

There is lack of awareness amongst the people with regard to legal remedies available to them.

Implementation of legal provisions related with the prevention and control of water pollution is still not effective and more efforts are required in this direction.

Environment destruction and water pollution has seriously threatened the human health and living hood. Increasing population, geological factors, rapid urbanisation, agricultural developments, industrial development and poor wastewater regulation have affected the quantity and the quality of water.

Water pollution affects not only the human beings, but also animals and birds that depend on the water. In the developing countries a large amount of misery, sickness and death due to infectious diseases arises out of contaminated water. After independence, our
country is also passing through an era of economic growth and the same has given rise to the problem of pollution of water.

An adequate supply of safe drinking water is one of the major pre-requisites for a healthy life. The supply of water has been constant over tens of thousands of years. It is only the demand which has shown a steep increase over the last century.

With the increase in population, there has also been an increase in exploitation of natural resources. For his own benefit, man has behaved in a wild manner by creating problems of pollution, hazardous not only to aquatic life, but also to his own life. While western countries have become quite sensitive to this problem, India is still continuing, because of irresponsible behaviour of its citizens, in rendering water more polluted day by day and the situation is deteriorating progressively.

Due to this increase, in India the average annual availability of water per capita has declined from 5236 cubic meters in 1951 to only 2227 cubic meters in 1991. As per estimates, this will further decline to only 1555 cubic meters by the year 2013. The population of India, which is now more than one billion, is expected to reach a figure between 1.5 billion and 1.8 billion in the year 2050. There shall then be a requirement of 2788 billion cubic metres of water annually in India to be above water stress zone and 1650 billion cubic metres to avoid being water scarce country.

Every year we add millions of people to the world population and our country is no exception. Now it is the second largest country of the world after China and the rate of growth still continuous alarmingly. The earth is now overcrowded and consumption habit of the people is on the rise. The growth of population gave rise to increase in wants and demands of mankind and has succeeded in creating acute problem of water pollution.

Wastes from residential homes, sewage etc. constitutes nearly 70 percent of the water pollution. The residential buildings do have connected sewage treatment system but it is either inadequate or misused. The garbage and sewage discharged from it is flown in
drains or sewage lines thereby blocking the free flow of water. According to a recent survey, an average Indian family throws away wastes of about 60 kg per week. About 60 percent of the wastes processed by municipal treatment plants come from domestic sources and around 40 percent from industrial units. The thickly populated areas are more prone to the ill-effects of contaminated water.

Many of the world’s rivers receive millions of litres of sewage, domestic waste and industrial-agricultural effluents. In India, all the 14 major rivers have become polluted.

Urbanization is a major factor which contributes significantly towards environmental pollution. With the development of the big cities all other forms essentials for making the life comfortable also developed. Of these, developments in the field of communication and transportation are noteworthy which subsequently attracted the establishment of industrial and commercial basis in and around the cities. As these sectors heavily depend on water and all advance system, it is natural that the cities were their first choice. Since many towns and cities lack a proper sewerage system, the condition worsened further adding to the misery of the people.

Rapid industrialization is also a cause of worry as far as water pollution is concerned because after the independence, major steps were taken in our country in its stride for development in order to give its economy a big push. Industrialization was then considered the most important factor that can put the country in the path of progress. But to our utter surprise industrialization along with development brought with it a danger to the human civilization - the problem of environmental pollution.

It is a common practice that a large number of industries, which are located on the banks of rivers, discharge their effluent into the river and thus pollute the river water.

Modern agricultural practices and application of new technological processes in the field of agriculture severely affect the environment. Inorganic fertilizers are being widely used now-a-days. Fertilizers like phosphates and nitrates cause wide spread damage when
applied carelessly to crops. The fertilizers can be transmitted to ground water by leaching and to surface waters by natural drainage and storm run-off. In addition to fertilizers various kinds of pesticides and insecticide also applied.

The main pollutants of agricultural wastes that cause water pollution are pesticides and fertilizers which reach water through run off and leaching. Sediments and farm-animals wastes also cause water pollution. The pesticides and insecticides which are sprinkled in agricultural farms when washed off the lands through irrigation, drainage or rainfall, enter into rivers, streams and even soaked underground and the water gets contaminated. The excessive use of inorganic fertilizers accelerates nitrite contents in water and it gets polluted.

The importance of clean water and link between contaminated or putrid water and illness was recognised in the distant past, even though the actual case of disease was not properly understood until the latter half of the 19th century.

During recent years there has been increasing awareness of, and concern about, water pollution all over the world, and new approaches towards achieving sustainable exploitation of water resources have been developed internationally.

Virtually all types of water pollution are harmful to the health of humans. Water pollution may not damage our health immediately but can be harmful after long term exposure.

A large number of infectious diseases amongst humans are some of the most serious effects of water pollution, especially in developing countries, where sanitation may be inadequate or non-existant.

Water pollution arising out of the use of pesticides and fertilizers is also very harmful to human health. Pesticides not only contaminate the ecosystem but also bioaccumulate in the food chain and can be traced in plants and animal tissues causing serious health hazards. As per World Health Organization estimates, pesticides lead to one million
pesticide-poisoning cases and 20,000 deaths every year globally. Most chemical pesticides are known to pose serious health effects on human and cattle. They can affect the gastroentritic, hepatic, renal and nervous system when ingested, besides effecting skin, eyes and respiratory system while handling. Many pesticides are also known to have carcinogenic effects.

First voice raised against the use of pesticides and insecticides was of Rachel Carson in her book ‘silent spring’ which was published in 1962. In this book Rachel Carson described numerous case studies where use of hazardous pesticides and insecticides led to environmental problems all over the world. Her book described, in depth the harmful effects of insecticide and pesticides on all components of the environment.

It is interesting in this context that the discovery of the insecticidal properties of DDT occasioned a Nobel Prize in 1948. For the next decade, the culture continued to bask in the triumph of DDT and the promise of "better living through chemistry. As a result of Rachel Carson’s Silent Spring, the Environmental Protection Agency (EPA) banned the use of DDT in United States in 1972.

In the 1970s and 1980s, agricultural use was banned in most developed countries, beginning with Hungary in 1968 and then in Norway and Sweden in 1970, Germany in 1972, United Kingdom in 1984. The Convention has been ratified by more than 170 countries and is endorsed by most environmental groups. Unfortunately India refuses to ban this pesticide and continues to say that it is safe. India the largest producer of this chemical does not want to disturb the profit it earns by producing and exporting this deadly poison to 70 countries.

The story of pesticides usage in India is not different from other developing countries. Usage of pesticides in India is much higher than the permissible limit because of lack of awareness in farmers and lack of implementation of laws. Irrespective of the fact that there are various constitutional provisions and laws for the prevention of water pollution but the problem of water pollution is getting worse by the day.
The Indian Constitution is perhaps the first Constitution in the world, which contains specific provisions for the protection of environment. The Constitution (Forty-Second Amendment) Act, 1976 incorporated specific provisions for environmental protection and improvement in the form of Fundamental Duties and Directive Principles of the State Policy. These provisions have thus enunciated the national commitment towards the protection and improvement of environment and made it a duty of both State as well as the citizens to protect and improve the environment.

There have always been provisions in different laws like the Indian Penal Code, 1860, Criminal Procedure Code, 1973, Civil Procedure Code, and Law of Torts, but the Indian Parliament, in furtherance of its obligations as imposed by the Constitution of India to meet India’s international commitments and implement the same has enacted the Water (Prevention and Control of Pollution) Act, 1974, the Environment Act, 1986 And the Green Tribunal Act, 2010 under Article 253 of the Indian Constitution. The Preambles of these laws state that these Acts were enacted to implement the decisions reached at Stockholm Conference in 1972 and Rio Conference specifically in case of the Green Tribunal Act, 2010.

Indian judiciary is playing very important role in the implementation of environmental laws and evolving legal principles to protect environmental pollution as natural and fundamental human rights in the contemporary legal order.

The sincerity of the legislature in protecting the environment can be gauged from the very fact that Constitution of India is one of the first Constitutions of the world which has incorporated specific provisions for the protection of environment. India has always fulfilled its international obligation and the same is once again reflected from Indian Parliament passing specific laws for environment protection. Even the Indian judiciary has been very active in interpreting the various provisions of the constitution and other laws in their right perspective. Land mark judgements have been passed and safeguard of the environment has always been given priority. Passing of the National Green Tribunal
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Act, 2010 has further attempted at effective and expeditious disposal of environmental cases.

The non-governmental organisations have been recognised as a major complementing force to the development efforts undertaken by the government. Large numbers of voluntary and non-governmental organizations are focusing their attention on environmental issues. The numbers of such organizations, which are actively interested or involved in environmental issues in India, is much more than any other Third World Country.

Pressure of such public groups impressed upon the Government of India to establish the Department of Environment in 1980 and pass a number of laws relating to air, water and industrial pollution. Awareness among people with regard to issues like poverty, land degradation, pollution problems, unhygienic sanitation, lack of drinking water, etc. and efforts of voluntary organizations have led people to start environmental movements especially from the 70’s onwards.

There are over 10,000 NGOs in India ranging from reputed agencies at national level to small local groups, from established research organizations to mass based field organizations. These organizations are generally engaged in popularizing eco-development programmes, waste management, forest conservation, preservation of genetic diversity, environmental protection, bio-agriculture, eco-friendly technologies in industry and other environment related activities.

Public participation in environmental decision making has a strong effect on environmental protection and it highlights the needs of not only the present generation but also the future generations. Mass movements gain momentum when people become conscious and this also leads to acceptance of their role in the governance of the country. The changing social scenario also requires the legal system to incorporate the participation of the people in the decision making process.
NGOs in India like TOXIC LINK (founded in 1996) collects and disseminates scientific information about the impact of toxins on people and environment in local languages and formats that are accessible to a wide range of individuals, as well as grassroots and community groups. The organization consists of several decentralized regional nodes in the cities of Delhi, Mumbai, Bhavnagar and Chennai, with each node servicing information needs in their outreach areas.

Along with the NGOs there are number of environmental activists like M.C. Mehta, Medha Patekar, Sunder Lal Bahuguna, etc. whose remarkable contribution in the prevention of water pollution and environmental degradation is really an inspiration for the people. Baba Balbir Singh Seechewal, has become recognised as Punjab's most famous eco-activist, spearheading an anti-river pollution campaign. He organized people’s participation in stopping the massive flow of sewage into the Kali Bein rivulet, the place where Guru Nanak Dev Ji is said to have received enlightenment, and cleaned 160 kms long polluted and choked rivulet within the last three and a half years by deploying on an average 3000 volunteer pilgrims per day. The revival of this rivulet has recharged the water table as the hand pumps that had become dry for the past four decades are now pumping out water.

In spite of such efforts, Punjab is very badly affected state as far as the problem of water pollution is concerned. Almost every city and village of Punjab is facing the consequences of water pollution. Results of various studies conducted in Punjab indicate residues of chemical pesticides in human being milk, water, vegetables and other food products, which are dangerous for human health. Recently Punjab Agricultural University conducted a study, which revealed that arsenic in drinking water may be the major cause of cancer in Punjab.

Situation in the Malwa belt of Punjab is very alarming. The number of cancer patients has steeply multiplied during the last couple of years in the Malwa belt due to the excessive use of pesticides that has contaminated the underground water that they consume. In the District of Bathinda, there has been increasing incidence of various types of cancer.
The same is attributed to the presence of polluting industries and the indiscriminate use of modern pesticides and other toxic materials in farming. Farming practices, that emerged after the introduction of green revolution are also alleged to be a reason for growing incidence of not just cancer but also, high rates of spontaneous abortions, reproductive ailments, genetic deformities, anaemia, diarrhoea, vomiting, fluorosis and a host of skin ailments including rashes and boils.

There is total awareness amongst the people of Bathinda district about water pollution and its existence in their areas. They are also aware of the finite nature of water. However, large numbers of people are ignorant about the existence of environmental laws. There is no scarcity of water in most of the areas, but there is definitely shortage of potable water and issue of water pollution in most of the areas, which is the major cause of concern.

There are numerous causes of water pollution in the Bathinda district, but the most commonly found cause here is the excessive use of pesticides. Farmers do not pay much heed to the agricultural scientists and go in for sprays of pesticides many times more than the recommended levels. Apart from this, industrial effluents and deforestation are some of the other causes to which water pollution has been attributed.

Water pollution is causing some very serious health hazards like cancer, hepatitis, gastroenteritis, etc. Jhajjal village in Talwandi Sabo block of Bathinda district is one of the worst affected areas of Punjab and has over a couple of decades recorded around one hundred patients of cancer.

We take pride in the fact that India is one of the first countries to have incorporated provisions in the Constitution of India for the protection of environment. But it is really sad to know that people in Bathinda district are not aware of their constitutional obligations. People lack the knowledge that they are under a fundamental duty to protect the environment.
The judiciary in India has made a name for itself in the protection of environment. Landmark judgments have been delivered and the ambit of provisions like directive principles has been clarified. The Courts have clarified that the directive principles though not enforceable are still policy prescriptions and cannot be ignored. The State is duty bound to protect the environment and cannot ignore its duties in the name of lack of funds. Similarly, the ambit of Article 21- Right to Life has been given a wider interpretation and the right to live in a healthy environment has been duly recognised.

Similarly, the contribution of judiciary in protection of water pollution has been immense. Though all the major rivers of the country are polluted, whatever positive developments have taken place in safeguarding the water bodies and preventing water pollution have come from the side of judiciary. Again there is lack of awareness amongst the people in this regard.

National Green Tribunal Act, 2010 was enacted with the objective of providing effective and expeditious disposal of cases relating to environmental protection and conservation of resources including enforcement of any legal right. But when the people are not informed about the passing of such acts and people informed about the manner in which it can be approached, not much can be achieved as far as its objectives are concerned. There is hardly any awareness about the existence and the objectives of the National Green Tribunal.

Law is enacted to regulate human behaviour and complaint mechanism is provided for ensuring that anybody whose rights are violated can make a complaint and thereby seek redressal. The same can be effective if people are aware of the authority to which a complaint can be made. However, the procedure laid down in the Water (Prevention and Control of Pollution) Act, 1974 or the Environment Protection Act, 1986 is a time consuming one. It is thus hardly surprising that no complaints have been filed for any violation of environmental laws.
The State Pollution Control Boards are given the statutory responsibility of administrative regulation under the environmental statutes. They have, amongst others, the function of laying down the standards of pollution and make consent orders for industries, etc. for putting trade or effluent sewage effluent into a stream. Thus they have a very important role to play in safeguarding the environment. Again, there is not much awareness as far as the functions of the State Pollution Control Board are concerned. The State Boards accordingly act as per their whims and fancies and due to the political interference/patronage, there is lack of effective regulation.

Irrespective of all the shortcomings of the government, it has taken some initiatives to provide safe drinking water to the people of district Bathinda through mainly two initiatives. Water works have been constructed independently for one village or collectively for two or more villages. Other than this RO plants have been installed in some villages where the problem of water pollution is very serious and people here have to pay a nominal amount of money for getting this water.

There has been no effort by any individual/political leader/government officer/NGO to make the people of Bathinda district aware about water pollution in their area and what efforts the could take to protect themselves from the harmful effects of water pollution. But, both print and electronic media have played an invaluable role in generating awareness amongst the people about the various facets of water pollution. The awareness amongst the people about water pollution is primarily due to media. The programmes on the television, articles in newspapers, etc. have all contributed to make people more aware.

All kinds of people are taking different types of initiatives to protect themselves from water pollution. Those who can afford have installed water while those who cannot boil water for consumption. There are also people who have made efforts to keep there surroundings clean and covered open outlets.

In the light of the above, the following suggestions may be kept in mind.

Paramount importance needs to be accorded to create awareness amongst the people about the general environment. There is need to inform them the need for protecting the
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environment and how our irresponsible behaviour will lead to degradation of the environment which in the long run is going to cause us immense harm to all of us. With large number of people still illiterate in our country, innovative techniques are required to reach and inform the masses.

Environmental education has been made compulsory in India, but no effort has been made to educate the people who have not been to schools or do not go to schools. Some kind of awareness drive for them should also be started. Large segment of our society is still illiterate and we should not be ignoring them.

A large number of seminars and conferences are being organized on the theme of environment all around the world. These exercises can be more fruitful if the organizers of these events are asked to make the findings of these events public and depute somebody to pass on the information collected to the people to whom it matters.

Punjab economy is primarily an agrarian economy with almost 70 per cent of the population relying on agriculture for their livelihoods. Accordingly, agricultural scientists have a big role to play here. They need to make agriculturists aware about the studies they carry out and inform them about the adverse effects of excessive use of pesticides. Extension services should be provided in villages and organic farming should be encouraged wherever possible.

Large numbers of research projects are also carried out, but again the area of study is visited only for the collection of data. Granting agencies for such projects should make it a mandatory condition that once the study is completed, the researchers will go back to the area of study and pass on their findings to the people residing in the area they have covered in their study.

They would be required to give a certificate signed by the representatives of the area that they have been passed on the findings of the study along with the suggestions as to how they can protect and prevent environmental degradation in their areas.
Specific provisions have been incorporated in the Constitution of India conferring rights and duties on us and numerous environmental laws have been enacted for safeguarding the environment. But it is felt that all these laws will not be able to ensure their effective implementation as long as people are not made aware of their existence and their application. Here we need to aware them about their rights and duties with regard to environment and how they have to play a constructive role in furtherance of the same.

There is a dire need to evolve some kind of mechanism whereby people can be made aware of the different environmental laws and how they could contribute to its effective implementation. There is dire need to generate awareness amongst the people about the functions of the State Pollution Control Boards and only that will make these Boards more accountable. Responsibility should be cast on the local bodies to do the needful on dissemination of information in this regard.

State Pollution Control Board needs to be more responsible in its functioning and devoid of any interference from any quarter. It should be made more accountable and the concerned officers should be held personally liable for any short coming on their part. When people will be better informed about the functions of the State Pollution Control Board, they will be in a position to question its various decisions. This will keep the Board on its toes.

Laboratories created to carry out various analyses for the State Pollution Control Boards should be allowed to continue on the grounds that they will perform their responsibility truthfully and any unjustified lapse by it would make the heads of such laboratories personally accountable under the law.

The State Pollution Control Boards are also blamed for rampant corruption. Huge financial penalty should be imposed on all those officers who are caught indulging in corrupt practices and all there properties should be confiscated. Severe checks should be imposed on them and appointments of various officials should be thoroughly scrutinized.
The complaint mechanism provided for in the Water (Prevention and Control of Pollution) Act, 1974 and the Environment Protection Act, 1986 is very discouraging. It is beyond one's comprehension as to why a notice of sixty days should be given to the Board of one's intention to file a complaint. Even the National Green Tribunal which has been constituted with the objective of providing effective and expeditious disposal of cases relating to environmental protection and conservation of resources including enforcement of any legal right is disadvantaged by its location.

The Tribunal would have benches only at five locations initially and this would significantly reduce the access to justice, as civil courts would not deal with such cases anymore. Another issue relates to awareness about its existence. There is an urgent need to address this serious issue and special drives should be started with the sole objective of making people aware of the existence of the National Green Tribunal.

Legal literacy camps with this purpose in mind can make a big difference in dissemination of awareness about the existence and the procedure to be followed in the National Green Tribunal for redressal of grievances pertaining to environmental concerns. Apart from this, regional coverage of the National Green Tribunal needs to be increased and make it more accessible to the people.

The higher judiciary in India has done a great service when it comes to protection of the environment. However, there was a time when the judges were very actively involved and ensuring that their decisions were effectively enforced. Irrespective of the fact that they were accused of transgressing their jurisdiction, they had been very effective in getting the needful done. The need of the hour still continues to be the same and active judiciary will enable the common man to live in a clean and healthy environment.

There is once again need for a proactive role to be played by Law Colleges and University Departments to make people aware about the judgments delivered by the Courts in India. The same will enable the people to question the local authorities
whenever they are not performing their responsibilities irrespective of the Court directions.

NGOs have along been making a huge contribution towards the protection of environment. They need to be encouraged further in their initiatives. There are large number of areas where the common man is not in a position to know the adversities in which he lives for want of knowledge and resources. NGOs have the resources to step in during such situations. They should specifically take up the task of generating awareness amongst the people and also file public interest litigations wherever necessary.

Last, but not the least, media all around the world has played a very constructive role in generating awareness about environment protection. Even in India, major contribution in making people aware about the environment has been made by media. The major newspapers in India have published numerous studies carried out with regard to various aspects of water pollution and other aspects of environment. These efforts need to be continued and small stories should also be published in the magazine sections that are attractive to the young children. These will start inculcating awareness amongst them at a very early age and prove to be productive in the long run. Similarly, radio services have a very productive role to play in this regard as they reach the literate as well as illiterate sections of the society.

We thus come to the conclusion that the entire three hypotheses stand vindicated. Growing population and industrialization and excessive use of pesticides are the main causes of water pollution. There is lack of awareness amongst the people with regard to legal remedies available to them and implementation of legal provisions related with the prevention and control of water pollution is still not effective and more efforts are required in this direction.