

Prevention of Environmental Pollution with Special Reference to Pollution of Water – Part Played by Law and Legal Process – A General Survey

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The background

In the last week of April, 1977 there was a news-paper report from Paris that the Government of France engaged the military to remove tons of garbage accumulated in the streets as a consequence of the strike of dust-men for a number of days. Imagine what would be the nuisance and consequential damage that might be caused if they were on strike for a number of weeks! Of course, there are the urban authorities and the urban laws requiring the removal of garbage. Such laws of a town or city might require them to do so lest the inhabitants would be affected by the resulting damages which might even lead to the spread of epidemics. As cities and towns grow huge hills of garbage result from the waste produced by human conduct. Along with the trend in favour of more and more urbanisation and the resulting concentration of industries in and around the towns and cities, a new threat has come to human life. It may even be said without exaggeration that the humanity would be at peril if something is not done urgently to prevent what has come to be known as 'environmental pollution'. The best medium for such prevention, among other things, is definitely the law and legal process. The processes and technics evolved by modern science and technology in treating industrial waste and prevention of trade effluents could well be brought into effect only by law. Law has been said to be an instrument of social reconstruction and social change. So also in the changing conditions of an industrialised society, "Law" could be the best instrument for prevention of environmental pollution and for bringing about better human environment.

It is often thought that the problem of pollution is a new phenomenon.

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But it is interesting to note that even in early days, there were instances of pollution causing lot of misery and loss of human life. Water pollution was a great problem in the cities of medieval Europe when there was no central authority to collect funds or to regulate sanitary services. Open gutters in the middle of the street carried refuse, while rain water pouring from roofs was not properly drained. The streets, seldom paved, were often muddy, pools from which the excreta of pigs and other animals leaked into wells and private pools. This sort of neglect precipitated the "Black Death" of 1348 which wiped out 75 millions of people in Europe.

Provoked by this tragedy the British Urban Sanitary Act of 1388 was passed. The Act prohibited the throwing of any refuse like dung, filth, garbage, etc., into ditches and rivers or other waters and places within, about or near to any cities, boroughs or towns¹. The Bill of Sewers passed in 1531 empowered the Crown to issue commissions of sewers from time to time establishing commissioners in particular districts charged with powers and duties relating to land drainage, flood prevention, coast erosion, public health, etc., including the duty to cleanse and purge trenches, sewers and ditches. An Act of 1535 provided for a penalty of 100 shillings to be paid by any one annoying the Thames or casting dung into that river.

It remains, however, a truth that concerted thought and action were bestowed on the subject of human environment and the necessity of keeping it free from pollution only in recent years². The United Nations Conference on the Human Environment had called for the necessity of new codes of International Law which the era of environmental concern required, and new means of dealing with environmental conflicts³.

Pollution of the environment has been defined in many different ways to include many different forms of unwanted interference with man's environment. In general terms it has been defined as :

The introduction by man into any part of the environment of waste matter or surplus energy, which so changes the environment as directly or indirectly adversely to affect the opportunity of men to use or enjoy it⁴.

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1. See A.S. Wisdom, *Law on the Pollution of Waters*, 3 (1956).
 2. At the international level the 112 nation UN conference on the Human Environment was held at Stockholm from 5th June to 16th June, 1972 which has recommended the observance of a World Environment Day on June 5 every year throughout the world.
 3. See Report of the U.N. Conference on the Human Environment, p. 45.
 4. See J. McLoughlin, *The Law Relating to Pollution* 1 (1972).

Pollution of water as such has not been defined by way of the English enactment. It has been defined as the addition or doing of something to water which changes its natural quality of which practical examples are raising the temperature of water by the discharge of untreated sewage or trade wastes, rendering a stream unsuitable for the purposes of another riparian owner such as cattle drinking, polluting a water supply or fouling a river so as to kill or injure the fish in it⁵. By a French law of 1964, the law applies to "Discharge, drainage, waste, the storage, whether directly or indirectly of materials of any kind, and more generally, to anything liable to cause or increase the deterioration in quality of waters, whether surface water, ground water or marine territorial waters, by changing their physical, chemical, biological or bacteriological characteristics."

A.S. Wisdom enumerates the following as examples of pollution of water⁶.

1. Rendering water unfit for domestic and agricultural purposes;
2. Rendering water unsuitable for sheep washing or cattle drinking;
3. Fouling a river so as to kill or drive away fish.
4. Raising the temperature of water.
5. Adding hard water to a soft water stream.
6. Causing canal water to become offensive.
7. Fouling a stream by discharging sewage or trade waste thereto.
8. Throwing noxious refuse into a river.

Pollution of river water—a pressing problem

In India pollution of river water is a pressing problem because large masses of people here depend on rivers for various uses including the drinking purpose. Dr. K.L. Rao in an address on 27th October, 1975 observed as follows :

There is one other danger to the usable water due to heavy pollution that is occurring in Europe, where most of the rivers are

5. A.S. Wisdom, *Water Rights* 64 (1969).

6. A.S. Wisdom, *The Law on the Pollution of Waters* 16 (1956).

medium and small. Due to the large number of industries and dense population, sewage and industrial wastes, where not treated properly, cause heavy pollution of the rivers resulting in perpetual reduction of the quantum of the available waters. In India we do not have at present much trouble from industrial waste though a number of mistakes have been committed by faulty location of some of the industrial plants like the antibiotics factory at Hardwar and the paper mills at Rajahmundry. The effluents pollute the rivers. The main reason, however, of pollution in India is the sewage entering the rivers. Even in these advanced years of this century, gross pollution occurs due to the sewage being let into the Ganga at Banaras where millions of people go for a holy dip every year. In Europe particularly in England and other small countries a stage has come when even the sewage has to be treated for re-use.

Contaminated water caused jaundice out-break in Delhi which affected several lakhs of people. In 1968, a 50 mile stretch of the Ganga was set ablaze due to the discharge of about 1600 tons of oil residues from the Barauni Oil Refinery up-stream.

It has been reported that indiscriminate discharge of trade effluents with high BOD and excessive concentration of toxic chemical substances and particulate matter has rendered stretches of six out of eight major rivers in Kerala chemically and aesthetically unsuitable for municipal industrial fishing and recreational uses (See the Table attached showing the result of a study in Kerala).

Notable English case law

In the English system of law which is basically followed in India in many branches, there is a number of judicial opinions of high authority dealing with the protection of proprietary rights against pollution. Those decisions could with advantage be followed in Indian situations whenever the position is not covered by statute law.

A riparian owner has a right to the natural stream of water flowing through his land in its natural state of purity, undeteriorated by noxious matter discharged into it by others. In case it is polluted the riparian owner is entitled to bring an action against the pollutor without having to prove actual damage. He could obtain an injunction to restrain the continuance of the injury unless the pollutor can show that he has a legal right to pollute⁷.

7. See *Pride of Derby Angling Association v. British Celanese Ltd.*, (1953) Ch. 149.

In *Jones v. Llanrwst U.D.C.*,⁸ the question was about pollution of river and the rights of the riparian owner. It was held that a private individual was entitled to an injunction to restrain a local authority from allowing sewage to escape from its sewer to his injury notwithstanding the statutory rights of the inhabitants of the authority's district to send their sewage into its sewers. It was said: "Where that local authority was before the Local Government Act, 1948, a board of guardians which had constructed a sewage system, it was just as responsible as any private person for allowing sewage to escape therefrom to the injury of others, whether the injury consisted in fouling the water of a river in infringement of the rights of riparian owners or in depositing offensive matter on their land".

In another case, *Esso Petroleum Co. v. Southport Corporation*⁹, it was held that the plaintiff in an action for pollution may claim an injunction and damages for nuisance and trespass and sometimes also for negligence. A person who has been granted a right to the soil of the foreshore may bring an action in nuisance against any person who so pollutes the sea as adversely to affect his occupation of that land. A claim could be based on the principle of strict liability as laid down in *Rylands v. Fletcher*¹⁰. That case was concerned with the escape of water from a reservoir. The rule was stated thus: "If a person creates increased danger by bringing into or collecting on his land anything likely to be dangerous if it escapes, he must keep it in at his peril"¹¹. According to Blackburn, J. it applied also to a person whose habitation was made unhealthy by the fumes and noisome vapours of his neighbour's alkali works.

The owner of a fishery has been held to have a right of action against anyone who discharges injurious or offensive matter in a river and unlawfully disturbs the exercise or enjoyment of the fishery by polluting the water and killing or driving away the fish.

A landowner has a right of action against anybody who pollutes water percolating through his land so that it reaches the owner's land in a polluted state. In *Ballard v. Tomlinson*¹², the defendant put sewage in his well which percolated underground and contaminated the plaintiff's well and it was held

8. (1911) 1 Ch. 393.

9. (1956) A.C. 218.

10. (1866) L.R. 1 Ex. 265 affirmed at (1868) L.R. 3 H.L. 330.

11. *Nicholls v. Ely Beat Sugar Factory*, (1931) 2 Ch. 84; The owner of an offshore oyster bed has a similar right: *Owen v. Faversham Corpn.*, (1908) 73 J.P. 33. See also, the owner of a well: *Hodgkinson v. Ennor*, (1863) 4 B. & S. 229.

12. (1885) 29 Ch.D. 45.

actionable. The pollution of surface percolating water or canal water is also actionable in the same way as water in a defined surface channel¹³.

In general, the remedies for pollution could be grouped together as (1) abatement, (2) damages and injunctions and (3) public nuisance.

Legislation preventing pollution

In recent years, the law relating to environmental pollution and human environment has come to be called conceptually as a separate system of "environmental law". However, in truth, laws have been in existence for a long time which cover a wide range of subjects like protection of public health, allocation of natural resources, resource management and conservation of resources. The measures, "classical" and "modern" designed to protect environmental quality differ one from the other. They could, however, be classified into three¹⁴ :

1. Laws respecting the use or impairment of resources.
2. Laws designed to safeguard the public interest in an unimpaired and accessible natural environment.
3. Co-ordinated administrative and policy approaches to environmental management.

From the perspective of man's relationship with natural environment, the laws could have a four fold division :

1. Protection of human health
2. Allocation of natural resources use
3. Conservation of quality and quantity of natural resource
4. Co-ordination of component measures.

The first is to give protection to human health from nature; the second to have equitable allocation, use and development of resources, the third to confine to management of resources and the last to deal with development of co-ordinated programme for environmental management through integration of separate regulatory systems.

13. See *Humphries v. Cousins*, (1877) 2 C.P.D. 239.

14. See Stephen C. McCaffrey and Francoise Burhenne Guilmin, *The use of Law in Environment Conservation in Organisations and Administration of Environmental Programmes*, U.N. Publication (1974) 109.

Laws relating to use or impairment of resources

As precautionary and preventive measures for environmental clean-up, a growing number of industrialized countries are adopting legislation embodying that private enterprise should be responsible for minimising the harmful environmental effects of its activities. This idea is of importance since it is intimately related to the question of social cost. For instance, industries may impair the quality of water by using it as a means of waste disposal.

Article 3, Section I of the Basic Law of Environmental Pollution Control of Japan, 1971 provides that industrial enterprises shall be responsible for taking the measures necessary for the prevention of environmental pollution such as the treatment of disposal of smoke and soot, polluted water, wastes, etc., resulting from its industrial activities and for co-operating with the state and local government bodies in their efforts to prevent environmental pollution. Similarly a number of instrumentalities are provided in Sweden for preventing Air and Water Pollution.

Resource cycling

The National Environmental Act, 1969 of the United States of America has made a specific national policy to approach the maximum attainable recycling of depletable resources. The main basis of this approach is the re-use of materials by sending them repeatedly through economic production system. It has been said that seventeen trees could be saved by recycling one ton of newspaper. A large number of legislation all over the world have introduced novel methods for recycling practices.

Imposing of civil and criminal liability

Civil liability and criminal liability or one of them on the pollutor will have a deterrent effect. In Japan in 1970 an Act known as Punishment of Environmental Pollution Crimes Relating to Human Health imposed penalties for creating environmental risk. Further, industries negligent with emissions of substances creating a threat to human life or bodily injury entail up to two years of imprisonment and fine of two million yen. In Sweden, by the Nature Conservancy Act, the litter problem is tried to be solved by deterring potential offenders and reducing the quantum of existing litter.

Safeguarding public interest in natural environment

Balancing of public and private interests in land and regulating use of land are some of the methods for safeguarding public interest in natural

environment. Enjoining of private property should enjoin the owner to do so to serve the general welfare. Keeping of open spaces has come to stay in many countries. The "scenic easement" as a device of preserving open areas in its natural form has come to be widely used in the United States of America. So also a conceptual doctrine namely "public trust" is used in recognising an enforceable right to have environmental quality.

Role of legislation

As seen already, though there were a few legislations even before the 16th century, concerted effort at the national level and international level to meet pollution were taken only in recent years. The statutes restricting or regulating or forbidding pollution could be classified to cover

1. River pollution
2. Fisheries pollution
3. Pollution of ports, harbours and tidal waters
4. Sewage disposal
5. Trade effluents

The better known English enactments in this context are given in Appendix I. The English River Authorities created by Parliament in 1963 superseded the existing Boards established as early as in 1943.

In recent years there is a trend to consolidate various items of legislation on pollution control and to introduce laws of wide scope that cover the environment as a whole. Such laws include the Environmental Protection Law, 1969 of Sweden, the Basic Law of Environmental Pollution Control of Japan (1971) and the Singapore Environmental Public Health Act, 1968. So also there is a trend in establishing centralised authorities, major authority being delegated in certain cases to the ministry responsible for public health as in Jamaica, the Netherlands and Austria. In U.S.A., an Environmental Protection Agency and a Council on Environmental Quality have been established. The need for legislation of general application is felt more in countries having federal structure as in the case of India though local enactments may be useful within the limited sphere.

In U.S.S.R. by the sanitary standards proposed in 1961, the water courses were divided into two categories according to their use. They are :

1. Waters used for centralised and decentralised domestic drinking

water supplies and also for water supplies for the food industries.

2. Waters used for bathing, sport and recreation and also bodies of water within the boundaries of inhabited areas.

The conditions to be satisfied by effluents discharged into these two types of water courses were specified and laid down.

Indian legislation

An Effluent Board was formed in Uttar Pradesh in 1955. The working of this was helpful in reducing the severity of pollution problems to some extent by forcing industries to adopt waste treatment methods.

Maharashtra is the only State which introduced a Water Pollution Prevention Act which came into force from May, 1970. The organisation established by this Act was in the nature of a controlling agency. The Board constituted under the Act is to promulgate standards, conduct investigations, train persons, compile and publish data, disseminate information and co-ordinate all pollution control activities in the State and advice the government. All industries, existing and new are to get permission for discharge of effluents and they have to furnish information regarding the character of the wastes, their volume and rate of discharge. Treatment plant-designs will have to be approved before construction. Penalties for contravention may be a fine of Rs. 1,000/- or 3 months imprisonment or both followed by an additional fine of Rs. 100 per day if such contravention continues.

The Water (Prevention and Control of Pollution) Act, 1974

Hailed as the Indian Water Act, a new phase of development in pollution control is reached by passing this Act in February, 1974. The Act is to provide for the prevention and control of water pollution and the maintaining or restoring the wholesomeness of water for the establishment, with a view to carry out the purposes aforesaid of Boards for the prevention and control of water pollution, for carrying on and assigning to such Boards powers and functions relating thereto and for matters connected therewith. For the purpose of the Act, "stream" includes (a) river; (b) water course (whether flowing or for the time being dry); (c) Inland water (whether natural or artificial); (d) Subterranean waters; (e) sea or tidal water.

Pollution, according to the Act, means such contamination of water or such alteration of the physical, chemical, biological properties of water or such discharge of any sewage or trade effluent or if any other liquid, gaseous or solid substance into water (directly or indirectly) as may or is likely to

create a nuisance or render such water harmful or injurious to public health or safety or to domestic, commercial, industrial, agricultural or other legitimate uses, or to the life and health of animals or plants or of aquatic organisms.

The Kerala State Board

As provided for by the Act, each State could have a State Board and two or more states could enter into agreements to have joint Boards. The Kerala state has also formed a Board for Prevention and Control of Water Pollution. The Board is now actively engaged in a clean up programme of the polluted rivers of the state. Some of the important functions of the Board are :

1. To plan a comprehensive programme for the prevention, control or abatement of pollution of streams and wells in the State and to secure the execution thereof.
2. To advise the State Government on any matter concerning the prevention, control or abatement of water pollution.
3. To collect and disseminate information relating to water pollution and the prevention, control or abatement thereof.
4. To encourage, conduct and participate in investigations and research relating to problems of water pollution and prevention, control or abatement of water pollution.
5. To inspect sewage or trade effluent, works and plants for the treatment of sewage and trade effluents, and to review plans, specifications or other data relating to plants set up for the treatment of water, works for the purification thereof and the system for the disposal of sewage or trade effluents or in connection with the grant of any consent as required by the Act.
6. To lay down, modify or annul effluent standards for the sewage and trade effluents and for the quality of receiving waters (not being water in an inter-state stream) resulting from the discharge of effluents and to classify waters of state.

More recently the Legislature of the State of Kerala is seized of the problem and a committee of the Legislature has visited all the industrial belts in the state where pollution of river water is creating considerable difficulty to those living around.

With more and more public opinion, data of facts and figures, the Board could be given more power to implement the authority vested in the Board for prevention and control of water pollution, we could hope of improving the situation. It is also suggested that case studies—the technologists, the lawyers and administrators meeting together and preparing the difficulties faced by specific fact situations in implementing the objectives of legislation—be prepared and then discussions of such studies be held on regional basis. In all these, the position of the lawyer be made better as no plan and no development project, none the less the schemes for avoiding or lessening pollution, could be successful unless backed by law and legal process. In personnel should be utilized, adequately assisted by authoritative facts and figures and results obtained by continuous and applied research. Regulatory rules, bye-laws and standards prescribed should be suitable to changed situations and needs. Water research laboratories have become the *sine qua non* for the efficiency of environmental protection. These factors may also be borne in mind for any future course of action.

APPENDIX—ENGLISH ENACTMENTS

The Public Health Acts (1872, 1875, 1936, 1937, 1961)

The Rivers Prevention of Pollution Acts of 1876, 1951, 1961

Drainage of Trade Premises Act, 1937

Rural Water Supplies and Sewage Acts, 1944, 1965

River Board Act, 1948

Clean Rivers (Estuaries and Tidal Waters) Acts, 1960.

Clean Air Act (1956).

Waters Act, 1945, 1948

Water Resources Act, 1963

Civic Amenities Act, 1967

Local Acts like Thames Conservancy Acts, 1932, 1950

Metropolitan Water Board Act, 1939 ; etc.

Quantity of wastes and nature of pollutants discharged into the major rivers and their sources

Sl. No.	River	Factories discharging wastes.	Quantity of wastes 1 kh lit./day	Pollutants in the discharges
1.	Chaliyar	M/s. Gwalior Rayons Pulp Div. and Stapl ; Fibre Div.	548	BOD, suspended solids, ph., sulphides, zinc, colour.
2.	Bharathapuzha	M/s. Vanjinad Leathers (New Factory not yet commissioned)	1.5 (Exp. qty.)	BOD, suspended solids, chromiu, colour
3.	Chalakydy	M/s. Madhura Coats, Tapioca Products, Polson's Distillery	19.0	BOD, suspended solids, ph, colour
4.	Periyar	M/s. Travancore Rayons, Indian Aluminium Co., FACT (Udyogamandal) T.C.C. Hindustan Insecticides Ltd., I.R.E. Ltd., Cominco Binani Zinc, Periyar Chemicals, T.C.M., FACT (Cochin Division), Cochin Refineries.	1722	Suspended solids, mercury, zinc, copper, cadmium, lead, flourides, ammonia urea, chlorine, BOD, COD, ph, oil and greases and radio active materials.
5.	Muvattupuzha	Velloor Newsprint Factory (Factory not yet commissioned)	Not reported	Not reported
6.	Pamba	Travancore Sugars & Chemicals	485	BOD, ph, and suspended solids
7.	Achancoil	No major factories	Not reported	Not reported
8.	Kallada	Punalur Paper Mills	180	Suspended solids, BOD, colour, ph.