

WATER POLLUTION IN INDIA – A STUDY

*SUMA. M¹

Introduction

Water pollution occurs when unwanted materials enter into water (e.g., lakes, rivers, oceans, aquifers and groundwater) contaminate the quality of water. This form of environmental degradation occurs when pollutants are directly or indirectly discharged into water bodies without adequate treatment to remove harmful compounds. This is harmful to environment and human health. Water pollution affects the entire biosphere of plants and organisms living in these water bodies as well as organisms and plants that might be exposed to the water. In almost all cases the effect is damaging not only to individual species and populations, but also to the natural biological communities². According to world health organization (WHO) 80% diseases are water borne. Drinking water in various countries does not meet WHO standards³. 3.1% deaths occur due to the unhygienic and poor quality of water⁴. Discharge of domestic and industrial effluent wastes, leakage from water tanks, marine dumping, radioactive waste and atmospheric deposition are major causes of water pollution. Heavy metals that disposed off and industrial waste can accumulate in lakes and river, proving harmful to humans and animals⁵. Toxins in industrial waste are the major cause of immune suppression, reproductive failure and acute poisoning. Infectious diseases, like cholera, typhoid fever⁶ and other diseases gastroenteritis, diarrhea, vomiting, skin and kidney problem are spreading through polluted water⁷. Water pollutants are killing sea weeds, mollusks, marine birds, fishes, crustaceans and other sea organisms that serve as food for human⁸.

¹ Student of second year LLM, Labour and employment Law Branch, University Law college and Department of Studies in Law, Bangalore University, Bangalore.

² Wikipedia, 2018.

³ Khan N, Hussain ST, Saboor A, et al. Physicochemical investigation of the drinking water sources from Mardan, Khyber Pakhtunkhwa, Pakistan. International journal of physical sciences. 2013;8(33):1661-71.

⁴ Pawari MJ, Gawande S. Ground water pollution & its consequence. International journal of engineering research and general science. 2015;3(4):773-76.

⁵ Mehtab Haseena*, Muhammad Faheem Malik, Asma Javed, Sidra Arshad, Nayab Asif, Sharon Zulfiqar and Jaweria Hanif Department of Zoology, University of Gujrat.

⁶ Juneja T, Chauhdary A. Assessment of water quality and its effect on the health of residents of Jhunjhunu district, Rajasthan: A cross sectional study. Journal of public health and epidemiology. 2013;5(4):186-91.

⁷ Khan MA, Ghouri AM. Environmental Pollution: Its effects on life and its remedies. Journal of arts, science and commerce. 2011;2(2):276-85.

⁸ Mehtab Haseena*, Muhammad Faheem Malik, Asma Javed, Sidra Arshad, Nayab Asif, Sharon Zulfiqar and Jaweria Hanif Department of Zoology, University of Gujrat.

Sources of water pollution

Water pollution arises from various activities, among which are:⁹

- (i) Sewage leakages
- (ii) High population density
- (iii) oil spillage
- (iv) Menace of Nipa palm and water hyacinth
- (v) Industrial waste dumped into our waters
- (vi) Pollution of ground water through drilling activities
- (vii) Flooding during rainy season which carries waste deposits into our waters.
- (viii) Building lavatories and visionaries over running water or even the sea as it the practice in some riverine areas.
- (ix) Radioisotopes
- (x) Heavy metal
- (xi) Combustion
- (xii) Toxic waste disposal at sea
- (xiii) Mineral processing plant (e.g. coal production)
- (xiv) Eroded sediments
- (xv) Deforestation
- (xvi) Mining
- (xvii) Littering
- (xviii) Pesticides
- (xix) herbicides and fertilizers
- (xx) Failing septic system
- (xxi) House hold chemicals
- (xxii) Animal wastes.

Laws relating to prevent and control of water pollution in India

The legal framework for water pollution comprises of the Constitution of India, legally binding and enforceable laws and rules framed under the laws, as well as judicial decisions. There are also a number of non-binding administrative regulations and guidelines concerning

⁹ F. W. Owa Department of Integrated Science, Federal College of Education, Okene, Kogi State, Nigeria.

water quality or water pollution at national, state and local levels¹⁰. Some of main laws are discuss as follows:

1. Constitution of India

The Constitution of India does not specifically mention water pollution. However, the Supreme Court of India has interpreted Article 21 of the Constitution, which guarantees the fundamental right to life, broadly to include the right of enjoyment of pollution-free water environment¹¹ and the right to hygienic environment¹² as like the right to clean water is a fundamental right under Article 21 of the Indian Constitution¹³.

The Directive Principles of State Policy, included in Part IV of the Constitution, which provide that the State shall endeavour

- (a) to improve public health (Article 47); and
- (b) to protect and improve the environment (Article 48-A), are also relevant.

Further, protection and improvement of the natural environment, including lakes and rivers, has been identified as a fundamental duty of every citizen in the Constitution (Article 51-A(g)).

Under the Constitution, water, sanitation and public health are included in List II of the Seventh Schedule; in other words, state governments rather than the Central Government exercise powers in respect of these subjects. The 73rd and 74th Constitutional Amendment Acts in the year 1992 led to the introduction of Parts IX and X in the Constitution, which constitutionalised local level governing bodies, that is, municipal authorities in urban areas and Panchayati Raj Institutions (Gram Sabhas or panchayats) in rural areas. States have been vested with the discretion to delegate any or all of the functions relating to water, sanitation and public health, among others, to these local bodies¹⁴.

2. Water (Prevention and Control of Pollution) Act, 1974

According to the Constitution, State Governments or Union Territory administrations (as the case may be) exercise control over water (including water pollution). The Water (Prevention and Control of Pollution) Act, 1974 (the ‘Water Act’) was enacted by the Central

¹⁰ An MHRD project under its national mission on education through ICT(NME-IC).

¹¹ Subash Kumar v State of Bihar & Others, AIR 1991 SC 420).

¹² Virendra Gaur & Others v State of Haryana & Others, (1995) 2 SCC 577).

¹³ Narmada Bachao Andolan Vs. The Union of India.

¹⁴ An MHRD project under its national mission on education through ICT(NME-IC).

Government in exercise of the power vested in it by resolutions passed by two or more State Legislatures in accordance with Article 252 of the Constitution. The Water (Prevention and Control of Pollution) Rules, 1975 complement the Water Act.

The two main objectives of the Water Act are:

- (i) To prevent and control water pollution; and
- (ii) To maintain or restore wholesomeness of water.

To carry out its objectives, the Water Act establishes the Central Pollution Control Board (CPCB) (at the national level) and the State Pollution Control Board (SPCB) or the Pollution Control Committee (at the State/Union Territory level).

The Water Act prohibits any person from knowingly causing or permitting the entry of¹⁵

- (i) any poisonous, noxious or polluting matter, directly or indirectly, into any stream or well or sewer or on land, or
- (ii) any other matter into any stream which may tend, either directly or in combination with similar matters, to impede the proper flow of the water of the stream in a manner leading or likely to lead to a substantial aggravation of pollution due to other causes or of its consequences.

3. Environment (Protection) Act, 1986

While the Water Act applies specifically to water pollution, the subsequently enacted Environment (Protection) Act, 1986 (the ‘Environment Act’), which provides for environmental protection and improvement, applies to different types of environmental pollution, including water pollution. It has been clarified that in case of conflict between the two laws, the provisions of the Environment Act will prevail.

The Act prohibits a person carrying on any industry, operation or process from discharging or emitting water pollutants (or permitting their discharge or emission) in excess of the prescribed standards. Where a discharge of a water pollutant in excess of the prescribed standards occurs (or is apprehended) due to an accident or other unforeseen act or event, the person responsible for the discharge and the person in charge of the place where the discharge occurs (or is apprehended) are required to prevent or mitigate the resulting water pollution and

¹⁵ Water Pollution Laws and Their Enforcement in India by Ali mehdi.

to inform the prescribed authority of such an apprehension or actual occurrence. The prescribed authority is also required to undertake the necessary remedial measures as early as practicable.

The Central Government has also issued a number of notifications, which are relevant for the prevention and control of water pollution. These include:

- Environment Impact Assessment Notification, 2006
- Different eco-Sensitive Zone notifications
- Coastal Regulation Zone Notification, 2011

Limitations of environmental laws

There are several reasons for the poor implementation or non-implementation of the provisions concerning water pollution in the Water Act and/or the Environment Act. These include:

- Inadequate infrastructure (monitoring stations) and frequency of monitoring
- Low rate of compliance
- ❖ Poor implementation and monitoring by SPCB
 - Failure of the SPCB to act against defaulters/polluters due to resource constraints - financial, human and technical
 - Lack of will
 - Corruption
 - Multiple responsibilities of SPCBs (under the Water Act as well as the Air (Prevention and Control of Pollution) Act, 1981)
- ❖ Very low quantum of penalty/fine, so cost of non-compliance < cost of compliance
 - Inadequacy of standards, which does not rule out occurrence of water pollution regardless of compliance.

Water pollution control authority

The Water Act establishes the Central Pollution Control Board (CPCB) (at the national level) and the State Pollution Control Board (SPCB) or the Pollution Control Committee (at the State/Union Territory level) to carry out its objectives.

I. Central Pollution Control Board (CPCB):

- The Central Pollution Control Board (CPCB) of India is a statutory organisation under the Ministry of Environment, Forests and Climate Change.
- Established in 1974 under the Water (Prevention and Control of Pollution) Act and later entrusted with functions and responsibilities under the Air (Prevention and Control of Pollution) Act, 1981.
- It coordinates the activities of the State Pollution Control Boards by providing technical assistance and guidance and also resolves disputes among them.

Constitution of Central Board

The Central Board shall consist of the following members, namely: -

- a full-time chairman, being a person having special knowledge or practical experience in respect of matters relating to environmental protection or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the Central Government¹⁶;
- such number of official, not exceeding five to be nominated by the Central Government to represent that Government¹⁷;
- such number of persons, not exceeding five, to be nominated by the Central Government, from amongst the members of the State Boards, of whom not exceeding two shall be from those referred to in clause (c) of sub-section (2) of section 4¹⁸;
- such number of non-officials, not exceeding three to be nominated by the Central Government, to represent the interests of agriculture, fishery or industry or trade or any other interest which, in the opinion of the Central Government, ought to be represented¹⁹;
- two persons to represent the companies or corporations owned, controlled or managed by the Central Government, to be nominated by that Government²⁰;
- a full-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects as pollution control, to be appointed by the Central Government²¹.

Power and Functions of Central Pollution Control Board²²

The central pollution Control Board has been assigned to discharge the functions as following

- ❖ **Advise the Central Government:** The Central Pollution Control Board can advise the Central Government on any matter concerning the prevention and control water pollution.

¹⁶ Section 3(2)(a) of Water (Prevention and Control of Pollution) Act, 1974.

¹⁷ Section 3(2)(b) of Water (Prevention and Control of Pollution) Act, 1974.

¹⁸ Section 3(2)(c) of Water (Prevention and Control of Pollution) Act, 1974.

¹⁹ Section 3(2)(d) of Water (Prevention and Control of Pollution) Act, 1974.

²⁰ Section 3(2)(e) of Water (Prevention and Control of Pollution) Act, 1974.

²¹ Section 3(2)(e) of Water (Prevention and Control of Pollution) Act, 1974.

²² Section 16(1) & (2) (a to i) of Water (Prevention and Control of Pollution) Act, 1974.

- ❖ **Co-Ordination with State Board:** The Central Pollution Control Board is to Co-Ordinate the activities of the State Board and resolve the dispute among them.
- ❖ **Technical Assistance/ Guidance to State Board:** The CPCB is to provide technical assistance and guidance to the State Board, carry to and sponsor investigations and research relating to the problem of water pollution and prevention, control or abatement of water pollution.
- ❖ **Training Programme:** The CPCB is to plan and organize the training of person engaged or to be engaged in programmes for the prevention, control or abatement of water pollution.
- ❖ **Organising Comprehensive Programme:** The CPCB is to organize through mass media a comprehensive programme regarding the prevention and control of water pollution.
- ❖ **Function as State Board:** By the Amending Act 1988, the Central Board can perform such of the functions of any State Board as may be specified in an order²³ that is power to give direction – every State Board shall be bound by such directions in writing as the Central Government or State government may give to it.
- ❖ **Publication of Statistical / Technical Data:** The CPCB is to collect, compile and publish technical and statistical relating to water pollution and the measures devised for its effective prevention, Control and prepare manuals, codes or guides relating to treatment and disposal of sewage and trade effluents and disseminate information connected therewith.
- ❖ **Laying Down Standard for a Stream/ Well:** The CPCB is to lay down, modify or annual, in consultation with the State government concerned the standard for a stream or well.
- ❖ **Execution of Programme at the National level:** The CPCB is to plan and cause to be executed by a nationwide programme for the prevention, control or abatement of water pollution.

²³ Section 18(2) of the water (prevention and Control of Pollution) Act 1974.

The Central Pollution Control Board is not only performing the function but also have certain power also, those power is as follows

- ❖ The CPCB is empowered to give direction to the State Pollution Control Board²⁴.
- ❖ The CPCB has power to perform any of the function of the State Pollution Control Board in case of non-compliance of any directions given by the Central Pollution Control Board.
- ❖ The CPCB is empowered to issue directions to direct the closer, prohibition or regulation of any industry, operation or process or the stoppage or regulation od supply of electricity, water or other service²⁵.

2. State Pollution Control Board:

Constitution of State Boards

A State Board shall consist of the following members namely

- a chairman, being a person having special knowledge or practical experience in respect of matter relating to environmental protection or a person having knowledge and experience in administering institutions dealing with the matters aforesaid, to be nominated by the State Government²⁶;
- such number of officials, not exceeding five, to be nominated by the State Government to represent that Government²⁷;
- such number of persons, not exceeding five, to be nominated by the State Government from amongst the members of the local authorities functioning within the State²⁸;
- such number of non-officials not exceeding three, to be nominated by the State Government to represent the interests of agriculture, fishery or industry or trade or any other interest which, in the opinion of the State Government, thought to be represented²⁹;
- two persons to represent the companies or corporations owned, controlled or managed by the State Government, to be nominated by that Government³⁰;

²⁴ Section 18 of the water (prevention and Control of Pollution) Act 1974.

²⁵ Section 33A of the water (prevention and Control of Pollution) Act 1974.

²⁶ section 4(2)(a) of the water (prevention and Control of Pollution) Act 1974.

²⁷ section 4(2)(b) of the water (prevention and Control of Pollution) Act 1974.

²⁸ section 4(2)(c) of the water (prevention and Control of Pollution) Act 1974.

²⁹ section 4(2)(d) of the water (prevention and Control of Pollution) Act 1974.

³⁰ section 4(2)(e) of the water (prevention and Control of Pollution) Act 1974.

- a full-time member-secretary, possessing qualifications, knowledge and experience of scientific, engineering or management aspects of pollution control, to be appointed by the State Government³¹.

The State Board has to perform the following functions³²

- ❖ **Planning Comprehensive Programme:** The State Pollution Control Board is to plan comprehensive programme for the prevention, control or abatement of pollution of streams and wells in the state and to secure the execution thereof.
- ❖ **Advisory function:** The State Pollution Control Board is to advise the state government on any matter concerning the prevention, control or abatement of water pollution.
- ❖ **Dissemination of Information:** The State Pollution Control Board is to collect and disseminate information relating to water pollution and the prevention, control or abatement thereof.
- ❖ **Investigation and Research:** The State Pollution Control Board is to encourage, conduct and participate in investigation and research relating to problem of water pollution and prevention, control or abatement of water pollution.
- ❖ **Organising training programme:** The State Pollution Control Board is to collaborate with the Central Board in organising the training of persons engaged in programmes relating to prevention, control or abatement of water pollution and to organise mass education programme relating to thereof.
- ❖ **Inspection of sewage or trade effluents plants:** The State Pollution Control Board is to inspect sewage or trade effluents works and to review plans, specifications or other data relating to plants setup for the treatment of water, works for the purification thereof and the system of the disposal of sewage or trade effluents or in connection with the grant of any consent as required by the water ((prevention and Control of Pollution) Act 1974.
- ❖ **Lay down standard for Causing Discharge of Water:** The State Pollution Control Board is to lay down, modify or annul effluents standards for the sewage and trade effluents and for the quality of receiving waters resulting from the discharge of effluents and to classify water of the state.

³¹ section 4(2)(f) of the water (prevention and Control of Pollution) Act 1974.

³² Section 17 of the water (prevention and Control of Pollution) Act 1974.

- ❖ **Economic methods of Treatment of Sewage:** The State Pollution Control Board is to evolve economical and reliable methods of treatment of sewage and trade effluents, having regard to the peculiar conditions of soil, climate and water resource in different regions.
- ❖ **Methods Regarding Utilization of Sewage:** The State Pollution Control Board is to evolve methods of utilization of sewage and suitable trade effluents in agriculture.
- ❖ **Methods of Disposal of Sewage:** The State Pollution Control Board is to evolve efficient methods of disposal of sewage and trade effluents on land, as are necessary on account of the predominant conditions of scant stream flows that do not provide for major part of the year, the minimum degree of dilution.
- ❖ **Laying down standard for treatment of sewage:** The state pollution control Board is to lay down the standard of treatment of sewage and trade effluents to be discharge in to any particular stream taking into account the minimum fair weather dilution available in that stream and the tolerance limits of pollution permissible in the streams after the discharge of suit effluents.
- ❖ **Advisory Function:** The State Pollution Control Board is to advise the state government about the location of any industry the carrying out of which is likely to pollute a stream or well beside the aforesaid statutory function, the state Board is also to perform function as may be prescribed from time, or may be entrusted to it by the Central Pollution Control Board or the state Government.

Power of State Pollution Control Board

- ❖ Power to obtain information³³.
- ❖ Power to take samples of effluents for analysis³⁴.
- ❖ Power of entry and inspection³⁵.
- ❖ Power to impose a restriction on new outlets and new discharges³⁶.
- ❖ Power to refuse or withdraw consent for the establishment of any industry, ect³⁷.
- ❖ Power to carry out certain works³⁸.

³³ Section 20 of the water (prevention and Control of Pollution) Act 1974.

³⁴ Section 21 of the water (prevention and Control of Pollution) Act 1974.

³⁵ Section 23 of the water (prevention and Control of Pollution) Act 1974.

³⁶ Section 25 of the water (prevention and Control of Pollution) Act 1974.

³⁷ Section 27 of the water (prevention and Control of Pollution) Act 1974.

³⁸ Section 30 of the water (prevention and Control of Pollution) Act 1974.

- ❖ Power to carry out emergency operations in case of pollution of stream or well³⁹.
- ❖ Power to make application to the court for restraining apprehended pollution of water instream or well⁴⁰.
- ❖ Power to give directions⁴¹.

Conclusion

Water pollution affects not only the human beings, but also animals and birds that depend on the water. 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.

³⁹ Section 32 of the water (prevention and Control of Pollution) Act 1974.

⁴⁰ Section 33 of the water (prevention and Control of Pollution) Act 1974.

⁴¹ Section 33A of the water (prevention and Control of Pollution) Act 1974.