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Conserving and Preserving Water as a Precious Resource - Safeguards and Legal Implications

Dr. Manbeer Kaur (Assistant Professor**,** B.A.M Khalsa College, Garhshankar, Hoshiarpur)
Dr. Janki Aggarwal (Associate Professor, B.A.M Khalsa College, Garhshankar, Hoshiarpur)
Dr. Rajni Lamba (CEO, The Rural Environmental, Enterprises Development Society, The REEDS)

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ABSTRACT:
The unmitigated threat to the water resources is worldwide but it is it is particularly severe in developing countries due to the presence of a large population, lack of finances and inadequate scientific expertise. In India, the problem of water pollution needs to be addressed urgently as several areas are poised to face severe calamities resulting fromeither the paucity of water in some parts or the total contamination of available water resources available to human settlements. It has been established that dealing with water pollution has not been adequately supported by legal redressal mechanisms because of which pollution control continues to be ineffective. Punjab State, the land of five rivers, is currently, urgently sliding towards the critical issue of water contamination through several levels of pollution. Being an agriculturally rich State, Punjab is heavily dependant upon water but the conundrum is that the agricultural practices have ended up contaminating the natural and manmade resources of water. It is therefore necessary to ascertain how far the existing legal mechanisms in India address the issue of water pollution, This especially relevant for States like Punjab to analyse how effective the legal mechanism have been in mitigating the formidable menace of depleting contamination of vital water resources.

Introduction

Preservation of nature is as old as civilization itself. There is evidence that the people in the Indus Valley Civilization in Harappa and Mohenjo-Daro had a population of nature-worshippers. The forces of nature were treated with reverence and piety. There are innumerable prohibitions against the defilement of water, including a bar on urinating in water, throwing any other bodily fluids or excrement into the rivers. Chanakya, the brilliant administrator wrote at length about the conservation of nature in the Arthashastra. He wrote about the duties of the State in maintaining forests, preserving sources of water, and protecting wildlife. Many of the Ashokan edicts of that period also spell out rules and guidelines for the use and preservation of natural resources.

It is necessary to make the best out of the existing conditions by generating social consciousness about environment by forming social action groups and the importance of people's participation in fighting the increasing menace of water pollution in our country, because it is all up to us either to perish or to preserve the environment and protect the earth. Equally important is the establishment of a National Environment Protection Authority which should also be made a department of Ministry of Environment but have sufficient authority.

Also setting up of environment court to tackle pollution cases, more media involvement and dissemination of information through documentation centres is required at both centre as well as State level.

It is imperative that some water facts be considered before further examining the situation with the waters of the world:

- Only 2.5% of all the water on earth is fresh, and only a fraction of that is accessible. According to various estimates, each of us requires about 50 litres of water per day for drinking, cooking, bathing and other basic human needs.
- According to the Center for Science and Environment, about 81% of the country's total population has access to drinking water, but per capita availability has been reduced from 5000

Journal of Chemical Health Risks

www.jchr.org

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cubic meters a year at the time of Independence in 1947 to 2000 cubic meters in the beginning of the 21st century.

The UN Secretary General Mr. Kofi Annan (2002) had dutifully warned countries on more than one occasion that the threat of water insecurity due to water pollution looms darkly in our collective future. He said:

"Unless we take swift and decisive action, by 2025, two-thirds of the world's population may be living in countries that face serious water shortages."

The origin of '*Polluter Pays Principle'* is *Principle 16* of the Rio declaration, which states that: "National authorities should endeavour to promote the internalization of environmental costs and the use of economic instruments, taking into account the approach that the polluter should, in principle, bear the cost of pollution, with due regard to the public interest and without distorting international trade and investment."

This principle has widely been recognized as the most important principle of 'Sustainable Development'. **Principle 15** the **Rio declaration** states that: "In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost effective measures to prevent environmental degradation

In other words it means:

- ✓ Environmental measures by the state government and the local authority must anticipate, prevent and attack the causes of environmental degradation.
- ✓ Where there are threats of serious and irreversible damage, lack of scientific certainty should not used as a reason for postponing measures to prevent environmental degradation.
- ✓ The 'onus of proof' is on the actor or the developer to proof that his action is environmentally benign.

It is quite obvious that the object of the above principle was to make the polluter liable not only for the compensation to the victims but also for the cost of restoring of environmental degradation. Once the actor is proved to be guilty, he is liable to compensate for his act irrelevant of the fact that whether he's involved in development process or not.

With these universal declarations on the state of the environment as pertaining to the world, the primary objective of any legislation in India is to ensure social justice and wellbeing through the enforcement of certain Codes of Conduct. Legislation for environmental protection has been based on recognition of the fact that it is essential to abide by the requirements preventing damage to the universal environment as it is common property and common responsibility. It was never in disputethat water pollution came within the ambit of water laws in India.

Water Lawsare traditionally concerned with *resource allocation while* the water laws determine who can use water and for what purposes. The water law is concerned primarily with the *quantity of its allocation* and *not merely the quality*even though that attribute is an important aspect of environmental law.Presently, however, it may be seen as a merely peripheral aspect of water law. It must be understood that resource allocation is not an end itself.

Research Objectives:

The study objectives for this research are:

[i] To understand the means and forms of contamination of the waters in Punjab

[ii] To examine the need for having stringent restrictions on the misuse and contamination of precious water resources

[iii] To examine the preparedness of the legal mechanisms in the country to deal with water pollution and contamination

The Conceptual Framework

Controlling of water pollution is linked with difficult economic and administrative problems can be framed as follows:

(i) India is a federal country where all rivers are inter-state and water is a State subject. An upper riparian State can tend to frustrate the

Journal of Chemical Health Risks

www.jchr.org

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attempts of a lower riparian State to control pollution of its rivers by using the river waters for different purposes can affect the changing quality and quantity of water flowing to the lower riparian State.

(ii) It is notalways easy to measure water pollution. In India technology and expertise are not adequate, therefore, the scientists use physical methods for measuring water pollution, like inserting meters that measure the electrical conductivity of water. A common test is to measure for Bio-chemical Oxygen Demand level of the water.

(iii) The problem of attainingpurity between standards of industry and sewage effluent which severely impacts the standards of water purity.

Defining Water Pollution

Several definitional variations of water pollution are available depending on whether the phenomenon has been addressed by civil engineers,biologists, ecologists, policy makers and also the common man. The following is collection of definitions from various sources:

[i] The *American College Dictionary*, has defined 'pollution' as: "to make foul or unclean; dirty." Water pollution occurs therefore, when a water body is adversely affected due to the addition of large amounts of contaminating materials to the water. Whenever it is unfit for its intended use,water is considered polluted.

[ii] According to the *Water (Prevention and Control of Pollution) Act, 1974* term 'pollution' is defined as contamination of water or the alteration of the physical, chemical and biological properties of water or discharge of any sewage or of any otherliquid, gaseous or solid substance into water (whether directly or indirectly) is likely to render such water harmful to public health and safety. Contaminated water is detrimental to domestic, commercial, industrial, agricultural or other legitimate uses of water and to the life and health of animals, plants or plants or of aquatic organisms.

[iii] *The Halsbury's Laws of England* define 'water pollution' as "Changing the natural qualities of water, including its temperature."

[iv] The *Helsinki Rules on the use of Waters of International Rivers*, lays down "water pollution" as those detrimental changes resulting from human conduct in the natural composition, content, or quality of the waters of an internationaldrainage basin. Changes in the physical, chemical, biological or bacteriological characteristics can be the test for determining pollution.

Considering the above, a *working definition* of water pollution can be "anything that changes the quality of the surface and subsoil waters to such a degreethat its suitability, either for human consumption or for the support of man's natural life processes, tends decrease or cease altogether.

To be able to understand the express meaning of each of the definitions it is essential that the types of pollution of the waters being perpetuated be recognised at first.

Types of Water Pollution

The following are the types of water pollution:

(i) Natural Pollution: Natural pollution due to waste material dropping in the water almost from the first appearance of men, animals and plants on earth.

(ii) Industrial Pollution: Water pollution is a result of industrial activities through discharging floating matter, settleable solids, colloidalmatter, dissolved solids, toxic substances, sullage etc. These industrial pollutants include chemical substances, heavy metals, hydrocarbons and radioactive substances from food industries.

(iii) Sewage Pollution: This pollution consists of raw or partially treated domestic waste. Urban centers are generally divided into Class I Cities (those with a population of over 1 lakh) Class II Cities (those with a population between fifty thousand and 1 lakh). Total sewage generation from urban centers in India grew from about 5000 million liters a day in

Journal of Chemical Health Risks

www.jchr.org

JCHR (2023) 13(4), 1960-1967 | ISSN:2251-6727

1947 to around 30,000 billion liters a day in 1997. Besides Industrial and Municipal wastewater, there exist subsidiary causes of water pollution, including certain religious and social practices. For example, carcasses of humans and animals alike are disposed in the holy rovers. Cremations are done on the river beds and very often partially burnt bodies are thrown into the rivers. According to a survey Kanpur alone dumped 274.3 million liters of new sewage into the Ganges every day.

(iv) Thermal Pollution: This occurs due to the spread of power plants and factories. The excess heat discharged by power plants into a stream, lake or river causes pollution as an increase in natural temperature of water upsets the natural balance. Fish cannot survive in high temperature, which also kills natural foods of river life. Hot water is put into water courses by industries that use water for cooling purposes, Steel mills; oil refineries and breweries use large quantity of water for cooling.

(v) Radioactive Substances Pollution: This type of pollution is most difficult in reversing to handle. These materials are produced in the making of uranium and other radioactive substances or in testing of the thermonuclear devices that produce nuclides in blast devices and fallouts.

(vi) Agricultural Contaminants Pollution: Agricultural pollutants include fertilizers, herbicides and pesticides. Pollution caused by these agents is generally spread over vast areas by irrigation water or rain water; the pollutants include nitrates, phosphates and sulphates. Apart from these classifications of water pollution there are two more categories which can also be mentioned at this juncture:

(vii) Surface Water Pollution: This is caused mainly by point sources, which account for the bulk of pollutants released into rivers, which fortunately can be targeted for pollution abatement measures. Out of the total pollution contributed by industrial sub-sectors, 40% and 45% of the total pollutants are caused by chemical processing plants and nearly 70% of total organic pollution to the food and agro-based industries.

(viii) Groundwater Pollution: Groundwater is a primary source which is very crucial and valuable for drinking purposes. Nationally, 53% of the population relies on ground water as a source of drinking water. In rural areas this figure is even higher, but this primary source is now threatened with pollution from seepage pits, refuse dumps, septic tanks, barnyard manure, transportation spills, and with diverse agricultural and industrial pollutants. Most soil types do not have excess oxygen; therefore, oxidation which can normally purify or decontaminate surface water does not occur in deep aquifers. Once the water source is contaminated deep within the ground, there is no way to clean it up. Groundwater reserves are, therefore, progressively being depleted because more water is being drawn than the rate of annual recharge through rainwater which has remained the same or has even decreased.

Impacts of Water Pollution

Polluted waters pose a serious threat to the survival of communities living all over the world, and are dependant on the vital source for most of their activities. The commonest threat of water pollution to mankind is water borne diseases. It is estimated that 73 million work days are lost every year due to water related diseases, such as typhoid, infective hepatitis (jaundice), cholera, diarrhoes and dysentery. Many of them become epidemic proportions. The cost of treating them and loss in production amounts to Rs. 600 crores a year. Also, waterborne diseases kill more than thirty million people and cause about 900 million cases of illness in the world annually.

Legal Safeguards to Preventing Water Pollution for Environmental Protection in India

Any legislation is to ensure social justice and wellbeing through enforcement of certain codes of conduct. Legislation for environmental protection is based on the recognition of the fact, that, it is necessary to abide by the requirements to prevent damage to the environment which is a common property. With the introduction of legislation, the responsibility of ensuring the social objectives was, to a great extent,

Journal of Chemical Health Risks

www.jchr.org

JCHR (2023) 13(4), 1960-1967 | ISSN:2251-6727

taken over from the society by a new set of enforcement mechanism and the non- compliance of laws was recognized as a criminal offence.

The Constitutional provisions are the bed-rock for framing environmental legislation suitable to India. According to the VI Schedule of the Indian Constitution, the areas of responsibility between the Central and State Governments have been defined through the subject grouped in Central, Concurrent and State lists. Most of the environment related laws enacted by the Parliament have been based on the Articles 252 and 253 of the Constitution.

The legal approaches to control water pollution have been divided into the following stages:

(i) Ancient Indian Jurisprudence;
(ii) Common Law Remedy (or pre-Independence legal approaches);
(iii) Modern Legal Mechanism (post-independence legal approaches)

Ancient Indian Jurisprudence on Sources of Water Pollution

There are several sources of water pollution and can be divided into two distinct categories, i.e. point and non-point sources.

(i) The *Point sources* are those sources which are determinate and identifiable and occur when harmful substances are emitted *directly* into a body of water. For example, industrial effluents.
(ii) The *nonpoint sources* are those sources which are indeterminate and not easily identifiable and deliver pollutants indirectly through environmental changes. An example of this type of water pollution is when fertilizer from a field is carried into a stream by rain, in the form of run-off which in turn affects aquatic life.
(iii) There are technological measures available for evaluating point sources of pollution to be monitored and regulated, although political factors may complicate matters. Non-point sources are much nevertheless, most difficult to control. Pollution arising from non-point sources accounts for a majority of the contaminants in streams and lakes.

Judicial Activism on Judicial Response to Water Pollution

Bureaucratic lethargy, lack of sensitivity amongst legislators towards environmental problems, and an errant industrial-manufacturing combine with State inefficiency are prompted by the judiciary in general and Supreme Court in particular to step in and correct the wrongs. The Judiciary, to make a balance between economic development and preservation of the eco-systems; came with a doctrine called 'Sustainable Development', i.e. there must be a balance between development and ecology.

Case-I*: Subhash Kumar v. State of Bihar* was one of the first few cases wherein the Supreme Court emphasized the importance of protecting and conserving the natural environment. The scope of Article 21—the right to life—was widened when the court read into it the "right to wholesome environment."The court went even further and said, "The Right to Life includes the Right to enjoyment of pollution-free water and air for a fuller enjoyment of life."

Case II: The greatest milestone in the development of water quality control jurisprudence has been the string of Ganga Pollution Cases. In the *Kanpur Tanneries case*, which opened new vista in the direction of protecting environment and pollution caused by hazardous activities of the industries, the court has summed up the main causes of pollution of the Ganga precisely as "urban liquid waste" and "industrial waste surface run-off". Venkataramaih J; observed that: "*Under the law of the land, responsibility for treatment of the industrial effluents is that of the industry. While the concept of "strict liability" should beadhered to in some cases, circumstances may require that plans for sewerage and treatment systems should consider industrial effluents as well*" The court directed the tanneries to set up Treatment Plants and held that the financial capacity of the polluter was irrelevant.

Case-III *Indian Council for Enviro-Legal Action v. Union of India popularly* known as *Bichhiri case:* struck a blow to chemical industries in Rajasthan, which were releasing highly toxic effluents and untreated sludge into the environment, leading to the

Journal of Chemical Health Risks

www.jchr.org

JCHR (2023) 13(4), 1960-1967 | ISSN:2251-6727

pollution of underground aquifers. The court took the question of liability of the respondent from the different angle and stamped the validity of "polluter pays Principle" and "absolute liability" in this case.

These cases have amply proven that the legislative and the judiciary are hand in hand on the p the protection of the vital natural resources especially water/

To combat the growing menace of water pollution in the country, the Union government promulgated the Water (Prevention and Control of Pollution) Act, 1974 to preserve the wholesomeness of water. Additionally, Environmental (Protection) Act, 1986 was passed and prior to that Pollution Control Boards was established both at the Union and State levels.

The biggest culprit in realizing the desired results of control of water pollution is the industrialists—States combine which has been frequently flouting the water pollution control laws. For example, in Delhi, Effluent Treatment Plants [ETPs] have been installed or under installation for only 16 out of total 63 polluting units. According to the study there are 28 approved industrial areas in Delhi with a total of 21,627 industrial units. Nearly two thirds of all industrial units are located in six larger industrial areas namely Anand Parbat Industrial Estate (17.23%), Mayapuri Industrial Area (15.10%), Okhla Industrial Area (11.34%), Narela Industrial Area (9.59%, Wazirpur Industrial Area (7.70%) and Kirti Nagar Industrial Estate (6.82%). Only one third of the units are located in the remaining 22 industrial areas. More than 50 percent of the industrial units are the major sources of solid waste pollution, but, no measurement has been taken to resolve this problem of pollution.

Thus, under these circumstances, it is imperative that the water pollution control laws be made more stringent and adequate provision for funds and trained personnel to the agencies entrusted with the task be added. A proper State-Centre coordination and the strong determination [on the part of official agencies to make the laws click and deliver] should also be ensured. The role of judiciary in controlling water pollution and conservation has been laudable which are very clear from the number of cases decided by the Apex Court in India. The judicial activism has proved to be useful in these cases in controlling pollution of water and improvement of the environment.

Suggestions

Amendments are proposed with respect to the following definitions:

(i) The definition of 'pollution' should be amended to include 'pollution of water due to its radiological disintegration' within its ambit.

(ii) Definition of the term 'Stream' should be amended to include 'rain water', thereby not giving any scope to pollute the rain water.

(iii) Some relevant and important terms like pollutants, toxic pollutants, discharge of pollutants etc should be defined.

(iv) Section 4(2) (a) should be amended so as to provide for the qualification criteria for the chairman to be appointed under the Water Act.

(v) Section 24 should be amended as it does not put any liability on a person if she/he unknowingly does anything which causes pollution. The concept of 'absolute liability' should be introduced.

Conclusions and Recommendations

Awareness and information on specific aspects need to be percolated to the grassroots level so that the individuals are enabled to make informed choices in terms of discouraging contamination and further deterioration of the water resources. The youth as embodied in the college level students are leaders in this movement and can play a pivotal role in ensuring that the water resources are conserved, recharged and preserved till posterity.

There is should be a system of compulsory public hearing. There is a need for specific provision in the Act for Public Participation, to ensure better implementation of the Act. There should be provisions in the Act for fixing up standards of quality and targets for eradication of pollution.

Trained personnel from some of the active agencies in the field should be entrusted with the task of educating the youth to ensure that the messages are understood and further percolated to the community to bring about the best results of conservation and preservation.

Journal of Chemical Health Risks

www.jchr.org

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This paper is the precursor to the active participation of the youth in a number of activities that can be institution based and community based to carry forward the requisite messages for responsible handling and usage of the drinking water as well as other forms of water for sustenance of life in the ling term. The first steps to this objective are being initiated at the college level already and will gradually turn into a sustained movement to conserved the

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Journal of Chemical Health Risks

www.jchr.org

JCHR (2023) 13(4), 1960-1967 | ISSN:2251-6727

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