The Legal Regime Governing Penalties for Water Pollution in India and Africa: A Comparative Analysis

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Abstract

Water Pollution issues have always been in debate since industrial revolution took place. Numbers of conventions and treaties highlighting the significance of topic have held but, resultantly, we have seen the condition of major projects and schemes mitigating water pollution. Humans have exploited the rivers and maligned the surface and underground water for their luxurious subsistence on this planet. The present research paper has focussed its discussion on environmental law principles and their followup legislations mitigating water pollution in India and Africa. The reason behind choosing the region is both geographical and climatic similarity where they are facing the similar issue of accessibility of clean water to the citizens. Further, the paper compares the strengths and weaknesses of various legal regimes penalizing the polluter and giving solution to crimes done against water.

Keywords: *Water Pollution, Law, Environment, Crime, Punishment*

Introduction

Water contamination caused by depletion of natural resources, rising population, industrialisation, and urbanisation have all led in a global shortage of outstanding grade water supplies.[2]

The majority of South Africa's rural and urban populations rely on surface water, and with the country's economic structure heavily reliant on mining, the country's water resources have become increasingly vulnerable to pollution in recent years.[3]

Rivers play important social and economic roles in India also. Indians dependancy on rivers is huge because these are the major sources of drinking water and sanitation. However, the state of our rivers demonstrates that we have failed to keep them safe and clean. Our waterways have never been more polluted as a result of rapid development to sustain the country's rising population and economy.

In these situations, one can argue that why we need law? Because the legislation is an important tool for transforming policy ideas into legally enforced norms. The state not only provides basic norms for the execution of the normative regime's expectations for public officials through such standards, but it also defines permissible social behavior for the public and forces their actions through fear of punishment. The state can impose four sets of rules when it comes to contaminated water management. To begin with, standards govern the distribution, usage, and water resource development.The main goal of the legislation at this level is to ensure that appropriate resource management practices are used to encourage utilization and development while avoiding waste. Second, regulations govern the elimination of hazardous utilisation and development by-products. At this stage, the goal is to make sure that by-products are treated properly before being released into waterways. Third, norms govern social and economic activitie to guarantee that they don't negatively impact the status of water resources.

Finally, rules establish anticipatory procedures for analyzing and avoiding development's negative effects on water resources in advance. The law's main purpose at this level is to make certain that the ecological point of view is taken into consideration while making decisions.

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It is necessary to carry out the expectations of the normative system. As a result, institutions are vital. Such organizations must have clearly defined powers and authority. In light of this, the discussion on nature of offences against water and the penalties imposed for them are needed to be discussed in detail.

Significance of Clean Water

Human, animal, and plant life all require water. Without it, life would be impossible. In emerging countries, direct access to natural resources satisfies the majority of domestic demands. Water availability is a shaper of civilisation and culture due to its necessity and usage. For the well-being of the population of any country, protection of water resources is important. It is a very captious substance in any nation's economic development.[5]

Everyone shares responsibility for clean/freshwater as a common natural resource. It is quite sensitive, pollution and contamination may easily harm it. As a result, utmost caution must be exercised when handling it. Freshwater is defined as "a liquid without colour, smell, or flavour that falls as rain in lakes, rivers, and oceans and is used for drinking, bathing," according to the Oxford advanced learner's lexicon (1995). As a result, if water begins to smell or turn colour, it's tainted and is no longer considered as water in its purest form.

Basically, every country's constitution preserves the water right or stipulates that the government has a public duty to provide everyone with clean & safe drinking water and sanitary facilities. Enjoyment of the right to water, including water pollution, arbitrary and unlawful disconnections, and lack of sanitation, access have all been addressed by courts in a variety of legal systems.[6]

Meaning of Water Pollution

According to its most basic meaning, the word "pollute" implies to make impure or contaminated. When it comes to water, pollution indicates that there is obvious evidence of debris strewn around in the stream.[7]

'Pollution' is defined as any qualitative change in a medium that disrupts or destroys the previously established equilibrium between living systems that the medium sustains.[8] It is defined as the introduction of a chemical or energy that is likely to damage human health, impair the structure of amenities, or interfere with man's legitimate use of the environment (Holdgate, 1979). The contamination of water is referred to as water pollution, which makes it hazardous and unsafe to consume or bathe in for people and animals (Goel, 2006). Those who get their drinking water and domestic water directly from rivers and dams are particularly vulnerable (Gleick, 2014).

Any undesired alteration in the condition of water, tainted with dangerous compounds, is referred to as water pollution. According to the WHO, water pollution, is defined as any change in the physical, chemical, or biological qualities of water that has an influence on living organisms. Water contamination is caused mostly by human activities (such as industrialisation, agriculture, mining, and household garbage) (Park, 2009). Other microbiological organisms such as bacteria, viruses, and protozoa, on the other hand, can pollute water and cause a variety of water-borne illnesses (Gambhir, Kapoor, Nirola, Sohi and Bansal, 2012).

Surface water contamination occurs when contaminants enter a stream, river, or lake. The contamination of an above-ground aquatic systems, such as streams, rivers and lakes is known as surface water pollution. In contrast, one of the most important sources of irrigation water is

groundwater. It becomes toxic and hazardous for human consumption when human-made elements such as fuel, oil, road salts, and chemicals pollute it.[9]

Water contamination may thus be defined as the presence of dangerous elements in sufficient amounts to rendering the water unsuitable for its intended usage. According to scientific definitions, water pollution is a disruption of the aquatic ecology. As a result, water pollution is defined as a change that harms the aquatic ecosystem in terms of living organisms, oxygen levels, toxin levels, and so on.

Contamination or changes in the physical, chemical, or biological state, or any gaseous, or solid substance into water or sewer or industrial wastewater discharge , (whether it is direct or indirect)that is likely to cause a nuisance or make the water detrimental to human health, or domestic, commercial, or industrial, agricultural, or other legitimate uses, or the life of aquatic organisms, is defined as water pollution by the Water (Prevention and Control of Pollution) Act of 1974."[10]

As a result, water contamination occurs when a component of the water cycle degrades the quality of the water to the point where it is injured or lost for a legal purpose.[11]

Causes and Effects of Water Pollution

Stone walls that formerly separated cities from the rest of the state are no longer present. Because the state's sanitary conditions are so important to all of its citizens, allowing one city to maintain unsanitary conditions that breed contagious and infectious diseases will inevitably expose other citizens to the same diseases through its commercial and social ties to the rest of the state.[12]

Causes

The quality of accessible freshwater sources in South Africa has been determined to have deteriorated because to rising pollutant levels caused by industry, urbanisation, afforestation, mining, agriculture, and electricity generation (Ashton, et al.,2008). This is especially apparent in important economic hubs, such as the Gauteng Province, which includes the metropolitan municipalities of Johannesburg and Tshwane.

Many industrial operations create hazardous chemical waste which is occasionally dumped straight into rivers, sewers, or wetlands. Even discarded garbage in landfills or slag heaps, for example, may emit toxins that ultimately leak into neighbouring waterways, causing wildlife and human fatalities (Oberholster, et al., 2008).

According to one research, the majority of waste and water pollutants are produced by mining activities, which result in an unregulated discharge of polluted water (Banks, et al.1997 and Pulles, et al.2005). The conventional term for this is acid mine drainage. Salt dissolves in the acidic water and allows metals to be mobilized from leftover deposits and mine workings. It's not only linked to pollution of both surface and groundwater , but also to soil deterioration, aquatic habitat destruction, and the release of heavy metals into the ecosystem (Adler and Rascher, 2007). The irreparable devastation of ecosystems is caused by the careless discharge of mining waste into the environment.

Major fresh water contaminant sources are as follows:

i. Tanks and gas stations for storing gasoline;
ii. Pipes and pumping stations for sewage ;
iii. subdivisions with septic tanks with a high capacity ;

iv. industrial zones;
v. golf course fertilisers and herbicides, as well as irrigated greens; and
vi. Pesticides, faeces, nitrates, and other scattered urban contaminants include oils, detergents, salts, pesticides, faeces, and nitrates.

The following factors contaminate groundwater:

i. Untreated or inadequately treated wastewater and rubbish runoff from cities
ii. Storage of industrial waste above or near aquifers
iii. Agricultural activities in the rural sector, such as the use of huge amounts of fertilizers, and
iv. pesticides, animal feeding operations, and so on;
v. Leakage from subterranean gasoline and other hazardous-materials storage tanks.
vi. substances
vii. Landfill leachate
viii. Septic tanks that are poorly constructed and managed
ix. wastes from the mining areas
x. Arsenic toxicity and contamination with other heavy metals

Hence, water can be polluted by both point and non-point sources. Direct sources of water pollution, such as industry, sewage treatment plants, power plants, underground coal mines, and oil wells, can be handled and monitored. Non-point sources of pollution are difficult to control since they are indirect.

Rain or snow are examples of non-point sources that picks up pollutants in the ground, fertilizer spillage from farm animals and cropland, contaminants washed or deposited on the ground by urban runoffs, drainage of stormwater runoff from lawns , parking lots, streets, and other non-point sources that eventually end up in major water sources.[13]

Effects

Through water contamination, human activities have a succession of gradually deteriorating effects on finite freshwater supplies. Water contamination harms biological ecosystems as well as individual species and populations. It makes a large portion of the water unsuitable to be consumed by humans as well as ecological use.[14]

The impacts of water contamination on individuals are considered as part of the idea of what may be safeguarded for the sake of public health. Waterborne disorders such as diarrhea, dysentery, and typhoid can be caused by viruses, bacteria, intestinal parasites, and other hazardous microorganisms found in polluted water.[16]

The United Nations acknowledges the access to uncontaminated, inexpensive, and safe drinking water, as a basic human right as does Goal 6 of the Sustainable Development Goals. Nevertheless, in Africa, access to this crucial resource is still not ubiquitous, with 1 in every 3 Africans experiencing water shortages and around 400 million individuals in Sub-Saharan Africa who do not have access to clean & safe drinking water. The WRI (World Resources Institute) released a report in 2019, that said, across the continent, access to water remains a major development issue.

Kenya, with its tropical temperature and location on Africa's eastern coast, is experiencing acute water scarcity. The problem has been exacerbated by a number of variables, which includes the effects of global warming (droughts and floods have become more often and severe as a result of this), contamination of drinking water, and water resources are underinvested.

The estimated population in Kenya is about 40 million people, with 17 million (43%) lacking access to safe drinking water. Due to years of recurring droughts, insufficient management of water supply, remaining water pollution, and water consumption have risen dramatically as a result of relatively rapid population expansion, water scarcity has been a severe concern in Kenya for decades. The lack of rain in Kenya has hampered people's ability to procure food, leading to violent outbursts. The government's lack of investment in water, particularly in rural regions, has exacerbated Kenya's water deficit in many locations.[17]

In India, unclean water is a major contributor to the country's poor health, particularly in rural areas. Contaminated water may transmit diseases including cholera, tuberculosis, dysentery, jaundice, diarrhoea, and others. Over 80 percent of gastrointestinal illnesses in India are caused by contaminated water.

Air and water pollution-related offences increased by more than 840 percent in 2019 compared to 2018, according to 2020 National Crime Records Bureau Data (NCRB). In 2020, only 8 states and union territories (out of 36 total) reported violations of air and water pollution regulations. The states engaged were Assam, Haryana, Gujarat, Kerala, Madhya Pradesh, Meghalaya, Rajasthan, Uttar Pradesh, and Delhi. Only 8 states reported offences involving violations of air and water pollution regulations in 2019.[18]

Water Pollution Offences and Penalties In Africa

One of the most vital natural resources is water in Africa (Turpie et el. 2008). In terms of South Africa, global water resources are contaminated and exceedingly scarce (Fuggle et al. 2009). Water pollution control is the subject of a slew of legislation in the country. These regulations are explicitly targeted at combatting and regulating the country's water pollution; yet, due to a lack of application and enforcement, pollution continues to thrive (Steyn, 2008).

Legislation for the control of pollution, as embodied in the South African Water Act of 1956,[19] is administered by the Department of Water Affairs. Regulations, which have been framed in terms of this legislation, provide for stringent quality standards for all effluents that must be discharged to the water environment.[20]

The South African Water Act is often cited as a model for the control of pollution. It requires, among other things, that effluent treatment should be considered an integral part of any industrial production process and stipulates that effluents must be returned to the source or catchment where the raw water was taken from, unless special exemption has been granted by the Department of Water Affairs.[21]

According to Sec. 24 of the South African Constitution Act 108 of 1996, every individual has the right to a healthy and safe environment, as well as the responsibility to ensure that it is preserved for future generations, by enacting acceptable legal and various measures to counteract pollution and degradation of the environment, encourage conservation and guarantee environmentally sound development resources while encouraging justifiable economic antagonism.[22]

The National Water Act 36 of 1998 regulates the prevention of water contamination in South Africa. In terms of Section 2(h), one of its key goals is to limit the deterioration of water resources.

According to Section 19 of this Act, a landowner, controller, occupier, or user of land on which anything that has harmed or is threatening to create contamination of water resources, reasonable actions must be taken to stop or prevent the pollution.[23]

Any act or omission that pollutes or threatens to harm a water resource is unlawful and negligent under the National Water Act.[24] It's also illegal to do anything that has a detrimental impact on or is likely to have a negative impact on a water resource, whether intentionally or accidentally.

If a person fails to obey a directive given for the prevention and repair of environmental damage or the control of emergencies, he or she has infringed.

On the first conviction, anybody who violates any of these articles is guilty of an offence and faces a fine or maximum sentence of 5 years in prison, or both.[25] In the event of a second or subsequent conviction, the offender faces a fine, or both a fine and such imprisonment, for a term of not more than 10 years. With reference to this offence, no fine has been set.

In terms of other infractions, it's worth noting that in Zambia, a first offence is punishable by 400 Kwacha under s.55, and the second offence by 800 Kwacha, while in Kenya, a first offence is punishable by KShs. 5000/= and a subsequent offence by KShs. 10,000/= under s. 160(2) of the Water Act.[26]

The premise that pollution must be managed from both "ends" is perhaps the most fundamental principle included in the Water Act, and a provision that considerably boosts its efficacy. To begin, the amount of water to be used in industry (i.e. the intake) must be limited; hence, only a small percentage of water may be contaminated. The effluent quality, on the other hand should be strictly monitored.[27]

Water Pollution Offences and Penalties In India

Economic planning was deafeningly silent on the utilization of natural resources sustainably throughout the first half of India's more than 40-year existence. India's critical natural resources have already been affected to a significant extent, such as forests, fertile plains, and water bodies, by the time the government recognized the significance of environmental control as part of its quick industrialization strategy. During the second half of the planning era, from 1970 to 1990, India enacted a flurry of environmental legislation. As a consequence of the law, both the federal and state governments now have the ability to build and manage the necessary structures and systems.[28]

In independent India, the struggle against pollution was continued through legislation. There is currently a slew of legislation in India aimed at reducing pollution and preserving natural equilibrium. One of the most important environmental laws is the Environment (Protection) Act of 1986.[29]

Environmental legislation, such as the Water (Prevention and Control of Pollution) Act, 1974 (the Water Act 1974), signaled the start of a new age of regulation by the state in India for pollution control. To prevent, abate, and regulate water pollution, the Water Act of 1974 established Pollution Control Boards at the federal and state levels. Any person or company may be obliged to supply information to the Pollution Control Boards (the Board) to ensure that the Act is followed, such as information on trade waste deposited into streams or on land, or the setup and maintenance of pollution control devices. Failure to follow Board directions might result in a three-month jail sentence and a fine of up to Rs. 10,000. Continued non-compliance might result in a daily punishment of Rs. 5,000. If noncompliance persists for more than a year after conviction,

the offender might face a fine and a sentence of two to seven years in jail. The Board has the authority to shut polluting factories if required.[30]

Section 24 (2) of the Act states that no harmful or noxious matter, as defined by the Central Pollution Control Board's standards, may be discharged into any stream, sewer, or on the ground. This Act also requires that no one intentionally enter any stream in such a way that it obstructs the flow of water or pollutes the water in any way. Anyone who breaches or contravenes the provisions of this Section is subject to a sentence of 1 year and 6 months in jail, which can be extended for a maximum of 6 years according to this Section.[31]

The Water Cess Act of 1977 imposes a tax on water used by specific sectors and municipal governments. The major goal of this evaluation is to boost water pollution prevention and control resources available to the Pollution Control Boards at the federal and state levels.[32]

After subtracting collection charges, the cess profits would be deposited to India's "Consolidated Fund" and subsequently handed out to Central or State Boards by the Central Government.When determining the amount owed to the State Board, the assessment collected by the state government must be accounted for by the federal government. Willful avoidance of the assessment can result in up to 6 months in prison or punishment of up to Rs. 1000 in fines, or both.[34]

Provisions have been specifically made out in Indian criminal law to impose a penalty on someone who violates an infraction in violation of the Criminal Code. Section 277 of the Code stipulates that anybody who knowingly fouls a public spring or reservoir will be condemned to three months in prison, a fine of five hundred rupees, or both.

Comparative Analysis of the Legislation

Individuals are required by law not to contaminate any source of water. Pollution of public waterways is illegal underwater and public health legislation. In most circumstances, however, infraction penalties are not substantial, and it might be less expensive for businesses, for an instance, rather of investing in expensive waste treatment facilities, it is preferable to pollute.

Despite the fact that it was one of the first pieces of water pollution legislation passed by the Indian Parliament, there are a lot of faults with the Water Pollution Prevention and Control Act. One of the Act's key flaws is that groundwater management protocols are not mentioned. Another shortcoming in the Act is that it does not address concerns such as indiscriminate groundwater tapping, rainwater collection, and other related difficulties.

In spite of the implementation of environmental legislation in the 1970s and 1980s, India continues to lag behind other nations in terms of implementing economic mechanisms, pollution charges, for instance. The Indian government's policy of offering subsidies to bigger businesses as a means of encouraging the usage of wastewater treatment plants by them goes against basic economic principles of polluters paying. Given the ineffectiveness of pollution levies un regulating pollution caused by small firms, subsidies to these factories might be acceptable in order to promote collective action and the establishment of a single effluent treatment facility. For managing industrial pollution, collective action encompassing all key actors (the people who are affected, the industries, NGOs, and the government) is being examined as an institutional option.

Water pollution prevention and control are the responsibility of the government's public health and water ministries, as well as municipal governments. These authorities have broad authority to ensure that the law is followed, pollution is avoided, and contaminated water sources are treated.

The release of effluents does not need a licence under most nations' pollution control regulations. However, as previously stated, water-user effluent emissions can be regulated, and, in certain nations, by the abstraction of water licence procedure. The licence or permit conditions might include quality standards. Regardless, this form of regulation isn't a replacement for legislation that establishes a foreground controlling wastewater discharge.

A few points concerning these legal systems are worth mentioning. The present frameworks, for starters, have glaring deficiencies. Criteria for water quality and effluent discharge have yet to be established. In the absence of such critical guidelines offering much-needed direction to enforcement officers, the application of applicable laws is impeded. Only a few nations have laws in place to regulate non-industrial land-based activities that have a detrimental influence on the quality of water resources. Second, because local governments have a disproportionate amount of authority, particularly metropolitan ones, and central governments, the quality of water in densely populated rural regions is rarely controlled.

Lastly, in none of the texts examined, there is a provision for citizen rights against polluters. As a result, a powerful avenue for enforcing pollution control laws and defending public rights has been eliminated.

Conclusion

To properly evaluate water and sanitation services, we must consider the advantages they provide to people, such as improved living conditions and productivity, lower healthcare expenses, and increased workplace participation.

The social cost of lost human life value as well as educational and economic potential is substantial. Immediate action is essential to address the water-related implications of climate change that affect people and the planet.

Given the current state of affairs, when shifting regulations, policies, and standards are the norm, some fierce disputes over water contamination may erupt. This in my opinion, is best expressed in the following Schlesinger quote: "Reason without passion is sterile, but passion without reason is hysterical. I have always supposed that reason and passion must be united in any effective form of public action." Simultaneously, evolving requirements and expectations must be acknowledged, embraced, and accommodated.

A statement of goals for our national and provincial water management programs that integrates and reconciles the demands of the many agencies are desperately needed and diverse interests concerned, including public health. Water pollution control agencies should be required to make appropriate referrals where problems arise involving the interests of these agencies. The only way to alleviate the problem of organic pollution from human waste is to eliminate poverty and improve health education.

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