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Investigation on Causes and Consequences of Water Pollution

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Abstract – Water is life for us, but under harsh circumstances, this water pollutes day by day. So it can be assumed that our (water) life is now not secure. We're in a time of crisis. Water contamination is a huge concern for all across the globe. All around the planet, it impacts drinking water, ponds, reservoirs and oceans. As a consequence, it affects the well-being and wellbeing of human beings and the natural world. The present thesis seeks to address the impact of this waste on Earth, essentially what water pollution is and reflects on various sources of water pollution. Analysis has shown that water contamination not only impacts the morbidity and mortality of human life, but also the environment as a whole. Water contamination in the research region is primarily induced by overcrowding, farming activities, land degradation, industrialization and urbanization.

Keywords – Well-Being, Natural Climate, Water Contamination Impact

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INTRODUCATION

Throughout the earth, water is an essential natural resource. We have been living for a couple of days without food, though not without water. Both life, like human beings, food supply and economic growth, need to thrive. Two-thirds of the atmosphere of the planet is coated by water. About 98 percent of the water is sea water which is unusable because of the heavy salt content for consumption. Around 2% of the planet's water is new, but 1.6% is bottled up in glaciers and polar ice caps. In aquifers and wells, another 0.36 trillion is contained groundwater. Therefore, in lakes and reservoirs, only around 0.036 percent of the planet's water source is available. The climate, economic growth and sustainability are all heavily impacted by the geographic and seasonal supply of water and the consistency of land and surface water. Water quality is influenced by human activity and is decreasing as population rise, urbanisation, industrial production and other factors increase. Not only does dirty water influence the lives of the current generation, but it also impacts the lives of future generations and its effects lasts for a long time. If water in an environment is poisoned, both living beings and individuals are confronted with consuming polluted water because they have no other alternative. It affects the body, skin, lungs, brain, liver, kidneys, tumours induced by it, birth defects, and other diseases.

The world is God's precious gift to all animals, whether living or non-living. Natural resources of the planet, including climate, water, soil, flora and fauna and, in particular, representative examples of habitats, must be preserved by proper preparation and conservation for the good of present and future generations. Water is the liquid of creation, since without water there would be no life. Pure water is an animating fluid, although a true curse on living creatures is dirty water. The origins and impact of water contamination and its detrimental effects on the wellbeing of humans will also be studied. Man has settled in areas where abundance of water was accessible over the history of his culture. But through population increases and the misuse of natural resources for his own gain, he acted wildly by causing environmental issues that are harmful not just for sea life, but also for his own life. Though western countries have become very receptive to this issue, India continues to make water more contaminated day by day due to its citizens' reckless behaviour, and the condition is increasingly worsening. The earth's water supplies are rapidly depleting. Water has been poisoned to the level with many natural elements, historically the most convenient receptacle for India's population. Water supplies are minimal, however the attack is a continuing process in the form of contaminants. In India, over 70 percent of all usable water is feared to be poisoned. Really, this state of affairs is disturbing. Water will become grossly toxic and unusable for a vast spectrum of human and non-human uses without emissions controls. No less important is the issue of water supplies than that of other forms of contamination. It's not a person or a nation's issue, but a problem that no nation, no globe, no hemisphere, no ethnicity, no framework can cope with alone.' The whole human race is a challenge that needs collective intervention. One of the main pre-requisites for a healthier existence is an ample availability of clean drinking water. In the far past, the

value of drinking water and the relation between polluted or putrid water and disease was known, but the true case of disease was not fully grasped until the latter half of the 19th century. In recent years, there has been a rising awareness and concern regarding water contamination around the world, and innovative methods have been introduced globally to ensure safe exploitation of water supplies.

Water pollution can be described as improvements in water's physical, chemical and biological properties that can cause adverse effects on human and aquatic life. Olaniran (1995) defined water pollution to be the existence of excessive amounts of a danger (pollutants) in water in such a way that it is the presence of excessive amounts of a hazard (pollutants) in water Not only in terms of public health, but even in terms of conservation, attractiveness and protection of natural beauty and wealth, water contamination is now called a day.

In the biosphere, water is the most essential factor since, on the one side, it is necessary for the existence of all life forms and, on the other hand, it helps to transfer, circulate and cycle resources in the biosphere. 97% of the earth's water is found in the ocean and, because surface water is saline, plants and animals live on the field do not even have access to it and therefore lack the capacity to utilise salt water. In areas like Antarctica and Greenland, 2% of the overall supply of water is frozen like glacial ice. There is water that is new, yet it cannot be used. On soil, 1% of the earth's water is found either as ground water or as surface water. The fact is that just half a quarter of all the earth's water is accessible to us, a rather distressing amount, yet enough to warn us that water is a scarce resource. When they influence each other and the total phase of socio-economic growth, health and the climate are becoming a serious concern. Industrialization, urbanisation and other practises linked to growth have been deeply contaminated by water supply. Millions of litres of water, household waste and industrial-agricultural waste are received by each of the world's waterways. In India, it has been recorded that all 14 major rivers have been dirty water, carrying water to over a billion citizens and sanitation to 770 million. These were praised at the time as remarkable accomplishments. The Universal Decade for Action 'Water for Life' was initiated on March 22, 2005, as announced by the United Nations. This is the second time the United Nations has announced a decade committed to water, the only natural resource that has gained such worldwide coverage. About a billion citizens are already in search of a proper supply of clean water, though, and more than 2.4 billion need any form of sanitation facilities. Also optimists who see the glass as half full normally would have to accept that this is a bleak scenario. Despite massive economic development, one in every six citizens worldwide needs water to drink. A large proportion of this amount is based in India.

We realise pollution is a human phenomenon since it is a comparatively new trend of history; citizens existed in peace with their immediate surroundings until the 19th century industrial revolution. As the matter of contamination is much lower, no one thought that pollution would ever present a significant problem as industrialization and population expanded across the globe. It has become evident today, with about 7 billion inhabitants on the earth, that there are boundaries. One of the signs that humans have breached such thresholds is waste.

SOURCES OF WATER POLLUTION:

Water contamination can happen from two sources. 1. Point source and 2. Non-point source (Table 1). Point wellsprings of contamination are those which have direct recognizable source. Model incorporates pipe appended to a plant, oil slick from a big hauler, effluents coming out from businesses. Point wellsprings of contamination incorporate wastewater profluent (both civil and modern) and tempest sewer release and influence generally the territory close to it. While non-point wellsprings of contamination are those which show up from various wellsprings of inception and number of ways by which toxins go into groundwater or surface water and show up in the climate from various non-recognizable sources. Models are spillover from horticultural fields, metropolitan waste and so forth At times contamination that enters the climate in one spot has an impact hundreds or even great many miles away. This is known as transboundary contamination. One model is the radioactive waste that movements through the seas from atomic reprocessing plants to close nations. Water poisons might be i)Organic and ii)Inorganic water contamination.

1. Natural water contaminations: They contain insect poisons and herbicides, organohalides and different types of synthetic substances; microorganisms from sewage and animals cultivating; food preparing squanders; microbes; unstable natural mixes and so forth

2. Inorganic water poisons: They may emerge from hefty metals from corrosive mine seepage; sediment from surface run-off, logging, cut and consuming practices and land filling; manures from horticultural run-off which incorporate nitrates and phosphates and so forth and substance squander from mechanical effluents.

Table 1. Characteristics of point and nonpoint sources of chemical inputs to receiving waters (adapted from Carpenter et al., 1998).

Point Sources	Nonpoint Sources
- Wastewater effluent (municipal and industrial) - Runoff and leachate from waste disposal sites - Runoff and infiltration from animal feedlots - Runoff from mines, oil fields, unsewered industrial sites - Storm sewer outfalls from cities with a population >100,000 -Overflows of combined storm and sanitary sewers - Runoff from construction sites >2 ha	- Runoff from agriculture (including return flow from irrigated agriculture) - Runoff from pasture and range - Urban runoff unsewered and sewered areas with a population <100,000 - Septic tank leachate and runoff from failed septic systems - Runoff from construction sites - Runoff from abandoned mines - Atmospheric deposition over a water surface - Activities on land that generate contaminants, such as logging, wetland conversion, construction, and development of land or waterways

WATER CONTAMINATION IMPACT

Justice V. R. Krishna Iyer once found out that an exploitative cruelty and anti-social appetite for wealth and enjoyment that is incompatible with humanism and conservationism is betrayed by unconscionable industrialization, unpardonable deforestation and the barbaric extermination of living organisms. A bath in Yamuna and Ganga today is a sin against physical wellbeing, not protection for the mind, so these sacred waters are therefore tainted and unhealthy. Water sources appeared forever renewable while our population was small. We should then encourage ourselves to foul one supply of water, leave it, and pass on to another. However, this is no longer feasible since the human population's rapid development rates have now limited the supply of water to below its per capita availability. As a consequence, any more extension of human operation would rely not just on how effectively we can avoid the depletion and pollution of the water supplies available, but also on how sustainably we manage what we have. Polluted water often presents a significant health risk to surrounding populations, which rely on that supply for much of their operations. Both immediate and long-term health consequences may be triggered by water contamination. Acute effects arise within hours or days of a human drinking a contaminant. When subjected to extremely high amounts, individuals will experience acute health consequences from nearly any contaminant. In drinking water, the pollutants with the highest risk of hitting amounts large enough to cause immediate health consequences are microbes such as bacteria and viruses.

- The health and lives of people, livestock and plants are adversely impacted by water contamination. Polluted water, since it adversely affects crops and land productivity, is often detrimental to agriculture.
- Sanitary dimensions of water safety (Spread of disease: Cholera, Typhoid, Diarrhea, Jaundice and Tuberculosis)
- Affecting internal organs: heart and kidney damage
- Nutrient impact on water quality (Harms the food chain: polluted water can harm aquatic organisms thus breaking a link of food chain)

The impact on water quality of organic contamination— (Causes Algae in water: algae grow according to how much waste in a water source .Bacteria feed off the algae, decreasing the amount of oxygen in water and this incident harm organisms)

- Flooding
- Harming wildlife
- Harms any organism that leaves
- Large Dissolved Solids (TDS) impact on water quality (hamper aquatic ecosystem)
- Environmental safety thermal discharges (physiologically stress for organisms)

MEASURES TO AVOID THE CONTAMINATION OF WATER

In our lives, water contamination has an immense impact. Water contamination may be minimised by the consideration and planning of information. Not a lot of work is needed-just a little thinking.

- Using less pesticides for home cleaning (EP Provides a list of cleaning products)
- Dispose of waste appropriately
- Do not scrub medicines
- Fail to flush garbage
- Conserve the largest volume of water practicable
- Refrain from using plastic
- Water recycle and reuse
- Do not use herbicides and poisons,
- The concrete surfaces have been withdrawn and covered with ground cover.
- Preventing the incidence of surface degradation

- Waterways Clean Up
- Inspects every 3-5 years with the septic device
- Clean the paint brushes in the sink, not
- Get active at work and school
- Support sweep up litter in places flush with water
- Speak regarding water concerns impacting your neighborhood
- Finally, implementation of legislation to stop water waste.

REGULATION OF WATER OF WASTE ACT

In 1974, the Water (Pollution Prevention and Control) Act was enacted to provide for the prevention and control of water pollution and the conservation or restoration of water quality in the region. In 1988, the act was revised. In India, the CPCB (Central Pollution Control Board) plays a major function in flood prevention and pollution control.

REVIEW OF LITERATURE

Place and Warfare (1993) concluded that in the developed world, the most severe and urgent effects of environmental destruction take the form of harm to human wellbeing.

According to Chapman (1996), aquatic contamination applies specifically and implicitly to the advent of man and its consequences as harm to living facilities, dangers to human health, degradation of aquatic operations, like fishing, impairment of the standard of water with regard to its usage in agricultural, industrial and sometimes commercial activities, and loss of facilities.

In the report "Surface Water Pollution Concern in Bangladesh's Public Health Perspectives, Haque et. al. (1998)." Address the causes and effects of water pollution in Bangladesh.

According to Wolf (1999), as major changes are made in the standard and quantity of water in less developed nations, there are around 2 million fewer childhood diarrhoea deaths worldwide.

Down to Earth magazine reveals that the amount of pollution is increasing in the Lidder river, Pahelgam, the pilgrims' base camp heading to Amarnath cave in Jammu and Kashmir. Pilgrims are the river's main polluters and they produce regular tons of waste and even daily waste and open drains are liable for water pollution in the Lidder river.

In the "Chapala Lake in Mexico" report, Totazada (2001) shows that the lake's main causes of water contamination in Mexico are municipal, commercial and agricultural runoff.

Javaid Talib (2005) In an essay, Water Contamination: Legal Regime and Its Efficacy, Javaid Talib observed that because of urbanisation and population explosion, the pollution of water by community waste is the. The sanitation system cannot cope with the growth in the flow and amount of community waste in most cities and towns. He further stated that the issue of water contamination was formally recognised in India in the early sixties. The Ministry of Health formed a Committee in 1962 to draught regulations for the control of water contamination. He further stated that the High Courts and the Supreme Court have an essential part to play in the area of environmental conservation and even in promoting the Actions of the Legislature in this regard.

In his book "Water pollution," S. K. Agarwal stated that water is one of the most essential commodities that human beings have used for the sustenance of their lives than any other resource. Much of the water on this earth is contained in the seas, which, for our different purposes, is impossible to retrieve. Much of our water needs are satisfied by rainwater, which is collected into bodies of surface and ground water. The amount of this useable water on earth is therefore very small. He also stated that water contamination has arisen as one of the most critical environmental issues. The contamination of water is emerging as a danger to all humanity. Gross water contamination has its roots in urbanisation, industrialization and human population development. He also stated that urban waste water is growing due to population increase. Adequate sewers and wastewater treatment plants are served in India by just a minority of the population.

In the Water Contamination chapter of his book Introduction to Environmental Law, S. Shantha kumar stated that the key sources of water pollution are the release of untreated industrial effluents into waterways, the drainage of untreated semi-treated domestic waste into water bodies by municipal bodies and the use of pesticides and fertilizers for agricultural purposes. The harm caused by water contamination is irreparable and the consequences of water pollution will endure for infinite times, he further observed.

In his book "Water pollution laws and their enforcement in India," Ali Mehd(2007) stated that the question of water pollution was a subject of serious concern. The topic of water contamination was not restricted to people in ancient times, but was viewed as a societal problem and was recognised by society as a responsibility to conserve and protect the ecosystem. In regards to the usage of water and the treatment of regular waste, different sects have placed such prohibitions on their adherents to regulate the issue of water contamination. He further noted that everybody, from the average guy to voluntary institutions and from states to international organisations, has drawn attention to the gravity of

water contamination. Around 70 per cent of all available water is feared to be poisoned in India. He further stated that common law rules such as fault, nuisance and strict liability were resorted to pursuing remedies by injunction and reimbursement. The legislature has enacted several legislation to regulate the issue of water contamination. Judicial judgments represent the interest of the courts in India about the prevention and regulation of water pollution. In regard to environmental concerns, the Supreme Court has released a variety of relevant decisions. In cases relating to water contamination within its written authority, the High Courts have even not lagged behind and passed directions.

OBJECTIVES OF THE STUDY

1. To identify and reflect the state of water contamination and the causes of water pollution.

2. Discuss how it impacts all people and other living creatures and the natural world.

CONCLUSION

From the above debate, we inferred that drinking water quality is decreased due to increased population and agricultural activities and even industrialization, and there is a need for proper water management and other method of mitigation to mitigate water contamination and continue to provide clean drinking water. At the same time in school syllabus, government implements Environmental Education, which increases consciousness and India government made the topic mandatory at school and college level. We may now claim "Safe Water, Safe Life."

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