

Sustainable Development: Role of Teacher to Protect Environment from Hazardous Sewage Waste

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ABSTRACT

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development will possible only through the protection of environment. Environment protection is possible through reducing sewage waste. For building a vigilant society, promotion of strategies for sustainable development, maintenance of health standard, hygiene and sanitation are some of the most important jobs that are to be done in the current situation. For making the society vigilant teachers must plan some strategies to develop civic consciousness and inculcation of positive attitudes among students towards the environment, its protection, preservation and conservation. At secondary level students need to be introduced to the problems of sewage waste (is one of the major problems in the world over) in our environment we live in. This is very necessary because of the fact that living conditions of people have become complex due to rapid technological advancements, urbanization and population explosion. Unfortunately, the effects of sewage on the environment are largely negative. It needs to be properly treated before it can be disposed of - usually into the ocean. There are two problems, however. If sewage is only partially treated before it is disposed of, it can contaminate water and harm huge amounts of wildlife. Every teacher should set some goals in the mind of students that keeping the local environment clean and healthy, using natural resources in judicious manner, sensitizing the community about environmental concerns and participating in the environmental conservations and protection activities. In this paper investigator tried to bring about the role of teacher to protect environment from hazardous sewage waste and also check the causes of sewage and try to focus how to maintain sustainable development. Sewage is wastewater that can be hazardous to the environment, which is why we don't want raw sewage to get into the groundwater or other bodies of water. Besides being very smelly, sewage that gets into the drinking water supply, or bodies of fresh water or sea water, can do a great deal of damage to just about every element in the ecosystem.

Keywords: *Sustainable Development, Teacher, Environment, Hazardous, Sewage Waste*

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Received: March 27, 2022; Revision Received: May 23, 2022; Accepted: June 06, 2022

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A teacher is a person who provides education for pupils and students. The role of teacher is often formal and ongoing, carried out at a school or other place of formal education. Environment is everything that is around us. It can be living (biotic) or non-living (abiotic) things. It includes physical, chemical and other natural forces. In the environment there are different interactions between animals, plants, soil, water, and other living and non-living things. The environment is a teacher. When we can read its many layers as children do, we can use it as an ally. "Beauty is the voice that calls the child to engage with the materials and elevates him to a higher level of grace and courtesy as he interacts in his environment" (Haskins, 2012, p.34).

In educational discourse, the word "environment" usually refers to the physical environment, inside and outside. It will serve us well if we can expand this perception to include the context in general, including the relationships among the people and between them and the materials, the rules, the schedule.

Sustainable development is the organizing principle for meeting human development goals while simultaneously sustaining the ability of natural systems to provide the natural resources and ecosystem services upon which the economy and society depend. Sustainable development is a way for people to use resources without the resources running out. The term used by the Brundtland Commission defined it as development with sustainability that "meets the needs of the present without compromising the ability of future generations to meet their own needs."

Teachers play a crucial role in achieving inclusive and equitable quality education and promote lifelong learning opportunities for all. This is a crucial goal, and in many ways contributes to a strong foundation for sustainable development. However, sustainable development cannot be met without recognising the role of teachers as well as a group much in need of a capacity building when it comes to modern teaching methods, especially digital pedagogies.

Sewage (domestic wastewater or municipal wastewater) is a type of wastewater that is produced by a community of people. Sewage usually travels from a building's plumbing either into a sewer, which will carry it elsewhere, or into onsite sewage. The bacteria in human waste, such as E. coli, can infect the water and cause disease. Other harmful solids and chemicals in sewage can damage bodies of water that support wildlife. Sewage needs to be treated so that it doesn't impact the environment. Teacher helps to reduce Sewage Spills into the Bay like minimizing water use when it's raining, wait to wash clothes or run the dishwasher until the rain stops to lessen the burden on the sanitary system. Dispose of household chemicals and automotive fluids properly -not down household drains or curbside storm drains. Don't put fats, oils or grease down the drain.

Need and Significance

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. Sustainable development will possible only through the protection of environment. Environment protection is possible through reducing sewage waste. Building a vigilant society and promotion of strategies for sustainable development, maintenance of health standard, hygiene and sanitation are some of the most important jobs that are to be done in the current situation. For making the society vigilant teachers must plan some strategies to develop civic

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consciousness and inculcation of positive attitudes among students towards the environment, its protection, preservation and conservation.

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Unfortunately, the effects of sewage on the environment are largely negative. It needs to be properly treated before it can be disposed of – usually into the ocean. There are two problems, however. If sewage is only partially treated before it is disposed of, it can contaminate water and harm huge amounts of wildlife. Every teacher should set some goals in the mind of students that keeping the local environment clean and healthy, using natural resources in judicious manner, sensitizing the community about environmental concerns and participating in the environmental conservations and protection activities.

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The present study aims to reflect the Sewage is wastewater that can be hazardous to the environment, which is why we don't want raw sewage to get into the groundwater or other bodies of water. Besides being very smelly, sewage that gets into the drinking water supply, or bodies of fresh water or sea water, can do a great deal of damage to just about every element in the ecosystem.

Sustainable development means to respects and cares for all kinds of life forms, improves the quality of the human life .and minimizes the depletion of natural resources. The protection of environment is needed for sustainable development. Hazardous sewage waste, the Industrial pollution, degradation of forests, depletion of ozone layer, the greenhouse gases results in global warming and climate which will have an adverse impact on environment and human health. The 'environment' refers to the totality of resources and the total planetary inheritance we have received. It includes biotic (animals, plants, birds, etc.) and abiotic (sun, land, water, mountains, etc.) components. It explains the inter-relationship that exists between the abiotic and biotic components for attaining sustainable development environment perform four crucial functions mainly, Supplying Resources, Assimilating Waste, Sustenance of Life and Aesthetic Value.

As much as we'd like to avoid it, sewage is an important consideration for every part of the world. Simply put its water-carried waste. Whether it's the stuff that leaves your toilet or the vast amounts of waste water that flow out of industrial plants – we all contribute to it and collectively we all have to deal with it.

Alternatively, leaking or flooding can cause completely untreated sewage to enter rivers and other water sources, causing them to become polluted. The consequences aren't great. In September, a large part of the River Trent was polluted by sewage in Staffordshire. Over 15,000 fish were killed, and it would have been worse if the sewage had reached a human water source. Contamination of water sources can cause diseases to spread, such as e-coli, diarrhea and Hepatitis A. Even properly treated sewage can have its problems. Researchers have recently found that microscopic plastic fibres, released when certain clothes are

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washed, can make it through wastewater treatment plants and into marine ecology systems like the more common contaminants.

Let's start with the water we drink. If what you flush down the toilet or pour down the drain gets into the water supply, harmful and potentially deadly bacteria infect the water and it becomes a health hazard. The bacteria in human waste, such as *E. coli*, can infect the water and cause disease. Other harmful solids and chemicals in sewage can damage bodies of water that support wildlife. Fertilizers, such as nitrogen and phosphates, encourage algae growth, which blocks sunlight and affects the quality of the water. Bacteria use up oxygen in the water as they decompose the organic material in the wastewater, and the resulting lack of oxygen in the water kills the fish. The solids in sewage cause the water to appear dark and murky, which also affects the ability of fish to breathe and see around them.

Every element of sewage does damage to the environment, whether it has a direct effect on wildlife, on the ability of the environment to support aquatic life forms, or on our water supply. Sewage needs to be treated so that it doesn't impact the environment. Treatment plants for wastewater and laws against pouring untreated sewage directly into the environment are meant to prevent this from happening. Hazardous effects of sewage water on the environment, with the main focus on heavy metals and chemical composition of soil and vegetables can harm animals and damage the food chain.

There is a curious naturalist in every child. School teachers can help nurture the love for the environment through formal and informal educational tools. School boards have to ensure that environmental education is a significant part of the curriculum for all classes, seminars, field trips, competitions and fairs on environmental themes help the students identify their interest in nature and choose a related career. What a child learns early in life for cleanliness, conservation and wise use of resources would stay with him all his life. Sewage is a type of wastewater that is produced by a community of people. It is characterized by volume or rate of flow, physical condition, chemical and toxic constituents, and its bacteriologic status. It consists mostly of greywater, blackwater, soaps and detergents, and toilet paper.

Role of Teacher to Protect Environment from Hazardous Sewage Waste

- To teach about how natural environment and how human beings can manage their behavior and eco system in order to live sustainable.
- To maintain and improve environmental quality and to prevent future environment problem.
- Increasing students' knowledge about the environment.
- Giving information about global warming, solid waste and other environmental problems.
- Given instruction to the consequences of environmental degradation.
- Creating and preventing environmental problems like sewage.
- Minimize water use when it's raining.
- Dispose of household chemicals and automotive fluids properly – not down household drains or curbside storm drains.
- Don't put fats, oils or grease down the drain.

Teachers should ask students to look carefully at the environment around us and make a list of factors that negatively affect its beauty. When toxic substances enter a body of water, they will be dissolved, become suspended in water or get deposited on the bed of the water

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body. The resulting water pollution causes the quality of the water to deteriorate and affects aquatic ecosystems. Pollutants can also seep down and effect groundwater deposits. Sewage and industrial wastes are discharged into the rivers because of this; pollutants enter groundwater, rivers, and other water bodies. Such water, which ultimately ends up in our households, is often highly contaminated and can carry disease-causing microbes. Sewage originating primarily from kitchen, bathroom, laundry sources waste from food preparation, dishwashing, garbage-grinding, toilets, baths, showers, and sinks.

Causes of Sewage waste

Sewage and Wastewater Pollution: Domestic households, industrial and agricultural practices produce wastewater that can cause pollution of many lakes and rivers. Sewage is the term used for wastewater that often contains faeces, urine and laundry waste. Domestic sewage contains a wide variety of dissolved and suspended impurities. It amounts to a very small fraction of the sewage by weight, but it is large by volume and contains impurities such as organic materials and plant nutrients that tend to rot. The main organic materials are food and vegetable wastes. Plant nutrients come from chemical soaps, washing powders, etc. Domestic sewage is also very likely to contain disease-causing microbes. The various substances that we use for keeping our houses clean add to water pollution because they contain harmful chemicals. Most detergents and washing powders contain phosphates which are used to soften the water, among other things. These and other chemicals contained in washing powders affect the health of all forms of life in the water. When sewage enters a lake or stream, microorganisms begin to decompose the organic materials. Oxygen is consumed as micro-organisms use it in their metabolism.

Ecological Damage:

Sewage-contaminated water causes eutrophication, which is the increase in concentration of chemical elements required for life. The nitrates, phosphates, and organic matter found in human waste serve as a food for algae and bacteria. This causes these organisms to overpopulate to the point where they use up most of the dissolved oxygen that is naturally found in water, making it difficult for other organisms in this aquatic environment to live.

Health Risks:

Bathers are at increased risk of contracting illness due to bacteria and viruses present in sewage effluent. Gastrointestinal disorders have been linked to sewage pollution, with viruses implicated as the cause.

Shellfish strain water through their gills to trap microscopic plants and animals for food. If the water was contaminated with disease-causing bacteria, these could be consumed as food by shellfish. When eaten raw or partially cooked, these shellfish can make people sick. Certain fish in contaminated waters can accumulate high levels of toxic substances. When these foods are consumed frequently over a lifetime, they may increase the consumers' risk of adverse health effects. Detergents can cause liver and kidney damage, while sewage water carries diseases such as Giardiasis, Amoebic dysentery and Cholera.

What is the Solution?

It used to be said that "the solution to pollution is dilution". When small amounts of sewage are discharged into a flowing body of water, a natural process of stream self-purification occurs. However, densely populated communities generate such large quantities of sewage that dilution alone does not prevent pollution. Instead of discharging sewage directly into a nearby body of water, it's better to let it pass through a combination of physical, biological,

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and chemical processes that remove some or most of the pollutants. This takes place in sewage treatment plants.

What can Children Do?

In many countries, there is an ongoing national campaign called 'Bag it and bin it, don't flush it!' Its aim is to protect rivers and seas by decreasing the number of disposable items flushed down toilets. Campaigns can be organized so, bag it and bin it. Please don't flush it. Don't flush anything down the toilet that is made of plastic or non-biodegradable material. This includes cotton bud sticks, sanitary towels and napkins which can travel through the sewers and end up back on our beaches.

CONCLUSION

Concerted efforts are required to attain sustainable development. The concept of sustainable development, thereby, comes into play. Some of the measures that can be undertaken to control the crisis that already underway include:

- **Pollution Control:** Air, water, noise, soil are some of the major forms of pollution plaguing the environment today. Pollution control boards can be set up or regulatory standards must be enforced to keep pollution within lowest levels.
- **Forest Conservation:** Increased industrialization has come at the cost of deforestation
- **Social Awareness:** Creating awareness through campaigns and movements can help avert the problem of the ongoing environmental crisis.
- **Waste Management:** Solid waste management must be carefully managed in urban areas. Rural waste has the potential of being used as natural manure by converting it into compost.
- **Water Management:** Rainwater harvesting and conservation of water can help with the long-term potent problem of scarcity of water
- **Reduce Sewage:** reduce all type of sewage
- **Implementation of Policy Programs:** Enactment of environment-centric acts and policies is not enough. Their effective implementation and careful observation are what will actually make a difference to environmental conservation efforts.

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Acknowledgement

The author(s) appreciates all those who participated in the study and helped to facilitate the research process.

Conflict of Interest

The author(s) declared no conflict of interest.

How to cite this article: Rani B (2022). Sustainable Development: Role of Teacher to Protect Environment from Hazardous Sewage Waste. *International Journal of Indian Psychology*, 10(2), 365-371. DIP:18.01.036.20221002, DOI:10.25215/1002.036