Ranigonj Girl's College

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Honours / Program: Honours

Roll no: 391 Session: 2021-22

EVS Project

Topic: Water pollution in Ranigonj City

Raniganj Girls' College

Course Name: Environment Studies

Course Code: AEE101

Topic of the project: Water pollution

A Project Report

Submitted by Semester-I students (Academic Year 2021-22)

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CERTIFICATE

This is to certify that this project titled "Water pollution" submitted by the students for the award of degree of B.A. Honours/ Program is a bonafide record of work carried out under my guidance and supervision.

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Place: Raniganj

Date: 18.03.2022

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Assistant Professor, Department of Zoology

Signature of the supervisor with designation and department

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REGISTRATION CERTIFICATE

This is to certify that USBA NAAZ

Son/Daughter of SK JAHANGIR

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is registered as a student of this University,

His/Her registration number is 113211210135 *of* 2021-22

Registrar

Water Pollution to Raniganj City

Acknowledgement

This project has given me that golden opportunity for learning and self development through collaborative activites. I consider my self lucky to have work under my Evs teacher whose encouraging words and monitoring individual care and motivating approach have widened the horizon of my knowledge and stimulated me to work together with others in joy we are grateful to her.

Last, but not the last. I am greatful to all my friends and family members and many well wishers who helped me in numer'our way's in completing the project.

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Introduction

Comprising over 70% of the Earth's Surface, Water is Undoubtedly the most precious natural resource that exists on our plant. Without the Seemingly invaluable compound compriesed of hydrogen and oxygen, life on Earth would be non-existent: it is essential for everything on our planet to grow and prosper. Although we as humans recognize this facts, we disregard it by polluting our rivers, lakes and Oceans. Subsequently we are slowly but-Surely harming our planet to the points where Oreganisms are dying at a verey alarming rate. in addition to innocent Oreganisms dying off, our drinking water has become greatly affected as is stability to use water for recreational purposes in ordered to combat water pollution, we must-Understand the problems and become parts of the Solution.

Definition

Water Pollution is the release of substances into bodies of water that makes water unsafe for human use and disrupts aquatic ecosystems. Water pollution can be caused by a plethora of different contaminants, including toxic waste, petroleum, and disease-causing microorganisms. Natural phenomena such as volcanoes, algea blooms, storms, and earthquakes also cause major changes in water quality and the ecological status of water.

Sources of Water Pollution

- **Ground water pollution:** Ground water is one of our least visible but most critical natural resources with rainfall, it becomes ground water as it seeps deep into the earth, filling up cracvns, creevices, and porous spaces of aquifer, which is an Underground storehouse of water ground water is then pumped to the Earth's surface for drinking water.

Ground water gets polluted when contaminants such as fertilizer, pesticides, and waste Leaching from Landfills and Septic systems making their way into an aquifer Making ground water free of contaminants can be difficult to impossible, as well as costly.

Causes of Water pollution

Causes of water pollution can be classified under two broad categories, 'point-Source' which occurs when herempull substances are emitted directly into a body of water and 'nonpoint source' which delivers pollution indirectly through transport or environment change. an exaraple directly into a river. An example of a point-Source of water pollution is a pipe from an industrial facillity discharging effluent directly into a river.

Causes of water pollution of wate could be perticides and fertillizers which run-off from fields into local streams and rivers. may causes of pollution, including Sawage, manure, and chemical fertilizer, contain "nutrients" such as nitrates and phosphates Deposition

of atmospheric nitrogen also causes nutrient type water pollution.

In excess levels, nutrients over-stimulate the growth of quatic plants and algae. Excessive growth of these type of organisms clogs our water ways and blocks light to deeper waters. While the organisms are alive, when the organisms die, they use up dissolved oxygen as they decompose.

Effect of Water pollution

Effects on Environment :

- Toxic water
- Thermal healing
- Our Sources of water

Effects on Humans :

- Drinking Contaminated waters
- Swimming in polluted water
- Contact with chemically polluted water

Effects on Birds and Animals :

- Birds and animals become coated with died because of eating Plastic.

Control or Solutions

1. Use Less plastic: it is very difficult to break down plastic after it is produced. much of the plastic we consume ends up in the world's water supply, where it is even harder to fish out and safely throw away. if you can use as few plastic items as possible, you are helping the environment. Plastic waste also spreads decay in the water supply.

2. Reuse items: Whenever you buy something that is not recyclable ~~Sub~~ Such as plastic, it is better to reuse this item as many times as possible. This habit limits your consumption and means less of those products will end up in the world's rivers, Lakes and Oceans.

3. Garbage Disposal: Even though most homes have a garbage disposal system in the sink, it is better to use it as rarely as

possible. This system can break down solid objects but those items are harmful to the water supply. it is better to throw them in the trash can when possible.

4. Plant some trees: Trees reduce erosion that washes pollution into the water and reduces erosion. you can also volunteer your time in a local tree-planting effort. if you own land along a river or pond, plant trees, bushes, or grass along the bank.

Raniganj City Water Pollution Study Area

Raniganj Coalfield is the birth place of coal mining in the country. Area of Raniganj Coalfield is 1530 km^2 spreadding over Bardwan, Birbhum, Bankura and Purulia Districts. Heard of Raniganj coalfield is however, in Burdwan District bounded by Ajoy River in north and Damodar River in South, on the basic of geographic distribution and use pattern, 10 pitlakes were selected for studying the physico chemical properties of their water in premonsoon, monsoon and post-monsoon comprising the three principal seasons of a year.

Water Simple Analysis

Water Samples ware collected from: o pitlaker in Preson - Soon, monsoon and Post - monsoon Sensons Curing 2014 - 2015 using Starded protocols and guidlines, the Value of earth parameter was expressed as mean with standard deviations in the results.

Testes for Physicochemical parameters of water Samples were performed by following standard methods given by American Public Health Association and Black (1965).

Discussions

Variation of Physicochemical Parameters of ten Pitlakes of Raniganj found with their mean value similar find- ings were also reported by PCA reveals three most- important- and key influencial Pa- rameters content- of pitlake water parameters are positively correlated that- indicate their effect- on water quality.

Conclusion

Based on the results of present studies of the pitlakes of Raniganj. Rajbari it can be concluded that water quality shows a prominent change in their quality it revealed that all pitlakes changes with seasonal variation. Such changes were found in Ph. Conductivity, Alkalinity Hardness. chloride, Nitrate nitrogen and phosphate phosphorous also major factors indicate that Pitlakes water quality have the potentiality to him-Prove and restore itself with due course of time.