



Raniganj Girl's College

University Name: Kazi
Nazrul University

Name: Usba Naaz

Registration no: 113211210135

Department: Political Science

Honours / Program: Honours

Roll no: 391 Session: 2021-22

Evs Project

Topic: Water pollution in
Raniganj 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)

Name of the student	Registration Number
PUJA KUMARI MAHATO	KNU113211210040
ARPITA SINGH	KNU113211210104
NISHA MUKHERJEE	KNU113211210231
PRIYA ROY	KNU113211210070
DIPALI KUMARI BURNWAL	KNU113211210064
NANDINI SHAW	KNU113211210189
SHAMA PARWEEN	KNU113211210215
SAKINA PARWEEN	KNU113211210246
INDRANI NAG	KNU113211210250
BARSHA DEY	KNU113211210230
SUNITA GHOSH	KNU113211210087
SWETA SINGH	KNU113211210247
PUJA MAJI	KNU113211210185
SANDIPA SHIT	KNU113211220031
SUSHAMA BHUI	KNU113211220033
SHREYA SADHU	KNU113211220046
NARGIS KHATUN	KNU113211210216
CHAITALI LAYEK	KNU113211210227
ANCHAL KUMARI	KNU113211210178
SUMAN KUMARI	KNU113211210236
SUNITA MONDAL	KNU113211210147
SMRITI GOPE	KNU113211210206
RUSNA KHATUN	KNU113211210140
JYOTI KUMARI SHAW	KNU113211210166
LAXMI KUMARI HARIJAN	KNU113211210243
USBA NAAZ	KNU113211210135
AFSANA KHATUN	KNU113211210241
RITU MANDI	KNU113211210136
NANDINI SHARMA	KNU113211210143
SHILA TUDU	KNU113211210172

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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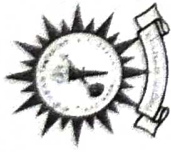
Place: Raniganj

Moumita Pal

Date: 18.03.2022

Assistant Professor, Department of Zoology

Signature of the supervisor with designation and department



Kazi Nazrul University
Asansol West Bengal - 713340

REGISTRATION CERTIFICATE

This is to certify that USBA NAAZ

Son/Daughter of SK JAHANGIR

of RANIGANJ GIRLS' COLLEGE

is registered as a student of this University,

His/Her registration number is 113211210135 of 2021-22



[Handwritten signature]

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Registrar



Water Pollution to Raniganj City



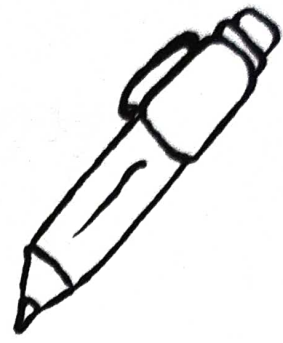
Acknowledgement

This project has given me that golden opportunity for learning and self development through collaborative activities. I consider myself lucky to have worked 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 least. I am grateful to all my friends and family members and many well wishers who helped me in numerous ways in completing the project.

8/3/22

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Introduction

Comprising over 70% of the ~~the~~ Earth's surface, water is undoubtedly the most precious natural resource that exists on our planet. Without the seemingly invaluable compound comprised 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 fact, we disregarded it by polluting our rivers, lakes and oceans. Subsequently we are slowly but surely harming our planet to the point where organisms are dying at a very alarming rate. In addition to innocent organisms dying off, our drinking water has become greatly affected as is stability to use water for recreational purposes. In order 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, algae 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 crevices, crevices, 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 harmful substances are emitted directly into a body of water and 'nonpoint source' which delivers pollution indirectly through transport or environment change. An example directly into a river. An example of a Point-Source of water pollution is a pipe from an industrial facility discharging effluent directly into a river.

Causes of water pollution of water could be pesticides and fertilizers which run-off from fields into local streams and rivers. Major causes of pollution, including sewage, 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 aquatic 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 heating
- ⊙ Our Sources of water

Effects on Humans :

- ⊙ Drinking contaminated water
- ⊙ 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 & decays in the water supply.

2. Reuse items: Whenever you buy something that is not recyclable such as plastics, 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 km² spreading over Bardwan, Birkham, Bankura and Purulia Districts. Head of Raniganj coalfield is however, in Bardwan District- bounded by Ajay River in north and Damodar River in south, on the basis 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 Sample Analysis

Water samples were collected from: pitlaker in pre-monsoon, monsoon and post-monsoon seasons during 2014-2015 using standard protocols and guidelines. The value of each parameter was expressed as mean with standard deviations in the results.

Tests 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 findings were also reported by PCA reveals three most important and key influential parameters 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 Ramiganj - 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 phosphorus also major factors indicate that pitlakes water quality have the potentiality to him - prove and restore itself with due course of time.

