

## **Raniganj Girls' College**

**Course Name: Environment Studies**

**Course Code: AEE101**

**Topic of the project: Water pollution**

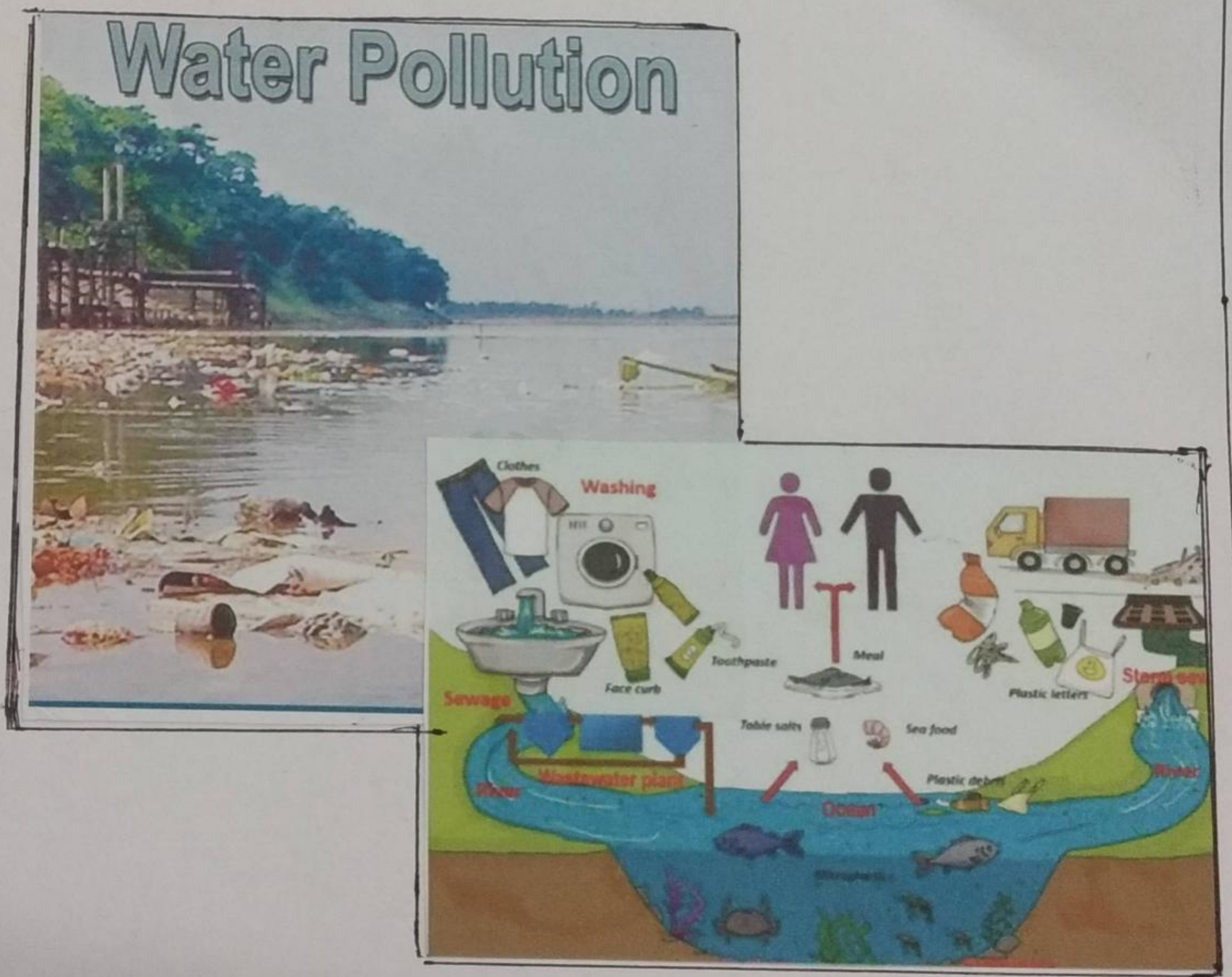
### **A Project Report**

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

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KAZI NAZRUL UNIVERSITY  
1ST YEAR

# WATER POLLUTION



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ROLL NO: 72

CATEGORY: ZOOLOGY

SEMESTER: 1 semester

SESSION: 2021-2022

## 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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Signature of the supervisor with designation and department



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### REGISTRATION CERTIFICATE

This is to certify that **SUSAMA BHUI**

Son/Daughter of **SALIL BHUI**

of **RANIGANJ GIRLS' COLLEGE**

is registered as a student of this University,

His/Her registration number is **113211220033 of 2021-22**



**Registrar**

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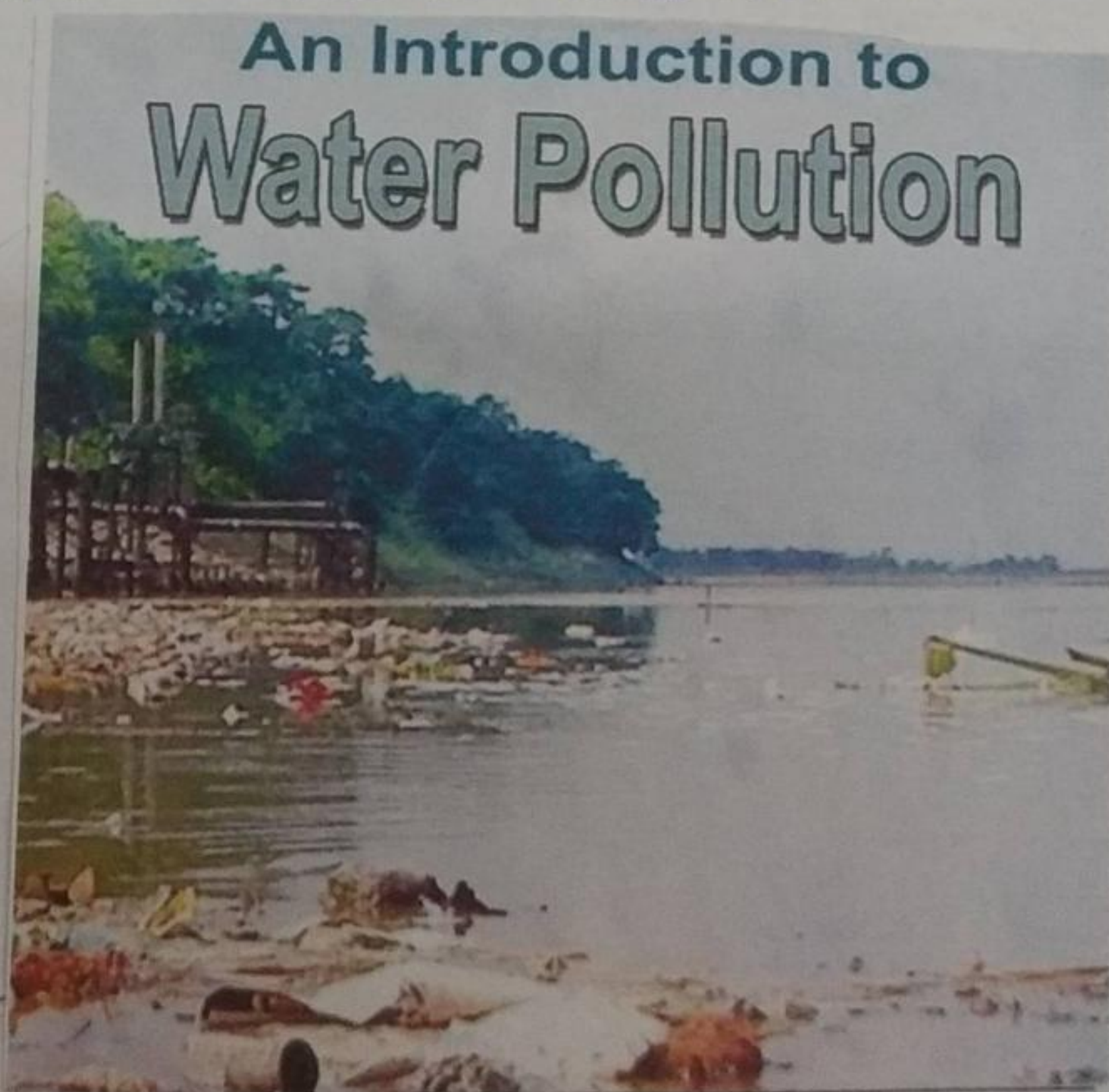
## Introduction

Water Pollution is a broad term that ~~describes~~ describes any kind of contamination of bodies of water such as rivers, lakes or wetlands with substance that can pose threats to human health or the natural environment. Such pollution is a major source of death and disease worldwide, especially in developing nations.

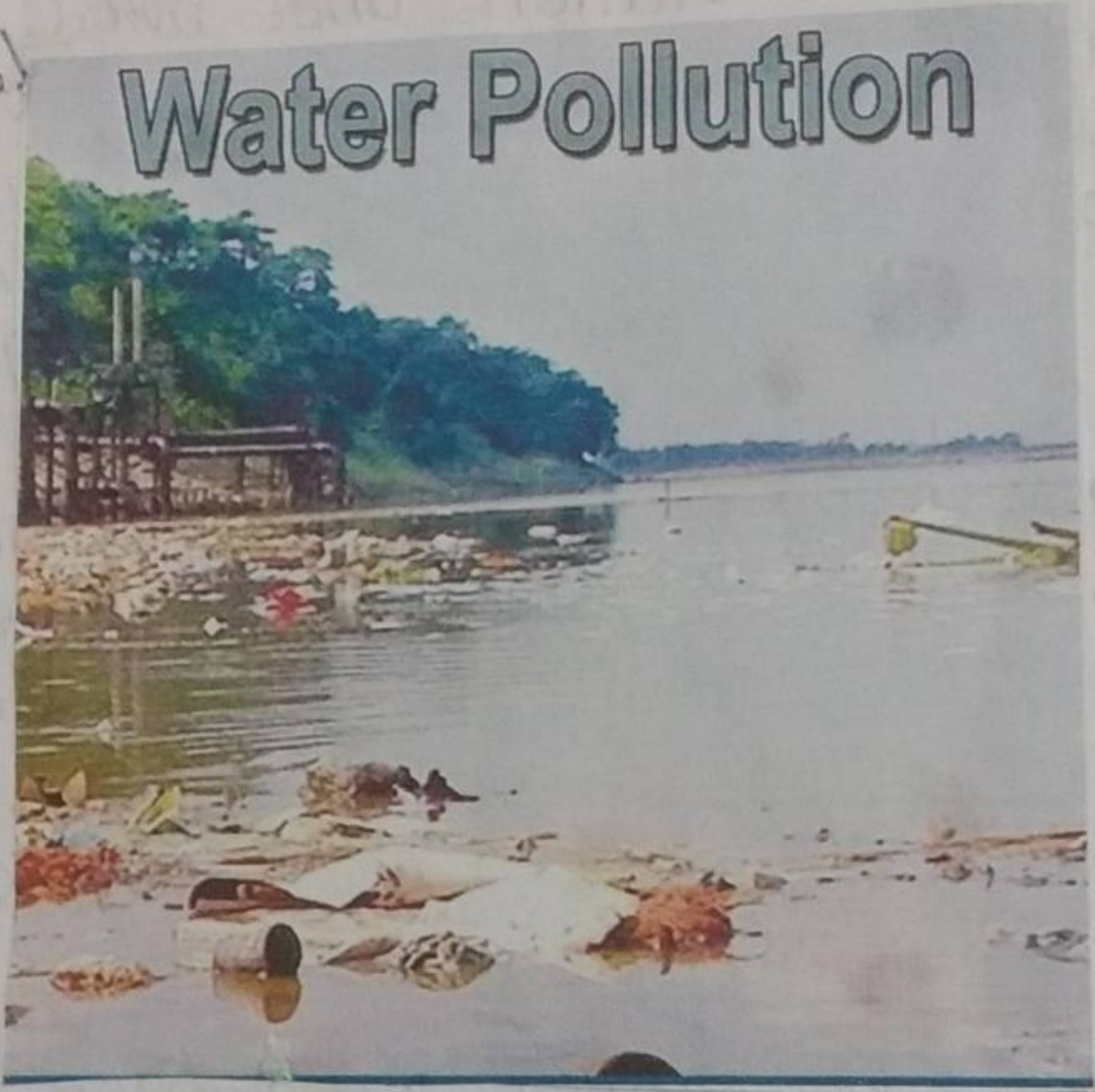
British poet W. H. Auden once noted, "Thousands have lived without love, not one without water." yet while we all know water is crucial for life, we trash it anyway. Some 80 percent of the world's wastewater is dumped - largely untreated - back into the environment. Polluting rivers, lakes, and oceans.

This widespread problem of water pollution is jeopardizing our health. Unsafe water kills more people each year than war and all other forms of violence combined. Meanwhile, our ~~limited~~ drinkable water sources are finite: less than 1 percent of the earth's freshwater is actually accessible to us.

So, to better understand the problem and what we can do about it, here's an overview of what water pollution is, what causes it, and how we can protect ourselves.



# Water Pollution



## ■ What is Water Pollution?

Water Pollution occurs when harmful substances - often chemicals or microorganisms - contaminate a stream, river, lake, ocean, aquifer, or other body of water, degrading water quality and rendering it toxic to humans or the environment.

When certain substances are present in water beyond their normal limit then the water is term as Polluted.

There are two types of Pollutants, (i) Natural Pollutants.  
(ii) Man made Pollutants.

## Categories of Water Pollution

Some types of water Pollution are —

(i) Groundwater Pollution:

once Polluted, an aquifer may be unusable for decades, or even thousands of years.

(ii) Surface water:

- Major Pollutant are farm waste and fertilizer runoff.
- Surface water is what fills our oceans, lakes, river etc.

(iii) Ocean water:

- Marine Pollution originates on land (along the coast or far inland).
- Our Seas are also sometimes spoiled by oil spills and leaks.

Except this,

(iv) Point source

(v) Nonpoint source

(vi) Transboundary





Industrial waste



Plastic bags & throw in water

## Causes of Water Pollution

Water is uniquely vulnerable to pollution. Known as a "universal solvent," water is able to dissolve more substance than any other liquid on earth. It's the reason we have Kool-Aid and brilliant blue waterfalls. It's also why water is so easily polluted. Toxic substances from farms, towns, and factories readily dissolve into and mix with it. Causing water pollution.

Causes of water pollution are following —

(1) Industrial Waste:- Industries produce a tremendous amount of waste, which contains toxic chemicals and pollutants, causing air pollution and damage to our environments and us. They contain harmful chemicals including lead, mercury, sulfur, nitrates, asbestos and many others.

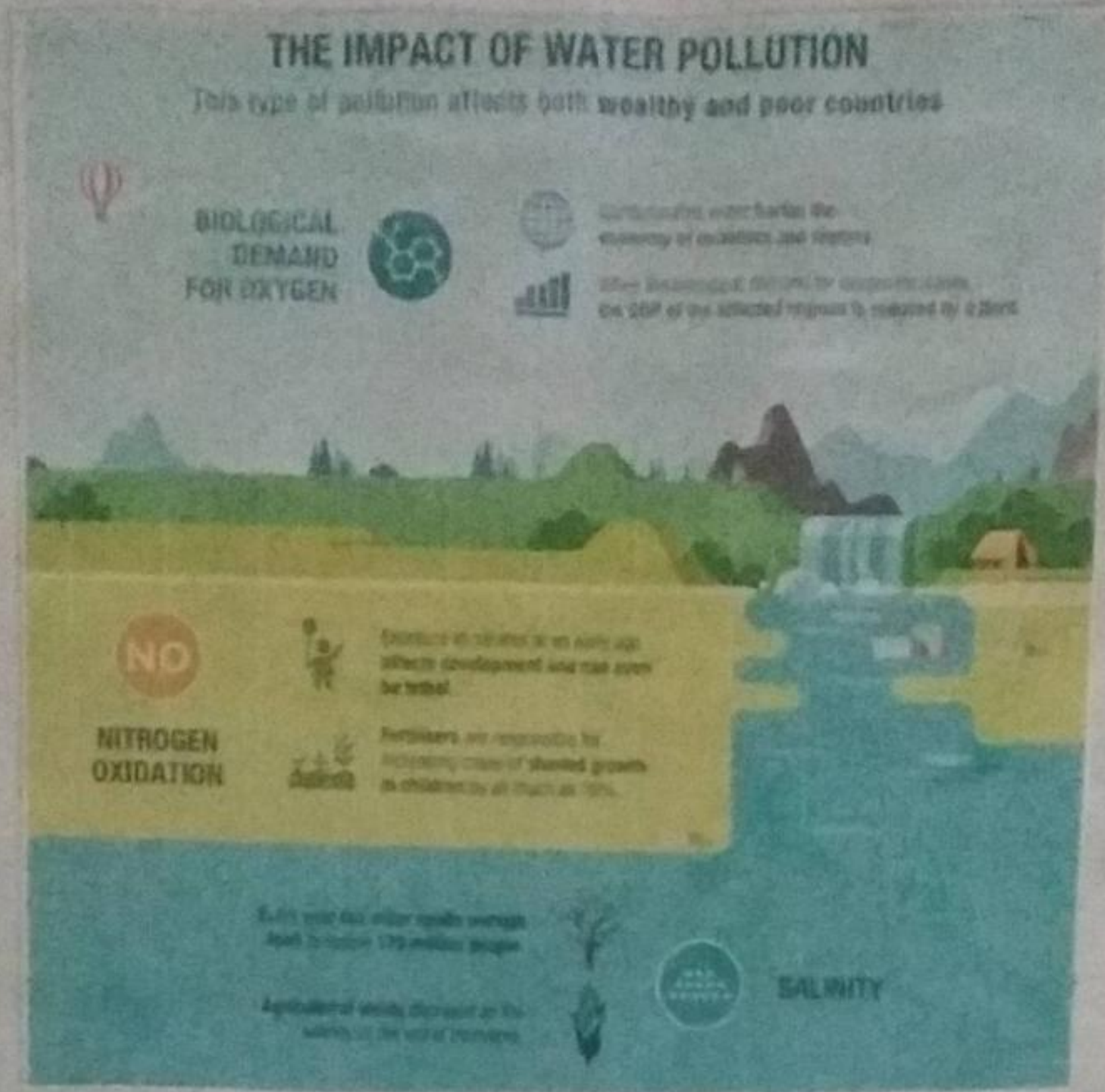
Many industries, not having a proper waste management system, drain the waste in the freshwater, which goes into canals, rivers, and later into the sea.

(2) Sewage and Wastewater:-

The sewage and wastewater that is produced in each household are treated chemically and released into the sea along with fresh water. The sewage water carries pathogens, a typical water pollutant, other harmful bacteria, and chemicals that can cause serious health problems and thereby diseases.

(3) Accidental Oil Leakage:-

Oil spill poses a huge threat to marine life when a large amount of oil spills into the sea and does not dissolve in water. It causes problems for local marine wildlife, including fish, birds, and sea otters.



## Effect of Water Pollution

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We face many problems for water pollution, some of them are -

1. Diseases - In Humans, drinking or consuming polluted ~~H<sub>2</sub>O~~ H<sub>2</sub>O in any way has many disastrous effects on our health.

It causes typhoid, cholera, Hepatitis and other various diseases.

2. Eutrophication:-

Chemicals accumulation and infusion in a water body increase the number of minerals, and it encourages the growth of algae. The algae form a layer on top of the pond or lake, and the colour of the pond may change. Bacteria feed on this algae and ~~this event~~

O<sub>2</sub> ~~may~~ is decrease in water body. For this many aquatic life face many problems.

3. Oils:-

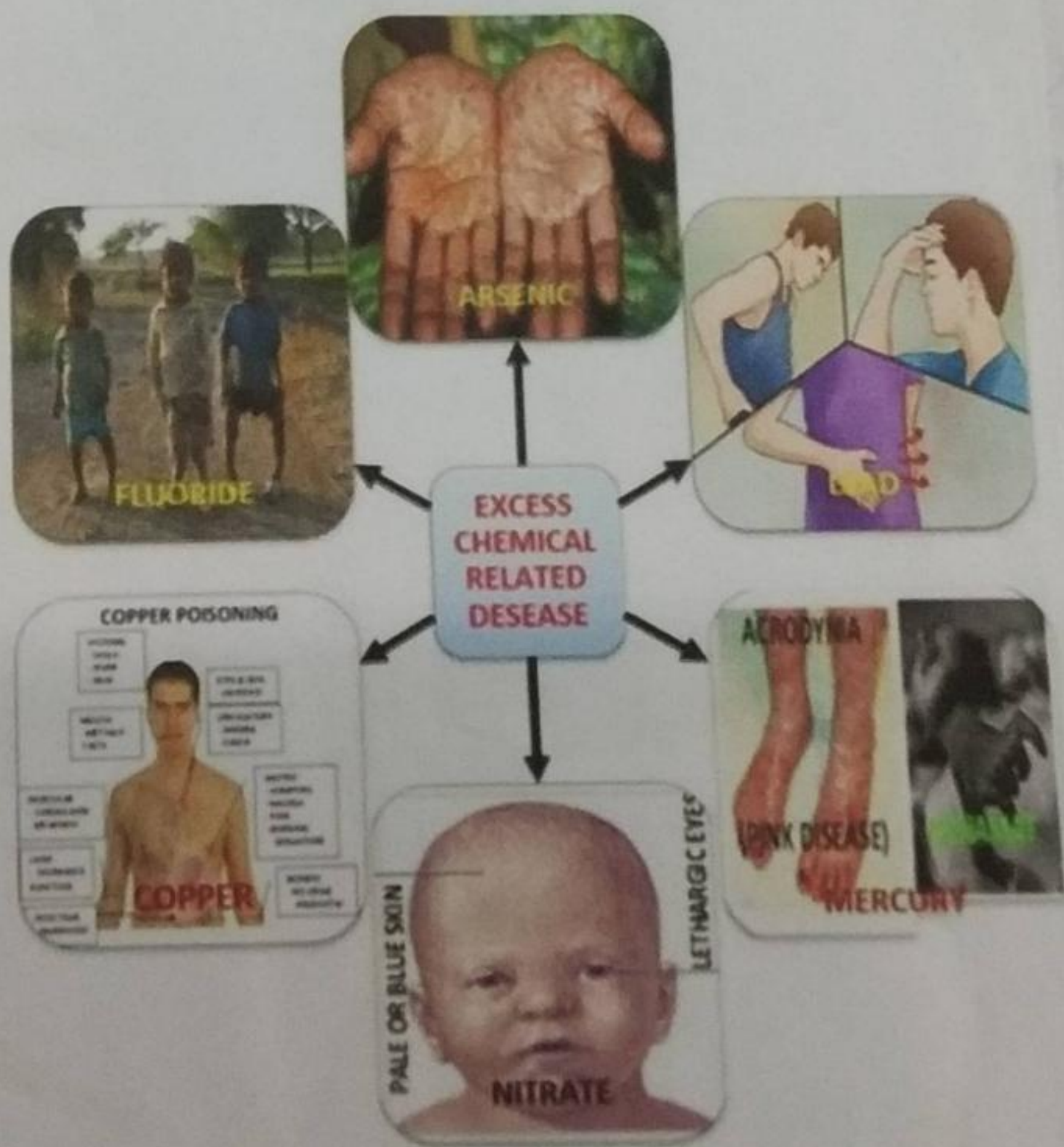
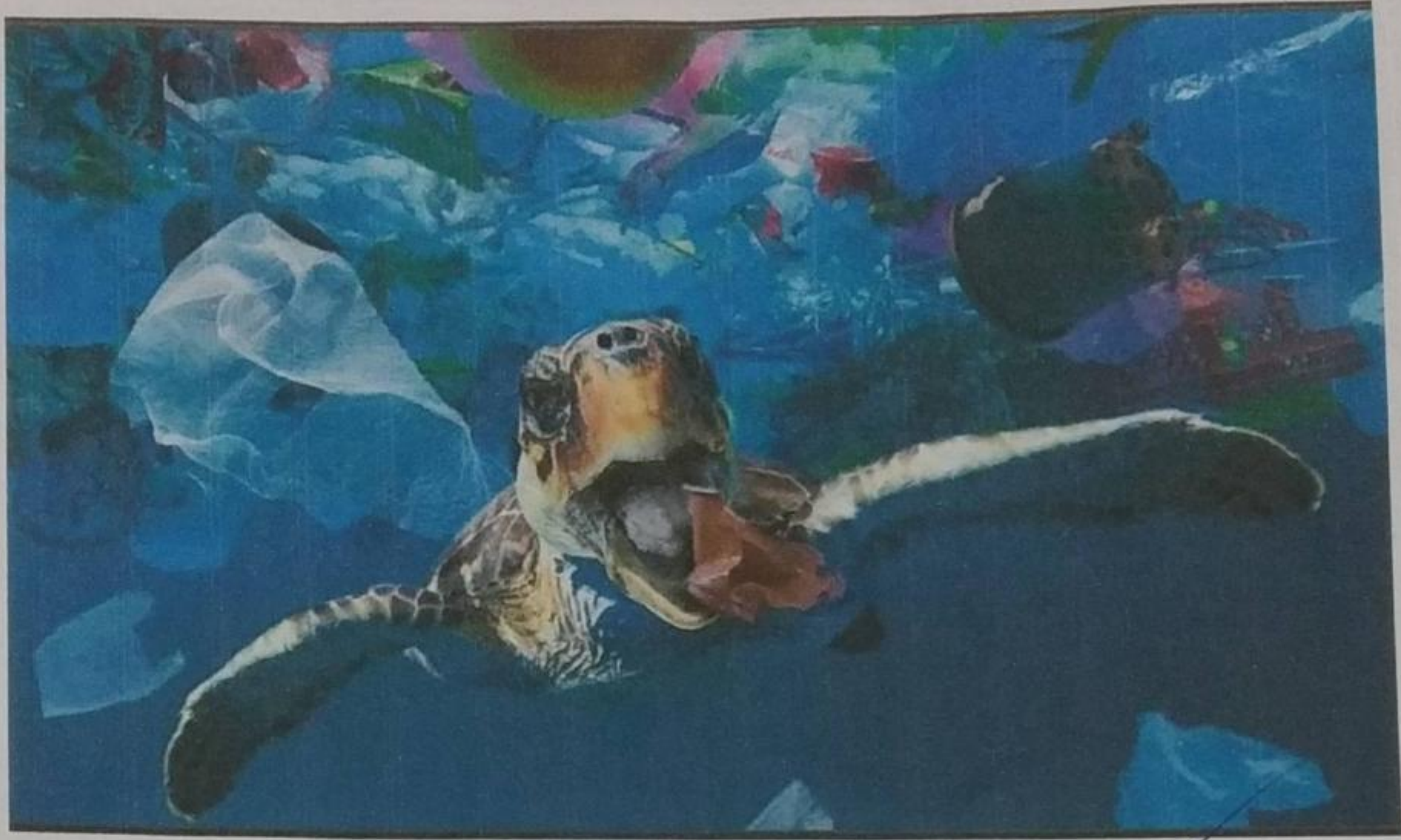
Oils does not dissolve in water, instead it forms a thick layer on the water surface. This can stop marine plants receiving enough light for photosynthesis. It is also harmful for fish and marine birds.

4. Petrochemicals:-

This is formed from gas or petrol and can be toxic to marine life.

5. Mercury:-

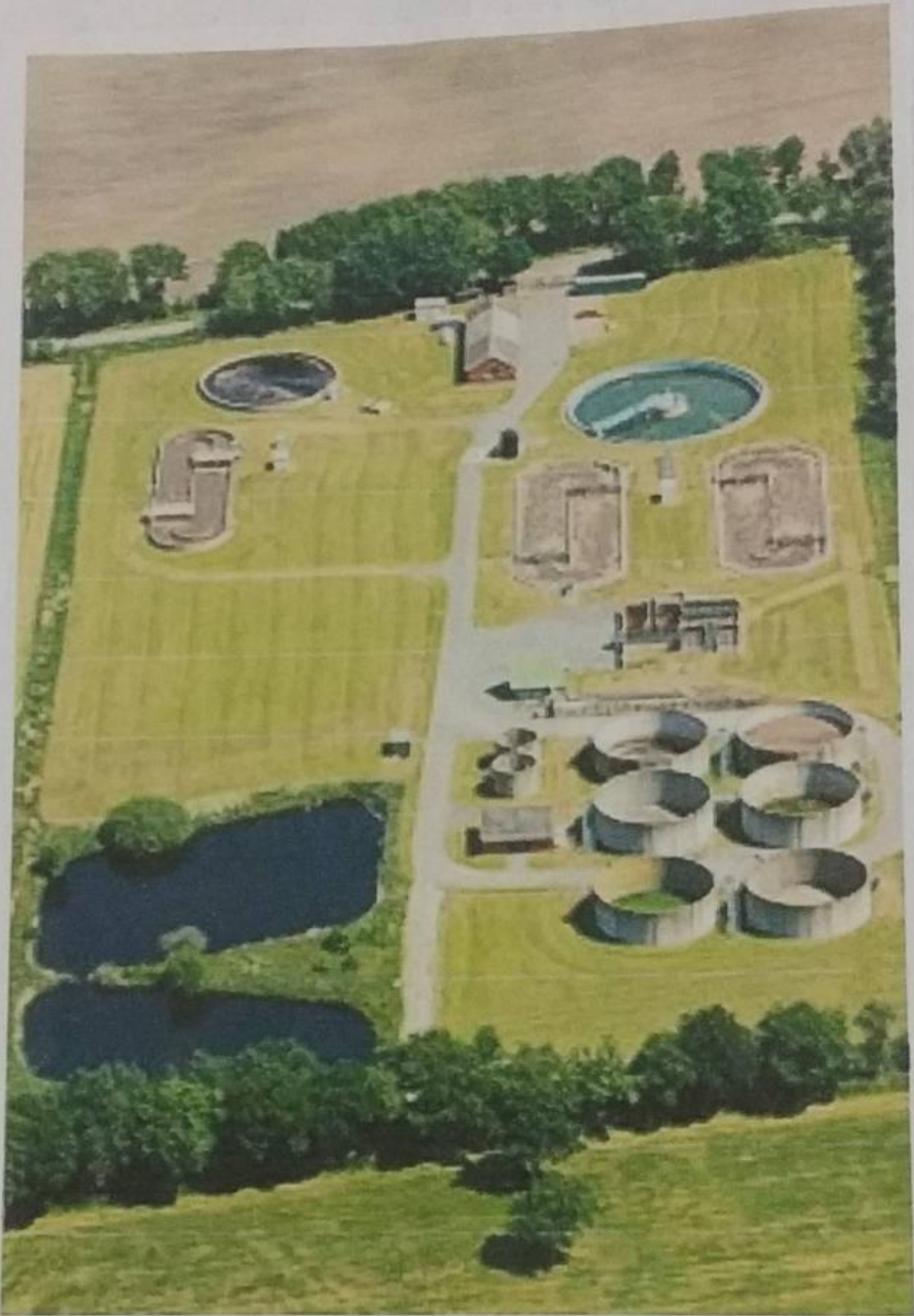
This is a metallic element and can cause health and environmental problems. It is a non-biodegradable substance so is hard to clean up once the environment is contaminated. Mercury is also harmful to animal health as it can cause illness through mercury poisoning.



## Prevention of Water Pollution

The following points may help in reducing water pollution from non-point sources —

- (i) Judicious use of agrochemicals like pesticides and fertilizers which will reduce their surface run off and leaching use of these on sloped lands should be avoided.
  - (ii) use of nitrogen fixing plant to supplement the use of fertilizers.
  - (iii) Adopting integrated Pest management to reduce greater reliance on pesticides.
  - (iv) Prevent run-off of manure Direct such run-off to basin for settlement. The nutrient rich water can be used as fertilizer in the fields.
  - (v) Separate drainage of sewage and rain water should be provided to prevent overflow of sewage with rain water.
  - (vi) planting trees would reduce pollution by sediments and will also prevent soil erosion.
- except this.
- 1) Practice water conservation
  - 2) Avoid the use of pesticides and Herbicides.
  - 3) Avoid water-polluting Recreational Activities.
  - 4) Avoid Disposing Items into the Toilet.



## Sewage Treatment:

sewage treatment is a type of wastewater treatment which aims to remove contaminants from sewage to produce an effluent that is suitable for discharge to the surrounding environment or an intended reuse application thereby preventing water pollution from raw sewage discharges.

- For controlling water pollution from point sources, treatment of waste waters is essential before.
  - Sewage treatment is the process of removing contaminants from wastewater and household sewage both runoff (effluents) and domestic.
  - It includes physical, chemical, and biological processes to remove physical, chemical and biological contaminants.
  - Its objective is to produce an environmentally safe fluid waste stream (or treated effluent) and a solid waste (or treated sludge) suitable for disposal or reuse (usually as farm fertilizer).
- Conventional sewage treatment involve three stages, viz. Primary, secondary and tertiary treatment.

Use:- Sewage treatment water used in agriculture, fishery etc.





# Water Pollution in Raniganj City

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In this time people of Raniganj city face many problem for environmental issues. One of them most important problem is water pollution.

## Causes :-

- (i) Improper Sewage Disposal.
- (ii) Industrial waste.
- (iii) Mining activities.
- (iv) The burning of fossil fuels.
- (v) Underground storage Leakage.
- (vi) Leakage From the Landfills.

## Effects :-

### (i) Disorders :-

• Some pollutants like sodium can cause cardiovascular disease, while mercury and lead cause nervous disorders.

### (ii) Asbestos :-

This pollutant is a serious health hazard and carcinogenic. Asbestos fibers can be inhaled and cause illnesses such as asbestosis, mesothelioma, lung cancer, intestinal cancer and liver cancer.

### (iii) Algal bloom :-

So, we need to prevention water pollution, in Raniganj city.

## ACKNOWLEDGEMENT

I would like to express my special thanks of gratitude to my teacher. Moumita Pal as well as our principal chabi De who gave me the golden opportunity to do this wonderful project on the topic Water Pollution, which also helped me in doing a lot of research and I came to know about so many new things.

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Secondly I would also like to thank my parents and friends who helped me a lot in finishing this project within the limited time.

I am making this project not only for marks but to also increase my knowledge.

THANKS AGAIN TO ALL WHO HELPED ME.

