

Question

Eutrophication is a phenomenon caused by abnormal growth of algae in water body? what are the reasons and how can be controlled?

Introduction:

Eutrophication is a pervasive form of water pollution caused by excessive algae growth in water bodies. It is primarily caused by higher supply of nutrients to water. This process result in growth of algae when it dies and decompose it disrupt the supply of oxygen to aquatic plants and animals. This condition create dead Zone in water. Its causes can be natural or man-made causes. To mitigate this process, it is required to to reduce

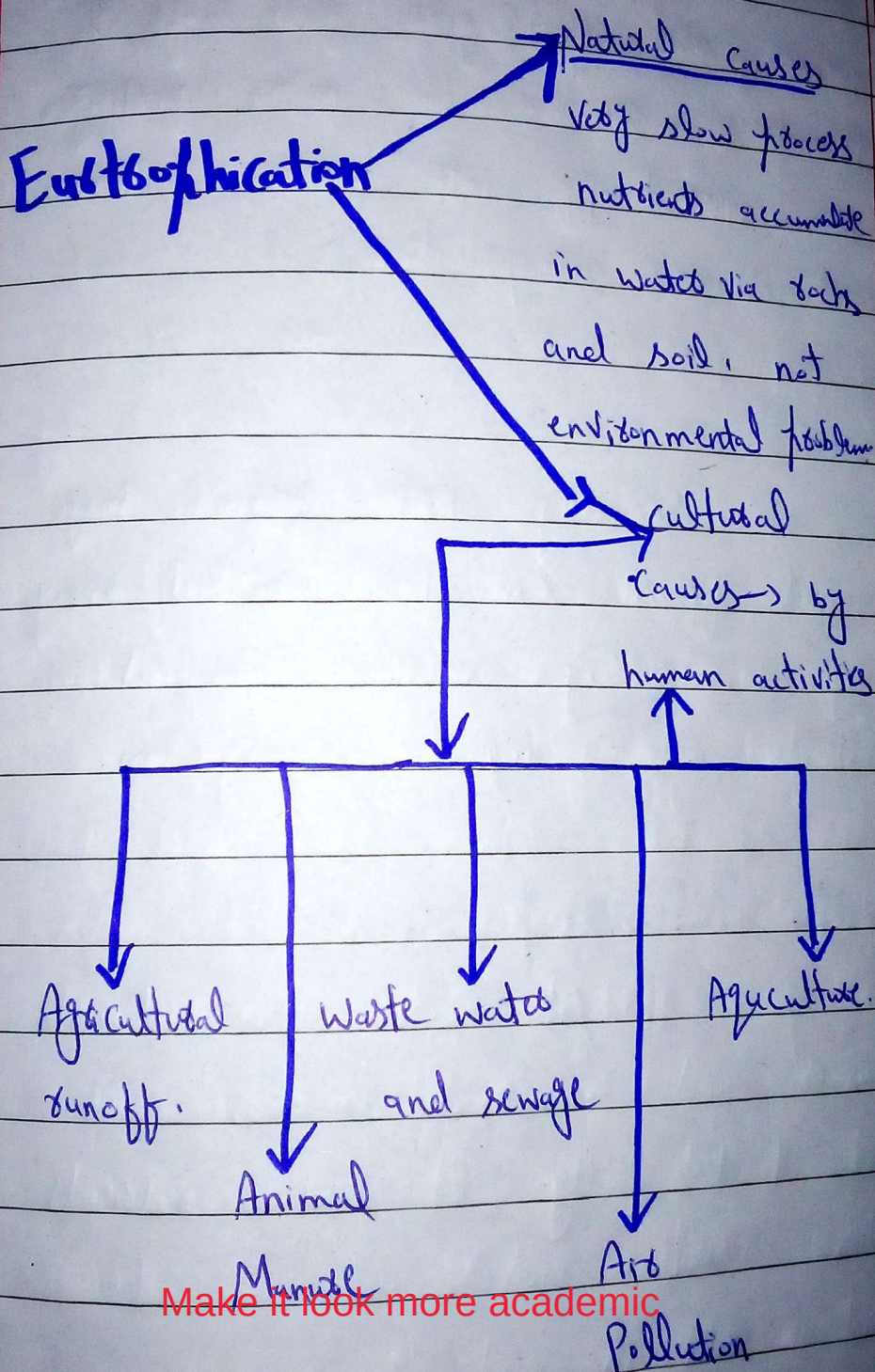
the sources behind excessive nutrient release along with use of modernized technologies and negotiated agreement. This is grave scenario and require immediate attention of states.

Definition of Eutrophication:

Definition

Eutrophication derived from Greek word eutrophos means well-nourished. The process of increasing nutrient enrichment in aquatic ecosystem leading to major shift in ecosystem. Eutrophication is process by which water bodies become enriched with nutrients particularly N, P, K. It stimulate the growth of algae and other aquatic plants. This growth inhibit the supply of oxygen and destroys aquatic ecosystem.

Causes of Eutrophication



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Agricultural runoff:

This is the biggest cause. Farmers use fertilizers full of N, P and K nutrients. The extra fertilizer is washed off into rivers & streams and cause eutrophication.

Animal manure:

Differentiate between sources/causes

Secondly, waste from large animal farms can be washed away by rain, carrying massive amount of nutrients into aquatic ecosystem.

Waste water and Sewage:

Waste water from domestic sources and commercial sources is not treated fully. It contains nutrients. This waste enters into water and results in eutrophication.

Aquaculture:

Another cause is the fish farming especially in aquaculture which is open-water. In this open water containing nutrient-rich fish waste is transmit to surrounding water and cause eutrophication.

Air pollution:

Air pollution also leads to eutrophication. As burning of fossil fuels release harmful gases in air. These can be carried by air to rain water and deposit into water bodies and lead to eutrophication.

How Eutrophication can be controlled:

Use less fertilizers:

using exact amount of fertilizers that crops need for produce

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reduce eutrophication. It is also useful to avoid fertilizers before the rainy season to prevent eutrophication. Instead of plowing the soil which lead to erosion it is beneficial to leave it untouched it creates blanket and protect the soil from rain.

Planting Buffer strips:

Planting a permanent strip of grass, trees and shrubs along the ~~shores~~ edges of rivers and streams.

This vegetation acts as a natural filter as washed out water ~~needs~~ to pass through it.

Urban runoff to end eutrophication:

urban runoff is another strategy it included practices like shallow depressions to collect water and soak it slowly. rooftops covered

with plants and absorb rainwater.

This process can be useful in the prevention of eutrophication.

Advanced waste water treatment plants:

Waste water treatment plants to include tertiary treatment stage to remove nitrogen and phosphorus from the waste and sewage. Also, the limited use of phosphate in detergent also prevent eutrophication.

Aeration technique to add oxygen:

Aeration techniques use oxygen to add bubble oxygen through machines into deepest part of water bodies can prevent the death of aquatic organisms.

Dredging technique:

It involve physically scooping out the nutrient-rich mud

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and sediments from the bottom of the lake. The ~~removes~~ built-up nutrient storage, but it is extremely ~~expensive~~ method.

Conclusion:

Natural and cultural eutrophication?

Eutrophication is the infatual condition of water being faced by aquatic organisms that eventually leads to their death by preventing the ^{access} ~~less~~ of oxygen. It is important issue that requires the attention of government to adopt mitigation strategies to prevent the acceleration of eutrophication and protect aquatic environment and ecological cycle.

Concise this conclusion

You have got potential

Add environment relevant terminologies

Good luck!