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Day 95

Question 1: Discuss how strategic impact assessment will mitigate the drawbacks of the environmental impact assessment. (250 words)

Question 2: Water bodies enriched with nutrients become biological deserts after excessive eutrophication. Discuss (150 words).

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Approach / Explanation / Answer

Answer 1

Approach

- Give a brief introduction about the SIA and EIA.
- Discuss the measures through which the SIA is mitigating the drawbacks of the EIA.
- Write a holistic and appropriate conclusion.

Introduction

- Environmental Impact Assessment (EIA) is a widely used tool to assess the potential impacts of developmental projects on the environment.
- However, the EIA process has several drawbacks, such as a lack of consideration of project alternatives, limited public participation, and inadequate consideration of long-term impacts.
- In response, a new approach called Strategic Impact Assessment (SIA) has emerged. SIA aims to address these drawbacks by providing a more comprehensive and holistic assessment of the potential impacts of a project on a wider range of social, economic, and environmental factors.
- SIA is also known as **Strategic Environment Assessment**.

Body

Strategic impact assessment will mitigate the drawbacks of the environmental impact assessment in following ways-

- Strategic Impact Assessment (SIA) is an approach that evaluates the potential impacts of a proposed project or policy on the social, economic, and environmental aspects of a community or region. Unlike EIA, SIA provides a broader view of the project's potential impacts by taking into account the long-term consequences of the project and considering alternative development

scenarios. SIA also involves a more extensive stakeholder engagement process that allows for public participation, including local communities, NGOs, and other interest groups, in the decision-making process.

- One of the drawbacks of EIA is the limited consideration of project alternatives. EIA tends to focus on the potential impacts of a proposed project without considering alternatives. In contrast, SIA considers the potential impacts of a range of development scenarios, including alternative options, which can provide decision-makers with a broader perspective of the project's potential impacts.
- Another drawback of EIA is limited public participation. While EIA requires public consultation, the process is often not inclusive, and there may be limited opportunities for meaningful engagement by stakeholders. SIA, on the other hand, prioritizes public participation and is designed to promote stakeholder engagement, including those most affected by the project. By providing opportunities for the public to participate in the decision-making process, SIA ensures that the voices of all stakeholders are heard, and their concerns are taken into account.
- EIA may not fully consider the long-term impacts of a project. The EIA process tends to focus on short-term impacts and may not assess the long-term implications of a project. SIA, however, provides a more comprehensive and holistic view of the potential impacts of a project, including the long-term consequences, which allows decision-makers to make more informed decisions that consider the future implications of a project.

Conclusion

The Strategic Impact Assessment approach is a more comprehensive and holistic tool that can address the limitations of the Environmental Impact Assessment process. SIA provides a more inclusive approach that considers alternative development scenarios, prioritizes public participation, and assesses the long-term impacts of a project. By utilizing SIA, decision-makers can make more informed decisions that better consider the broader social, economic, and environmental impacts of a proposed project. Therefore, it is essential to adopt the SIA approach in the decision-making process for any developmental projects to ensure that they do not have any negative impacts on the environment and the people.

Answer 2

Approach

- Give a brief introduction about eutrophication.
- Discuss how eutrophication converts the water bodies in to biological deserts.
- Write a holistic and appropriate conclusion.

Introduction

- Eutrophication is a process where water bodies, such as lakes, rivers, and oceans, become enriched with excessive nutrients such as nitrogen and phosphorus.
- This enrichment leads to the excessive growth of algae and other aquatic plants, which can have severe consequences on the aquatic ecosystem.
- Over time, these water bodies can become biological deserts, with little or no life due to the lack of oxygen and the presence of toxic algal blooms.

Body

Water bodies enriched with nutrients become biological deserts after excessive eutrophication as follow:

- Eutrophication is caused by human activities such as agriculture, urbanization, and wastewater discharge. Nutrients from fertilizers, sewage, and animal waste runoff into water bodies, causing excessive nutrient enrichment.
- The excess nutrients lead to an overgrowth of algae and aquatic plants, which can block sunlight and deplete oxygen levels. As a result, aquatic life, including fish and other aquatic animals, can die off, leading to a biological desert.
- In addition to reducing oxygen levels, eutrophication also alters the chemistry of the water, making

it more acidic and reducing its clarity. These changes can have cascading effects throughout the aquatic ecosystem, leading to a decline in biodiversity and the creation of biological deserts.

- As the algae and other plants die and decompose, the nutrient-rich sediments that accumulate on the bottom of the water body can also release toxic compounds such as hydrogen sulfide, which further harms aquatic organisms.
- The consequences of eutrophication are severe and far-reaching. When water bodies become biologically dead, they lose their economic, ecological, and recreational value. For instance, fishing, tourism, and other recreational activities can be severely impacted. Additionally, the decomposition of dead plants and animals can cause oxygen depletion, leading to the formation of harmful algal blooms that can be toxic to both humans and aquatic animals.
- There are several solutions to prevent and control eutrophication. One of the most effective measures is to reduce the amount of nutrient runoff into water bodies. This can be done through the use of best management practices in agriculture, such as reducing fertilizer use and adopting practices that prevent soil erosion. The treatment of wastewater can also reduce the amount of nutrients discharged into water bodies.

Conclusion

Eutrophication is a human-induced problem that has severe consequences for aquatic ecosystems. When water bodies become enriched with nutrients, they can become biological deserts, leading to economic, ecological, and recreational losses. It is crucial to prevent and control eutrophication through the adoption of best management practices, reduction of nutrient runoff, and treatment of wastewater. By taking action to prevent and control eutrophication, we can preserve our aquatic ecosystems and the many benefits they provide.

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