



Mains Practice Question

Q. What are the environmental implications of the reclamation of the water bodies into urban land use? Explain with examples. (250 Words)

21 Feb, 2022 GS Paper 1 Geography

Approach

- Start with explaining the process of land reclamation and its needs.
- Explain its environmental implications.
- Conclude suitably.

Introduction

Land reclamation means creating land either by **removing water from muddy areas or raising the level of the land**. With an increasing demand for land, it can be a good solution for creating areas for building, agriculture and other uses.

Body

Reclamation of water bodies into urban land use **has many environmental consequences such as:**

- **Damaged Ecology:** Urban land transformation leads to creation of residential, commercial buildings around water bodies, causing **degradation of water ecology and influx of nutrients**. **Dal Lake** and other water bodies in SriNagar are a great example of it.
 - Land reclamation can also **change the shape of the seabed and wave patterns**, in turn changing tidal patterns, leading to changes in the ecosystem.
- **Encroachment:** As more people have been migrating to cities, availability of land has been getting scarce, even a small piece of land in urban areas has a high economic value.
 - These urban water bodies are not only acknowledged for their ecosystem services, but for their real estate value as well. **Deepor beel in Guwahati is a well-known example of water bodies that were encroached.**
- **Frequent Floods:** Water bodies act as sponges for extra rainfall, reclamation of water bodies, has led to higher incidences of floods. The biggest **example of it is Mumbai.**
 - Depletion of vegetation, transformation of soil cover to concretised landscape has reduced permeability, increased run-off, which has been one of the **primary causes for the flooding in Mumbai during monsoons.**
 - Creeks are increasingly getting narrower and shallower due to silt and increase in built-up area, causing blockage of the natural drainage systems of the city. As was evident during the **massive flood of 26 July, 2005.**
- **Extinction of Species:** Land reclamation of wetlands have increased the Biochemical oxygen demand (BOD) which is detrimental for not only aquatic species but also for aerial fauna. **Hussain Sagar Lake is a good example of such a situation.**
- **Pollution:** Water bodies have a purifying effect through filtering the contaminants. There has been

an explosive increase in the urban population without corresponding expansion of civic facilities such as infrastructure for the disposal of waste. The water bodies have been turned into landfills in several cases.

- Many water bodies in **Bengal and Guwahati's Deepor beel**, for example, have been used by the municipal corporation to dump solid waste.
- Because of **heavy pollution of Hussain sagar Lake**, many pollutants get carried into underground water bodies. Though percolation filters many pollutants, open wells or bore wells receive certain pollutants **causing groundwater pollution**.
- **Environmental Hazards:** Disasters are created by negligence towards the social and natural contexts of large infrastructure projects. **Water reclamation for urban land use in the coastal areas may increase the incidents of earthquakes etc.**

Conclusion

Water bodies not only support high concentrations of biodiversity, but also offer a wide range of important resources and ecosystem services like food, water, fiber, groundwater recharge, water purification, flood moderation, storm protection, erosion control, carbon storage and climate regulation. Hence their conservation is an imperative.

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