

Student Thesis Competition (STC) Season 5 on “Re-imagining Urban Rivers”

A Geospatial Approach to Assess River Diversion Impacts on Floodplains: A case of Ulwe River

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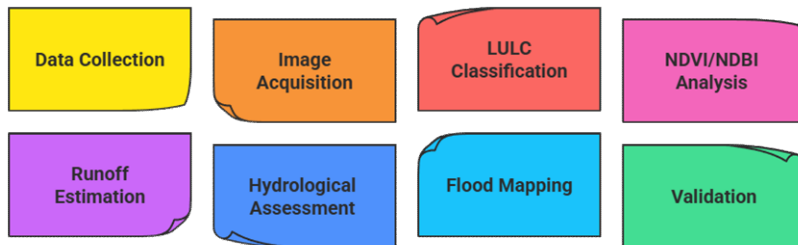
What is River Diversion?

River diversion is the process of altering the natural course of a river, either temporarily or permanently, to facilitate infrastructure development, flood control, or water management.



Implementation in Infrastructure Development

- Urban Expansion & Land Development
- Flood Control & Drainage Systems
- Hydropower & Irrigation Projects



Consequences of River Diversion

- Floodplain Disconnection
- Increased Surface Runoff



- Hydrological Alterations:
- Sedimentation Changes.
- Ecological Disruptions



Proposals

Sediment Management Systems

Conduct periodic dredging in erosion-prone zones, ensuring disposal aligns with circular economy principles



Install sediment traps at major drain outlets to reduce siltation in rivers

Mangrove Conservation



ECOLOGICAL RESTORATION
LIVELIHOOD
ENVIRONMENTAL STEWARDSHIP

- Implement **buffer zones** and **strict land-use controls** to prevent encroachment.
- Encourage **community mangrove nurseries** and citizen science for monitoring.

Gamifying Citizen Engagement in Floodplain Mapping

