









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

A Geospatial Approach to Assess River Diversion Student Name: Kapil Shahaji Deshmukh Impacts on Floodplains: A case of Ulwe River

Course Discipline: Bachelors in Planning

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**





Image Acquisition

LULC Classification

NDVI/NDBI

Strategies Focus on Sustainable

Increased Flood Impact of Land Vulnerability Use Changes Limitations of Need for Current Integrated Approaches Supporting Urban Planning Management and Policy

Runoff

Estimation

Hydrological Assessment

Flood Mapping

Validation

Consequences of River Diversion

- Floodplain Disconnection
- **Increased Surface Runoff**





- **Hydrological Alterations:**
- Sedimentation Changes.
- **Ecological Disruptions**

Proposals

Sediment Management Systems

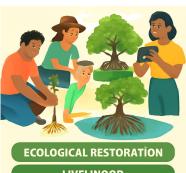
Conduct periodic dredging (in erosionprone zones. ensuring disposal aligns with circular economy principles



Install sediment traps at maior drain outlets to reduce

siltation in rivers

Mangrove Conservation



LIVELINOOD

ENVIDONMENTAL STEWAROSHIP

 Implement buffer zones and strict land-use controls to prevent encroachment.

Encourage community mangrove nurseries and citizen science for monitoring.



Onboarding

Tutorials

ᄺ

Mapping Missions

Users identify land use and sugges

M

Validation & Collaboration

Submissions

Eco-Credits Marketplace

credits for eco

