

# Sponsored Thesis Project Competition on "Re-imagining Urban Rivers"

## Planning for River Sensitive Developments in Cities -A Case of Varanasi

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Course Discipline: Master's in Urban Planning

The aim of the study is to plan for river-sensitive development in Varanasi

**VARUNA** Why Varanasi ??  
Lost its Value

Assi River (Nallah)

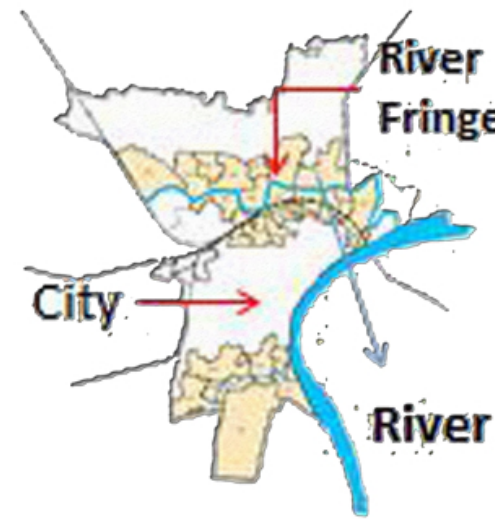
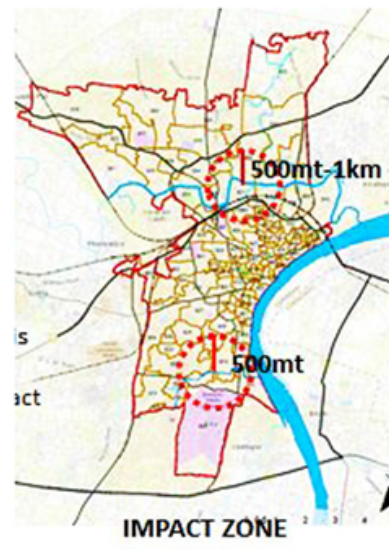
- Assi has also been encroached by unauthorized constructions upon in a big way. The river has lost all its character- there is no fresh water source, the banks are illegally occupied.
- Degradation floodplains,
- Diminishing groundwater recharge.

**ASSI**

Varuna River

Varuna River was recognized as the lifeline of Varanasi. Varuna River are facing the problem of flooding. Many people are affected because of unauthorized construction in flood plain areas. A significant portion of the origin (a wetland) is under either cultivation/agriculture land, paddy land as well as fallow land that has changed the not only the land-use but also the land cover of the area.

### 3 LEVEL OF STUDY AREA



### ANALYSIS

#### AT CITY LEVEL

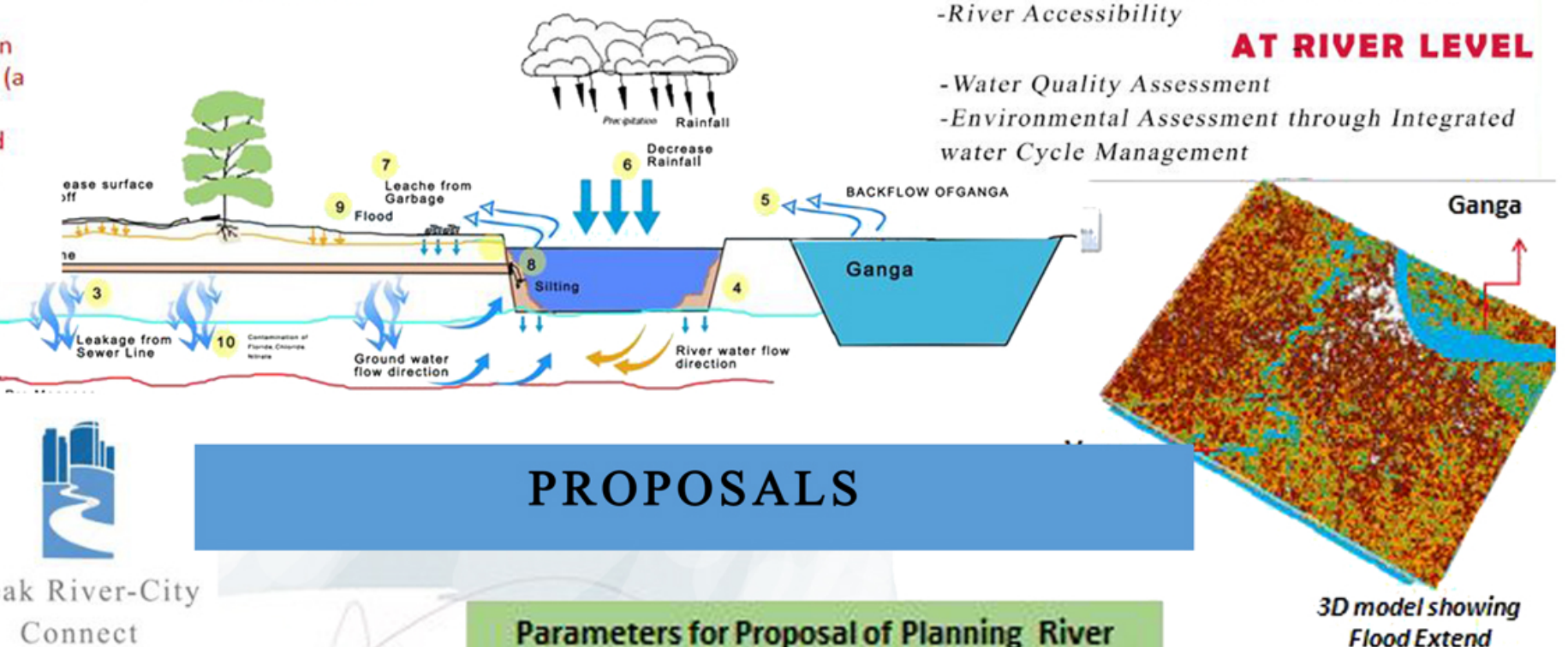
- Ground Water
- Sewerage & Drainage
- Water Supply
- River Regulations for Varuna & Assi

#### AT RIVER FRINGE LEVEL

- Water Sensitive Planning
- Biophilic Urban Planning & Design
- River Economic Assessment
- Quality Of Life Assessment
- Composite water Management Assessment
- River Accessibility

#### AT RIVER LEVEL

- Water Quality Assessment
- Environmental Assessment through Integrated water Cycle Management



### ISSUES AND CHALLENGES



### PROPOSALS

Parameters for Proposal of Planning River Sensitive Cities

**PHYSICAL** **SOCIAL** **ECONOMICAL** **ENVIRONMENTAL** **MANAGEMENT**

### BIOPHILIA DESIGN

### RIVER SYMBIOTIC

FLOOD RESILIENCE



ENVIRONMENT

HABITAT

WATER

MOBILITY

COMMUNITY

UTILITY

Disilting the nallah and cleaning the nallah with Nature Based Solutions

### NALLAH GARDENS



River Theatre



Viewing Deck

### Flood Leveling Projection

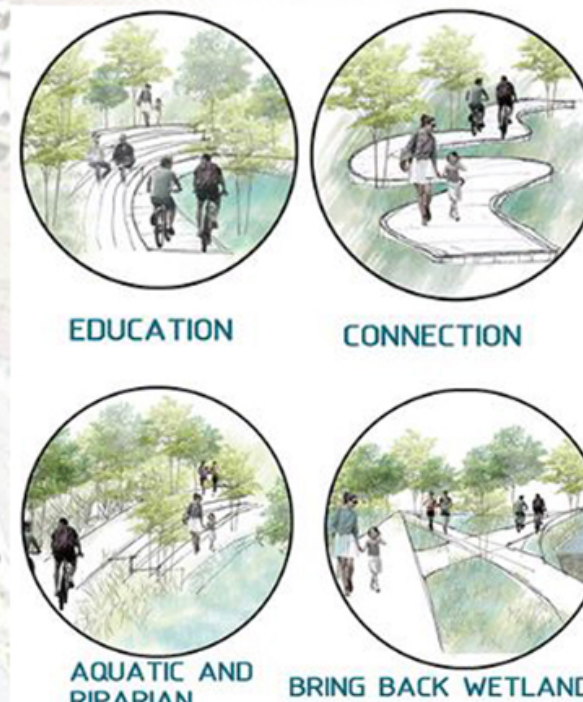


Pedestrian Bridge

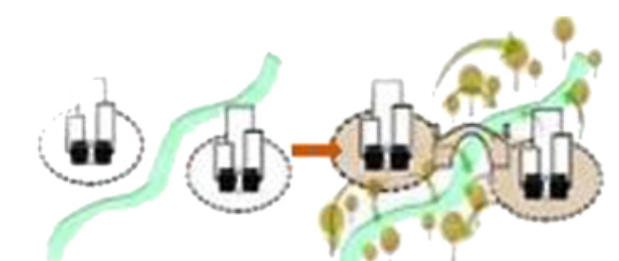
Herbal Garden



### ELEMENTS



### CONCEPT



From Isolation To

Integrating with nature And City

Floating Plates for Garbage Collection



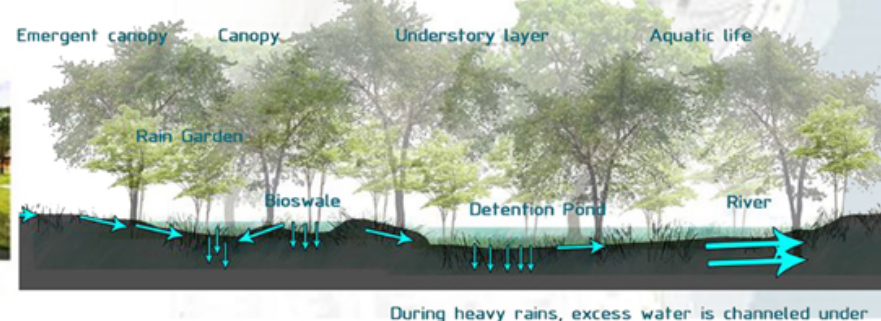
Rain Garden



Permeable Pavement



Social Inclusion



During heavy rains, excess water is channeled under the sidewalk grates and filter strip into the bioswale