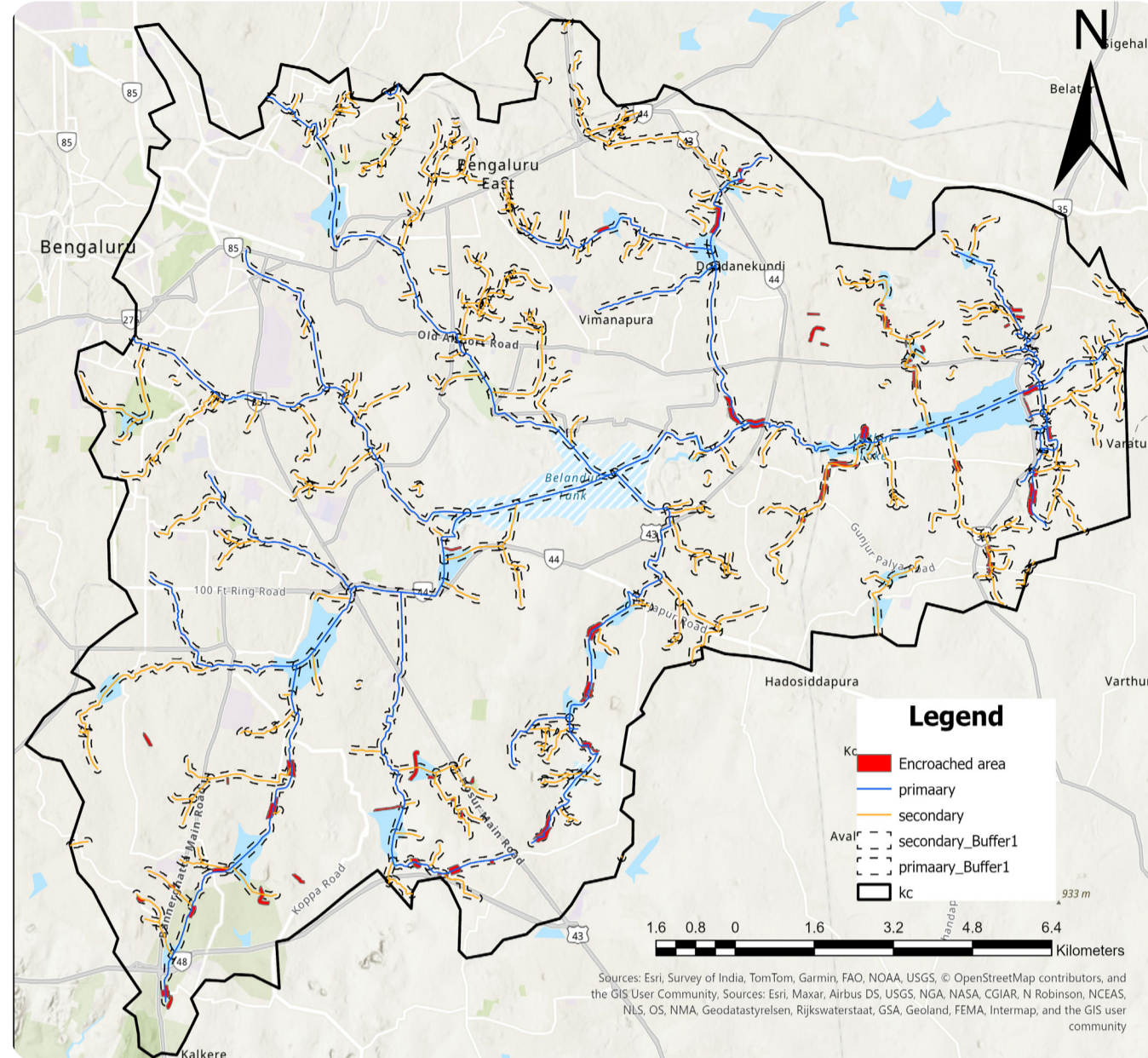


# RAJAKALUVE RESTORATION

## Demarcating and buffering SWD



- Identifying the SWD and publish a set map will help reduce the confusion about the encroachment of the drains, and will further help people understand about land investments.
- A NGT and BBMP combined notification O.A. No. 222 of 2014 was notifying that a buffer should be maintained around the rajakaluve and should be declared as no development zone.
- The primary drains should have 75m buffer, secondary with 50m buffer and tertiary drains with 25 m buffer.

## DESILTING AND REGRADING SWD



- Desilting is a process of removing the debris accumulated in a place and regrading involves the process of patching the degraded concrete patch.
- Desilting is done once a year in Bengaluru and is carried out by BBMP but the effectiveness of this is very less and the process should be more precise and frequent and a task force should be set up to oversee the operation.

## RE-NATURALIZATION OF SWD



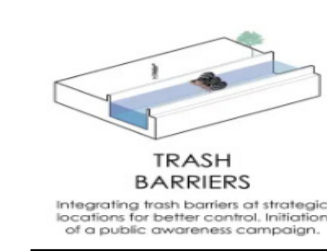
- Re-naturalization involves the process of adding natural environmental elements into to the concreted urban storm drains, leading to better environmental condition and increasing in biodiversity.
- The practice has been adopted all over the world and has a result increased in the urban value around the area, this also increases the interaction with community by giving them a space to interact in.

## DEVELOPING EFFICIENT SWD INFRASTRUCTURE

### EXISTING CONDITIONS



### Strategies



- There is a huge problem of garbage dumping into the drains which causes the blockages in the drains.
- By introducing the trash barriers, we can block the trash from flowing into the lakes and other drains, these trash can be taken out from the barriers on a regular bases.

### EXISTING CONDITIONS

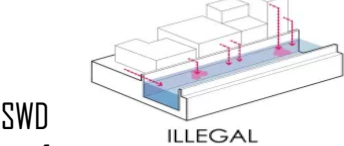


### Strategies

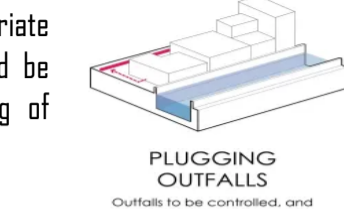


- The junctions where the primary and secondary SWDs meet are prone to urban flooding due to high water movements.
- This can be handled by designing the junction with proper check dam system to ease the flow of water in the SWD.

### EXISTING CONDITIONS



### Strategies

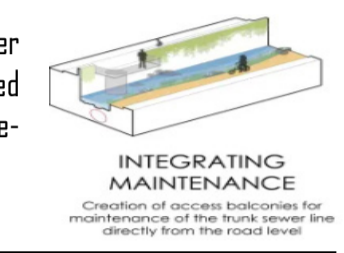


- The main of pollution in SWD comes from illegal dumping of wastes into SWD.
- These should be identified and should be given appropriate legal connection or should be closed for illegal dumping of wastes.

### EXISTING CONDITIONS



### Strategies

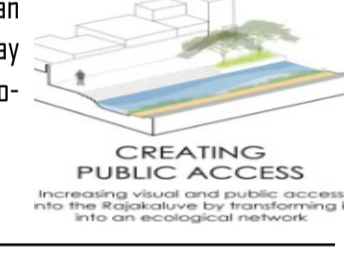


- The sewer maintenance is a continuous process which involves desilting and degrading and sometimes swd and sewer line are in the same place causing, mixing of the sewage with SWD.
- By separating the sewer lines by giving them elevated opening the maintenance becomes much easier.

### EXISTING CONDITIONS



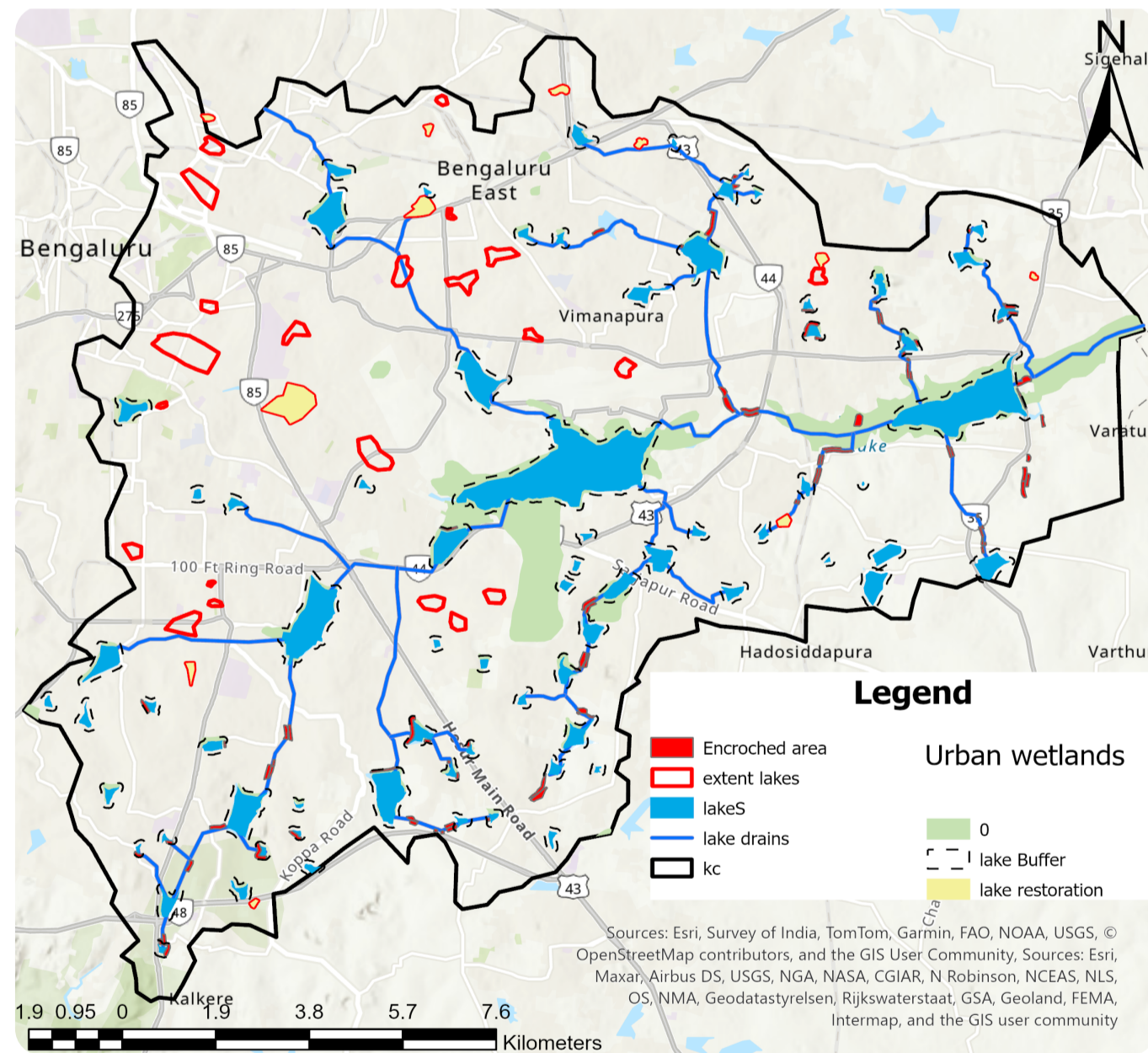
### Strategies



- In the current scenario, SWDs are seen as urban eyesore and people tends to avoid such places due to bad order and low visual values.
- By creating a aesthetically pleasing and clean SWD it can be seen as an urban waterway where people could use for social activity.

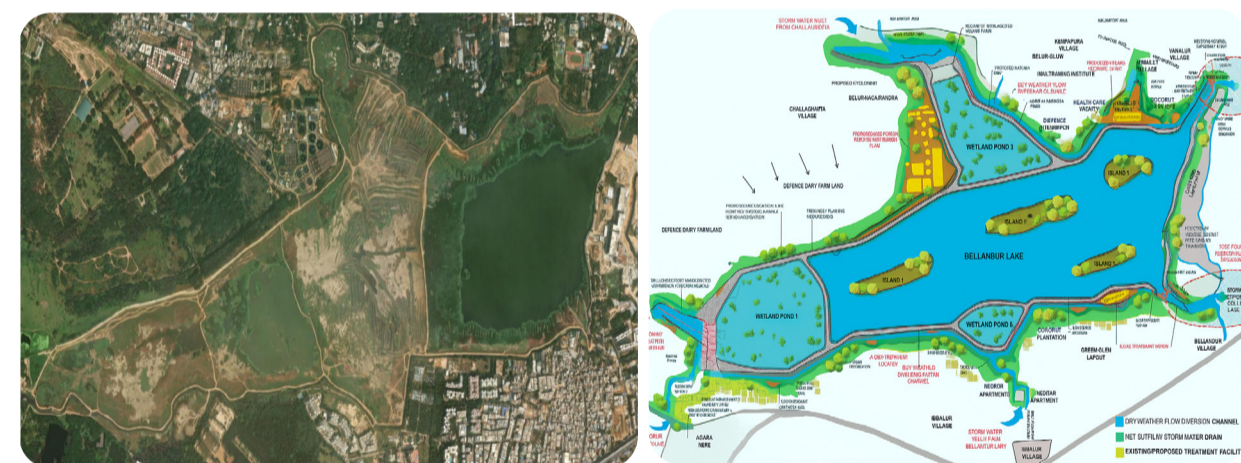
# LAKE CONNECTIVITY & PROTECTION

## INTEGRATED LAKE PROTECTION PLAN



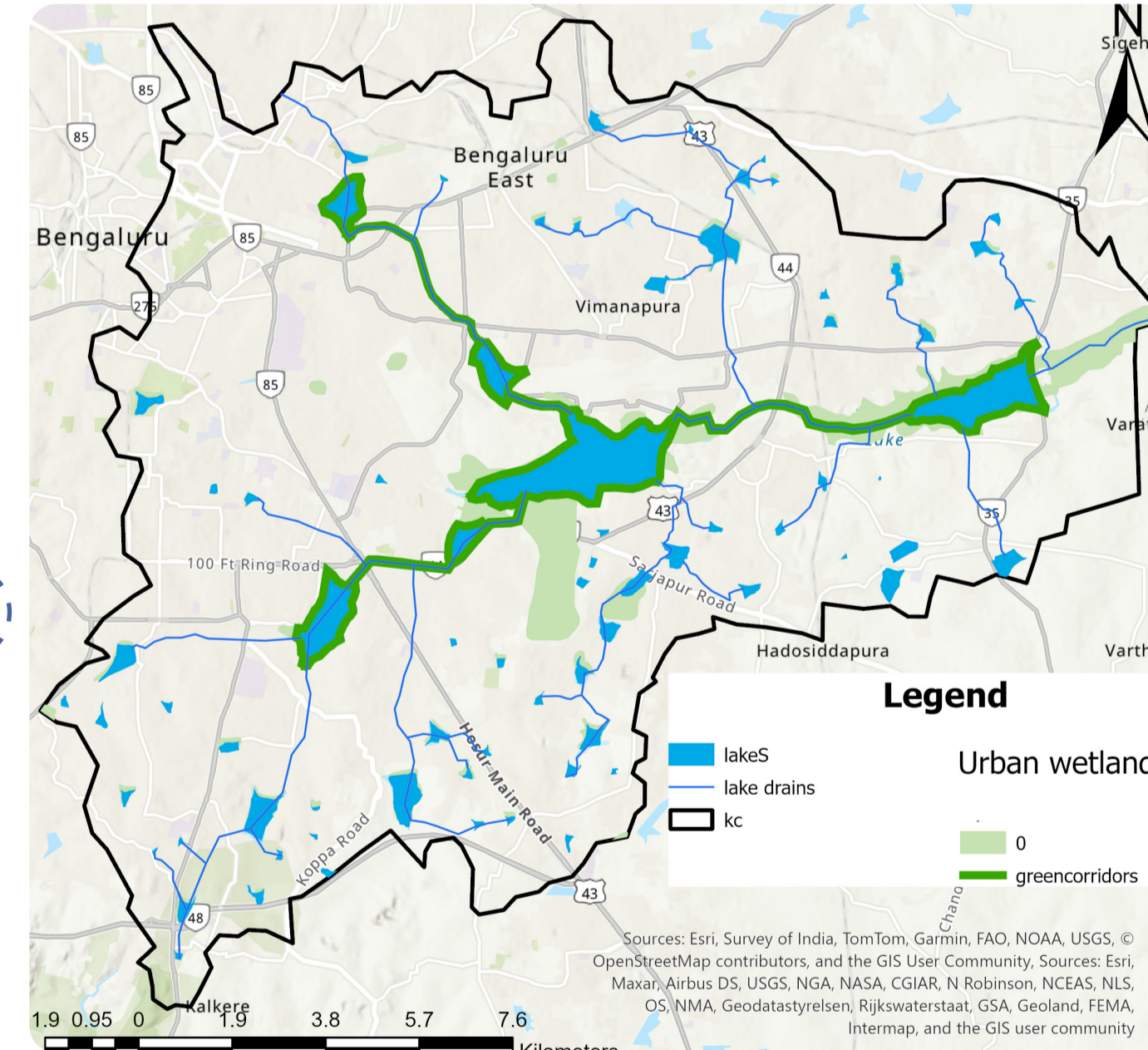
- A NGT and BBMP combined notification was created in 2014 and was implemented in 2015 notifying that a buffer of 75 meter should be given around the lakes and should be declared no development zone.
- There are multiple extent lakes which have been overtaken for urban land use but there are still 10 lakes which still have the potential to be reclaimed and to be redeveloped as a lake.
- Regular cleaning and desilting these drains and treating the grey water before they enter the lake, so that they don't cause treat to flora and fauna in the lakes.

## DEVELOPING THE LAKES



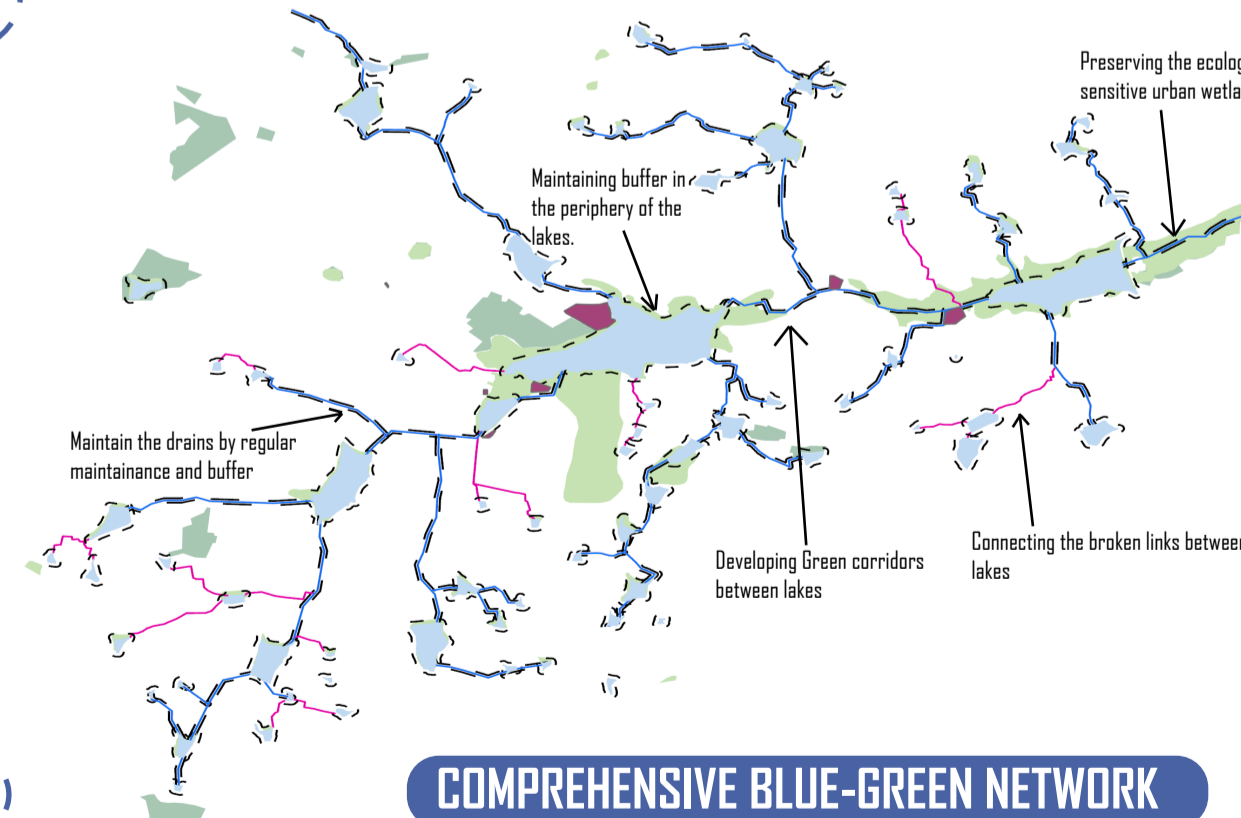
- Most of the lakes and tanks are not fenced properly leading to encroachment and dumping of waste around the lakes, these edges of the lakes get degraded over the years due to the pollution.
- Creating action plans and development plans for lakes helps conserve the biodiversity of the lake.
- Additionally creating walking path of the lakes help improve the aesthetic value of the place and help in community development of the area.

## DEVELOPING GREEN CORRIDORS



- Green corridors can be proposed along side the SWDs which connects the different lakes. The green corridors would include walking path and different native flora to enhance the natural environment in the area.
- A pilot project can be used to understand the feasibility of the project by connecting the main lakes of the varthur lake series. These include connecting Mdiwala, Agrara, Bellendur, Ulsoor and Varthur lakes.

## COMPREHENSIVE BLUE-GREEN NETWORK



## POLICIES AND EVALUATION

### V. POLICY, REGULATION & IMPLEMENTATION MECHANISMS



**Revised DCR & Master Plan**  
Propose mandatory blue-green setbacks in revised Master Plan



**Incentives for Developers**  
Incentives for private developers to maintain/integrate drains and green edges



**Lake & Drain Protection Cell**  
Dedicated BBMP cell with GIS-based monitoring, encroachment removal, and community feedback

### VI. MONITORING & DATA-DRIVEN MANAGEMENT



**Blue-Green Network GIS Dashboard**  
Real-time visualization of lake levels, drain blockages, rainfall alerts



**Sensor-Based Water Quality and Flow Monitoring**  
Propose IoT systems for lake inflows and drains to track pollution and flow dynamics



**Community Feedback Loop**  
QR codes on site for issue logging  
Integration with BBMP Sahaya app

## PHASING OF PROPOSALS

### SHORT-TERM (0-2 yrs)

**Revised PCR Draft**  
**Pilot Incentives**

### MID-TERM (2-5 yrs)

**BBMP Lake Cell**  
**Community Schemes**

### LONG-TERM (5+ yrs)

**Full IoT+GIS Integration**  
**Adaptive Planning Updates**

SCHOOL OF PLANNING AND ARCHITECTURE

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REV / EXAM NO: U01ZZ21S0029

CLASS: 8th SEMESTER, B.PLANNING

DRAWING NO: 12

# MITIGATING URBAN FLOODS : A PLANNING STUDY ON CONNECTING BLUE-GREEN NETWORK IN KORAMANGALLA - CHALLAGHATTA VALLEY IN BENGALURU CITY