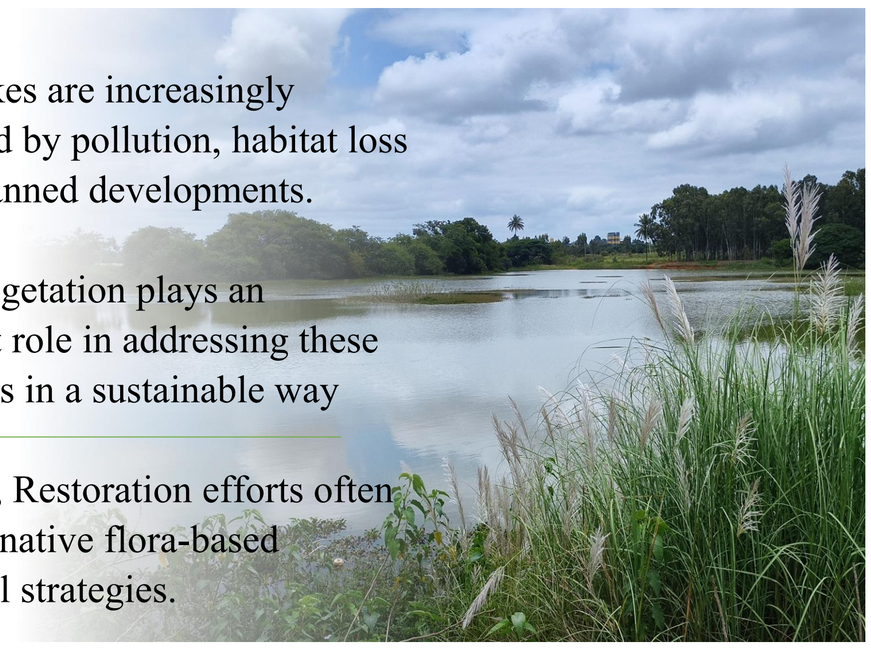
REVIVING THE BLUE WITH GREEN: NATIVE FLORA FOR LAKE HEALTH AND RESILIENCE

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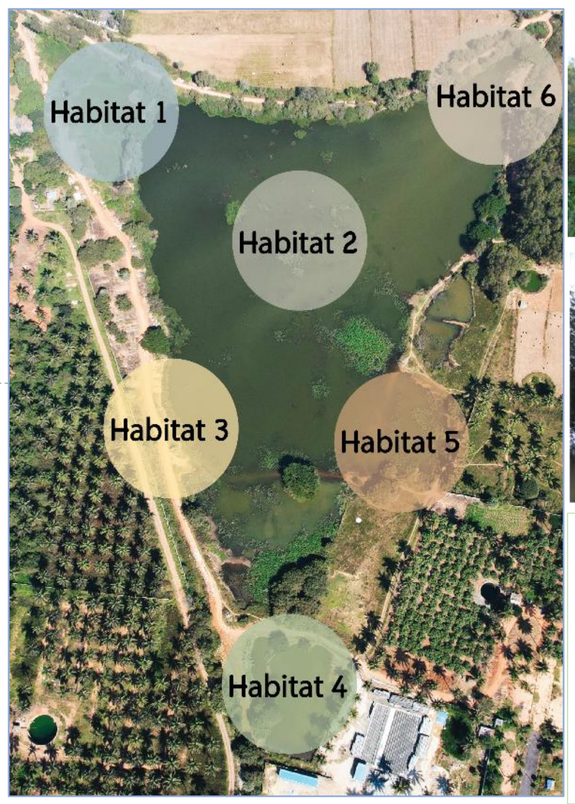
1 Why does this matter?



- Urban lakes are increasingly threatened by pollution, habitat loss and unplanned developments.
- Native vegetation plays an important role in addressing these challenges in a sustainable way
- However, Restoration efforts often overlook native flora-based ecological strategies.

• How can we integrate native flora for resilient and sustainable wetland restoration??

2 How we did it













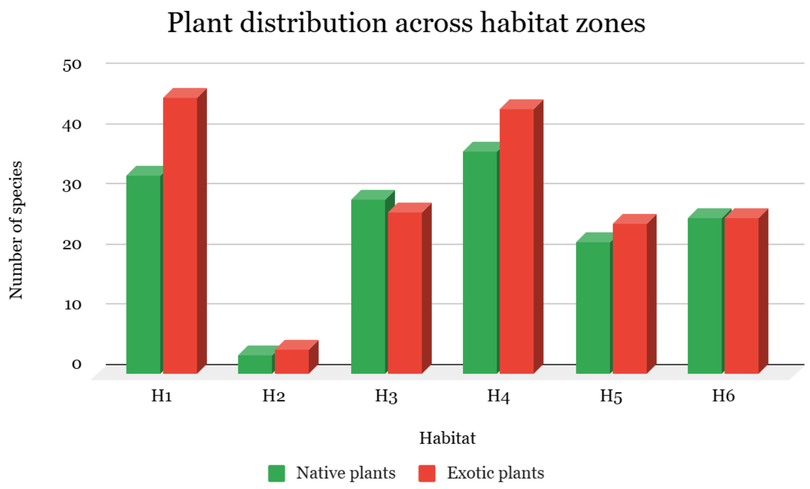


- **Study area**: Baiyappanahalli Lake
- Zonation based ecological survey
- Quadrate based vegetation assessment[1-4]
- Ecosystem strength and resilience analysis

3 What we found

Zone	Number of species	Total number of individual species	Simpson's Index (1-D)	Shannon-Weiner Index (H)	Berger-Parker Index (d)	Evenness Index (H/Hmax)
H1	17	242	0.8	2.03	0.368	0.72
H2	15	115	0.73	1.85	0.478	0.65
H3	23	713	0.78	1.95	0.334	0.69
H4	31	351	0.92	2.83	0.157	1
H5	25	679	0.87	2.24	0.24	0.79
H6	21	241	0.87	2.4	0.257	0.85

- 145 plant species recorded
- High native diversity
- Localised domination of invasive species
- Loss of riparian vegetation



Why zonation?

- Reflects ecological variations
- Enables targeted restoration
- Supports scientific planning
- Ensure sustainability

Key Insight

- Zone-specific interventions focusing on reviving native vegetation can ensure the sustainability of restoration.

5 Reviving the Blue with Green

- Vegetation based habitat prioritisation offers a more sustainable alternative to mechanical restoration.
- Removing invasive species and enhancing native plants improves filtration, oxygenation, and overall ecological balance.
- Native shoreline vegetation helps maintain natural structure and improves lake water quality.

Our approach







- Native plant nursery
- Scientific propagation of native plants
- Community involvement
- Invasive species management
- Shoreline stabilisation using native plants

4 What we learned

- Zone H4 showed the highest ecological stability and resilience, while H3, H1, H5, and H6 exhibited varying ecological conditions.
- Native plants occur in all zones but are fewer than exotic species.
- Declining native diversity indicates habitat degradation, pollution, and human disturbance.
- Zones H1, H2, and H3, dominated by invasive species, require priority intervention.

6 References

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