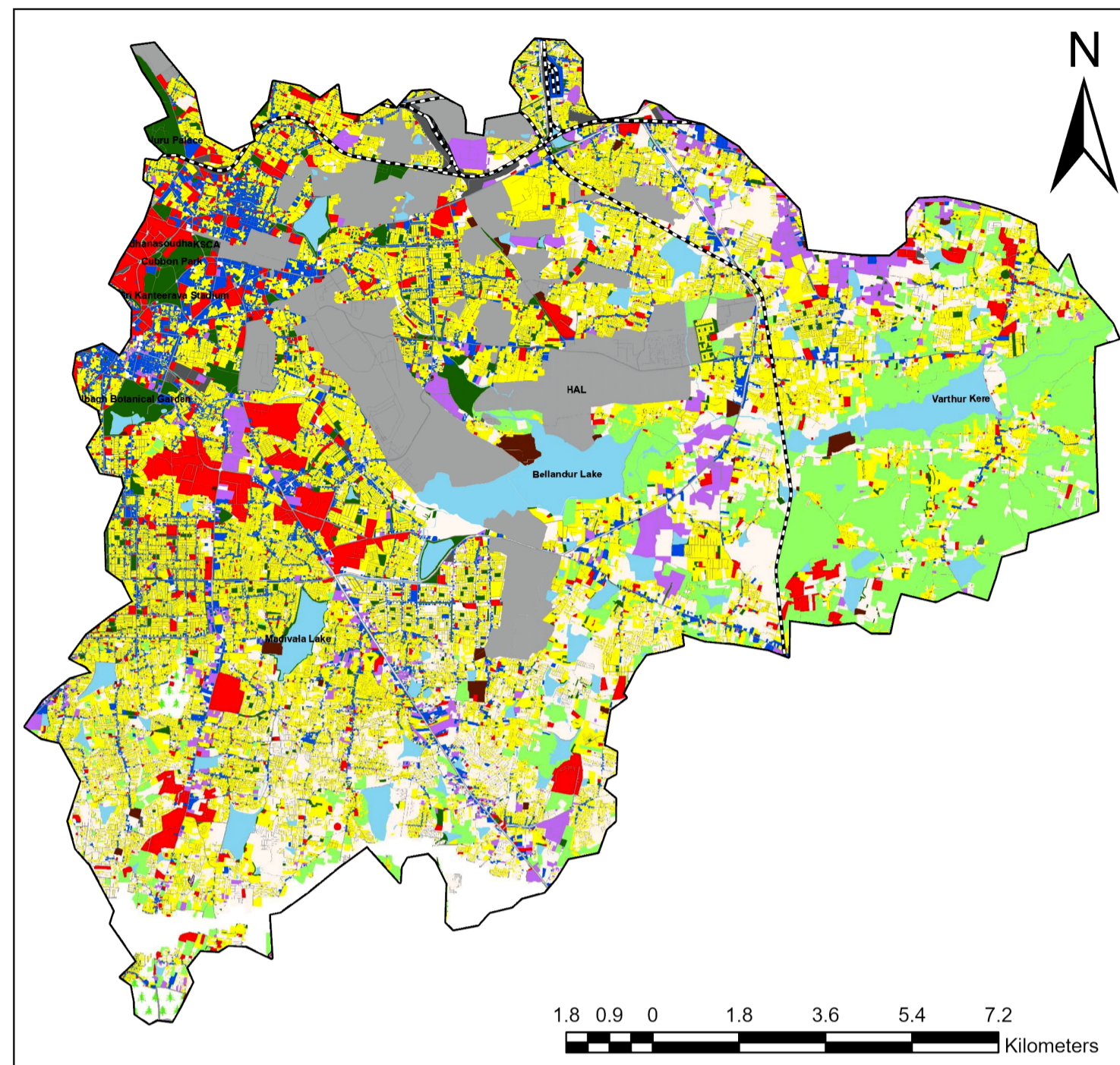


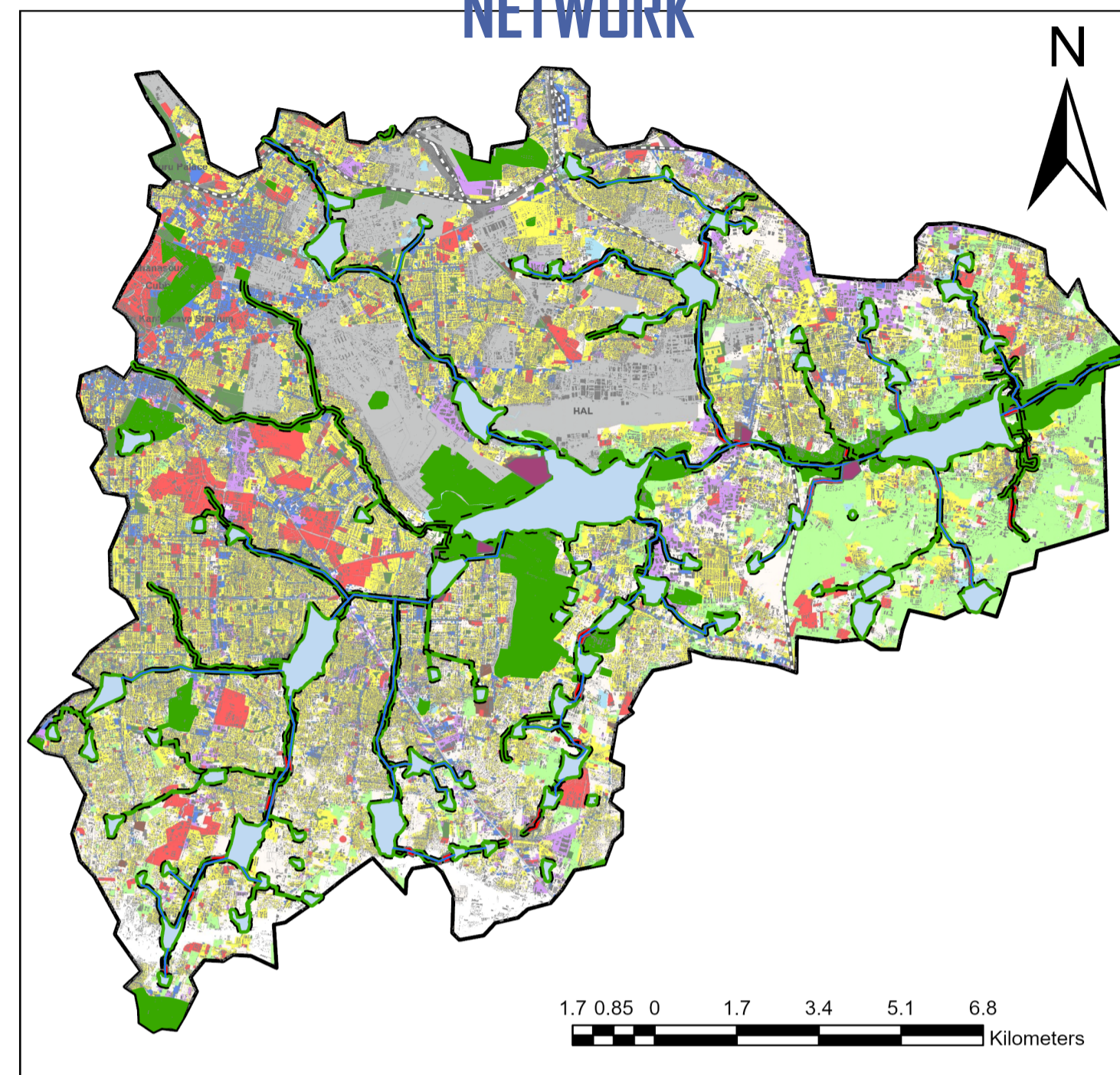
LAND USE AND POLICY REFORMS

CURRENT LAND USE MAP



- The existing land use fails to cover little to none in terms of the blue green network.
- The drains and lakes are not marked properly and the regions surrounding that it are marked for different land use although it is supposed to be no development zone, as demarcated in masterplan 2015.
- There are lots of encroachment in the lake and drain's buffer area, leading to proper stormwater movement in the study area.

PROPOSED INTEGRATION OF BLUE - GREEN NETWORK

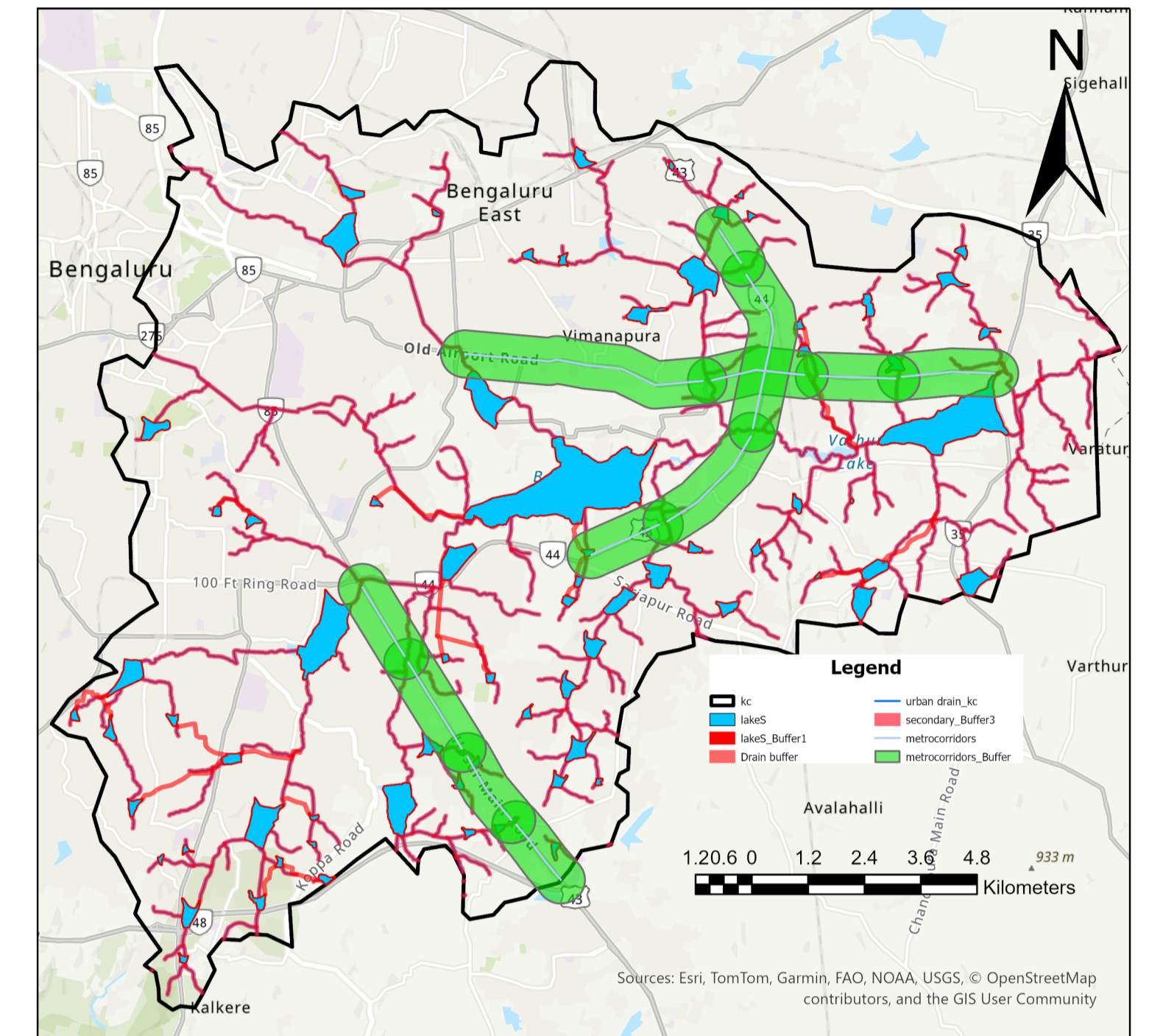


- This is just a draft on how the proposed land use could look like, with integration of blue green network.
- As per the NGT notification a 30 m buffer is proposed surrounding the lakes, 50 m buffer around primary drains, 35m around secondary drains and 25m around tertiary drains.
- It also demarcated the urban wetlands and other remaining green spaces as no development to further stop the destruction of the environment in the study area.

PROPOSED POLICY REFORMS

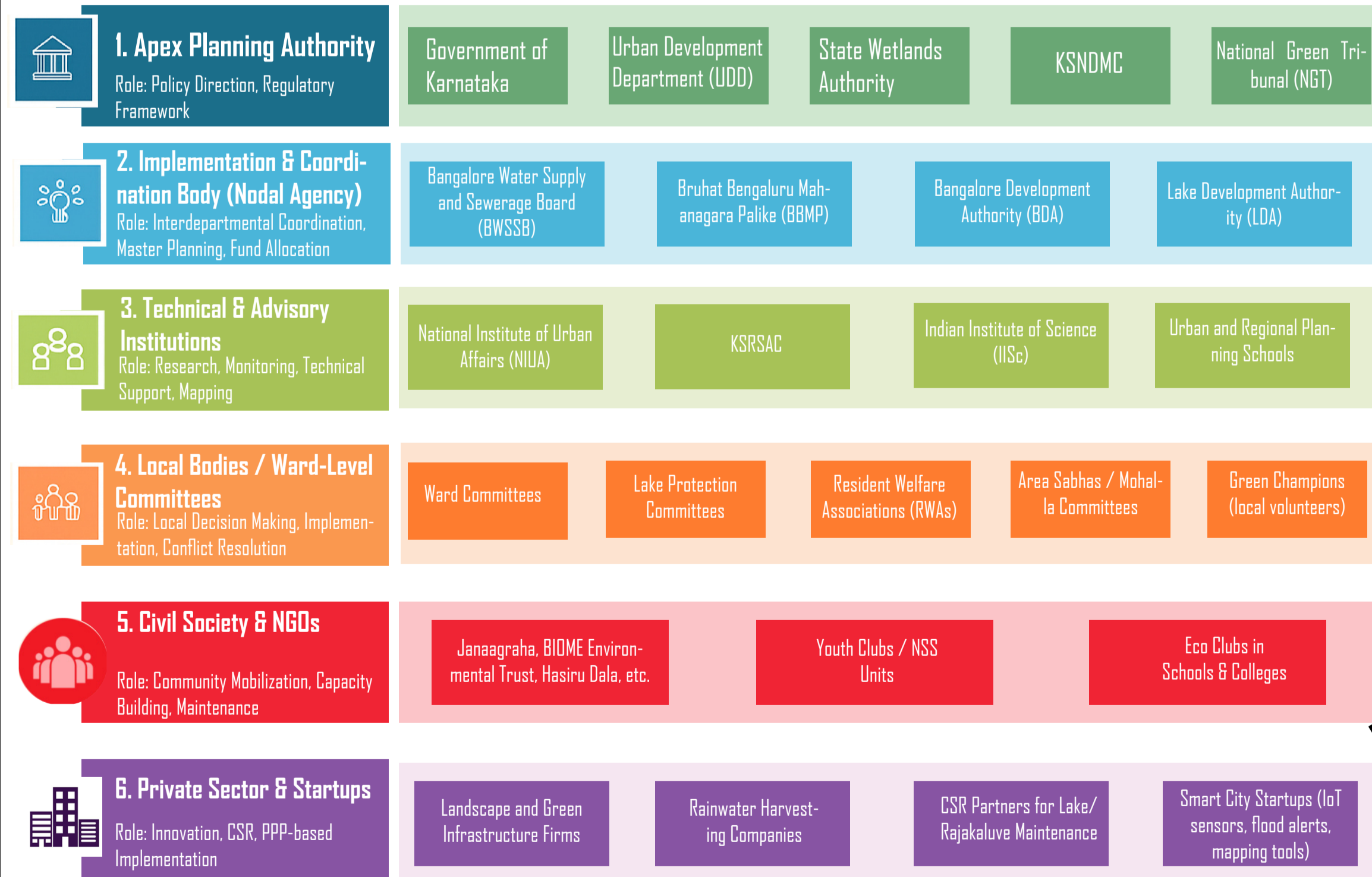
Regulation Type	Existing DCR / Norm (RMP 2015/2031)	Proposed Amendment (Blue-Green Sensitive)	Rationale / Impact
Setback from Rajakalves (Stormwater Drains)	3m (often violated, vague enforcement)	Minimum 10-15m mandatory setback, depending on drain width	Prevents encroachment, ensures flow capacity, enables riparian green buffers
Setback from Lakes and Water Bodies	9m from Full Tank Level (FTL)	30m regulated buffer as ecologically protected zone	Aligns with NGT orders; prevents pollution and flooding
Plot-Level Permeability Requirements	Not specified in many zones	Minimum 40% open, permeable surface in residential zones	Enhances infiltration, reduces runoff
Allowable FAR in Flood-Prone Zones	Same as rest of city (up to 2.0-2.5 in residential)	Reduced FAR (e.g., 1.0 or less) or TDR-based compensation	Discourages high-density development in ecologically vulnerable areas
Land Use Zoning for Lake Catchments	Often marked as Residential / Mixed Use	Rezone as "Blue-Green Conservation" land use	Prioritizes ecological function over real estate pressure
Public Open Space Requirement (Layout Level)	10% of layout area	15% of layout area with mandatory blue-green link or sponge retrofit	Increases green infrastructure and ecosystem continuity
Parking Surface Materials	Mostly paved (asphalt/concrete)	Mandate porous paving blocks or gravel surfaces in parking areas	Reduces surface runoff; supports local aquifer recharge
Plot Drainage & RWH	RWH tank required for 60m ² + plots	Mandatory onsite soak pits + RWH with connectivity to public drains	Reduces load on municipal drains; promotes local recharge
Green Belt in Industrial / Commercial Plots	No specific norm beyond landscaping	Minimum 10-15% green cover with native species	Restores ecological buffer function and reduces heat stress
Rajakalve & Lake Edge Use Regulation	No clear provision	Ban on construction of compound walls, toilets, parking within buffer	Prevents hard encroachment and misuse of water edge zones

PROPOSED TDR MAP FOR ECOLOGICAL RESTORATION



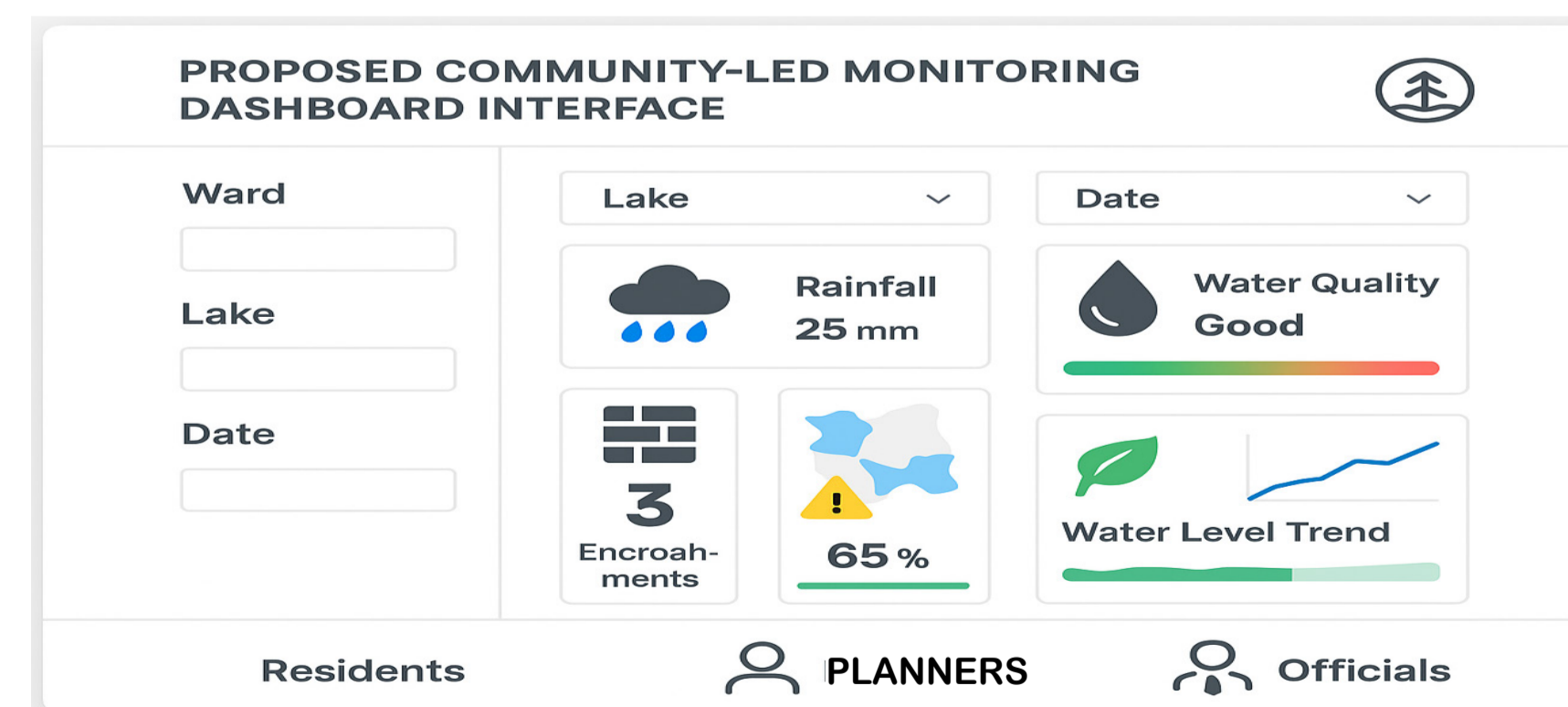
- This is a proposed TDR map which.
- Identify low-lying, encroached or flood-prone areas – mark them as TDR sending zones.
- Identify higher density corridors (e.g., metro lines, TOD zones) – TDR receiving zones.
- Even if development is not legally allowed, landowners still own the land in many of these zones. They expect compensation for losing development rights. TDR becomes a non-cash compensation, like a development voucher they can sell or use elsewhere.

Multi-stakeholder institutions matrix



POLICY REFORMS

Reform Area	Current Scenario	Proposed Reform
Lake Management	Fragmented oversight by multiple uncoordinated agencies	Establish a dedicated Blue-Green Cell within BBMP with multi-stakeholder representation
Community Involvement	Community role limited to awareness campaigns	Form Lake Ward Committees as per the 74th Constitutional Amendment for local participatory governance
Monitoring & Transparency	Monitoring solely by BBMP with limited public access to data	Enable Joint Monitoring Committees (BBMP + citizens + NGOs) and deploy real-time open data dashboards



SHORT TERM GOALS

Goal	Description
Pilot Implementation	Introduce pilot projects in select wards showcasing urban sponge interventions, lake rejuvenation, and rajakalve restoration.
Institutional Set-Up	Establish Blue-Green Cell under BBMP and Lake Ward Committees as per 74th CAA.
Monitoring Dashboard Launch	Roll out community-accessible dashboards to track rainfall, lake levels, water quality, and encroachments.
Awareness & Community Engagement	Conduct IEC campaigns (Information, Education, Communication) and training programs for community volunteers.
Policy Notification	Enforce stricter buffer zone protection laws based on NGT norms with proper demarcation.
Mapping & Auditing	Carry out ward-level mapping of lakes, drains, and encroachments , including hydrological mapping.
Rainwater Harvesting Drive	Mandate and retrofit RWHs in public buildings and parks within identified flood-prone wards.
Infiltration Intervention Rollout	Start porous footpaths, bioswales, rain gardens in government land/roads with high runoff.

LONG TERM GOALS

Goal	Description
Full Blue-Green Network Restoration	Restore lake-rajakalve connectivity across the entire K-C Valley with ecological buffers and green linkages.
Sponge Neighborhoods	Transform flood-prone wards into urban sponge zones using integrated green infrastructure.
Urban Flood Management Master Plan	Institutionalize resilient flood risk zoning and integrate blue-green planning into CDP and RMP.
Capacity Building Programs	Embed blue-green curricula into BBMP, BDA, and urban local body training modules.
Integrated Monitoring System	Establish a city-wide real-time hydrological monitoring system linking rainfall, lake levels, and drainage flow.
Nature-Based Drainage Redesign	Convert conventional stormwater drains into nature-based channels (daylighting, step drains, vegetated swales) .
Policy Mainstreaming	Integrate blue-green strategies into development control regulations and building bye-laws.
Participatory Governance Model	Sustain community-led lake management and ward-level planning for blue-green spaces through citizen charters.

SCHOOL OF PLANNING AND ARCHITECTURE

NAME: P.A.CHARAN	REV / EXAM NO: U01ZZ21S0029
CLASS: 8 th SEMESTER, B.PLANNING	DRAWING NO: 14

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