Urban Insights from India's 1st Water Bodies Census Report
What is a Water Body?
(As per the report)

All natural or man-made units bounded on all sides with some or no masonry work, being used for storing water, for irrigation or other purposes (e.g. industrial, pisciculture, domestic/drinking, recreation, religious, groundwater recharge etc.) are treated as water bodies in this Census. These are usually of various types and known by different names like tanks, reservoirs, ponds and bundhis etc. A structure where water from ice-melts, streams, springs, rains or water drained from residential or other areas is accumulated or stored by diversion from a stream, nalaah or river is to be treated as a water body.
Snapshot of Water Bodies in India

Water Bodies Distribution in India (including urban and rural)

- Ponds: 59.5%
- Tanks: 15.7%
- Reservoirs: 12.1%
- Water Conservation Schemes/Percolation Tanks/Check Dams: 9.3%
- Lakes: 0.9%
- Others: 2.4%

West Bengal has the maximum number of water bodies, with 30.8% of India's total water bodies, equivalent to 7,47,480 water bodies.

Urban vs Rural Water Bodies

- 3% of all the water bodies are in urban areas.
- Rural Water Bodies are dominating in India's water bodies scenario. They support agriculture, biodiversity, and recreation, with lesser pollution but still require conservation for ecological integrity and rural livelihoods.
- While Urban Water Bodies are vital as they provide ecosystem services to the city. They are used in supplying water, managing stormwater, recharging groundwater, and acting as sponges to mitigate floods and also providing recreational opportunities. However, they face extreme challenge of pollution and habitat degradation. Majority of them require attention and are in need to be valued for maintaining the urban ecosystem.
India's Urban Water Bodies

69,485 water bodies are in urban areas.

West Bengal has the highest no. of urban water bodies in India.

40% of India's Total Urban Water Bodies

27,826 Urban Water Bodies
West Bengal has the highest no. of Urban Ponds in India
48% of Total Urban Ponds

Tamil Nadu has the highest no. of Urban Tanks and Lakes in India
34% of Total Urban Tanks
48% of Total Urban Lakes

Maharashtra has the highest no. of Urban WCS/PTs/CDs in India
34% of Total Urban WCS/PTs/CDs

Jharkhand has the highest no. of Urban Reservoirs in India
20% of Total Urban Reservoirs

**Types of Urban Water Bodies**

- **Ponds**: 82.2%
- **Tanks**: 12.1%
- **WCS/PTs/CDs**: 2.2%
- **Lakes**: 1.6%
- **Others**: 1.4%
- **Reservoirs**: 0.4%

*WCS/PTs/CDs: Water Conservation Schemes/Percolation Tanks/Check Dams*
28% of the urban water bodies in West Bengal are being used for industrial purpose

Groundwater recharge (10.3%)

Most of the North-East States: Tripura (100%), Assam (91%), Nagaland (91%), Meghalaya (75%), Mizoram (73%) and Arunachal Pradesh (52%) & Odisha (73%) are majorly using their urban water bodies for pisciculture and therefore their livelihood are dependant on these water bodies

Chandigarh (96%)
Himachal Pradesh (84%)
J&K (82%)
Manipur (71%)
Sikkim (64%)

Gujarat (83%)
Maharashtra (65%)
Punjab (64%)

are majorly using their urban water bodies for the groundwater recharge

- Pisciculture 41.6%
- Domestic/Drinking 18.8%
- Industrial 12.1%
- Irrigation 8%
- Groundwater Recharge 10.3%
- Others 4.9%
- Religious 2.6%
- Recreational 1.9%

21% of the urban water bodies are not in use

79% of the urban water bodies are in use

Uses of Urban Water Bodies

- Gujarat
- Maharashtra
- Punjab

are primarily using their urban water bodies for domestic or drinking purpose
Chandigarh (100%), Tripura (99.9%), Maharashtra (99.7%) & Manipur (99.3%) are using almost 100% of their urban water bodies primarily for domestic/drinking (Chandigarh and Manipur), pisciculture (Tripura) and groundwater recharge (Maharashtra).

States like Bihar, which are using almost 100% of their urban water bodies, have been encroached due to construction. Out of the total urban water bodies in Bihar, 18% have been encroached due to construction, 11% have been dried-up, and 10% are not in use due to siltation.
Tamil Nadu has the highest number of natural water bodies in urban areas.

Despite the abundance of natural water bodies, Tamil Nadu faces water scarcity in certain regions due to urbanization, and overexploitation of water resources. Sustainable water management practices and conservation efforts are crucial to ensure the long-term availability and equitable distribution of water in the state.

Earthen water bodies are inherently more sustainable and environmentally-friendly. They work in harmony with the natural landscape, allowing for natural water filtration, groundwater recharge, and maintenance of local ecosystems. Concrete and masonry structures, on the other hand, disrupt natural drainage patterns, impede groundwater recharge, and can have negative impacts on aquatic habitats and biodiversity.

West Bengal has the highest number of artificial water bodies in urban areas.

Statewise Distribution of Natural and Artificial Water Bodies in Urban Area
Number of urban water bodies in different states that directly benefit >1,000 people

In Tamil Nadu, the number of people benefitted per ‘In Use’ urban water body is much higher.

States like West Bengal, Kerala, Tripura, Odisha and Uttar Pradesh are using a large number of their urban water bodies but the population it is benefitting is comparatively less. However, in states and UTs like Tamil Nadu, Andra Pradesh, Chandigarh number of people getting benefitted per urban water body is much higher.
3% of India's urban water bodies are encroached. Most of the water bodies are encroached by >50% of their total area.

Addressing encroachment of water bodies in urban areas is crucial for sustainable water management, flood mitigation, climate resilience, and the well-being of communities.

It requires proactive planning, policy enforcement, public awareness, and stakeholder engagement to ensure the protection and preservation of the valuable natural assets.
Limitations

- Some Union Territories i.e. Ladakh, Daman & Diu, Dadra & Nagar Haveli and Lakshadweep are not considered in this report.

- No City/Town is considered in Haryana for Urban Water Body Analysis.

- The limitation is also related to the total number of towns/cities considered in the states indicating that the data might not represent all urban areas within a state, potentially leading to a partial understanding of the urban water body scenario.

- Water quality data has not been collected which is one of the important aspects to consider while analyzing water bodies.

- It's important to note that the specific findings and conclusions from the analysis may vary depending on the actual data presented in the Indian Urban Water Bodies Census Report. The report itself should be referred to for more detailed and accurate information.
Urban Growth and Implications

Analyzing data over time can provide insights into the impact of urban growth on urban water bodies. It can help assess whether expansion of urban areas has resulted in loss or degradation of water bodies, changes in their characteristics or alterations in their storage capacity.

NIUA's Urban Water Body Diagnostic Tool

The web tool is meant to help city officials to identify and prioritise actions for rejuvenation of water bodies within their cities.

The diagnostic tool is based on assessing the status quo of urban water bodies, in terms of various physical, chemical, biological, and management parameters. Importantly, the tool helps in conducting a rapid assessment that a city can perform easily and periodically, in order to identify immediate actions for their management.
A decision support system for cities to manage the water bodies within their jurisdiction.

Supports the rapid assessment of the health of water bodies.

Can be used for all urban water bodies of area greater or equal to one Acre (4047 sqms)

Informs tangible actions for improving/maintaining the state of water bodies.

Help city officials in identifying and prioritising actions for rejuvenation of water bodies.

Access the Urban Water Bodies Diagnostic Tool at

https://niua.in/rca/uwdtool/

or

uwdtool.in