

RESEARCH BRIEF

Urban Water Management in Chintamani, Karnataka

Challenges & Opportunities for Water Security in India's Small Towns

Photo credit: TIDE-BORDA

KEY INSIGHTS

- **Groundwater is overexploited:** Around 100 municipal borewells run interchangeably 24x7 to meet 40% of the town's supply. An additional 40% is met via private borewells and tankers.
- **The aquifer is depleting:** Chintamani is underpinned by hard rock aquifers characterised by limited storage potential. This leads to limited recharge. Data and knowledge gaps prevent effective aquifer management.
- **Lakes are polluted:** 65% deficit in sewage treatment capacity results in raw sewage entering water bodies and rendering surface water unusable.
- **Electricity bills are high:** Over 40% of the municipality's operational expenses is spent on water supply infrastructure – mainly for power bills – and little is recovered through user fees as Non-Revenue Water loss is high.
- **Planning is fragmented:** There are multiple agencies involved in water and sanitation schemes that usually work in silos at the planning phase. This results in fragmented implementation and suboptimal outcomes.

The Water, Environment, Land and Livelihoods (WELL) Labs along with the Technology Informatics Design Endeavour (TIDE) and the Bremen Overseas Research and Development Association (BORDA)-South Asia conducted an urban water balance exercise for the town of Chintamani in southern Karnataka. This semi-arid part of the country needs to prepare for worsening water scarcity.

Through field surveys and hydrological modelling, we narrowed down on key problem areas and identified possible solutions that will help the town leapfrog to more sustainable water management.

Small towns play a crucial role in advancing India's economic growth. However, urbanisation and population growth far outpace the delivery of basic infrastructure. Moreover, municipalities struggle to meet rising expenditure requirements through its revenue, and they remain beholden to state and central governments to get by. Given this context, crucial aspects such as water and sanitation fall through the cracks.

This research is an attempt to push for informed water management and policy in India's small towns.


There are opportunities to improve water management in Chintamani. Imported and local surface water sources could meet up to 100% of the town's freshwater demand, provided the lakes are properly restored and managed. This would enable Chintamani to shift away from depleting groundwater.

Given that the town is still largely unbuilt, coordinated efforts between different agencies and residents, could help establish effective long term water management using blue-green-grey infrastructure. These efforts could boost water resilience in Chintamani.

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View of Kannampalli Lake in Chintamani. Photo credit: TIDE-BORDA



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