

EGU21-13276

<https://doi.org/10.5194/egusphere-egu21-13276>

EGU General Assembly 2021

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## Transdisciplinary Design of Adaptation Pathways in Peri-urban India: Planning for Water Needs in a Sustainable Urban Transition

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This research, conducted within the H2O-T2S project, is located in peri-urban areas of three cities in India: Pune, Hyderabad, Kolkata. Peri-urban areas are where the rural to urban transition is most visible. A key challenge for peri-urban areas is sustainable management of water resources. Peri-urban water resources in India are under threat from growing water demand and ineffective institutions. Interdisciplinary research of existing water-based livelihoods, household water use, and peri-urban institutions in these three regions shows that current urban transformations are unsustainable. Given the dynamic nature of peri-urban contexts, short and long-term vulnerabilities must be considered. An adaptation policy pathways approach can help peri-urban actors develop longer-term transformative plans. This study describes the design and execution of a participatory process to design context-specific pathways with peri-urban communities and governments in India.

This presentation outlines the key steps in our customized pathways approach for the peri-urban context. Due to the covid-19 pandemic, initial plans to implement these steps through a series of stakeholder workshops were replaced by remote pathways design using the Delphi method. We present a step-by-step methodology to engage peri-urban actors in the design of longer-term adaptive plans for water resources in the future. Results are presented for Hadia village (Kolkata), one of the three peri-urban case studies. It reveals the range of future normative scenarios developed for this village and a pathways schematic towards these scenarios.

Our results demonstrate the value of engaging local actors in the design of adaptive plans for peri-urban water resources. This study offers insights for ways to conduct transdisciplinary research even when face to face interactions are not feasible.