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A Transdisciplinary Community- based Approach to Explore Institutional Change in Khulna’s Peri- urban Drinking Water Services

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The Ganges delta in Bangladesh is experiencing significant changes in its hydrological system as a result of urbanization. This is especially true in peri-urban areas near Khulna city where changing land use, economic activities, and population together impact the demand for groundwater. Existing institutions (or societal rules) are unable to effectively manage the needs in this changing context, marginalizing several peri-urban communities from accessing safe drinking water in the process. These communities are in search for solutions to improve drinking water services but have limited knowledge of the institutions that govern drinking water supply - thereby not considering the feasibility of possible improvements under the existing formal rules. Moreover, this knowledge gap on the institutional setting prevents them from actively considering institutional change as (part of) a potential solution to the problem.

This study uses a transdisciplinary community-based approach to support strategic analysis of peri-urban drinking water problems from an institutional perspective. It includes the design, implementation, and evaluation of a game-based workshop with community members from a peri-urban village near Khulna city. This intervention draws from fields such as institutional economics, game theory, serious games, and evaluation sciences. The workshop comprises three separate rounds wherein participants experience through a role playing game, how institutions affect decision making outcomes. The first round is based on the existing drinking water situation, the second on alternate rules for improving infrastructure access, and the third on alternate rules for improving groundwater monitoring. Participants also reflect on the costs of effecting institutional change and ways to negotiate these with policy-makers. Ultimately, we wish to understand the effect that institutional knowledge brings to the problem solving process, the mechanisms to introduce such institutional knowledge into this process, and the role of transdisciplinary research in this regard.