



Participatory Groundwater Monitoring in India - Insights from a Case-Study in Jaipur

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Data on groundwater quantity and quality on a local scale are scarce in many regions of India. At the same time, groundwater resources are heavily overused, mainly due to agricultural activities, and seriously polluted, especially in urban areas. Innumerable illegal wells make a top-down management impossible. The lack of data for an effective management and the missing awareness of groundwater as a vulnerable resource on the user side leads to many long-term groundwater-related problems both for the environment and the local population. Participatory approaches in groundwater management could be an option to improve the situation in such contexts where traditional management approaches through authorities have proven to be inadequate.

During a case-study in Jaipur, the capital of Rajasthan in semi-arid northwestern India, a participatory groundwater monitoring in peri-urban low-income areas was established. Together with the Indian NGO Mahila Housing SEWA Trust, a 3-step approach targeting local women community groups was developed: 1) Awareness raising: Water-workshops for a broad group of women to generate a basic understanding of groundwater and raise the awareness for the "hidden resource" groundwater; 2) Capacity building: Training the women in field mapping, water sampling and water table measurements to enable them to make a meaningful (basic) interpretation of their water situation and create a deeper understanding of groundwater; 3) Upscaling: Development of a media portfolio including a project documentary, a motivational short movie, an interactive training manual and a physical groundwater model. These supporting materials were handed over to the Indian Partner NGO for further application in other communities and/or projects.

The study revealed that challenges in participatory/citizen-science projects are manifold. Apart from the fact that it is time consuming for both sides, communication is the biggest challenge. Scientists are not trained in communicating with non-scientists and understanding the social situation which drives people's behavior. Furthermore, the educational and socio-economic background of the participants makes it difficult for them to understand the need of long-term and accurate data collection. Another important aspect is the choice of the testing equipment as it has to give reliable results on the one hand but has to be easy applicable and affordable on the other hand.

We will present our approach, discuss the above mentioned challenges and exemplify our strategies to overcome them.