

Study Project – Environmental Engineering

Workload: 12 ECTS, 450 hours

Stakeholder analysis for the design, development and implementation of ecohydrological software.

Description:

Providing socially acceptable solutions within the context of food-water-energy nexus projects is a dynamic and challenging process. Solid scientific bases to build trust and get the desirable results must be implemented for this purpose. In February 2022, the AQUASOL project began with the aim of creating a software tool to support the design and management of solar parks to improve groundwater recharge, water quality, and ecohydrological conditions. The project is performed in collaboration with the company MaxSolar GmbH during the planning and construction of one of their solar park projects in Darstadt (Bavaria). The development of the software will be user-oriented and aims to involve various actors from public, private and academic institutions. Hence, the proper participation of stakeholders in the design and implementation of the software is a key to success. Opportunities and relationships can be built at different stages of the project to improve not only the conceptual construction of the tool but also the general user experience.

Objective:

The goal of this study project is to perform a stakeholder analysis within the context of the AQUASOL Project and build an appropriate strategy for stakeholder engagement. The proposed analysis must motivate the active engagement of stakeholders to include and register insights and feedbacks regarding how model and data should be combined in the tool.

Tasks:

- Read and understand technical papers
- Identify key stakeholders from different organizational types and their interests and roles in the project
- Assess the influence, importance and potential impact of the stakeholder
- Propose and create methods and standard material for engaging the communication and participation

Requirements:

- Fluency in German
- Analytical skills
- Excellent communication (written and verbal) and interpersonal skills
- Affinity with environmental data and data-oriented research

Contact:

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Relevant literature:

- Alamanos, Angelos, Alec Rolston, and George Papaioannou. 2021. "Development of a Decision Support System for Sustainable Environmental Management and Stakeholder Engagement" *Hydrology* 8, no. 1: 40. <https://doi.org/10.3390/hydrology8010040>

- Melloni, Giacomo, Ana P.D. Turetta, Michelle Bonatti, and Stefan Sieber. 2020. "A Stakeholder Analysis for a Water-Energy-Food Nexus Evaluation in an Atlantic Forest Area: Implications for an Integrated Assessment and a Participatory Approach" *Water* 12, no. 7: 1977. <https://doi.org/10.3390/w12071977>
- White, Dave D., J. L. Jones, Ross Maciejewski, Rimjhim Aggarwal, and Giuseppe Mascaro. 2017. "Stakeholder Analysis for the Food-Energy-Water Nexus in Phoenix, Arizona: Implications for Nexus Governance" *Sustainability* 9, no. 12: 2204. <https://doi.org/10.3390/su9122204>