

INTEGRATED MANAGEMENT OF WATER RESOURCES: AN APPLICATION OF SOCIAL MULTI-CRITERIA EVALUATION IN TUSCANY

MATTEO BORZONI; FRANCESCO RIZZI; MARCO FREY
SCUOLA SUPERIORE SANT'ANNA.

Abstract:

Over-exploitation of water resources is not uncommon when multiple actors with conflicting interests satisfy their water needs from the same water source. Solutions can include supply augmentation infrastructures, demand management through reallocation of water rights uses or new water consumption tariffs, and efficiency interventions. This work analyses the case of the most important water reservoir in Tuscany (Italy): the Lucca Plain. This area is clearly characterized by over-exploitation and their related subsidence phenomena. Here water use is subject to conflicts of interests among important uses such as: agricultural production, paper industry, household consumption and eco-system conservation. These conflicts of interests reflects different views and values. Social-multi criteria evaluation (SMCE) is proposed as a tool to analyze this complex situation. The paper shows how SMCE can be used to reach compromise solutions among alternative options in integrated water management. The alternative actions are socially constructed by in-depth interviews with relevant stakeholders. The criteria reflect economic considerations, environmental concerns and social aspects. In this way, all different points of view are reflected in the evaluation method. Finally, the paper draws important lessons for the management of underground resources in conditions of over-exploitation.