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Sustainability Assessment of indicators for integrated water resources management

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Description / Abstract

The scientific community strongly recommends the adoption of indicators for the evaluation and monitoring of progress towards sustainable development. Furthermore, international organizations consider that indicators are powerful decision-making tools. Nevertheless, the quality and reliability of the indicators depends on the application of adequate and appropriate criteria to assess them. The general objective of this study was to evaluate how indicators related to water use and management perform against a set of sustainability criteria. Our research identified 170 indicators related to water use and management. These indicators were assessed by an international panel of experts that evaluated whether they fulfil the four sustainability criteria: social, economic, environmental, and institutional. We employed an evaluation matrix that classified all indicators according to the DPSIR (Driving Forces, Pressures, States, Impacts and Responses) framework. A pilot study served to test and approve the research methodology before carrying out the full implementation. The findings of the study show that 24 indicators comply with the majority of the sustainability criteria; 59 indicators are bi-dimensional (meaning that they comply with two sustainability criteria); 86 are one-dimensional indicators (fulfilling just one of the four sustainability criteria) and one indicator do not fulfil any of the sustainability criteria.

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