Abstract:

Water and its pivotal role in human life and activities in today's world is not hidden from anyone. Limited water resources in our country demand protection, conservation and optimum utilization of it to ensure posterity's water needs. The need for integrated water resources management as a result of increased competition in water use, rapid population growth and increasing expectations for a better life felt more than ever before. In order to implement this management, the main stage means, the integrated water resources assessment is crucial. Integrated water resources assessment, is an important and binding component of water resource management which is done by indicators; Ability to present complex phenomena in terms of understandable, comparable and objective indicators for stakeholders on one hand ,and creating objective criteria for analyzing changes over time and space, on the other hand, has made indicators an efficient tool to assess the environmental sustainability and establishing effective communication between stakeholders. So identifing and using models for producing indicators to assess is essential. Physical frameworks are known as the most popular frameworks for chosing indicators that evaluated the physical interaction between the environment and humans and the effects of these interactions. The DPSIR conceptual model is the most prominent models of physical framework. DPSIR model can be used as an analytical framework to be used in assessing water resources issues. This model allows an integrated assessment of the problems by examining the driving forces and pressures on the water environment, the resultant environment and its effects and responses adopted and the interconnection within each component. In this research the main problem of sustainability of water resources in the marvdasht plain as one of the main agricultural regions in the country will be assessed using the DPSIR conceptual model and a set of indicators to monitor the situation. First, by simulating a collaborative approach, problems related to plain's water resources problems will be identified and prioritized. In the next step, the main problem of plain's water resources will be described using the DPSIR conceptual model. And a set of draft indicators consistent with the model so that represents the state of the system will be presented. A list of criteria for choosing indicators will be made and the proposed indicators will be compared with these criteria based on an evaluation system. And the indicators that satisfy the selection criteria in the best way will be identified as the main set of indicators. Finally, these indicators will be used for monitoring the status of plain's water resources and evaluating processes. In fact, this study intends to provides a methodology to identify the key problems of water resources and evaluation of this problems stemming by causes that makes problems and implications that these problems have followed, with indicators.So that with using them on one hand the changes that are causing problems can be monitor and on the other hand, existing information gaps will be identified in order to remove them. Therefore the main focus is on the process rather than the results.

Keywords: Integrated Water Resources Assessment, Indicators, Marvdasht Plain, DPSIR Framework.

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Integrated Water Resources Assessment by Indicators Based on DPSIR Framework: A Case Study of Marvdasht Plain

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