

# Review of: "Promoting Pro-Environmental Behavior for Sustainable Water Resource Management: A Social Exchange Perspective"

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Potential competing interests: No potential competing interests to declare.

The paper "Promoting Pro-Environmental Behavior for Sustainable Water Resource Management: A Social Exchange Perspective" addresses water scarcity, highlighting the conflict between personal and societal interests in water use. It emphasizes the importance of renewable water resources and suggests individual and structural strategies for resolving this social dilemma. Factors like social trust, rewards, scarcity, values, religion, group size, and social sanctions influence cooperative water conservation. The paper underscores the need for a holistic approach, combining individual behavior changes with comprehensive policies for sustainable water management. The paper addresses the critical issue into strategies and factors related to water resource management. While I appreciate the author's dedication to this important subject, after a careful and thorough review, I have identified several significant areas that require substantial revision before the paper can be considered for publication.

-One of the central scientific challenges in this context is the complexity of human behavior. Human decision-making is influenced by a wide range of cognitive, emotional, social, and cultural factors. Interpreting and predicting how individuals or groups will behave in the context of water consumption can be highly challenging due to the multifaceted nature of these factors.

-The field of behavioral economics explores how individuals make choices, including those related to resource management. The passage mentions the importance of incentives, rewards, and punishments, but understanding how these economic incentives interact with psychological and social factors can be challenging. The interpretation of results might be complicated by the unpredictability of human responses to such incentives.

-The passage suggests that information related to local environmental degradation is more persuasive because it's easier for individuals to understand the link between their actions and outcomes. However, the global nature of many environmental issues, including water scarcity, introduces complexity. Interpretations might be confounded by the interplay of local and global factors and the different ways in which individuals perceive and respond to them.

-The passage briefly touches on the influence of culture on environmental behaviors. Different cultures have distinct values, norms, and belief systems that shape individuals' attitudes and actions. The paper may need to consider the cultural variations that could impact the generalizability of its findings to diverse populations.

-Understanding how individuals balance short-term interests with long-term consequences is another scientific challenge. People often exhibit time discounting, where they prioritize immediate gains over delayed rewards. This temporal aspect can complicate the interpretation of results, especially when trying to encourage more sustainable, long-term behaviors.

-Scientific rigor in this context requires accurate and reliable measurement of various factors, including individual behaviors, values, trust, and the effectiveness of interventions. Data collection methods, potential biases, and limitations in self-reported data can all influence the interpretation of results.

-Addressing water resource challenges effectively is a multidisciplinary endeavor. It involves insights from psychology, economics, sociology, environmental science, and more. Coordinating the findings from these different fields and interpreting them in a holistic manner can be challenging.

-The paper may need to consider the evolving nature of policies, societal attitudes, and environmental conditions. Changing policies or public awareness campaigns can influence behavior, and researchers need to account for these dynamic factors when interpreting results over time.

-Achieving lasting behavior change is a scientific challenge. Many studies focus on short-term effects of interventions, but it's essential to understand whether and how these interventions lead to sustained, long-term changes in behavior. This can be difficult to capture and interpret in the short term.

-The article lacks a clear and engaging introduction that sets the stage for the topic and provides context for the reader. It should briefly introduce the problem of water resource management and why it's significant.

-While the article does make references to various sources and studies, it would significantly benefit from more explicit citations and references to specific research for substantiating the claims put forth. To illustrate, the following examples could be incorporated:

Dastkhan, H., & Mohamadi, G. (2023). "Sustainable Water Policies in Central Regions of Iran: An Integrated Water Resource Management Model." *Water Economics and Policy*, 2340001.

Samani, S. (2021). "Assessment of Groundwater Sustainability and Management Plan Formulations through the Integration of Hydrogeological, Environmental, Social, Economic, and Policy Indices." *Groundwater for Sustainable Development*, 15, 100681.

Samani, S., Moghaddam, H. K., & Zareian, M. J. (2021). "Evaluating Time Series Integrated Groundwater Sustainability: A Case Study in Salt Lake Catchment, Iran." *Environmental Earth Sciences*, 80(17), 603.

-The paper discusses various strategies for water resource management, but it lacks empirical evidence or case studies to illustrate the effectiveness of these strategies. Including real-world examples or studies would strengthen the arguments.

-The article uses complex language and sentence structures at times, which may hinder understanding. It should aim for

clarity and simplicity in language to make it accessible to a wider audience.

-The conclusion is relatively brief and should be expanded to summarize the main findings of the article. Additionally, it should provide clear takeaways or recommendations for readers.

-The inclusion of pertinent visual elements, such as comprehensive study flowcharts, graphs, or images, would not only improve the article's visual attractiveness but also enhance the efficacy of data communication.

-The article briefly touches on cultural and ethical factors but should delve deeper into these aspects, explaining how they influence water resource management decisions.

-Ensure consistent use of terminology throughout the article. For instance, the article uses the terms "water security" and "water resource management" interchangeably; it would be helpful to clarify these terms.

-Providing practical examples or case studies related to water resource management and the application of the discussed strategies could help readers better understand the concepts.

-It might be beneficial to anticipate and address potential criticisms or counterarguments to the strategies proposed for water conservation to provide a more balanced perspective.