

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

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Managing scarce resources, such as water, is a complex challenge in societies, often requiring a balance between individual and collective needs. The present work on promoting pro-environmental behavior for sustainable water resource management explores how individualistic and collectivist orientations influence water resource management and the importance of fostering a collectivist culture to ensure sustainable water use [1]. It also discusses the role of institutional arrangements and public participation in addressing water-related challenges. The paper underscores the need for collective action, institutional frameworks, and integrated approaches to promote sustainable water resource management. Pro-environmental behavior is essential for addressing the challenges of water resource management, and fostering a collectivist culture can help ensure a more sustainable future [2][3]. Effective water management requires a balance between individual and collective interests, with a focus on long-term sustainability. Thus, the present work opens up scope for further integration and investigation in elsewhere study sites.

The scope for future research and development can be broadened to include emerging technologies and methodologies related to water resource management. The use of Water Budget Calculators (WBC) can offer precise estimations of water supply and demand, helping to identify critical areas for conservation <sup>[4]</sup>. Future studies could explore the application of WBC in community-level water management and its role in fostering collective responsibility. This technology can provide data-driven insights to inform pro-environmental behavior and guide water governance policies. Similarly, groundwater monitoring tools like Groundwater Calculator (G-Cal) offer a way to track and manage underground water resources effectively <sup>[5]</sup>. Future research could examine how such tools can be integrated into broader water resource management strategies. By understanding groundwater patterns, communities can better plan their water usage, promoting a more sustainable approach to resource management.

Future research could examine the role of policy development and institutional frameworks in promoting proenvironmental behavior. This includes exploring how legislation and governance structures can encourage collective action and sustainable water management practices. Additionally, studies could investigate the impact of policies on individual behavior and how they can be designed to foster a collectivist culture. In Western India's semi-arid regions, policies have been designed to balance water resource management with rural development needs. In fact, policies that prioritize communal benefits over individual gains have been shown to be effective. Moreover, the above study site relied on policies that promote soil and water conservation techniques, such as contour farming, check dams, and



afforestation [6][7][8][9][10][11][12][13]. Research could investigate how these policies contribute to sustainable development, identifying key elements that promote both water security and community well-being.

## References

- 1. ^Abdolmehdi Behroozi. (2023). Promoting Pro-Environmental Behavior for Sustainable Water Resource Management:

  <u>A Social Exchange Perspective.</u> Qeios. doi:10.32388/BR2LWJ.
- 2. ^Dian Gu, Jiang Jiang, Yue Zhang, Ying Sun, et al. (2020). Concern for the future and saving the earth: When does ecological resource scarcity promote pro-environmental behavior?. Journal of Environmental Psychology, vol. 72, 101501. doi:10.1016/j.jenvp.2020.101501.
- 3. ^Kwabena Agyarko Sarpong, Gordon Amankwaa. (2022). <u>Household behavioral intention, environmental habit and attitude related to efficient water management: an empirical analysis on pro-environmental behavior among urban residents.</u> doi:10.2166/h2oj.2022.014.
- 4. ^Aman Srivastava, Leena Khadke, Pennan Chinnasamy. (2021). <u>Developing a Web Application-Based Water Budget</u>

  <u>Calculator: Attaining Water Security in Rural-Nashik, India.</u> doi:10.1007/978-981-16-5501-2\_37.
- 5. ^Aman Srivastava, Leena Khadke, Pennan Chinnasamy. (2021). <u>Web Application Tool for Assessing Groundwater Sustainability—A Case Study in Rural-Maharashtra, India.</u> doi:10.1007/978-3-030-76008-3\_28.
- 6. ^Aman Srivastava, Pennan Chinnasamy. (2021). <u>Developing Village-Level Water Management Plans Against Extreme</u>
  <u>Climatic Events in Maharashtra (India)—A Case Study Approach.</u> doi:10.1007/978-3-030-76008-3\_27.
- 7. ^Aman Srivastava, Pennan Chinnasamy. (2021). <u>Investigating impact of land-use and land cover changes on hydroecological balance using GIS: insights from IIT Bombay, India.</u> SN Appl. Sci., vol. 3 (3). doi:10.1007/s42452-021-04328-7.
- 8. ^Aman Srivastava, Pennan Chinnasamy. (2023). <u>Watershed development interventions for rural water safety, security, and sustainability in semi-arid region of Western-India.</u> Environ Dev Sustain. doi:10.1007/s10668-023-03387-7.
- 9. ^Aman Srivastava, Rajib Maity, Venkappayya R. Desai. (2024). <u>Investigating Spatio-Temporal Trends and Anomalies in Long-Term Meteorological Variables to Determine If Maharashtra is an Emerging Warming State in India.</u>
  doi:10.1007/978-981-99-9610-0\_25.
- 10. ^Aman Srivastava, Shubham Jain, Rajib Maity, Venkappayya R. Desai. (2022). <u>Demystifying artificial intelligence amidst sustainable agricultural water management.</u> doi:10.1016/b978-0-323-91910-4.00002-9.
- 11. ^Ajaykumar Kadam, Rajasekhar M, Bhavana Umrikar, Vijay Bhagat, et al. (2020). Land Suitability Analysis for Afforestation in Semi-arid Watershed of Western Ghat, India: A Groundwater Recharge Perspective. Geology, Ecology, and Landscapes, vol. 5 (2), 136-148. doi:10.1080/24749508.2020.1833643.
- 12. ^Amit Vishwakarma, Ajanta Goswami, Benudhar Pradhan. (2021). <u>Prioritization of sites for Managed Aquifer Recharge in a semi-arid environment in western India using GIS-Based multicriteria evaluation strategy.</u> Groundwater for Sustainable Development, vol. 12, 100501. doi:10.1016/j.gsd.2020.100501.
- 13. ^Anoop Valiya Veettil, Ashok K. Mishra, Timothy R. Green. (2022). Explaining water security indicators using hydrologic and agricultural systems models. Journal of Hydrology, vol. 607, 127463.



doi:10.1016/j.jhydrol.2022.127463.