

Knowledge, Attitudes, and Practices Regarding Treated Wastewater Reuse in Qatari Agriculture: A Validated Questionnaire Study

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Abstract:

This research investigates stakeholder perceptions and understanding of treated wastewater reuse in Qatari agriculture through a mixed-methods approach. Three questionnaires targeting educators, parents, and students underwent rigorous validation, including pilot testing and exploratory factor analysis, resulting in a refined 39-item instrument demonstrating high internal consistency reliability (Cronbach's alpha = 0.925). Inter-rater reliability among professional scorers was also assessed, ensuring data accuracy (kappa = 0.94). Preliminary findings reveal significant knowledge gaps and cultural barriers impeding widespread adoption. This paper explains the solid research method, gives key findings like awareness levels and problems that have been found, and suggests evidence-based ways to create targeted educational interventions and clear communication to support sustainable farming practices that are in line with Qatar's National Food Security Strategy and Vision 2030.

Keywords:

Treated wastewater reuse, Qatar, agriculture, stakeholder perceptions, mixed-methods, questionnaire validation, knowledge gaps, cultural barriers, sustainable agriculture, National Food Security Strategy, Vision 2030, educational interventions, communication strategies.