College of Architecture, Planning & Landscape Architecture

Barriers to Water Conservation in the Southwestern Landscape

Research Poster - SBE Senior Capstone Spring 2022 - Oscar A. Rodriguez Ponce

Introduction

Declining water supplies in the region, coupled with a **high outdoor water use** of ~60% (US EPA, 2019; USGCRP, 2018) put future water availability at risk. **Yet, adoption remains low** for water conserving landscapes. Existing research has found barriers to implementation and recommended some solutions, but there are more obstacles and opportunities to address them.

Results

Uniting design professionals, policymakers, and other **stakeholders is critical** to form a cohesive vision **to advance water conservation** goals, giving place to more favorable regulations.

Methods

Research conducted in **Tucson, AZ,** following a **cross-sectional** research design with **two data collection periods** (Oct. 31 to Nov. 13, 2021 / Feb. 1 to Feb. 22, 2022). Landscape architects, scientists, and ecologists working in Tucson were interviewed. Reviewed literature focused on public policy and public communication.

PREPARATION Develop main questions and send interview invitations to experts → **INTERVIEWS** Conduct semi-structured interviews in-person or online → **ANALYSIS** Extract notes from interviews and compare them to the literature → **RECOMMENDATIONS** Organize recommended solutions for each barrier category

"Rainwater harvesting programs combined with xeriscape regulations and the use of reclaimed water for landscape irrigation have significantly reduced outdoor water use – the larger municipal use in Tucson" (Zuniga-Teran & Tortajada, 2021).

CATEGORY	KEY BARRIERS	SYNTHESIS OF SOLUTIONS
Professional Practice	» Insufficient communication and collaboration	» Interdisciplinary collaboration and public engagement
Political	» Ineffective policies, lack of coordination, and hesitance to explore new solutions	» Innovative and adequate policies, educational programs, and collaborative efforts
Social	» Misinformation and disconnection with nature	» Better educational programs; high-quality green spaces
Economic	» Costs of maintenance and technologies; non-inclusive incentives; material availability	» Effective and fair incentives; set up funds and programs for landscape maintenance

Conclusion

Though there are many barriers to making water conserving landscapes more widespread, there are many opportunities to mitigate them. **Collaboration, education,** and **innovation** are key to increase adoption of water conservation in urban landscapes.

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