Finding Generalized Relationships for the Financial Benefits of Rainwater Harvesting Systems

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Rainwater harvesting can be a powerful tool in combatting water supply problems, but the financial viability of rainwater harvesting systems remains questionable. In this project, we will improve upon preliminary modeling to develop generalized patterns for the best financial viability for rainwater harvesting systems based on the roof area, storage tank size, and daily water use. These general patterns can be used to guide the adoption of the most financially viable rainwater harvesting systems. Our work will improve upon the existing model by incorporating maintenance and operation costs, improving the estimate of the initial cost of the rainwater harvesting system and a comparable alternative stormwater management system, and including expected natural variability in the water demand.

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