Importance of Green Stormwater Infrastructure/Rain Garden in the Pacific Northwest

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Background

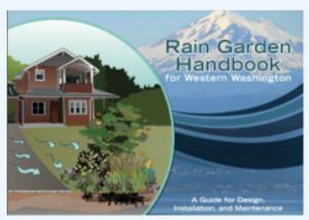
Traditional stormwater management systems often collect rainwater from impervious surfaces like roofs, driveways, and roads, and channel it into storm drains or sewers. This rapid runoff can lead to increased erosion, overloading of sewer systems, and contamination of water bodies with pollutants, what can we do to improve it?

Research Question

What does the rain gardan implementation process look like? How do homeowner perceive the concept and what's their response and consideration?

Internship

- Conducted site visit and design consult with multiple houseowners to design the front garden with hand-drawing and AutoCAD
- Did site maintenance for the elder condomium



Research & Method

- Conducted **10+ Literature**
- **Interviewed** a professional from the public agency 700 gallon million, a designer from homegrown organic and 3 household owners
- **Case study with**

Seattle Public Utilities Be RainWise Manage your rain water at home

Finding & Result

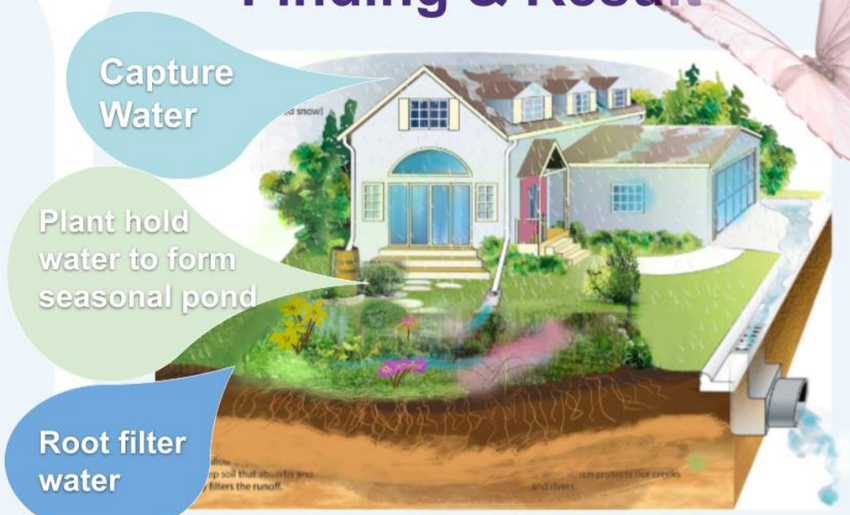


Figure 1: General Overview of the rain garden

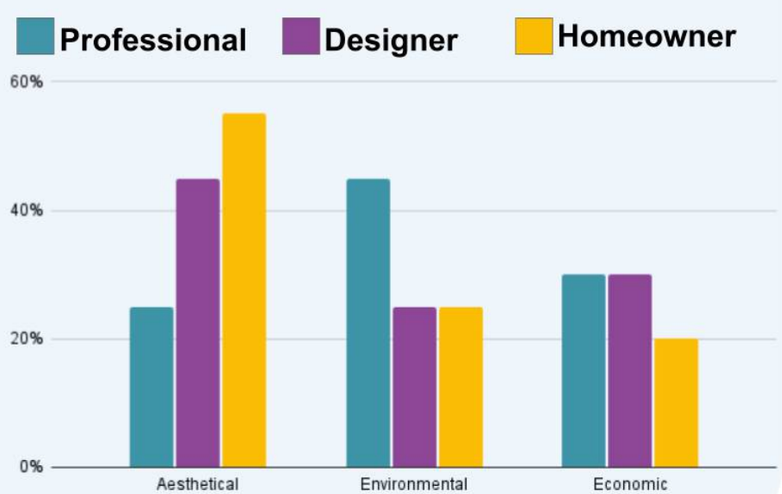


Figure 2: Collected interview data that is being categorized into 3 categories

Implication

With the interview and talk to the client face-to-face, benefits are:

- **Aesthetical Value:**
  - Zones of various plants
  - Increase biodiversity and habitat, such as attracting pollinator species
- **Environmental Value:**
  - Climate Change Mitigation
  - Removal of Pollutants Management with better soil
- **Economic Value:**
  - Raise neighborhood/house value
  - Less amount of water utility bill

1 rain garden can absorb up to 30,000 gallons of water per year can fill an Olympic-sized swimming pool.

Acknowledgement

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