



February 2, 2024

FINAL PITCHING

**GEORGETOWN WATER
RESILIENCE ACTION**

RAINWATER HARVESTING SYSTEM

Oceanic UTM



Abila Hena Anayet



Teng Zheng Yi




Tan Yi Hao

GEORGETOWN AND WATER

GEORGETOWN

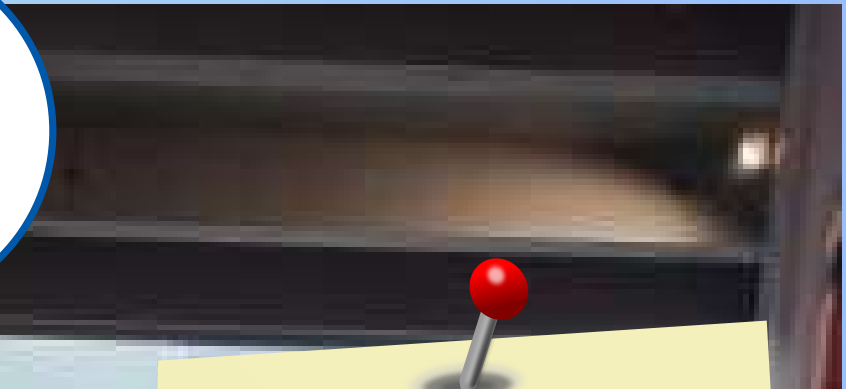
Malaysia's second largest metropolitan area with a population of 2.84 million and the second highest contributor to the country's GDP



Frequent flooding due to poor drainage

Who are affected?

- Residential Community
- Local Businesses



Empowering Communities, Ensuring Resilience



“
Our vision is a Georgetown where rainwater becomes a solution, not a problem
”

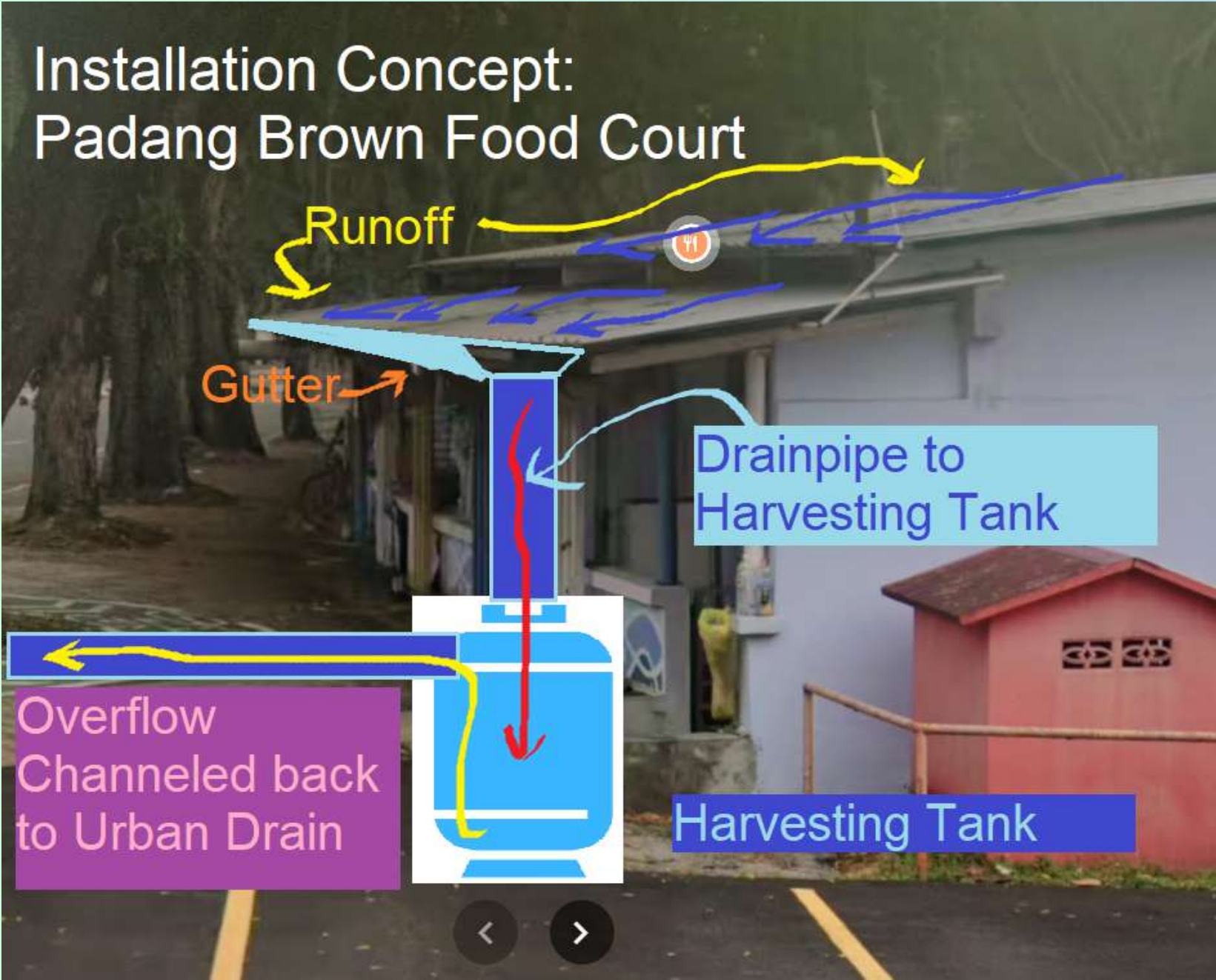


- Our Objective:
- Mitigate flooding risks during heavy rainfall.
 - Address water scarcity issues through sustainable alternatives.
 - Empower communities for long-term resilience.



Innovative Solutions for Urban Resilience

Installation of Rainwater Harvesting Systems in key areas.



Community engagement for widespread adoption and sustainability.



Collaboration with local authorities and organizations.

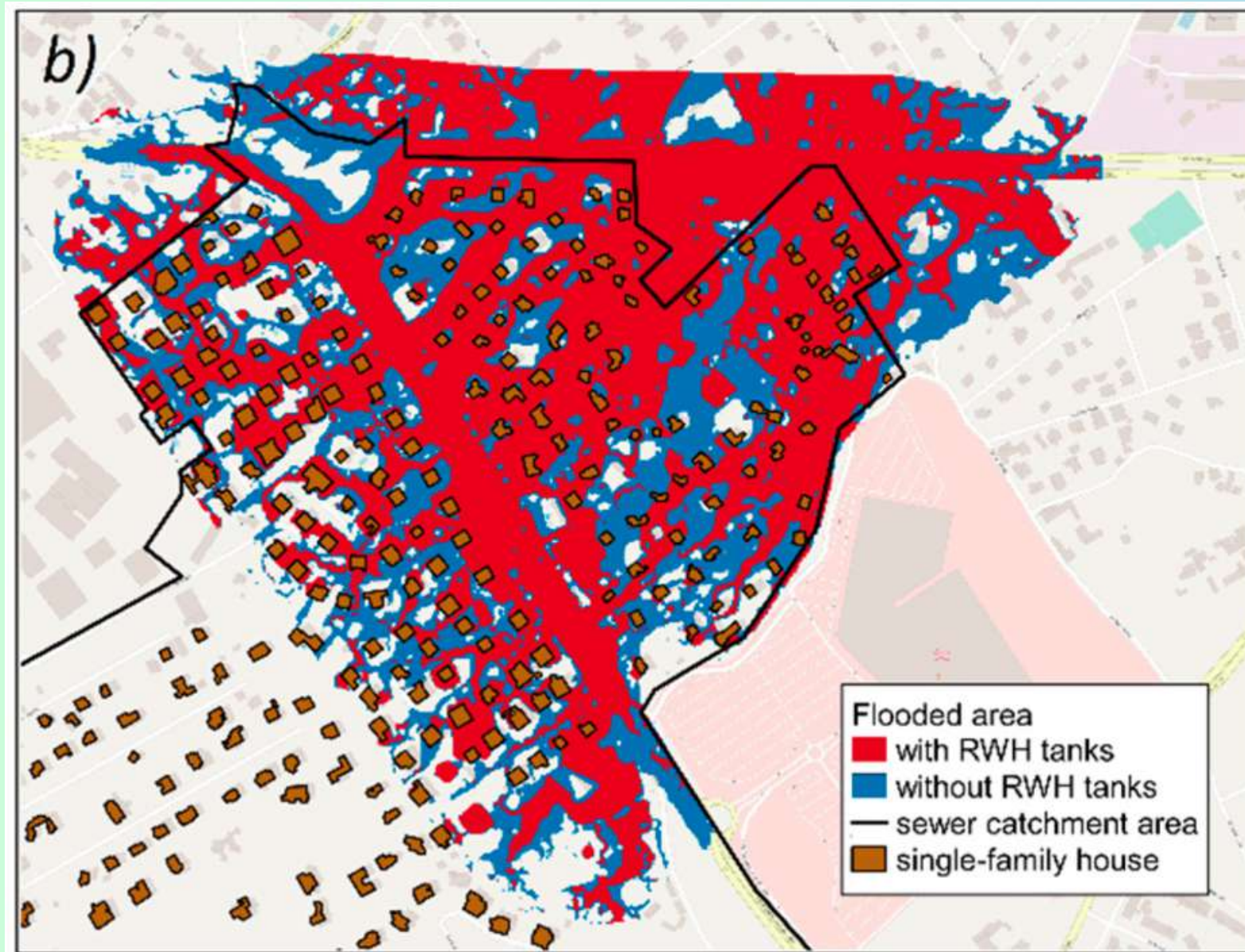


Expected Outcome and Impacts

- Reduced flooding, protecting homes and businesses.



Notice how much Red Flood Area is smaller than Blue Flood Area!



- Increased water availability during dry periods



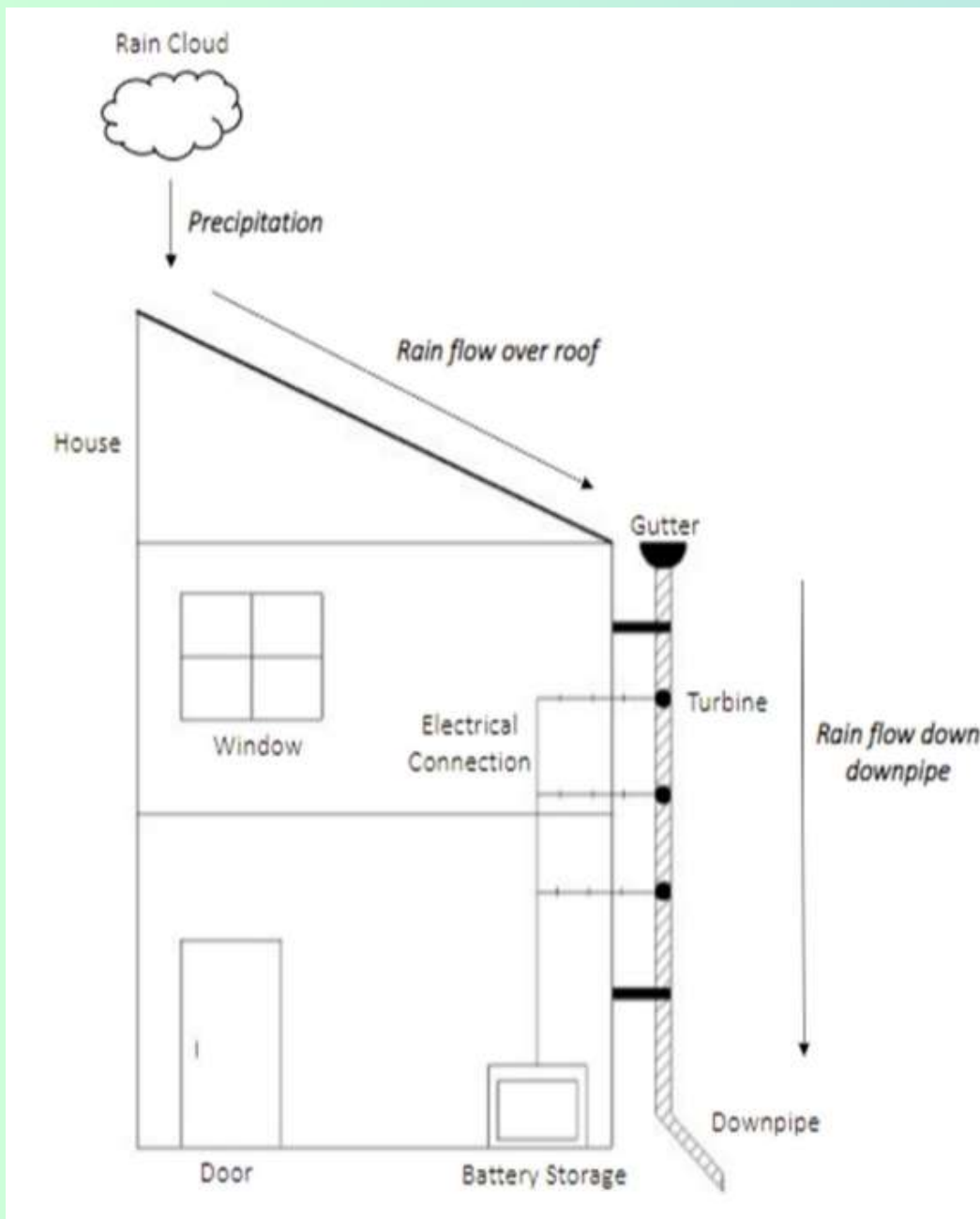
- Preservation of traditional water sources



Tomorrow's Horizons: Exploring Future Possibilities

Innovative Approach: Micro-Hydro Turbines (MHT)

- Utilization of kinetic energy from falling raindrops for electricity generation
- Integration into rooftop rainwater energy-collecting systems



Main Benefits:

- Fuel-free power source.
- Minimal environmental impact during installation compared to large hydro.
- Renewable energy, aiding in greenhouse gas reduction.
- Consistent generation over extended periods unlike wind and solar.
- Long system lifetime (25+ years) with low maintenance and running costs.

The Pilot Project

CONCEPT

Implementing affordable rainwater harvesting system applicable to residents with high water demand to exemplify maximising water usage with low investment.

SCOPE

Suitable site for rainwater harvesting installation will be:

Commercial Area



Public Spaces



Strategic Area



OBJECTIVES

Assess feasibility



Identify potential challenges



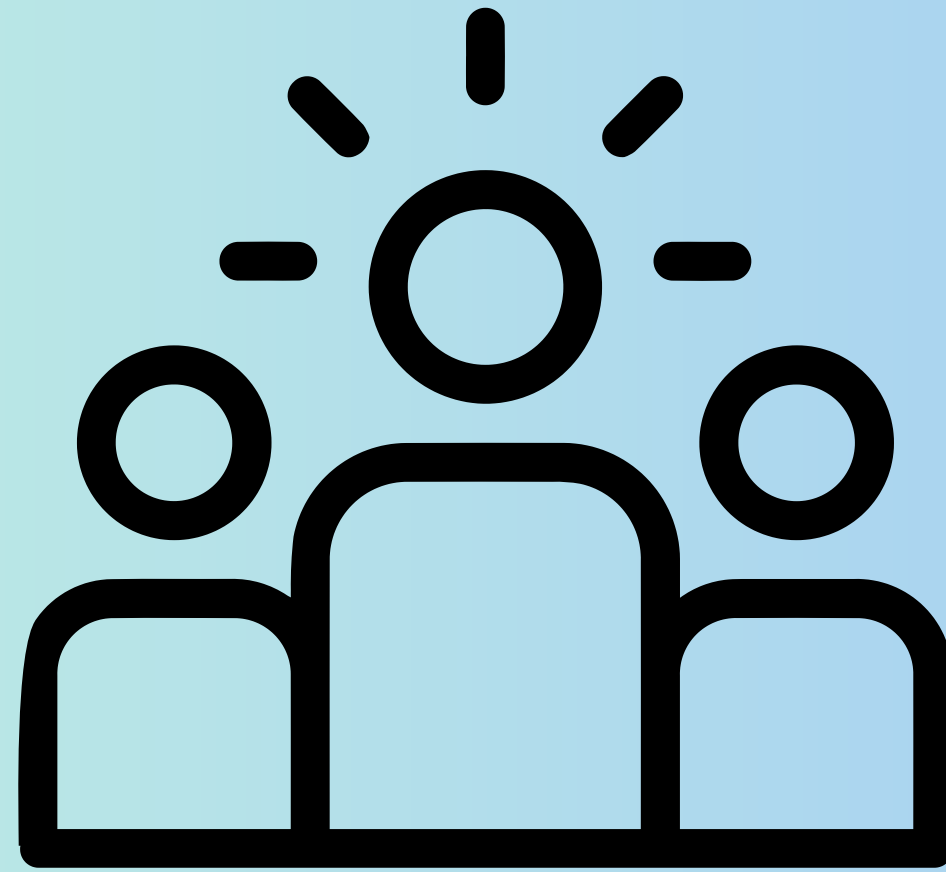
Prepare for broader implementation



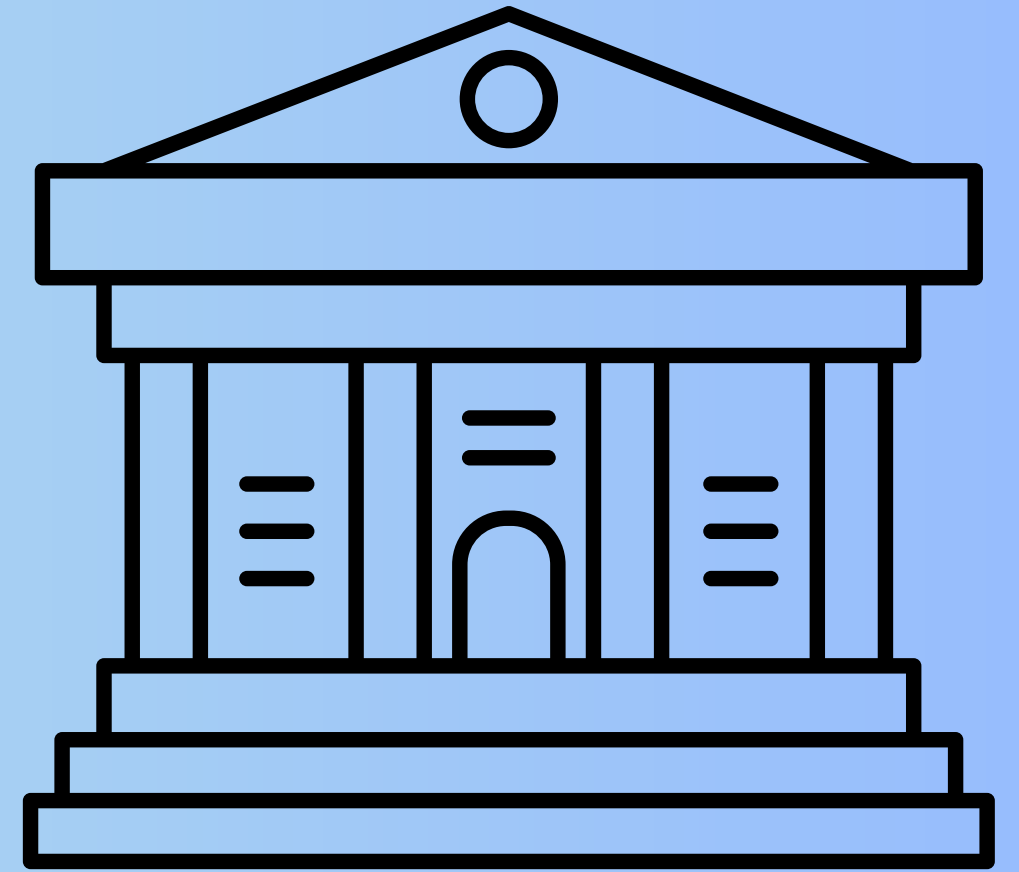
Stakeholder Mapping



Resident



**Community
Leader**



Local Authority

Timeline

WEEK 1-2

COMMUNITY ENGAGEMENT AND SITE ASSESSMENT

- Engage community leaders and residents.
- Conduct workshops to introduce the project.
- Identify suitable locations for installation



WEEK 5-6

MONITORING, EVALUATION, AND FEEDBACK

- Establish monitoring protocols for rainwater harvesting
- Evaluate the performance of the system
- Collect feedback from residents and stakeholders.
- Record the impact of project into report



WEEK 2-3

COLLABORATIVE PLANNING AND DESIGN

- Facilitate participatory design workshops with stakeholders.
- Develop a simple rainwater harvesting design.
- Obtain community feedback and approval.



WEEK 3-4

MATERIAL PROCUREMENT AND SITE PREPARATION

- Estimate material requirements and costs.
- Procure materials for rainwater harvesting systems, educational signage.



WEEK 4-5

INSTALLATION AND EDUCATIONAL OUTREACH

- Install rainwater harvesting systems
- Place educational signage in visible locations.
- Conduct community workshops and guided tours.



Budget

Site Visit and Engagement:

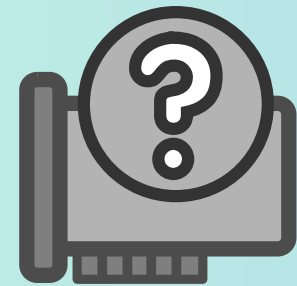


\$200



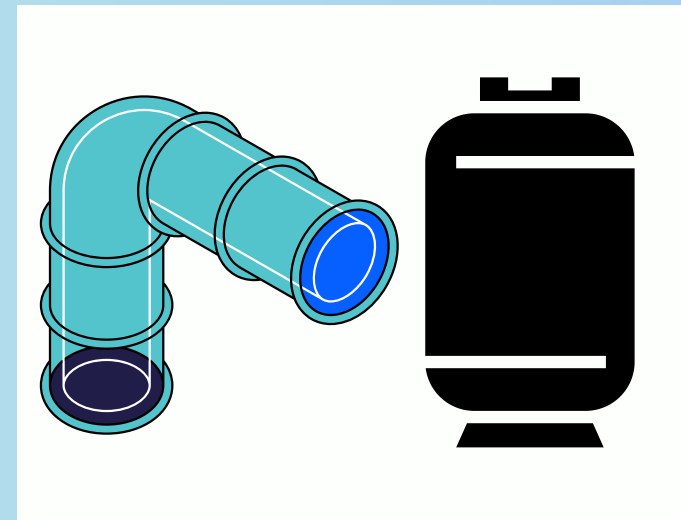
\$100

Miscellaneous and
unforeseen
expenses



\$100

Build and Implement Pilot Project:



\$300



\$200



\$100

Total Budget: \$1,000

Towards a Sustainable Georgetown: Our Rainwater Harvesting Journey



Community



Sustainability



Join Us!