Economic Sustainability of a Community Water System in Southern Haiti
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Humphrey School of Public Affairs

- Lived and worked in Haiti in 2014 and 2015
- Undergraduate degree in Political Science & International Relations
- Want to specialize in community development
- Acara Changemakers Lab
Grand-Goâve, Haiti

- Ouest Department of Southwestern Haiti
- 90% of the infrastructure destroyed in the 2010 earthquake
- Population between 4,000-6,000
- 48 km outside of Port-au-Prince
Water issues in Haiti

“55.2 percent of the population has access to an improved water source, while close to 70 percent does not have direct access to potable water”

“where waterborne illnesses, such as typhoid, cholera, and chronic diarrhea, are the cause of more than half of the deaths in the country every year”
“No other country in the world has more NGOs per capita... Many Haitians ironically refer to their country as a “republic of NGOs.”

“In bad times it is much more difficult for even the most generous of our donors to provide their usual support. Unfortunately for some of us, the bad times are exactly when our services are needed most and consequently we need more money to run them.”
Partnership and History

- Began working with Tree of Hope Haiti (TOHH) in 2014
- Awarded the Kathryn W. Davis Foundation Projects for Peace grant ($10,000) in May of 2015
- $10,000 was used to build a water storage and filtration system holding ~ 2,000 gallons
- The water system currently serves 250-400 people per day
What is the problem?
SUSTAINABILITY

- Dependence on international donations
- Costly equipment needing repairs
- Lack of community investment
Annual Operating Cost of Water System

New Water Filters: $292
Water Pump: $1,000
Miscellaneous: $100
Average Annual Cost: $1,392
Step 1: Conduct a Survey

- 7 days onsite, employing Haitian surveyors
- Data: water quantity, travel periods, and water treatment methods
- Willingness to Pay for water delivery
- Possible income generators: vegetables grown on site or a water delivery system
- IRB is pending
The Survey

- Questions adapted from DHS (Demographic and Health Surveys) data and willingness to pay projects previously conducted in Haiti

- Asks feasibility and willingness to pay about the income generators for TOHH
Step 2: Implementing Income Program

Developed in partnership with TOHH and use examples of other successful programs

#1 TOHH selling produce from a community garden
#2 TOHH providing a water delivery system

Current resources, pricing plans, cost, and feasibility were taken into consideration
Community Garden

- WFP reports that 50% of Haitians are malnourished.
- Lack of capital (land, water, funds) stops most people from being able to grow their own food.
- Produce will be sold to fund water project upkeep.
- If each item is priced at 15 gourdes (.18 USD) to reach $300 first year goal = 138 units a month (about 4 sales per day).
Water Delivery System

- “Drop points” will be created due to people’s marking of their residence on the map
- 10 gallons (2 buckets) can be delivered for 100 gourdes a month (1.2 USD)
- TOHH has 2 ATV’s to aid in the delivery
- To reach year one revenue of $300 = 21 customers
Community Garden Partner

Offering financial and technical support to a wide variety of public food garden projects.
Project Advisors

Professor Audrey Dorélien
Professor Angela Fertig
## Pilot Project Budget

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost</th>
<th>Number of Units</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Surveyor Salaries and Food</td>
<td>$75</td>
<td>2</td>
<td>$150</td>
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<tr>
<td>Student Housing, Transportation, and Food</td>
<td>$575</td>
<td>2</td>
<td>$1,150</td>
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<tr>
<td>Student Flight</td>
<td>$800</td>
<td>2</td>
<td>$1,600</td>
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<tr>
<td>Misc. Research Materials</td>
<td>$200</td>
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<td>$200</td>
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<td>Survey Thanks</td>
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<td>500</td>
<td>$250</td>
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<td>Materials for Project Follow-up</td>
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<td>$2,000</td>
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<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>$5,350</strong></td>
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## Projected Funding

<table>
<thead>
<tr>
<th>Year</th>
<th>Funding and/or Donations + Fund Balance*</th>
<th>Labor Cost (annual)</th>
<th>Maintenance and Supplies (annual)</th>
<th>Revenue</th>
<th>Fund Balance</th>
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</thead>
<tbody>
<tr>
<td>Year 1</td>
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</table>

*Adjusted from Venture Plan due to change in exchange rate and household incomes from riots and political unrest in the past 2 weeks.
August 2019: Survey Implementation and Data Collection

Fall 2019: Compile Data Work with TOHH to begin project outline

January 2020: Implement Project

July 2020: 6 Month formal evaluation with TOHH

TOHH SUSTAINABILITY
Questions?