Illinois Institute of Technology
EnPRO 355
The Catalyst for Sustainable Health and Economic Development
Presented by: Amanda Gilliam, Olumide Ogunsanwo, Seun Craig and Daniel Young
5 million people die annually due to water-born, water-based, and water-related diseases

3.5 billion treatable episodes each year

A child dies every 8 seconds from consuming contaminated water

¼ of the human population is without access to potable water
AVAILABLE ALTERNATIVES

Large-Scale Infrastructures
• High initial and maintenance cost
• Difficult to sustain

Bottled Water
• High cost
• Inconsistent availability in rural areas

Sand/Bio-filters or Chlorination
• High tech
• High initial and maintenance costs
An innovative water purification system

- Durable
- Flexible
- Decentralized
- Sustainable
- Relevant
- User-Friendly
- Self-Contained
- Affordable
# Estimated Unit Costs

<table>
<thead>
<tr>
<th>FILTER ELEMENTS</th>
<th>US ($)</th>
<th>MEX (pesos)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ceramic bowl and discs</td>
<td>1.72</td>
<td>19</td>
</tr>
<tr>
<td>Colloidal Silver</td>
<td>1.18</td>
<td>13</td>
</tr>
<tr>
<td>Plastic casing and cones</td>
<td>1.90</td>
<td>21</td>
</tr>
<tr>
<td>5-gallon bucket</td>
<td>3.45</td>
<td>38</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$8.25</strong></td>
<td><strong>91 pesos</strong></td>
</tr>
</tbody>
</table>
COST ANALYSIS

Water Cost Variation

-100
100
300
500
700
900
1100

1 2 3 4 5 2 104 156 208 260

Weeks
Pesos
KlarAqua Bottled Water Maximum Bottled Water Minimum
- 5-gallon bucket
- Plastic filter housing
- 2 plastic cones
- 3 ceramic filters
- Spigot
- Cloth cover
Average flow rate: 1L/ hour

Bacterial removal: High, further testing required
MARKETING STRATEGY

Low-cost, Low-tech, Cultural Relevance, Educational

Written
- Brochures
- Billboards

Entertainment
- Engaging presentations
- Use novelty to attract customers

Word of Mouth
- Local success stories
- Local opinion leaders
FUNDING STRATEGY

Grants

• Received
  • National Collegiate Inventors and Innovators Alliance (NCIIA): $16,000
  • Idea To Product Competition: $15,000

• Pending
  • P3 (People, Prosperity and Planet) Award: $10,000
  • Tech Museum Award: $50,000

Partnerships

• Conferences and networking
  • Website development
  • Partnerships with governments and NGO’s
• Improved health
  • Higher quality of life
  • Increased work efficiency
  • Reduced health care expenses

• Local economic development
  • Income generating potential for artisans
  • Profits stay in the community

• Empowering agent
  • Provides educational resources
  • Gives consumers a choice
Education
- Resistance to new ideas
- Logistics

Relevancy
- Cultural sensitivity

Trust
- Foreign ideas, practices and information
- Local leaders, local success stories
FUTURE PROGRESSION

- More bacterial testing
- Removal of multiple contaminants
- Educational programs
- Training seminars
- Full scale working prototype
- Subsidization possibility
- Pilot studies
NOT JUST A PRODUCT,
IT’S A SERVICE.

WATER PURIFICATION...ONE DROP AT A TIME