Diarrheal Outbreaks in Kiribati

- Kiribati - small island nation in the Pacific
  - Tanaea village is located in Tarawa, Gilbert Islands, Kiribati
- Kiribati suffers repeated diarrhea outbreaks, many caused by rotavirus
- Rotavirus affects nearly every child under the age of 5 years
- 65% mortality rate for children under 5 due to the prevalence of diarrheal diseases in Kiribati
- Rotavirus is the leading cause of severe, dehydrating diarrhoea among infants

Rates of Open Defecation Across Villages and Cities of Kiribati

<table>
<thead>
<tr>
<th>Rate of Open Defecation (%)</th>
<th>Kiribati's cities and villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>Tanaea (red) has a 100% open defecation rate due to the slow rate of sanitation progress within the Pacific, its remote location, and ingrained cultural norms.</td>
</tr>
</tbody>
</table>

Sea levels surrounding Kiribati are rising at 3 times the global average per year, depleting already limited freshwater resources.

### Elevate Composting Latrines in Tanaea, Kiribati

**Donna Murillo (BME), Travis Wold (ME), Cynthia Teng (Undeclared), Xavier Alexander Hines-Coombs (RBE)**

**Assessment Plan**

I. **Community Curriculum**
   A. Check after a year to ensure curriculum is followed through.
   B. Science & engineering of this system, implementation of the design, and maintenance.

II. **Personal Hygiene Curriculum in Tanaea Schools**
   A. Elementary schools will only focus on basic hygiene education and connection between open defecation and disease.
   B. How to start build and how to repair damages.

III. **Elevated Composting Latrines**
   A. Evaluate the use and maintenance of the latrines after 1 year of use.
   B. What work/repairs are required and what design alterations need to be considered; other interventions, if needed, to encourage use.

IV. **Educating Community Members**
   A. Annually track the progress of each of our education initiatives.

### Training and Education

- Education projects in Kiribati
  - Education on basic hygiene knowledge for the community in order to help them realize the connection between open defecation and disease.
  - Training sessions for community members on how to build and maintain the latrines once they are built.

### Cost

Each system costs only $72

![Image of a composting latrine diagram]

![Image of a chart showing rates of open defecation in Kiribati]

![Image of a chart showing sea levels rise around Kiribati]