

D-lab Peru 2010

Trip Leaders: Patricia Pina and Lisa Tacoronte

Team Members: Dorothy Brown, Cory Smith, and five anonymous MIT students

Two Regions: Amazonas and Amparaes

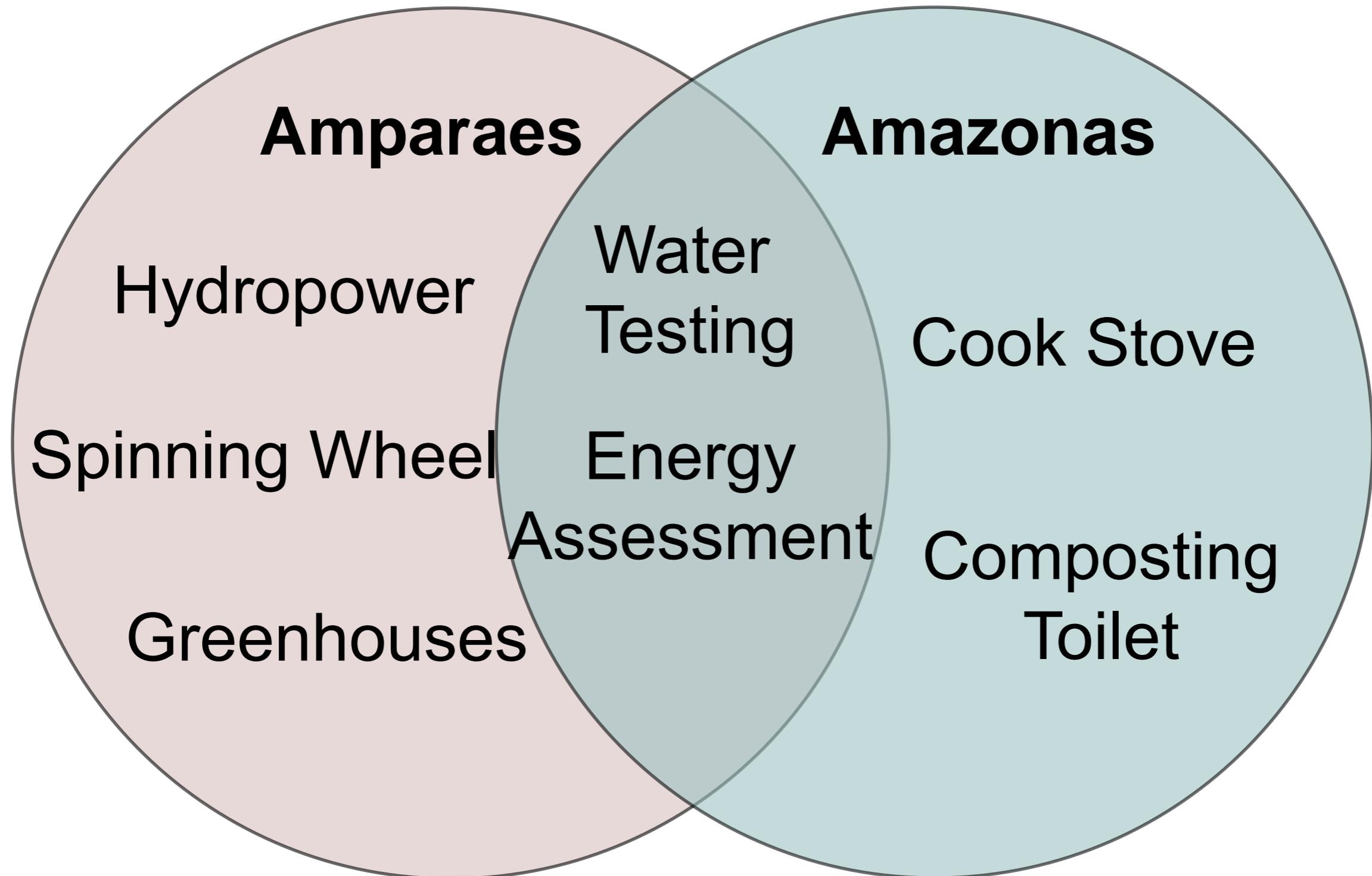


**Amazonas:
Nuevo Israel
Comandancia
Santo**

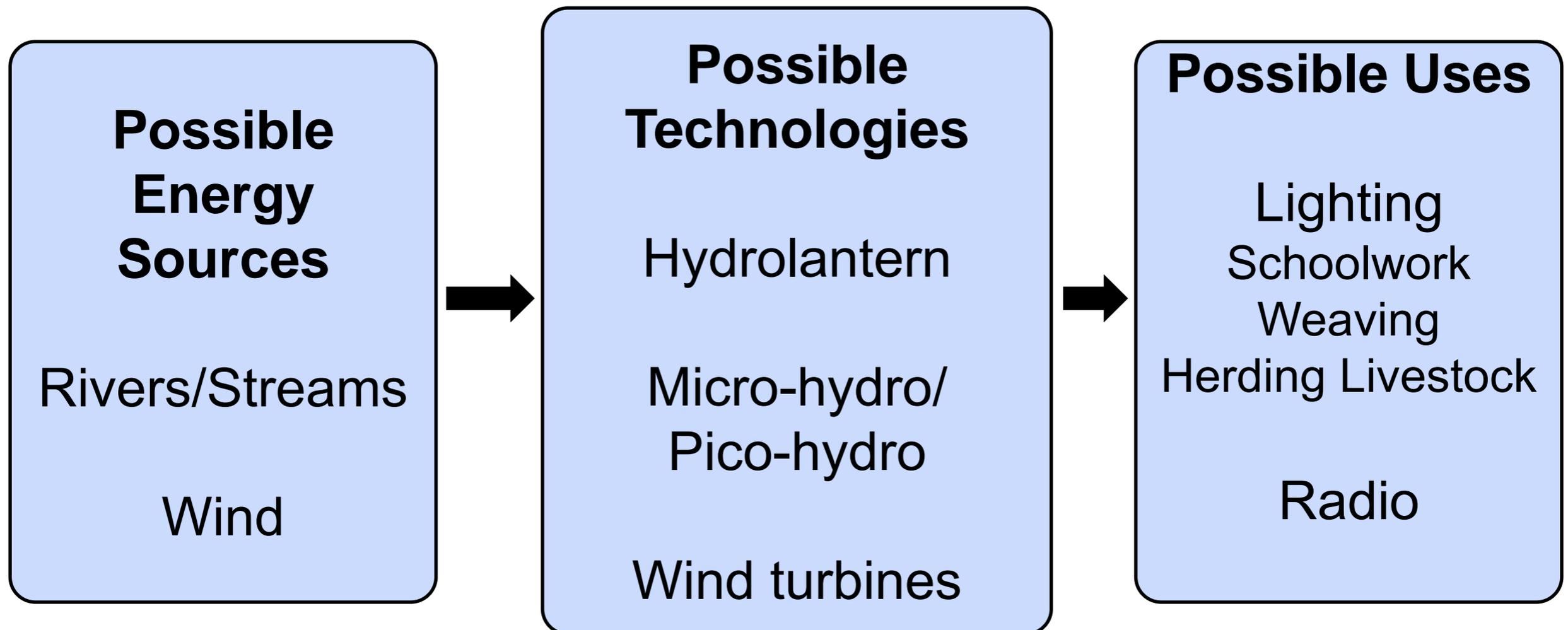
Amparaes

Country map: public domain (Source CIA)
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Overview of Projects



Energy Assessment



Water Testing and Treatment

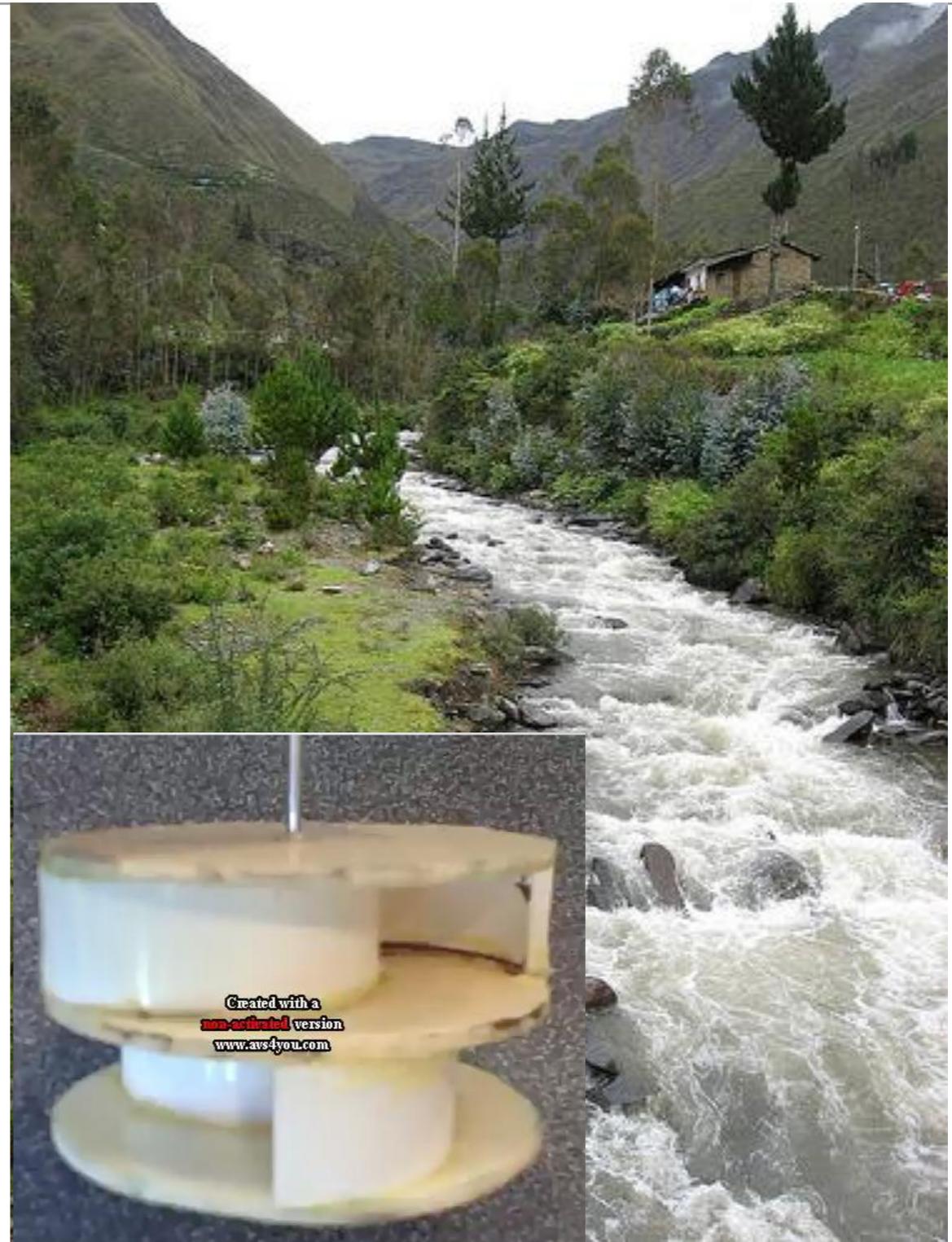
- Fecal, microbial contamination of water
- Test water to determine extent
- Water tests to show treatment efficacy
- Work with community to find most amenable treatment method



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Project Hydropower (Amparaes)

- Energy Assessment
 - What scale is appropriate?
 - Flow Rates, Head, Velocity of Streams
 - User preferences
- Prototype
 - Hydropowered lantern
 - Portable, individual units
 - Trying different design



Greenhouses (Amparaes)

- Add crops with high nutritional value
- Built using locally available, affordable materials and skills
- Current concerns
 - Communal vs. Family-owned
 - Locally available fertilizer?
 - De-assembly
 - Government-provided plastic, or alternative source?
- Building over Thanksgiving break, come join if you like!



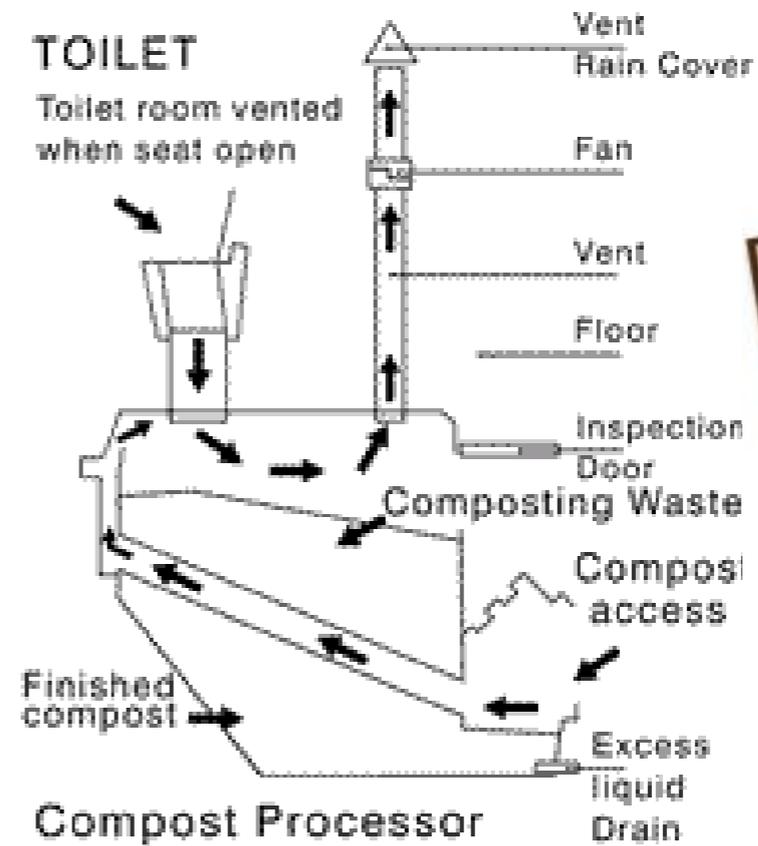
Spinning Wheel (Amparaes)

- Community Needs:
 - Faster Method
 - Same Wool Thread Results (Tight thread)
- Project Goals:
 - Purchase Spinning Wheel
 - Get Feedback on Design
 - Replicate Spinning Wheel



Composting Toilet (Amazonas)

- Goals:
 - Manage human waste
 - Create Fertilizer
 - Prevent Spread of Disease
- Issues to be addressed:
 - Safety of composted material
 - Inexpensive, nonintrusive design
 - Marketability and usefulness



Efficient Cookstoves (Amazonas)

- Current Situation: Use wooden platforms with clay lining (open flame)
- Design Considerations:
 - Humid climate in the Amazon
 - Families move every 5-6 years
 - Large amounts of clay available
- Possible Solutions
 - Portable clay stove design
 - Insulative Combustion Chamber
 - Alternatives: Concrete mixture or bricks



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