

# D-lab Peru 2010

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**Trip Leaders:** Patricia Pina and Lisa Tacoronte

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

# Two Regions: Amazonas and Amparaes



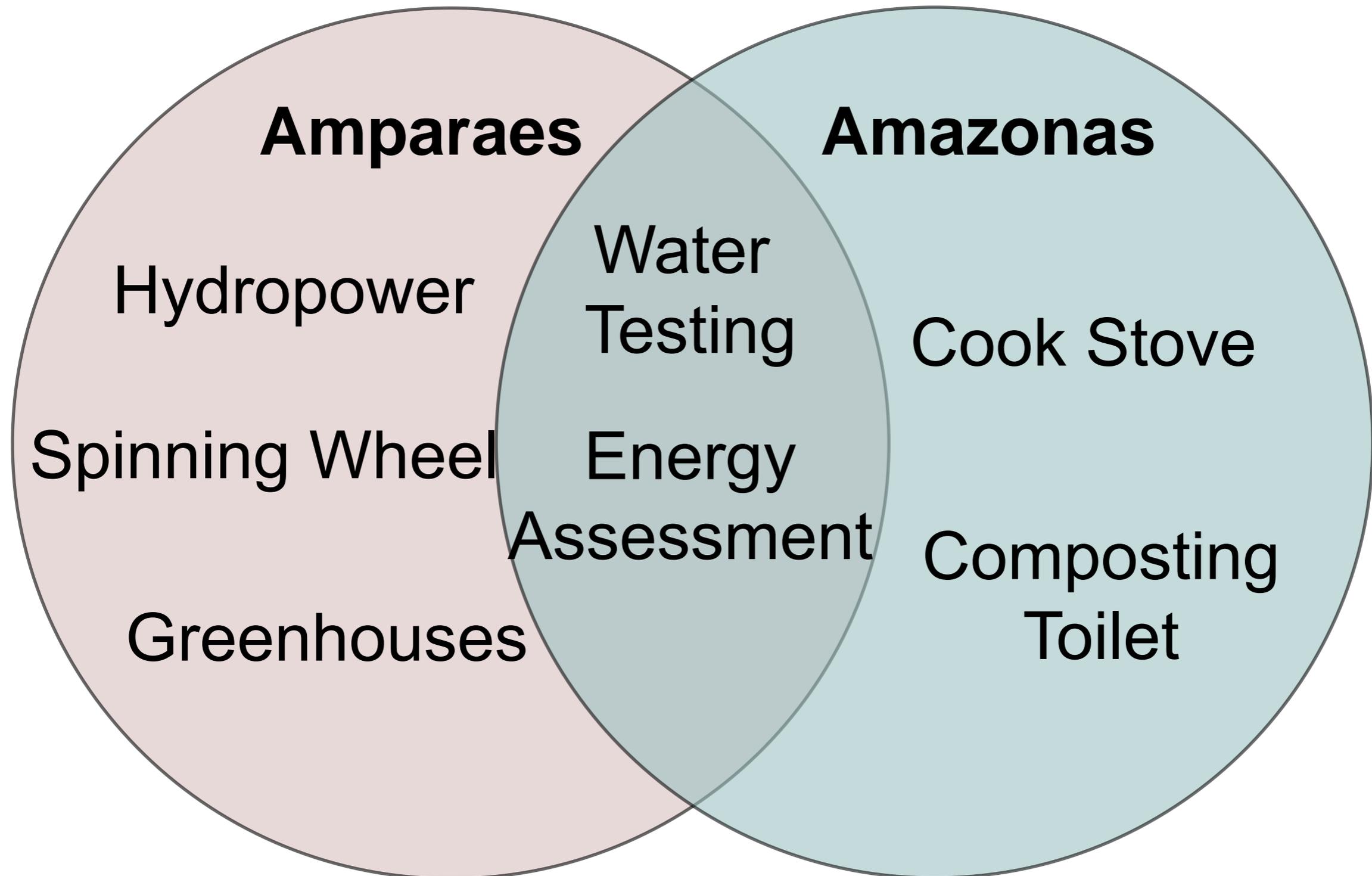
**Amazonas:  
Nuevo Israel  
Comandancia  
Santo**

**Amparaes**

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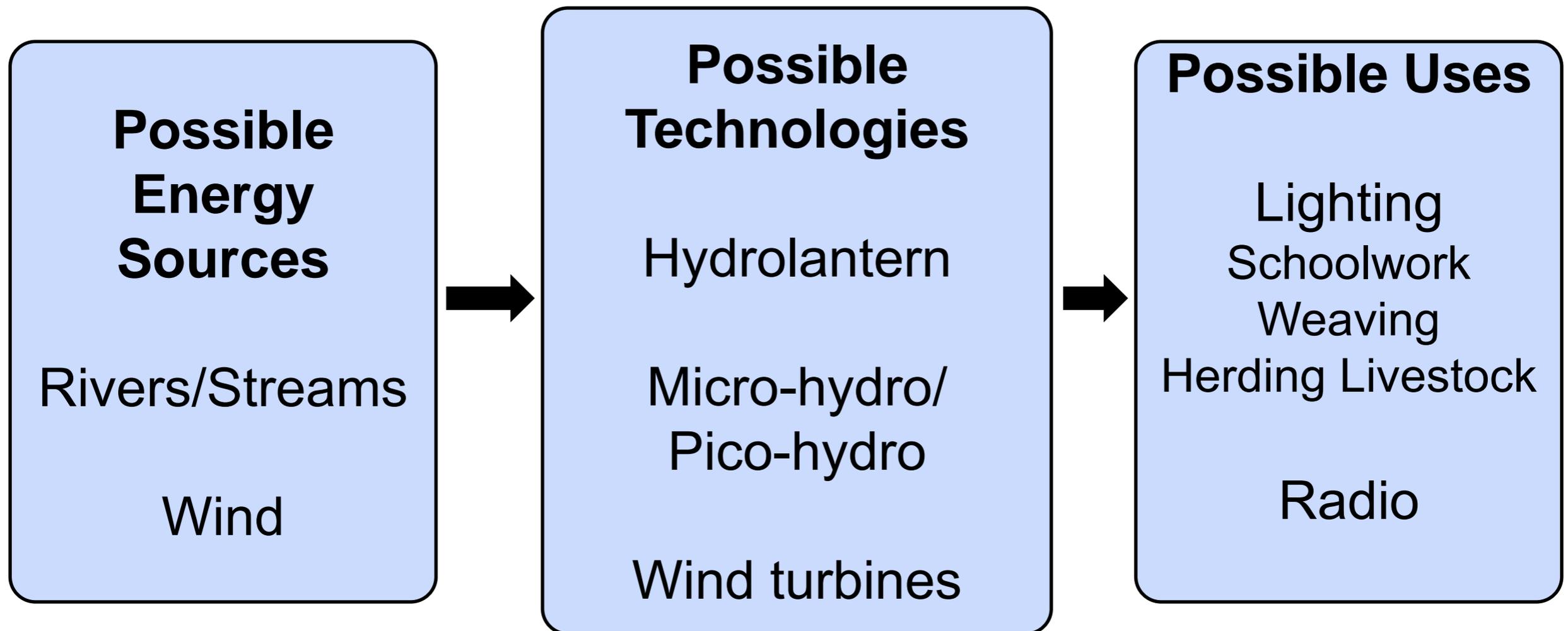
# Overview of Projects

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# Energy Assessment

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# Water Testing and Treatment

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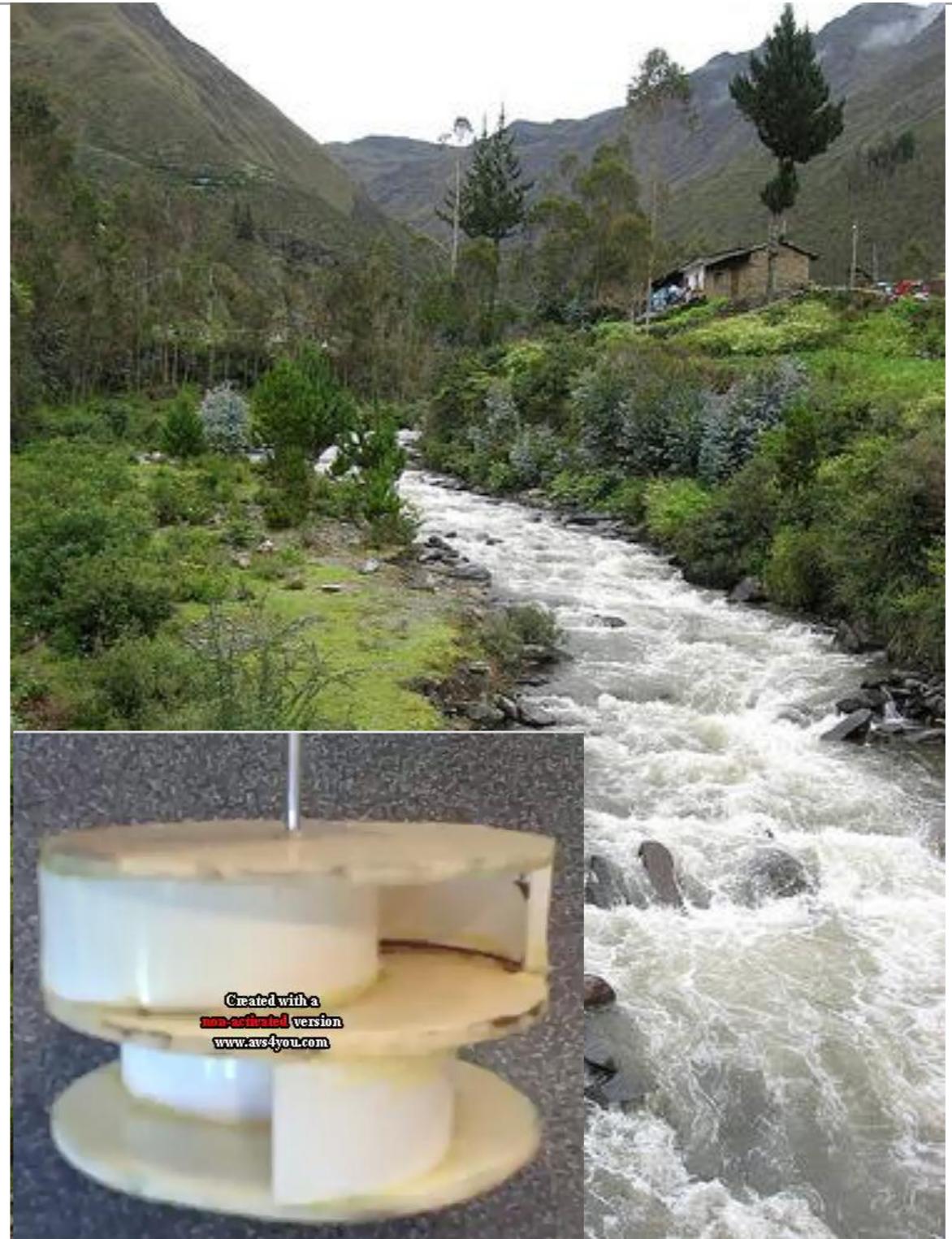
- Fecal, microbial contamination of water
- Test water to determine extent
- Water tests to show treatment efficacy
- Work with community to find most amenable treatment method



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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!



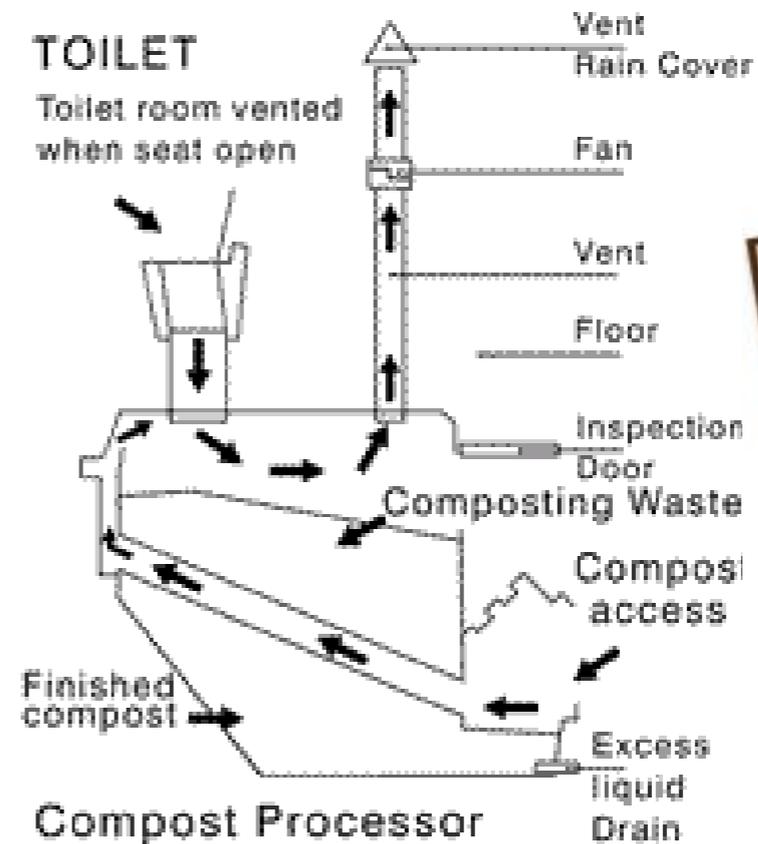
# Spinning Wheel (Amparaes)

- 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)

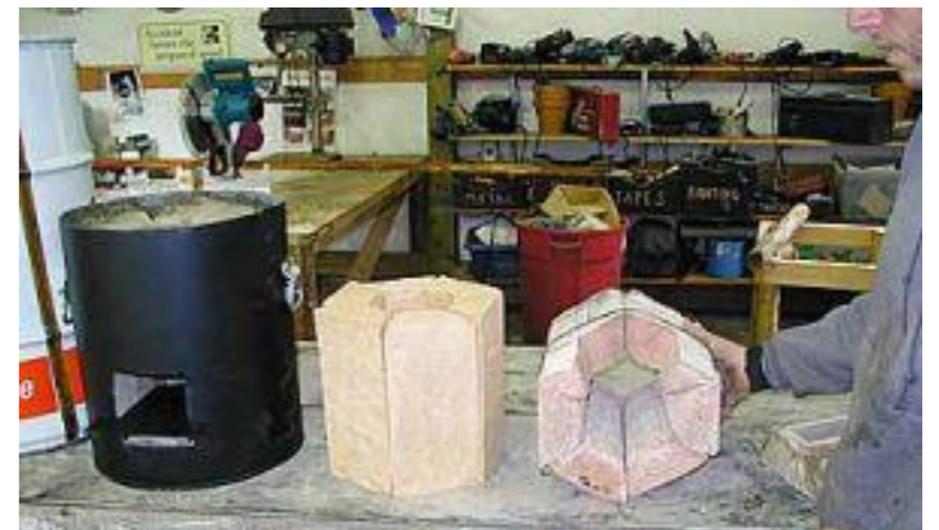
- Goals:
  - Manage human waste
  - Create Fertilizer
  - Prevent Spread of Disease
- Issues to be addressed:
  - Safety of composted material
  - Inexpensive, nonintrusive design
  - Marketability and usefulness



# Efficient Cookstoves (Amazonas)

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- 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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