Investigation of Stove Performance in Households in Southwestern Uganda

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In collaboration with:
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Millennium Promise
Goals of Stove Testing

• Test stoves in conditions as close to actual conditions as possible to quantify fuel savings
• Gather qualitative information about stove usability

• Testing two stoves in Ruhiira, Uganda:
  - Ugastove, manufactured in Kampala, Uganda
  - StoveTec, manufactured in China
Methods

• Controlled Cooking Test conducted in actual homes
  Test all three stoves (3-stone, Ugastove, StoveTec) simultaneously
  30 households, 2 tests per HH; 60 triplet tests total
• Measuring specific fuel consumption: weight of wood used per weight of food cooked
• Qualitative survey to understand the usability of the stoves and stove preference
kg of fuelwood / kg of food vs kg of food

- 3-stone
- Ugastove
- StoveTec
Percentage Savings in Specific Fuel Consumption (kg of fuelwood / kg of food) Compared to 3-Stone Fire

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<thead>
<tr>
<th></th>
<th>Ugastove</th>
<th>StoveTec</th>
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<tbody>
<tr>
<td>Savings</td>
<td>46%</td>
<td>38%</td>
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Percentage Increase in Cooking Time Compared to 3-Stone Fire

- Ugastove: 27%
- StoveTec: 5%
Rank stoves in order of preference

- StoveTec: 100%
- Ugastove: 50%
- 3-stone: 40%

Legend:
- Blue: First
- Red: Second
- Green: Third
User preference survey results

Ugastove
- Likes:
  - Uses less firewood
  - Emits less smoke
- Dislikes:
  - Takes more time
  - Difficult to light
  - Surface gets hot; difficult to remove saucepan
  - Difficult to move; handles get hot
  - Stove is too tall

StoveTec
- Likes:
  - Uses less firewood
  - Cooks food quickly
- Dislikes:
  - No complaint
  - Difficult to light
  - Not stable; easy to tip over
Lessons Learned

• Stove usability is equally or more important than the fuel savings of the stove; if the stove does not meet the users needs, it will not be used and thus has no benefit

• Important to test stoves in households with an understanding of common cooking tasks in region
Future Plans and Goals

• Expanded trial in which ~400 stoves are sold through local vendors / cooperative

• Investigation of potential to include carbon credits (VERs) as partial financial support for stove programs
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