Lessons from Practice - Wood Gassifier Stoves as a cooking solution in Sri Lanka

Regional workshop on Women, Energy and Enterprise Building
Session II – Lessons from Practice – Cooking Solutions
WISER : USAID / SARI/E : Tetratc / EMA Kerala
Travancore Heritage, Chowara, Trivandrum, Kerala, India

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Background

• 88% H/Hs cook with biomass
• 90% energy in kitchen is biomass
• Anagi stove was a solution
• Forced draft stove introduced (NERD)
• Had scopes for improvement
• Natural draft WGS conceived (NERD)
Product Idea

- Energy crisis / Firewood shortage
- D’forestation / Emissions (Environment)
- Drudgery (time, efforts, water, surroundings)
- Social status/ Convenience (modern cook)
- Beyond forced draft WGS (technology/innovation)
Technology Cycle

- Research / Technology completion
- Prototypes → Drawings
- Field trials → Improvements
- Finalised product
- Manuals → Advertisement
- Training / Technology Tfr / Licenses
- Launch / Publicity / Marketing
Production

- 19 licensees / Across SL
- Medium & small entrepreneurs
- WGS is one among many products
- Production Area / Unit Production
- Material from Colombo / Town
- Product modifications done
Marketing - Product

- Producer gas
- Top burn
- Small chips (supplementary good)
- Natural draft
- Stainless Steel / Clay Insulator
- 600 g fuel / 40 minutes burn
Marketing - Price

- Upto Rs 3,750
- Esti. Cost upto Rs 3,000
- Most expensive stove
- Substantial % (58% of mean family income)
- Inferior-normal good (Energy Ladder)
## Market prices of single burner or equivalent stoves in Sri Lanka (2010)

<table>
<thead>
<tr>
<th>#</th>
<th>Stove (Single burner or equivalent)</th>
<th>Market Price (LKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clay stove</td>
<td>125</td>
</tr>
<tr>
<td>2</td>
<td>Hot plate (with coil and base)</td>
<td>625</td>
</tr>
<tr>
<td>3</td>
<td>Liquefied Petroleum (LP) gas stove</td>
<td>1,450</td>
</tr>
<tr>
<td>4</td>
<td>Kerosene cooker</td>
<td>2,000</td>
</tr>
<tr>
<td>5</td>
<td>Electric Cooker</td>
<td>2,200</td>
</tr>
<tr>
<td>6</td>
<td>Wood Gassifier Stove</td>
<td>3,750</td>
</tr>
</tbody>
</table>
# Market prices of common fuels used for domestic cooking in Sri Lanka (2010)

<table>
<thead>
<tr>
<th></th>
<th>Fuel</th>
<th>Typical price (LKR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Fuel wood (Rubber fuelwood -including transport upto door step)</td>
<td>8 / kg</td>
</tr>
<tr>
<td>2</td>
<td>Electricity (for total cumulative monthly consumption of over 120 kWh)</td>
<td>16/ kWh</td>
</tr>
<tr>
<td>3</td>
<td>LP gas (domestic cylinder of 12.5 kg and excluding transport)</td>
<td>132 / kg</td>
</tr>
<tr>
<td>4</td>
<td>Kerosene (at the petroleum distribution sheds)</td>
<td>51 / litre</td>
</tr>
</tbody>
</table>
Marketing - Place

- Own W/S or sales outlets
- Personal Selling
- With other products / sales
- Closer shops / Other’s Outlets
- IDB Sales Centre
Marketing - Promotion

- Demonstrations / Posters
- Welfare Soc installment schemes
- NERD (+others) promotions
- Packaging (Spectra△)
- Presentations / Word of Mouth
- Vidatha Centres/ Other Org.s
Financing

- Use existing equipment / WS
- Self financed
- Bank loans (commercial rates)
- Equipment assistance from SLSEA
- Credit from suppliers
- Cover from other product range
End User Concerns

- Price / Access to fuel (externally)
- Correct size (Internally)
- Filling stove (initially/ while burning)
- Flame Controlling / Stop burning
- Ignition difficulties / Yellow Flame
- Height / Limited pot sizes
- Soot, no handle, ash removal
Challenges

- End user concerns (above slide)
- Over expectations / perceptions
- Misinformation / Poor operation
- Access to stoves / services
- Right fuel (supply chain)
- Price
Recommendations

- Wide Awareness / Promotion
- Product improvements
- Supply Chains (Stoves, Insulator, Fuel)
- Mass Production/ Distribution
- Finance/ Incentives (Tax/ Price subsidy)
- Policy & Practice interventions
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