Global Conference: Rural Energy Access

Catalyzing Rural Energy Access - Kenyan experience

Addis Ababa

4th – 6th Dec 2013

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Kenya – General Statistics

   41,070,934 = 8.214 million households

   - rural 78% population
   - urban 22% population

2. National wood consumption

   - currently about 40 million m3/yr
   - about 80% consumed as fuelwood
   - most burned on inefficient cooking technologies

3. Biomass

   - sustainable supply is about 30 million m3
   - current deficit – 10 million m3
Kenya – Statistics on Cooking Energy

Fuels used for Cooking Rural Areas (UNDP/WHO 2009)
- Electricity 0.2%
- Gas 0.7%
- Kerosene 2.7%
- Charcoal 7.7%
- Wood 88.2%
- Other 0.5%

Fuels Used for Cooking Urban Areas (UNDP/WHO 2009)
- Electricity 1.8%
- Gas 12%
- Kerosene 45%
- Charcoal 30.2%
- Wood 10.3%
- Other 1.1%

### Table: Fuels Used for Cooking

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Purchase Unit</th>
<th>Usage</th>
<th>Cost (KES)</th>
<th>Cost per week (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wood (Urban**)</td>
<td>Bundle (20kg)</td>
<td>2 days</td>
<td>210 KES</td>
<td>$2.5</td>
</tr>
<tr>
<td>Charcoal</td>
<td>1 bag (30kg)</td>
<td>3 weeks</td>
<td>1200 KES/</td>
<td>$14.3</td>
</tr>
<tr>
<td>LPG</td>
<td>13kg</td>
<td>30 days</td>
<td>2500 KES/</td>
<td>$29.7</td>
</tr>
<tr>
<td>Kerosene</td>
<td>1 litre</td>
<td>2 days</td>
<td>100 KES/</td>
<td>$1.2</td>
</tr>
</tbody>
</table>

Fuel cost per week (in USD) - using traditional cooking methods*  
1 USD = 84 KES
EnDev Kenya – Approach for Improved Cookstoves

EnDev supports the **private sector** to undertake commercial activities within the value chain of improved cookstoves, enhances **demand** through raising awareness among the customer base and lobbies the **public sector** to provide favourable framework conditions.
Rocket stove – 50% savings

Brick rocket stove

$12 - $115
size & materials

Clay Rocket Stove

$6 – $19
Rocket Stove Enterprise Growth

- Introduction of stove
- Selection of trainees
- Technical trainings
- Awareness creation

Commercial approach
Collaboration
Growth
Increased awareness
Maturity

Number of stove builders/producers

RS
RS builders
Rocket Stove Growth

- Technicians selected & trained at the lowest admin level
- Technicians – very mobile and cover wide territory (stoves built on site)
- As programme move to new areas - new markets - technicians trained- more stoves
- Preferred stove type especially in areas where JK production centers are far
Jiko Kisasa Stove – 40% Savings

Jiko kisasa liner
$2.5

Jioko kisasa portable
$10

Jiko kisasa one pot
$6

Jiko kisasa two pots
$12
Jiko Kisasa Growth

- Number of production centers depends on availability of clay on site, limit new centers (avoiding transport cost of raw materials)

- Semi finished product which requires trained technician for installation

- The development of the stoves value chain with **marketing and installation groups /individuals**, working independent of the producers, has created more distribution channels for the liner, without training more producers
Success Factors in Stove Dissemination – lessons -1

1. Integrated approach to household energy issues is necessary

   • Agriculture – access community through organized farmers groups (Tea industry)
   • Forestry conservation & water catchment protection - stoves as conservation measure
   • Gender – women empowerment (income and employment opportunity)
   • Health - preventive health measure against respiratory infections (mosquito nets)

2. Public sector - relevant in building sustainable markets for improved cookstoves

   • Adoption funds - to support market development for a limited period of time (awareness)
   • Agencies - stoves testing, standards development (to inform policy and regulation)
   • Supportive policy to creating favorable business environment and enforcing standards to protect consumers
   • Building capacities in government institutions (inform policy formulation)
Success Factors in Stove Dissemination – lessons - 2

3. Private sector participation - **supply**

- Private sector - *take lead in service delivery* (employment and income generation) – motivation to engage
- Proven technology to keep enterprises in business and ensure growth
- Availability and accessibility of financial products for business growth is crucial
- Need to be formalized to access form of support from public sector – many smes are informal

4. Stove users – **demand**

- Public awareness - prerequisite for successful interventions – need to know what is on offer
- Consumer subsidies are not a good way of helping the poor - built *functioning market system* instead - sustainability
- Consumer education – proper use of the stove to gain the benefit
- Durability of improved stoves is important for their successful dissemination
- Availability, accessibility and affordability is important in getting customers interested
- Partnership with other stakeholders to reach more people
Thank you for your attention

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Jiko Kisasa Stove in Kenya