Portable Electric Lighting Market Trial

Mwandama Cluster, Malawi Summer 2008

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Villagers’ primary local option is inefficient, costly kerosene lighting.
How to provide poor villagers access to better sources of lighting?

Conduct market trial for solar LED lanterns.

Assess the following:
- **Best approach(es)** to “service delivery”
- Total demand estimate for lanterns for village(s)
- **Degree** to which lantern use acts as kerosene substitute
Market trial approach focused on getting villagers’ input & understanding benefits
Field research helped refine business model for sale of lanterns

Players Involved

MVP/UNDP/MP

Mwandama Coop

Vendor

Customers

Revenues/ Costs

<table>
<thead>
<tr>
<th>Price per Lantern</th>
<th>Cash in Full Plan</th>
<th>Installment Plan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vendor to Cooperative</td>
<td>$27.50</td>
<td>$28.85</td>
</tr>
<tr>
<td>Customer to Vendor</td>
<td>$30</td>
<td>$32.85</td>
</tr>
</tbody>
</table>

Actual Vendor Profits (Initial 52 Sold)

<table>
<thead>
<tr>
<th>Vendor</th>
<th># sold</th>
<th>Profit</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>12</td>
<td>$11.50</td>
</tr>
<tr>
<td>#2</td>
<td>29</td>
<td>$15.00</td>
</tr>
<tr>
<td>#3</td>
<td>11</td>
<td>$12.86</td>
</tr>
</tbody>
</table>

$2.50 - $5.35 Profit per lantern
Initial results from lighting survey indicate 90% drop in weekly lighting expenses

Average Weekly Household Lighting Expenditures for Customers

- $50 average savings per year
- $30 lantern pays for itself in < 1 year.
Household lighting improves significantly with solar, LED lanterns
MVP helped reduce risks that villagers face trying to access better light sources.

**Hypothetical Market Penetration vs. Lantern Price Curve**

- **Market Penetration**
  - 100%
  - 80%
  - 60%
  - 40%
  - 20%
  - 0%

- **Lantern Price**
  - $0
  - $20
  - $40
  - $60
  - $80
  - $100

- **Some can afford**
- **No one can afford**

- **Financial, Technical, and Supply Chain Risks Reduced**
Trial was successful but longer term success depends on a number of factors:

- Cooperative will operate on its own.
- Livelihoods improve, i.e. in areas of education & income generation.
- Scale to other villages, countries.

Lantern sales continue to be successful!
Many thanks to everyone involved!

**MVP NYC**
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**MVP Malawi**
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- Rebbie Harawa
- William Nyirenda
- Stevie Kazumbe
- MVP Drivers & Staff
- UNDP Malawi