Off-grid lighting and phone charging study

A snapshot of household technologies, habits and expenditure in Malawi

August 2016
Malawi has one of the lowest electricity access rates in the world, standing at only 9%; the problem is particularly acute in rural areas where only 1% of the rural population has electricity access.
Background

- Household solar products offer the best potential for rapidly increasing access to modern energy services in Malawi.
- Technological advances bringing increased quality and lower prices, coupled with business innovation has enabled a boom in the household solar industry - 7.5 million quality-verified solar lights have been sold in Africa. The products provide bright light and mobile phone charging, and the cheapest are now available for just $8.
- Alternative methods of lighting such as kerosene, candles and torches provide low-quality light are damaging to health, are dangerous, and actually more expensive than modern electric lighting. However modern products are yet to gain a significant market share in Malawi.
- Furthermore, relatively little is known about off-grid consumers lighting and phone charging habits.
The goal of this off-grid lighting and phone charging study are:

- Raise the profile of the off-grid market amongst key stakeholders (private sector, government, financial service providers, media)
- Highlight the opportunity for private sector growth in the off-grid lighting and charging market
- Encourage further private sector investment through improving the understanding of consumers

This study explores key consumer insights:

- What are the prevalent lighting technologies and how they are used.
- Lighting and phone charging habits and expenditure
- Awareness and perceptions of household solar products
Methodology

• Nationally representative survey covering 7 districts randomly selected from Northern, Central and South regions. Data was collected face to face, in-home using computer assisted personal interviews (CAPI) method of data collection. The questionnaire was structured and programmed onto hand-held devices.

• The sample was purposive, off-grid constituting n=513 respondents/households. Households and respondents were randomly selected. Individuals with a grid connection were not included in the sample.

• The respondent was either head of the household, spouse, or any other adult member.

• The survey was conducted in February and March 2016.
## Structure of sample

<table>
<thead>
<tr>
<th>District</th>
<th>Classification</th>
<th>Village</th>
<th>Township</th>
<th>Sample Size</th>
<th>District Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blantyre</td>
<td>Urban</td>
<td></td>
<td>Bangwe Nancholi ward</td>
<td>18</td>
<td>36</td>
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<td></td>
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<td>Sadzi Matawale ward</td>
<td>18</td>
<td></td>
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<tr>
<td>Zomba</td>
<td>Urban</td>
<td></td>
<td>Chilinde Area 25</td>
<td>18</td>
<td>36</td>
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<td></td>
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<td></td>
<td>Chiwanja ward Chiputula</td>
<td>18</td>
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<td>Lilongwe</td>
<td>Urban</td>
<td></td>
<td>Mwangónga Mzongano Chiulazeru</td>
<td>41</td>
<td>36</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Sekeni Nedi Mthumba</td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Mzuzu</td>
<td>Urban</td>
<td></td>
<td>Mzalule Makunje Mazombwe</td>
<td>41</td>
<td>36</td>
</tr>
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<td></td>
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<td></td>
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<td>41</td>
<td></td>
</tr>
<tr>
<td>Rumphi</td>
<td>Rural</td>
<td></td>
<td></td>
<td>41</td>
<td>123</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Chikhwawa</td>
<td>Rural</td>
<td></td>
<td></td>
<td>41</td>
<td>123</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>41</td>
<td></td>
</tr>
<tr>
<td>Salima</td>
<td>Rural</td>
<td></td>
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<td>41</td>
<td>123</td>
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<td></td>
<td></td>
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<td>41</td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td><strong>Total</strong></td>
<td><strong>513</strong></td>
<td><strong>513</strong></td>
</tr>
</tbody>
</table>
Household Solar Product Categories

**Solar portable lights (SPLs)**
- Single light sources with or without mobile phone-charging outlet
- Entry-level products with solar panels of 10W and below
- Prices range from less than $10 to $40

**Solar home systems (SHS)**
- Multi-light source applications with mobile phone charging outlet
- Sources can power devices such as radios or small televisions
- Prices range from $50 to $200

**Large solar home systems**
- 12 volt systems replace diesel generators or car batteries
- 12 volt systems can power multiple lighting points and devices such as televisions and refrigerators
- Prices start at $200

Lighting Africa Quality Assured - 135 products from 40 manufacturers
Summary and interpretation of findings
Summary of findings

Solar lighting penetration
- Penetration of household solar lighting in Malawi is still at its infancy.
- Ownership varies significantly between households in urban and rural areas, and between districts.
- Two thirds of off-grid households use battery-powered torches (63%) followed by candles (14%)

13% of off-grid households were using solar lighting: 9% portable solar lights and 4% fixed solar lights

Income and solar lighting adoption
- Income level determines penetration of solar household lighting, with greater ownership amongst higher income houses.
- Malawi spends nearly $50 million (MK 34 billion) on bad quality and harmful lighting every year.
- Average annual spend per household on lighting = $14 (MK 10,000) and phone charging = $9 (MK6,000).

Income, mobile phone ownership and solar lighting relationships
- Low household income is not a significant barrier to mobile phone ownership.
- Households typically own more than one mobile phone.
- There is a strong correlation between mobile phone ownership and solar lighting usage.

81% of households using solar lighting had a mobile phone as opposed to 58% of households that were not using solar lighting.
Summary of findings

**Phone charging behaviour and costs**
- Most phones are charged a few times in a week (from once to thrice). Phone charging is an accessible service as people take on average 15 minutes to reach the nearest charging station.

**Motivations for main source of lighting**
- Households using solar lighting were motivated by affordability (long term savings 41%), brighter light (18%) and its reliability (available everyday 15%). Non users were motivated to non renewable lighting solutions by affordability (short term affordability 65%). And local availability (13%)

**Affordability is the main driver for selecting a lighting solution.**
Affordability for solar lighting is perceived in terms of long term savings while for non renewable sources its on the unit cost of acquisition

**Awareness of solar lighting and its benefits**
- Word of mouth is the biggest driver of solar lighting awareness 90%). Radio comes a distant second (16%).

92% aware of solar lighting. 63% mention long term cost saving as the biggest benefit of solar lighting

- The following benefits are mentioned of solar lighting: Cost saving the long term (63%), brighter light (29%) phone and radio charging capability (23%) and safer than other alternatives (13%)
Summary of findings

Solar lighting usage patterns

- Solar lights once in the household are used more than any other lighting source (about 7 hours daily; suggesting both early morning and evening usage).

Purchasing solar lighting

- Grocery stores and markets are mentioned mostly as the points of sale where solar products would be available (53% and 43% respectively).

Solar lighting price awareness

- Asked to estimate the price of solar products, most users and non users of solar lighting gave close estimates to the correct market prices. Users estimated prices of PSPs at the price of medium-end PSPs (46,000 MK), non-users gave prices close to entry-level PSPs (9,000 MK).

Distance to the nearest point of purchase

- Both users and non users of solar lighting who are aware of an outlet selling solar products mention that it would take them an average of one hour or less to reach the nearest outlet.

Satisfaction with main lighting source

- Solar lighting records the highest level of satisfaction (portable solar 71% and fixed solar 55%). Torches and candles which are the most used lighting methods record the lowest level of satisfaction (35% and 41% respectively).
Whereas 55% of current users of solar lighting mention lack of money, 40% of non-users attribute lack of money as the main barrier. Only 34% of current users mention expensiveness as the main barrier, as opposed to 57% of non-users.

Users of non-renewable sources mention that their current sources of lighting are expensive (29%), break down frequently (25%) and are dangerous (17%).

Warranty: Awareness and value attached to it

• 58% of off-grid households were aware of a warranty. Users were however more aware (73%) as opposed to non-users (56%).

• Households are willing to pay more for products with warranty at a similar proportion of both current users and non-users of solar lighting (94%).

Summary of findings

Interest in solar lighting

• There is a big interest in adopting solar lighting. 78% of current non-users are interested in getting solar.

78% of non-renewable lighting users are interested in acquiring solar lighting

Barriers to solar lighting acquisition

• Perception of solar lighting being expensive and genuine lack of money are the 2 biggest barriers.

Drawbacks of main source of lighting

• The main drawback of solar lighting from current users is the reduced performance on cloudy/rainy days (58%). This is mentioned as the only drawback.

Warranty: Awareness and value attached to it

• 58% of off-grid households were aware of a warranty. Users were however more aware (73%) as opposed to non-users (56%).

• Households are willing to pay more for products with warranty at a similar proportion of both current users and non-users of solar lighting (94%).
Survey findings

1. Solar lighting penetration and profile of users versus non-users
2. Lighting habits
3. Lighting costs and associated expenditure
4. Awareness of and attitudes towards solar lighting
5. Finding the target market
Household penetration of solar lighting

13%

- 13% of off-grid households in Malawi – representing 2 million people - are using solar lighting

- This includes portable solar products (9%) and fixed solar systems (4%)*

- The solar power market serves more than 1.5x as many customers as ESCOM

- 63% of off-grid households use torches with batteries for lighting

* Product quality was not assessed by the survey. This figure includes non-verified and quality-assured products.
Primary source of lighting

- Torches: 63%
- Candles: 14%
- Paraffin: 2%
- Biomass: 5%
- Portable solar: 9%
- Fixed solar: 4%
- Other: 3%
- 14%
### Solar penetration by district

<table>
<thead>
<tr>
<th></th>
<th>Urban average</th>
<th>Rural average</th>
<th>National average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable solar</td>
<td>3%</td>
<td>11%</td>
<td>9%</td>
</tr>
<tr>
<td>Fixed solar</td>
<td>1%</td>
<td>5%</td>
<td>4%</td>
</tr>
</tbody>
</table>

- High penetration in Rumphi and Chikwawa where products have been aggressively promoted by prominent distributors and donors.
- Market penetration higher in rural districts. Urban consumers commonly cite product security as a risk.
Profiles of users and non-users based on household income & source of income

### Monthly household income

<table>
<thead>
<tr>
<th>Income Range</th>
<th>Households using solar lighting</th>
<th>Households not using solar lighting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;10000MK</td>
<td>13%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>10001 - 20000MK</td>
<td>18%</td>
<td>24%</td>
<td>25%</td>
</tr>
<tr>
<td>20001 - 50000MK</td>
<td>24%</td>
<td>22%</td>
<td>24%</td>
</tr>
<tr>
<td>50000 - 250000MK</td>
<td>24%</td>
<td>24%</td>
<td>24%</td>
</tr>
<tr>
<td>250000+MK</td>
<td>6%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

### Source of income

<table>
<thead>
<tr>
<th>Source of Income</th>
<th>Households using solar lighting</th>
<th>Households not using solar lighting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other</td>
<td>8%</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Remittance</td>
<td>14%</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>Salary</td>
<td>13%</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td>Farm wages</td>
<td>57%</td>
<td>41%</td>
<td>50%</td>
</tr>
<tr>
<td>Business</td>
<td>41%</td>
<td>43%</td>
<td>42%</td>
</tr>
<tr>
<td>Farming</td>
<td>43%</td>
<td>43%</td>
<td>43%</td>
</tr>
</tbody>
</table>
Profiles of users and non users based on mobile phone ownership

Whether household has mobile phone

![Bar chart showing percentages of households using solar lighting and not using solar lighting, and the number of mobile phones in households.]

Number of mobile phones in households

<table>
<thead>
<tr>
<th></th>
<th>Number of mobile phones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households using solar</td>
<td>1.81</td>
</tr>
<tr>
<td>lighting</td>
<td></td>
</tr>
<tr>
<td>Households not using</td>
<td>1.58</td>
</tr>
<tr>
<td>solar lighting</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.62</td>
</tr>
</tbody>
</table>
Lighting habits
Frequency of using main lighting source

- PSP: 98% daily, 2% less than daily
- SHS: 95% daily, 5% less than daily
- Candles: 90% daily, 10% less than daily
- Torches: 88% daily, 12% less than daily
- Paraffin: 88% daily, 12% less than daily
- Biomass: 80% daily, 20% less than daily
Average number of hours per day main lighting source is used

<table>
<thead>
<tr>
<th>Lighting Source</th>
<th>Average number of hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSP</td>
<td>7.3</td>
</tr>
<tr>
<td>Torches</td>
<td>7.3</td>
</tr>
<tr>
<td>SHS</td>
<td>6.3</td>
</tr>
<tr>
<td>Candles</td>
<td>3.6</td>
</tr>
<tr>
<td>Paraffin</td>
<td>2.8</td>
</tr>
<tr>
<td>Biomass</td>
<td>0.6</td>
</tr>
</tbody>
</table>
Reasons for choice of main lighting source

- Affordable
- Locally available
- Reliable
- Bright enough
- Long lasting light
- No fumes
- Portability
- D/K

Households using solar lighting:
- Affordable: 41%
- Locally available: 15%
- Reliable: 18%
- Bright enough: 10%
- Long lasting light: 9%
- No fumes: 2%
- Portability: 6%
- D/K: 5%

Households not using solar lighting:
- Affordable: 65%
- Locally available: 13%
- Reliable: 13%
- Bright enough: 10%
- Long lasting light: 6%
- No fumes: 3%
- Portability: 5%
- D/K: 4%

Total:
- Affordable: 62%
- Locally available: 11%
- Reliable: 9%
- Bright enough: 7%
- Long lasting light: 6%
- No fumes: 5%
- Portability: 4%
- D/K: 4%
Drawbacks of main lighting source

- Expensive
- Dangerous
- Unreliable
- Light does not last long enough
- Doesn't work in cloudy days
- Not bright enough
- Heavy fumes
- Not portable
- Switches off suddenly

Households using solar lighting:
- Expensive: 1%
- Dangerous: 7%
- Unreliable: 13%
- Light does not last long enough: 14%
- Doesn't work in cloudy days: 58%
- Not bright enough: 11%
- Heavy fumes: 17%
- Not portable: 10%
- Switches off suddenly: 2%

Households not using solar lighting:
- Expensive: 29%
- Dangerous: 25%
- Unreliable: 11%
- Light does not last long enough: 0%
- Doesn't work in cloudy days: 0%
- Not bright enough: 0%
- Heavy fumes: 0%
- Not portable: 2%
- Switches off suddenly: 0%
Satisfaction with main lighting source

- Portable Solar: Very satisfied 28%, Dissatisfied 26%, Neither satisfied nor dissatisfied 5%, Satisfied 10%, Very dissatisfied 2%.
- Fixed Solar: Very satisfied 26%, Dissatisfied 29%, Neither satisfied nor dissatisfied 5%, Satisfied 13%, Very dissatisfied 2%.
- Torches: Very satisfied 30%, Dissatisfied 30%, Neither satisfied nor dissatisfied 5%, Satisfied 10%, Very dissatisfied 3%.
- Candles: Very satisfied 36%, Dissatisfied 36%, Neither satisfied nor dissatisfied 3%, Satisfied 13%, Very dissatisfied 9%.
- Kerosene Lamps: Very satisfied 52%, Dissatisfied 88%, Neither satisfied nor dissatisfied 0%, Satisfied 0%, Very dissatisfied 0%.
- Biomass: Very satisfied 86%, Dissatisfied 14%, Neither satisfied nor dissatisfied 0%, Satisfied 0%, Very dissatisfied 0%.
- Other Lighting Methods: Very satisfied 35%, Dissatisfied 35%, Neither satisfied nor dissatisfied 4%, Satisfied 13%, Very dissatisfied 7%.
- Total: Very satisfied 31%, Dissatisfied 49%, Neither satisfied nor dissatisfied 7%, Satisfied 7%, Very dissatisfied 7%.
Lighting Costs & Expenditure
Estimated annual household expenditure on lighting

<table>
<thead>
<tr>
<th>Product</th>
<th>Asset purchase</th>
<th>Consumable cost</th>
<th>PSP payback period ($10)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Torches</td>
<td>2,000</td>
<td>10,000</td>
<td>8 months</td>
</tr>
<tr>
<td>Candles</td>
<td>2,000</td>
<td>10,000</td>
<td>12 months</td>
</tr>
<tr>
<td>Paraffin</td>
<td>2,000</td>
<td>10,000</td>
<td>15 months</td>
</tr>
<tr>
<td>Pico solar product</td>
<td>2,000</td>
<td>10,000</td>
<td></td>
</tr>
</tbody>
</table>
Malawi spends nearly $50 million (MK 34 billion) on bad quality and harmful lighting every year.

Average annual spend per household on lighting = $14 (MK 10,000).

The payback period for a pico solar product is 8 months when compared with battery-powered torches.

Most good quality products come with a 2-year warranty and 5-year expected lifetime.
Annual expenditure on mobile phone charging

Percentage of respondents with mobile phone

Annual expenditure on mobile phone charging

Average annual spend per user

MK 6,000 / $9
Frequency of acquisition of main lighting source

- **Kerosene**: 13% once a month or more, 13% once every two to three months, 13% less often, 13% does not know
- **Torches**: 9% once a month or more, 15% once every two to three months, 27% less often, 2% does not know
- **PSP**: 15% does not know
- **SHS**: 100% does not know
## Cost of acquiring lighting sources

<table>
<thead>
<tr>
<th>Main Lighting Source</th>
<th>Solar Home System</th>
<th>PSP</th>
<th>Torches</th>
<th>Paraffin lamps</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average cost of Acquisition (Malawi Kwacha)</td>
<td>91,315</td>
<td>9,002</td>
<td>768</td>
<td>106</td>
</tr>
</tbody>
</table>
Frequency of purchasing fuel for main lighting source

- **Kerosene**
  - More than once a week: 88%
  - Once a week: 13%
  - Once every 2 weeks: 16%
  - Less often/Don’t know: 3%

- **Candles**
  - More than once a week: 77%
  - Once a week: 3%
  - Once every 2 weeks: 4%
  - Less often/Don’t know: 4%

- **Torches**
  - More than once a week: 35%
  - Once a week: 29%
  - Once every 2 weeks: 25%
  - Less often/Don’t know: 11%
Solar lighting awareness and attitudes
• 92% of off-grid households are aware of using solar lighting.

• Interesting to note that 91% of off-grid households that are not using solar lighting are equally aware of solar lighting.
<table>
<thead>
<tr>
<th>Source of awareness</th>
<th>Households using solar lighting</th>
<th>Households not using solar lighting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family and friends</td>
<td>94.7%</td>
<td>94.7%</td>
<td>90.4%</td>
</tr>
<tr>
<td>Radio</td>
<td>5.3%</td>
<td>21.2%</td>
<td>15.9%</td>
</tr>
<tr>
<td>Other source</td>
<td>0.0%</td>
<td>5.8%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Road show</td>
<td>0.0%</td>
<td>2.7%</td>
<td>2.7%</td>
</tr>
<tr>
<td>School</td>
<td>0.0%</td>
<td>2.0%</td>
<td>2.0%</td>
</tr>
<tr>
<td>Vendors/ Shops</td>
<td>0.0%</td>
<td>1.0%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Newspaper</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td>TV</td>
<td>0.0%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
</tbody>
</table>
Main perceived benefits of solar lighting

- Cheaper in the long run: 63%
- Gives brighter light: 29%
- Charges phones, radio...: 23%
- Safer than other lighting methods: 13%
- Is not polluting: 6%
Whether knows outlet where can buy solar light

Households using solar lighting: 71% Yes; I know, 29% No; I don’t know
Households not using solar lighting: 37% Yes; I know, 63% No; I don’t know
Total: 43% Yes; I know, 57% No; I don’t know
Outlet where can go buy solar light

<table>
<thead>
<tr>
<th>Location</th>
<th>Households using solar lighting</th>
<th>Households not using solar lighting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grocery stores</td>
<td>39.1%</td>
<td>21.4%</td>
<td>52.6%</td>
</tr>
<tr>
<td>Market</td>
<td>28.3%</td>
<td>17.2%</td>
<td>43.1%</td>
</tr>
<tr>
<td>School</td>
<td>10.9%</td>
<td>2.8%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Agribusiness stores</td>
<td>0.0%</td>
<td>2.6%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Filling station</td>
<td>0.0%</td>
<td>0.2%</td>
<td>0.5%</td>
</tr>
</tbody>
</table>

Average time (minutes) to reach nearest outlet selling solar products

<table>
<thead>
<tr>
<th>Average time in minutes</th>
<th>Households using solar lighting</th>
<th>Households not using solar lighting</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>47.06</td>
<td>58.10</td>
<td>55.33</td>
</tr>
</tbody>
</table>
Whether interested in buying a solar product

- Yes, 78%
- No, 7%
- Not aware of solar products, 15%
Spontaneous perception of solar lighting prices

<table>
<thead>
<tr>
<th>Household profile</th>
<th>Average price estimated a solar light would cost</th>
<th>Amount willing to pay for a solar light</th>
</tr>
</thead>
<tbody>
<tr>
<td>Households using solar lighting</td>
<td>Mean in Malawi Kwacha</td>
<td>52,062</td>
</tr>
<tr>
<td></td>
<td></td>
<td>46,000</td>
</tr>
<tr>
<td>Households not using solar lighting</td>
<td>Mean in Malawi Kwacha</td>
<td>16,914</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9,071</td>
</tr>
<tr>
<td>Total</td>
<td>Mean in Malawi Kwacha</td>
<td>21,757</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9,370</td>
</tr>
</tbody>
</table>
Warranty: Awareness and perceived value

**Consumer awareness of product warranty**

- **Households using solar lighting**: 73%
- **Households not using solar lighting**: 56%
- **Total**: 42%
- **No**: 27%
- **Yes**: 44%

**Consumer willingness to pay more for a product with warranty**

- **Households using solar lighting**: 94%
- **Households not using solar lighting**: 94%
- **Total**: 94%
- **No**: 6%
- **Yes**: 4%
Barriers to purchasing solar lights

- Households using solar lighting:
  - Not bright enough: 55%
  - Light does not last long enough: 40%
  - Unreliable: 41%
  - Lack of money: 54%
  - Expensive: 34%

- Households not using solar lighting:
  - Not bright enough: 4%
  - Light does not last long enough: 1%
  - Unreliable: 2%

- Total:
  - Not bright enough: 2%
  - Light does not last long enough: 41%
  - Unreliable: 2%
  - Lack of money: 54%
  - Expensive: 34%
Finding the target market in Malawi’s agricultural economy
## Consumer spatial distribution

<table>
<thead>
<tr>
<th>Value chain</th>
<th>Estimated No. of Smallholder Farmers</th>
<th>Estimated No. of Employees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coffee</td>
<td>2,513</td>
<td>N/A</td>
</tr>
<tr>
<td>Cotton</td>
<td>120,000</td>
<td>4,000</td>
</tr>
<tr>
<td>Dairy</td>
<td>17,500</td>
<td>N/A</td>
</tr>
<tr>
<td>Sugarcane</td>
<td>3,700</td>
<td>3,925</td>
</tr>
<tr>
<td>Tea</td>
<td>11,500</td>
<td>46,792</td>
</tr>
<tr>
<td>Tobacco</td>
<td>400,000</td>
<td>5000</td>
</tr>
</tbody>
</table>

**Cash Crops**
- Sugar
- Tea
- Tobacco

**Other Crops**
- Coffee
- Cotton
- Potatoes
- Rice
- Rubber
- Wheat

**Main_crop_Zones**
- Crop Zone
  - Cassava
  - Maize
  - Millet
  - Rice
  - Sorghum
  - Malawi_lakes
### Malawi’s agricultural calendar and income timing

<table>
<thead>
<tr>
<th>Value chain type</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cotton</td>
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<td>Sugarcane</td>
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<td>Dairy</td>
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<td>Tobacco</td>
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<tr>
<td>Tea</td>
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<tr>
<td>Coffee</td>
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</tbody>
</table>

**Key**
- Smallholder farmers
- Seasonal workers
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