Reducing Air Pollution in Nigeria: Teaching Women to Cook Cleanly

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Problem Statement

Three-stone fire stoves are unsafe due to producing large amounts of indoor air pollution. Rural Nigerian women are the most affected, but they often do not know about the negative impacts.

Background

>50,000,000 tons of fuelwood consumed per year in Nigeria


- Firewood 56%
- Kerosene 12%
- Liquified Petroleum Gas 6%
- Others 26%

Mean Gaseous Concentrations in Comparison with WHO limits

<table>
<thead>
<tr>
<th>Gaseous</th>
<th>Concentration (ppm)</th>
<th>Morning</th>
<th>Evening</th>
<th>WHO Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>CO</td>
<td>20</td>
<td>24.2</td>
<td>10</td>
<td>0.17</td>
</tr>
<tr>
<td>NO₂</td>
<td>0.817</td>
<td>0.02</td>
<td>0.08</td>
<td>0.05</td>
</tr>
<tr>
<td>SO₂</td>
<td>0.683</td>
<td>0.02</td>
<td>0.08</td>
<td>0.05</td>
</tr>
</tbody>
</table>

79,000 deaths per year caused by indoor air pollution in Nigeria

Results from Research and Interviews

Fun education
Interpersonal communication
Affordability

Solutions

DIY Solar Cooker
Educational Video

Future Work

- Refine the video’s animation.
- Find ways to utilize local schools and churches.

Acknowledgement

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