ENERGY EFFICIENT-LOW POWER CONSUMPTION

Our warmer consumes only 154W power, which may result in considerable savings.
RELIABLE OPERATION DURING ELECTRICAL FLUCTUATIONS

Device is designed to withstand this voltage but may not give expected output outside stated operating voltage range of 230V +/- 10%
Kannur PHC

• the largest PHC in Karnataka
• Serves 65,000, and 11 sub-centers

Challenges prior to installation of Solar power and energy efficient labor room:

- High referral out due to power outage
- Power outage for 2-3 hours/day and more than 24 hours in case of technical issues
- High voltage fluctuation attributing to frequent machine breakdown
- Conducting deliveries with torch or under candle light during wee hours
- Absence of regular servicing for neonatal equipment

<table>
<thead>
<tr>
<th></th>
<th>Indian-make devices</th>
<th>GE Lullaby™</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Power (W)</td>
<td>Energy (Kw)</td>
</tr>
<tr>
<td>Radiant warmer</td>
<td>700</td>
<td>4200</td>
</tr>
<tr>
<td>Phototherapy machine</td>
<td>270</td>
<td>2160</td>
</tr>
</tbody>
</table>
Kannur PHC

Clinical impact

~40% reduction in the number of referrals-out

35-40 Deliveries per month

50% Reduction in the number of neonates referred out

>100% increase in average number of low-birth weight babies handled/month

Commercial impact

100% Reduction in diesel expenses per month towards generator

70% Reduction in the electricity bills

<table>
<thead>
<tr>
<th></th>
<th>Pre-execution of Solar power</th>
<th>Post-execution of Solar power</th>
<th>% Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Electricity bill (in INR)</td>
<td>2,500</td>
<td>740</td>
<td>70%</td>
</tr>
<tr>
<td>Cost of Diesel to run generator (in INR)</td>
<td>500</td>
<td>0</td>
<td>100%</td>
</tr>
</tbody>
</table>
Sittilingi Valley Tribal Health Initiative

• Dharmapuri, Tamil Nadu
• Serves 1 lakh across 250 villages
Sittilingi Valley Tribal Health Initiative

• From ~20 now up to 40 deliveries per month

With the 24/7 energy efficient labor room, we now have continuous power without any fluctuation and can manage pre-term babies effectively. In the last few months, number of babies being delivered at the hospital has increased. Although, one cannot attribute it directly to solar energy, but at least we are now able to cater to the increasing demand effectively…”

Head of nursing

Comparison of expenses before and after installation of energy efficient OT and labor

<table>
<thead>
<tr>
<th>Expenses per month towards</th>
<th>Prior to inception of energy efficient labor rooms</th>
<th>Post inception of energy efficient labor rooms</th>
<th>% decrease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity</td>
<td>INR 19,500</td>
<td>INR 14,000</td>
<td>28%</td>
</tr>
<tr>
<td>Diesel</td>
<td>INR 11,930</td>
<td>INR 8,830</td>
<td>26%</td>
</tr>
<tr>
<td>DG Maintenance</td>
<td>INR 5,000</td>
<td>INR 1,000</td>
<td>80%</td>
</tr>
</tbody>
</table>

Impact of energy efficient labor rooms at the hospital

- Negligible neonatal referral: 1 neonate referred out in 30 live births
- ~ 14 neonates undergo phototherapy every month
- 0 neonatal referral for jaundice
- 39% complicated deliveries managed /month
- Cost savings: 3,000 – 5,000/day
- 83% cost savings for neonatal care
Sittilingi Valley Tribal Health Initiative

**Impact of energy efficient labor rooms**

**Commercial impact**
- 30% reduction in monthly expenses towards diesel
- 80% reduction in monthly expenditure towards maintenance of generator
- >25% reduction in monthly electricity expenses

**Operational impact**
- No power outage and no voltage fluctuations
- >45 mins saved in case of power outage
- >15% increase in the number of complicated deliveries
- >60% increase in the number of neonatal admissions
- 100% increase in the number of surgeries being conducted