Local Climate Solutions & Eco-Village Development, 100% RE in NDCs, East Africa, South Asia, Europe

Eco-Village Development in South Asia - India
Introducing Eco-village Development as Climate Solutions
by Sanjiv Nathan

Integrated Sustainable Energy and Ecological Development Association (INSEDA) INDIA / Regional Coordinator INFORSE South Asia
About INSEDA
Integrated Sustainable Energy and Ecological Development Association

- INSEDA is an **NGO Registered in 1995**
- Working in **India and South Asia**
- **INSEDA** has an **observer status** at UNFCCC since 2015.
- Dr. Raymond Myles, Secretary General, INSEDA is one of the **Founder members** of International Network for Sustainable Energy (INFORSE)
- Hosting the **Regional Secretariat of the INFORSE** since 1995
- Member of networks - BigFIN, VANI, CANSA, and GENOA
- Dr Myles is the innovator of low carbon, bamboo-based affordable green technologies developed by INSEDA.
- Designed developed **three kinds of biogas plants** namely, Deenbandhu, Grameen Bandhu and High-rate Bi-phasic
- INSEDA is **innovator** of Climate-Friendly, Eco Village Development (EVD) model as effective **Mitigation & Adaptation** solution
- **Conducted International training** on EVD technologies
- **Transferred technologies** to different countries - Cameroon and Uganda
- Implementing **carbon credit projects** in India under **Gold Standard**
How Eco Village Development (EVD) can help in the race against the climate crisis

- As 70% of population lives in rural areas, it is necessary to find local solutions apart from macro-level solutions.

- Covid-19 pandemic has shown that local solutions are necessary when supply chain is cut off.

- EVD consists of a package
  - which can be easily implemented and replicated.
  - that helps in mitigation of climate impact or adaptation of new solutions to build climate resilience.
  - which focuses on local people (people who need it the most), especially women, poor, marginalized, and weaker sections.
  - Covers energy, water, agriculture, livestock, fodder, food processing (drying)
  - Provides sustainable livelihood by income generation – dryer, kitchen garden, etc.
Some of the EVD Solutions installed in Ranichauri, A small village in Himalaya region of India

- Biogas plant
- Rooftop Rainwater Harvesting
- Solar Poly Green House
- Organic Agriculture and Kitchen Garden
- Bamboo Compost Basket
- Solar Tunnel Dryer
- Heera – A Multipurpose Hybrid Improved Cook Stove (HICS)
Feasibility Study and Participatory Planning

Eco-village Development (EVD) Concept in Margul Panchayat, Bajna Block, Ratlam District, MP, India

PRA and Focus Group Discussion (FGD)

Project Area          Traditional stove          Dung cakes          Unused LPG

EVD Solutions being Installed in Model Village - Margul

- HEERA - a multipurpose hybrid improved cookstove (HICS) and Jwala improved cookstove (ICS)
- Solar PV powered street light
- Solar lantern with LED
- Solar dryer
- Vermi-compost
- Bamboo compost basket
- Solar poly greenhouse
- Rooftop rainwater harvesting (bamboo reinforced cement mortar)
- Household biogas plants - grameen bandhu model (made using bamboo reinforced cement mortar)
- Kitchen gardening
- Indoor solar cooking + solar home system
- Energy plantation, horticulture, household forestry
- Income generation activity through SHG like mushroom, poultry, trading, and basket making.
- Bamboo Houses

Apart from these there are other options available such as solar parabolic/box cooker, Micro hydro, water mills, micro/small wind mills, hydraulic ram pumps, solar pumps, drip and sprinkler irrigation, solar passive heating/cooling and soil and water conservation like ponds, gully plugs, check dams, earthen dams, contour bunding, contour trenching and mangrove plantation in coastal region.
### EVD projects contributing to SDGs

<table>
<thead>
<tr>
<th>Topic</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poverty Reduction – Helps increase in income</td>
<td>Helps increase in income - solar dried produce and products grown using solar poly-greenhouse, kitchen garden, and from making bamboo products etc.</td>
<td></td>
</tr>
<tr>
<td>Reduction in hunger</td>
<td>Availability of improved quality of produce - vegetables and fruits from kitchen garden.</td>
<td></td>
</tr>
<tr>
<td>Good health</td>
<td>Good health because of clean kitchen, reduced indoor and outdoor pollution, drudgery reduction, increased income and nutrition food IHME estimates 1.6 m deaths/year, WHO-4.3 m</td>
<td></td>
</tr>
<tr>
<td>Helps in skill development of women and farmers</td>
<td>Helps in skill development of women and farmers</td>
<td></td>
</tr>
<tr>
<td>Gender: focus on women, participation in planning, income generation and implementation</td>
<td>Reduces drudgery of women in fuelwood collection, cooking etc.</td>
<td></td>
</tr>
<tr>
<td>Availability of clean water</td>
<td>Availability of clean water because of roof water harvesting unit and sanitation because of biogas and composting</td>
<td></td>
</tr>
<tr>
<td>Clean Energy</td>
<td>Clean Energy is central to EVD concept through improved Cookstove, biogas, solar home system, etc. Reduces use of firewood - 1 million tons of wood is used every day for cooking.</td>
<td></td>
</tr>
<tr>
<td>Helps in economic growth</td>
<td>Helps in economic growth through income generation activities.</td>
<td></td>
</tr>
<tr>
<td>The project focuses on reducing inequality</td>
<td>The project focuses on reducing inequality and involves most vulnerable population</td>
<td></td>
</tr>
<tr>
<td>Responsible production</td>
<td>Responsible production through organic manure, Soil and water conservation because of bamboo and fruits/fuel and fodder tree plantation, Improved soil health.</td>
<td></td>
</tr>
<tr>
<td>Climate action</td>
<td>Climate action – mitigation, adaptation, reduction in movement in forest areas (wood collection), carbon sequestration, GHG reduction, climate resilience.</td>
<td></td>
</tr>
<tr>
<td>The EVD concept includes promotion of home forestry and soil and water conservation helps to halt and reverse land degradation</td>
<td>The EVD concept includes promotion of home forestry and soil and water conservation helps to halt and reverse land degradation</td>
<td></td>
</tr>
<tr>
<td>The concept involves responsive, inclusive, participatory and representative decision-making at all levels</td>
<td>The concept involves responsive, inclusive, participatory and representative decision-making at all levels</td>
<td></td>
</tr>
<tr>
<td>Work in partnership: participatory planning, project partnership in 4 countries</td>
<td>Work in partnership: participatory planning, project partnership in 4 countries</td>
<td></td>
</tr>
</tbody>
</table>
Publications under Partnership Project

- **White Paper: Mitigation and Adaptation with Eco-Village Development (EVD) Solutions.**
- Describes calculation for CO2 reduction through various EVD solutions.
- The calculations can be used in NDCs.

**Training of Trainers (ToT) Manual on**

- Eco-Village Development in South Asia Available in English and four South Asian languages - Hindi, Bangla, Nepali, Sinhala.
Thank you

Proceedings available at:
www.inforse.org/cop26.php3

More info:
www.insetda.org

Relevant Eco-Village Development (EVD) websites:
www.inforse.org/asia/EVD.htm
www.ecovillagedevelopment.net
www.inforse.org/asia/Pub_EcoVillageDev_TOT_Manual_SouthAsia.htm