



**UNFCCC COP28 SIDE EVENT Blue Zone:
8/12 2023 11:30-13:00, B6, SE Room 1, #79**



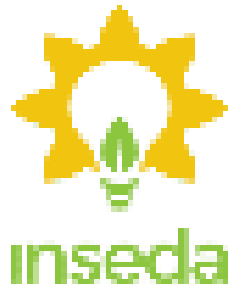
100% Renewable & Local Solutions: Africa, South Asia & Local Climate Resilience and Poverty Reduction. Organised by GEN, INSEDA, Folkecenter & SusWatch

Local solutions in Nepal, Bangladesh, India, Sri Lanka; ways of promotion the local solutions. Available solutions for climate change adaptations

Dr. Raymond Myles and Sanjiv Nathan

Integrated Sustainable Energy and Ecological Development Association

INSEDA & INFORSE South Asia, INDIA



About INSEDA



- 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**, President-cum-Chief Executive, INSEDA is **one of the Founder members of INFORSE**
- Hosting the **Regional Secretariat of the INFORSE-SA** since 1995
- **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**
- **Innovated Climate-Friendly, Eco Village Development (EVD) model as effective Mitigation & Adaptation solution**
- **Transferred technologies** to different countries - **Cameroon and Uganda**
- Implementing **carbon credit projects** in India **under Gold Standard**



UNFCCC Conference



International training on EVD conducted by INSEDA



UNFCCC COP28 SIDE EVENT - 100% Renewable & Local Solutions -Africa, South Asia & Local Climate Resilience and Poverty Reduction, Blue Zone Friday, 8 December 2023. Time: 11:30-13:00, B6, SE Room 1, #79

Low carbon, Climate Resilient Eco-Village Development in South Asia Since 2015

Rolled out NextGen EVD project in July 2020 for village-based, local, low-carbon development in four South Asian countries :

- INSEDA – India
 - CRT - Nepal
 - Grameen Shakti – Bangladesh
 - IDEA – Sri Lanka
 - INFORSE-South Asia - Regional
 - CANSA – Regional
- With programme management support by DIB Denmark and
 - Technical Support by INFORSE

EVD consists of a package

- of **eco-friendly, low carbon, green technologies** *within villages,*
- which can be **easily implemented** and replicated
- that **helps in mitigation of climate impact** or adaptation of new solutions to **build climate resilience**
- **focuses** on local people, especially the **poor, marginalized, women** and weaker sections of local community

Support by CISU, Denmark



EVD Solutions in India – INSEDA, India



Bamboo reinforced Biogas – Gremmenbandu Bamboo reinforced Rainwater Harvesting Solar Poly Green House – Bamboo frame



Solar Tunnel Dryer – Bamboo frame

Bamboo house/ shelter

Bamboo Compost Basket

Vermi-compost

Organic Kitchen Garden



Solar Street light and lantern

Day-night Solar cooker with battery

HEERA Hybrid and JWALA Improved Cookstove

Energy plantation, horticulture, bamboo, household forestry



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EVD Solutions in Nepal - Centre for Rural Technology, Nepal



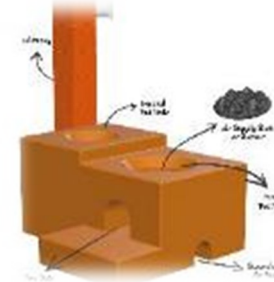
Hydraulic Ram Pump (Hydam)



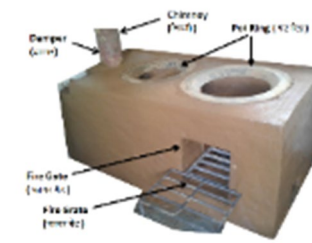
Improved Water Mill (IWM)



SF2 Solar Water pumps



Matribhumi Improved Cook Stove (M-ICS)



Improved Institutional Cook Stove



Cabinet Solar Dryer

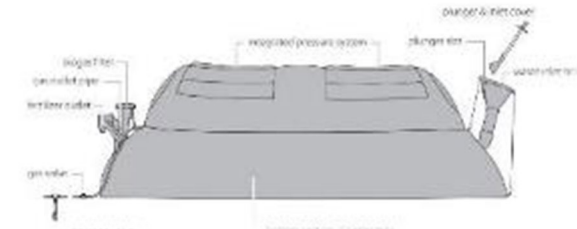


Rooftop Rainwater Harvesting



Vermi composting

main parts of the system



Homebiogas



Greenhouse Tunnel with drip irrigation



High-value Tree plantation



Induction Cook Stove



Renewable water lifting system



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EVD Solutions in Bangladesh - Grameen Shakti, Bangladesh



Grameen Shakti



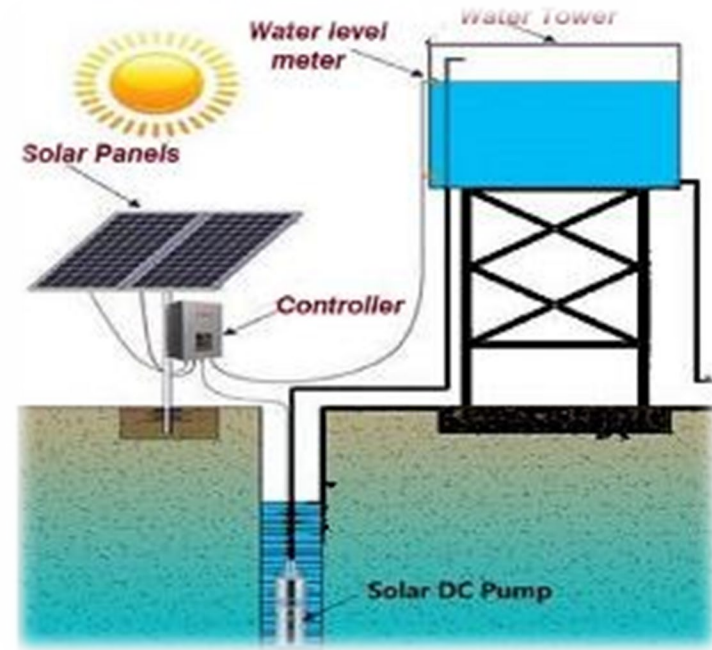
Household Biogas Plant



Solar Home System



Bamboo reinforced Slurry Pit



Solar water pump



Solar Street Light



Retained Heat Cooker



Improved cookstove (single Burner, with chimney)



Rainwater Harvesting System



Kitchen garden



Solar System for village shop



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EVD Solutions in Sri Lanka – IDEA, Sri Lanka



Anagi- Improved Biomass Stove



Movable and sunken type institutional stove



Roof rainwater harvesting.



Non portable Bio-mass dryer



Improved Kitchens



Movable Institutional Biomass stove with Chimney



Mushroom cultivation



Composting



Home gardening and sustainable paddy farming



Improvement in brickmaking

EVD Model - an integrated development approach to help reducing emissions and to provide social benefits



Huge potential to reduce GHG emissions using local solutions as 60% to 80% population is in rural areas in four countries

Improved Cookstove –150 million families in India can save

- 100 Mt firewood and 150 M t CO₂ per year

Biogas - 75 m BGP (2cum) from 300 million bovine population

- Can save at least 200 Mt of firewood and 300 M t CO₂ Per year

Rooftop rainwater harvesting

- 150 m families in India can save 1.5 b cum water

Solar Home System

- the 6 m SHSs have reduced GHG emissions by 10 M t CO₂ per year.

Induction cookstoves

- 25% (1.5 m) households in Nepal can use electric cooking by 2030, saving GHG

Anagi cookstove

- There is potential of installation of at least 1.5 m anagi stoves in Sri Lanka

Environment and Social Impact

- Increased climate resilience, mitigation and adaptation
- Reduction of GHG emissions and pollution.
- Conservation of water and soil.
- Improved soil health .
- Carbon sequestration.
- Enhanced income of poor communities.
- Clean kitchen Improved health of women and children and reduced drudgery.

Bamboo plantation helps in:

- Drawdown CO2
- Environment restoration
- Soil rejuvenation
- Reforestation and erosion control
- Moisture conservation
- Adding source of income for farmers and women
- Improves the local and surrounding environment





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EVD Solutions as climate change mitigation and adaptation

Biogas

- Helps in **mitigation** - **firewood eliminated** and **adaptation** as wood availability is becoming **scarce**.
- Slurry adds humous and **improved soil health and quality** thus adapting to climate change by reducing use of chemical fertiliser
- **Adaptation** - Families **are not dependent on energy supply for cooking from outside** and will not get impacted in case of extreme climate event.

Improved Cookstoves

- Reduction in use of firewood - **mitigation** (saves CO₂) and **adaptation** - as **wood** availability is becoming **scarce**.

Rooftop Rainwater Harvesting

- Helps in **adaptation** in the scenario of **water scarcity** to some extent due climate change event.
- **Saving in energy** in water pumping

Solar tunnel dryer

- Helps in climate change **adaptation** by providing **additional income** with better quality produce while utilising solar energy
- Reduces the wastage of crops by drying perishable items

Bamboo compost basket

- Manure helps in **soil rejuvenation**, Reduced use of chemical fertilizer

Other EVD solutions	Emission reduction and climate resilience
Solar streetlight/ lanterns	<ul style="list-style-type: none"> • Reduced use of dry batteries
Vermi compost	<ul style="list-style-type: none"> • Reduced use of chemical fertiliser
Poly Green House - SHG	<ul style="list-style-type: none"> • Reduces chances of crop damage in extreme climate event • Off season crops can be grown • Less use of insecticide/ pesticides • Increased yield means less energy consumption • Less water consumption
Plantations (Energy +horti)	<ul style="list-style-type: none"> • Works as carbon sink • Conserves soil and moisture
Greenhouse nursery	<ul style="list-style-type: none"> • Less chances of crop damage • Less use of insecticide/ pesticides • Increased yield means less energy consumption in crop production • Less water consumption
Bamboo Bus Shelter	<ul style="list-style-type: none"> • Less use of brick which is environmentally harmful as topsoil is baked using coal and wood in making bricks



Local Solutions - Publications - Media - Organisations

Local Solutions. Database for Eco-village Development in South Asia.



Choose a solution category:



Cooking solutions ▾



Off-grid power and light ▾



Heating and cooling ▾



Water supply ▾



Organic gardening and agriculture ▾



Village development planning ▾



Other ▾

Search the solutions according to language, country or name:

Language ▾ Country ▾ Search solution names..



Thank you

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Relevant websites:

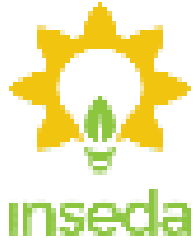
www.inforse.org/asia/EVD.htm

www.ecovillagedevelopment.net

[www.inforse.org/asia/Pub_EcoVillageDev_TOT
Manual_SouthAsia.htm](http://www.inforse.org/asia/Pub_EcoVillageDev_TOT_Manual_SouthAsia.htm)

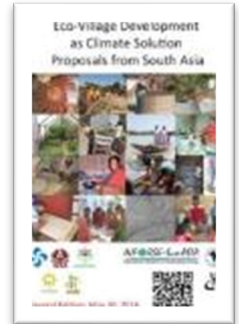
Eco-Village Development (EVD) Catalogue of
Local Climate Solutions: www.inforse.org/evd

Proceedings: www.inforse.org/cop27.php



Publications under partnership project

Eco-Village Development as Climate Solution Proposals from South Asia



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 Manual on Eco-Village Development in South Asia

Available in English and four South
Asian languages - Hindi, Bangla,
Nepali, Sinhala.

