Eco-Village Development in South Asia

Presentation at the COP24, Poland, 7/12 2018 at the side-event Local Benefits of Large-Scale Renewables, Development of a Guideline Based on Experiences from West Africa & Eco-Village Development Activities in India / South Asia”
Publications:
Eco-Village Development Proposals from South Asia

Training of Trainers (ToT)

Available in English, Hindi, Sinhala, Bangla, Nepalese.
White Paper on Climate Mitigation and Adaptation with Eco-Village Development (EVD) Solutions in South Asia

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We reviewed 13 of the most popular EVD solutions and analysed 6 (in bold):

1. Improved Cookstoves, Household
2. Large ICS for Rural/village industries
3. Household biogas
4. Solar light in homes
5. Improved water mills
6. Solar and hydro micro and mini grids
7. Hydraulic Ram pumps
8. Organic farming & gardening, composting
9. Rainwater harvesting
10. Micro Irrigation
11. Solar dryer
12. Greenhouses
13. Improved brickmaking
Main results from the 6 EVD solutions analysed per household that use the solution

- **Improved Cookstove (ICS)**
  - Mitigate 1 – 3 ton CO$_2$e/yr (0-66% CO$_2$)

- **Household biogas**
  - Mitig. 1 – 4 ton CO$_2$e/yr (0-70% CO$_2$)+Adapt.

- **Solar light in homes**
  - Mitigate 0.34 ton CO$_2$e/yr (all CO$_2$)+Adapt.

- **Solar and hydro micro and mini grids**
  - Mitigate 0.7 ton CO$_2$e/yr (all CO$_2$)

- **Solar dryer**
  - Mitig. 1.3 – 3 ton CO$_2$e/yr (all CO$_2$)+ Adap.

- **Organic farming:**
  - Mitigation + adaptation
Examples for villages

Example, Nepal, realised:
Village, 50 families with 24 household biogas, 45 improved cookstoves:
Mitigate 550 tons CO$_2$e/yr

Example, Bangladesh, planned:
Village, 70 families with 60 SHS, 56 ICS of high quality, solar pump:
Mitigate 110 tons CO$_2$e/yr

Example, India, partly realised:
255 ICS, 31 solar dryers:
Mitigate 1800 tons CO$_2$e/yr

* GACC = Global Alliance on Clean Cookstoves
Important lessons

- Total greenhouse emission reductions (particles, CH$_4$, etc.) with improved cookstoves and biogas replacing traditional fire are 50% larger than the reductions of CO$_2$ alone.
- This means that most methodology only include 2/3 the climate mitigation of local cooking solutions.
- The high mitigation of biogas is achievable with up to 7% CH$_4$ loss.
- Organic farming with biogas or compost improves soil and reduces chemical fertiliser use. This gives mitigation and adaptation, which can be equal to but the size effect of the emission reductions are hard to quantify.
- There are considerable uncertainty on greenhouse effects of particle emissions and soil improvements.
Thank you

Read full report on www.inforse.org/asia/EVD.htm
www.ecovillagedevelopment.net

“PROMOTE LOCAL CLIMATE SOLUTIONS TO END POVERTY”
INFORSE - ENDA ENERGIE - INSEDA

SIDE EVENT
December 7, 2018 -15:00-16:30
Room: Warmia

Local Benefits of Large-Scale Renewables Development of a Guideline Based on Experiences from West Africa & Eco-Village Development in India / S Asia