

Solar villages for sustainable development and reduction of poverty

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SOLAR VILLAGES FOR SUSTAINABLE DEVELOPMENT (Second Edition)

1. INTRODUCTION

"Solar Village" or CARES (Centre for Application of Renewable Energy Sources) project has been designed to use affordable and clean energy technologies to accelerate economic and social development of rural communities. The project fulfils 13 out of the 17 UN's SDGs (sustainable development goals), including:

- ❖ providing primary education,
- ❖ empowering deprived communities,
- ❖ establishing environmental sustainability and
- ❖ reduction of poverty.



Fig.1: The primary school developed in the pilot project by applying solar village concept.

2. SOLAR VILLAGE CONCEPT

- ❖ The "Solar Village" concept builds on the theme "Use of clean energy technologies for social development and reduction of poverty".
- ❖ The creation of wealth using an indigenous energy source to help the community.
- ❖ This wealth should be managed by the community members in a fully transparent way in order to empower them.
- ❖ Established schools or universities should be involved in directing and guiding the community for their rapid economic development.
- ❖ "Seed" funding should be raised within a specific country itself in order to establish these projects, and should come from local governments, banks and industry.
- ❖ By applying solar village concepts, the communities will rapidly develop with their own initiatives.



Fig.2: A typical "Seed" (Solar panels, DC water pump and storage tank) necessary to start and grow a solar village, providing the initial income source.

3. THE PILOT SOLAR VILLAGE



Fig.3: Opening of the pilot solar village providing clean drinking water.

- ❖ The pilot project was initiated in 2008 in Sri Lanka.
- ❖ The pilot solar village consists of 3 villages with 130 families in the dry zone of Sri Lanka.
- ❖ Main livelihood is farming and modern facilities are not readily available. Installation of solar powered water pumping system provides clean water for drinking and other activities.
- ❖ Consumers pay their water bills to a common account and village committee channels the funds towards developmental projects.

4. SOLAR VILLAGE UPSPRINGS

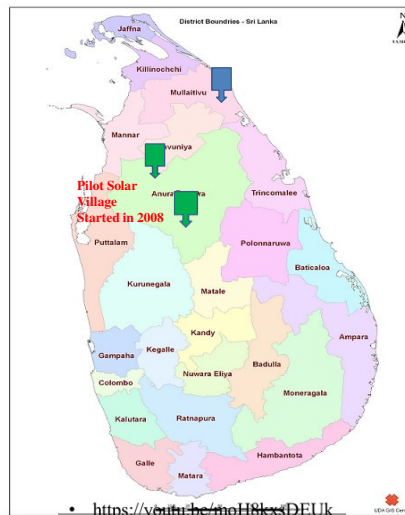


Fig.4: Offspring Solar Village installation sites in Sri Lanka.

- ❖ Two charities APSL-UK and Helasarana sponsored the second solar village at Nochchiya village cluster.
- ❖ This 6.0 kW solar roof generates funds required for water pumping and purification, serving over 1200 people in this village.
- ❖ The system also provides clean water for a small fee to seven surrounding villages to avoid spreading of kidney disease due to polluted water.



Fig.5: The second solar village started in January 2017 at Nochchiya village cluster.

- ❖ A generous Sri Lankan living abroad came forward to sponsor the third solar village in Pulmudai.
- ❖ This project re-settles war affected families and encourages Sinhalese, Tamil and Muslim families to live in harmony, establishing reconciliation.

5. BENEFITS & IMPACTS



Fig.6: The third solar village coming up in Pulmudai, August 2017.

- ❖ The communities that used to suffer from lack of drinking water during the peak of the dry season now have consistent clean water supply throughout the year.
- ❖ Complete reduction of the noise and air pollution from diesel engines reducing CO₂ emission.
- ❖ Funding of various developmental projects within the community such as contributing to school building, and expansion of the solar panel system by adding more panels (i.e. sustainable development).
- ❖ Empowered community coming together to help themselves, through voluntary work and becoming a CARES centre. These centres create CARES scholarships for primary school children within the community.
- ❖ The environment becoming more pleasant due to tree planting projects and country becoming a "green carpet", and an "Eco Tourist Centre".

6. CONCLUSIONS AND FUTURE PLANS



Fig.7: International public awareness work continuously taking place in different countries.

- ❖ The potential to add more aspects (excess agriculture products packaging, starting of cottage industry like bricks making, built in eco-tourism etc.).
- ❖ Solar village is a "Social Science Laboratory" for each Faculty in a university, and hence extremely useful in training graduates with social responsibilities.
- ❖ Replication is currently on-going with public awareness of the project in different countries (Maldives, Bangladesh, India, Jamaica & Nigeria).

7. REFERENCES

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