



APPLICATION FORM – SUSTAINABLE ENERGY PROJECT SUPPORT

(CONTACT PERSON)

FIRST NAME: Raymond
LAST NAME: Myles
INSTITUTION: INSEDA (Integrated Sustainable Energy & Ecological Development Association)
POST CODE / CITY: 110058, New Delhi
ADDRESS: A-2/108, Third Floor, Janakpuri
COUNTRY: India
TELEPHONE: (+91)- (11)- 6450 0730
FAX: (+91)- (11)-2554 4905
E-MAIL: inseda@inforse.org and raymyles@bol.net.in
HOME PAGE: www.inseda.org and www.inforse.org/asia

WORKING TITLE OF THE PROJECT:

Pilot project for the systematic promotion of environmental sound and eco-friendly bamboo reinforced cement mortar (BRCM) model biogas plants and kitchen improvement and management to reduce indoor pollution in cooking area in 12 solar ecovillages in India

SUSTAINABLE ENERGY PROJECTS SUPPORT [SEPS]

SEPS defines the term "project" in a broad sense. This means we are not focusing primarily on technical solutions in the field of sustainable energy and resource efficiency, but rather we are aiming to address the whole range of ideas and concepts (capacity building, financing etc.) that may help fostering renewable energy or the efficient use of energy and so contribute to sustainable development. Only those projects are eligible for support that are fully ready for implementation and have not been already implemented elsewhere.

1. SUMMARY OF THE PROJECT

Please summarise your project in typed format, under the following headings.

Please also do not exceed the maximum number of words:

Please give a short description of the project, its objectives, partners involved and unique factors (450 words):

Aim & broad objective of the pilot project:

The aim & broad objective of the project is systematic promotion of environmental benign and eco-friendly bamboo reinforced cement mortar (BRCM) household biogas plant, christened as "Grameen Bandhu" meaning "Friend of rural people" and kitchen improvement and management to reduce indoor pollution in cooking area in 12 solar ecovillages in Bharatpur dist of Rajasthan in India.

Specific objectives of the pilot project is as follows (For project budget refer Annexure-A)

- 1 Training of 10 rural women in weaving of bamboo structures (using underground moulds) on 1 or 2 and 3 or 4 CuM Grameen Bandhu plant (GBP)
- 2 Training of 10 rural masons in step-by-step construction of four sizes GBP and KI & M
- 3 Construction of 12 Grameen Bandhu biogas plants
- 4 Establish 4 model improved kitchens to act as training-cum-demonstration units for
- 5 Improve 40 rural kitchens
- 6 Train 20 women volunteers in kitchen improvement and management (KI & M)
- 7 Train 10 women as barefoot consultants in kitchen improvement & management (KI & M)

Basic information & problems related to energy access & indoor pollution in 12 EVD villages:

The proposed 12 target villages where the proposed project of the Grameen Bandhu model to be implemented, are the villages where INSEDA jointly with its grassroots partner, Women's Action For Development (WAFD) had launched a "Solar eco-village development (in short known as EVD) programme in 2002. A comprehensive baseline survey of 100% households was done in these 12 solar eco-villages, comprising of 700 families, in 2 phases, during 03-04 and 04-05, and a computer database has been created in MS Access. Survey key problems related to clean cooking energy, indoor kitchen pollution, environment, food security, livelihood & migration, which is being addressed in an integrated manner, jointly by INSEDA and WAFD as long-term goal of the EVD programme.

Pilot project will address some of the problems listed above in 12 solar eco-villages

The proposed project will only promote following unique aspects, during the 1 year period:

1. Promote access to clean, convenient and less time consuming cooking energy using innovative technology in the form of bamboo reinforced (BRCM) Grameen Bandhu model biogas plant as well as for checking indoor pollution;
2. Promote solutions to provide dual benefits to rural people in the form of clean energy and enriched organic manure in the form of biogas digested slurry by efficient recycling of animal waste (dung) using GBP; and also as means of livelihood, by capacity building of masons and women in building Grameen Bandhu plant in 12 solar eco-villages as well as 8 new eco-villages and other neighboring villages in the district;
3. Promote kitchen improvement (modification of existing kitchen) and its appropriate management for pollution-free and efficient cooking place for rural women; and
4. Undertake awareness and training of women to undertake their own kitchen improvement using locally available building materials and to efficiently manage their own kitchens.

2. CRITERIA

Please answer the following questions:

TECHNICAL VIABILITY (150 words):

- How practical do you consider your project?
- Could the project be implemented within one year with our expert support?

- 1) Project and all components are practical because of the following reasons:
 - a). GBP was designed by Secretary General (SG), INSEDA, who has been involved in the promotion, development, capacity building and implementation of fixed dome plant since 1979. Based on experience of collectively designing the most popular “Deenbandhu” plant, he designed GBP in 1990’s. Based on farmers’ response of first three field testing GBP built n1996, first set of training-cum-demo GBPs were built in 2003 in Eco-villages, and developed a combined training schedule of 27 days duration for women weavers and master masons.
 - b) The SG, INSEDA and Executive Director, WAFD recently visited Sri Lanka to conduct national capacity building workshop of NGOs in RET for poverty reduction; and visited and reviewed NGO’s kitchen improvement programmes, which will be appropriately modified for implementation.
- 2) All project components including training and demo GBPs are planned for implementing in one year.

ECONOMIC FEASIBILITY (150 words):

- Is your project economically feasible?
- What obstacles have hindered the realisation of your project so far?
- How could our short-term support help you implement your project sustainably?
- Have you considered other sources for additional financing?

- 1) The awareness, capacity building and demonstration aspect will involve grant and certain percentage of subsidy. Loan will be provided for major physical components to end users, returnable with nominal interest. Loan recovered will be revolved to cover additional end users beyond the one year project.
- 2) Two major obstacles are (a) Shortage of skilled people- (i) women weavers for making different bamboo structures and (ii) trained master masons for building BRCM plant; and (b) Government subsidy in Rajasthan state to offset certain cost of construction to make it affordable for all.
- 3) Wision’s short-term support will demonstrate the success of these activities that will be used for approaching appropriate funding agencies for further implementation.
- 4) Yes, but being a new technology, concept and approach (especially rural kitchen improvement) a pilot project like this showing positive impact of such interventions with appropriate documentation will convince other funding agencies.

If you ask for financial support, please attach a budget for your project.

ENVIRONMENTAL BENEFITS (200 words):

- What may be the environmental benefits of your project regarding
 - The reduction of primary fossil energy use or nuclear energy use?
 - The reduction of CO₂-emissions in quantitative terms?
 - Additional environmental benefits (local/global)?
- Do you see risks of negative ecological side effects?

- 1) Grameen Bandhu plant (GBP) uses environmentally-friendly bamboo baskets for reinforcement, replacing ecologically unsustainable bricks that causes atmospheric pollution and also save in fuel (charcoal and coal) for baking bricks.
- 2) Reduce biomass for direct burning in an unsustainable manner for cooking and kerosene saving for lighting.
- 3) Recycling dung through GBP would prevent release of free methane (existing practice of making manure in heaps), which is 20 times more potent GHG than carbon dioxide in atmosphere. Total CO₂ abatement equivalent of CH₄ emission using 2 CuM GBP, during 10-year working life, will be 33 tones @ 3.3 tones/year.
- 4) (a) Reducing tree cutting for firewood; (b) CO₂ release in atmosphere by burning of biomass in stoves; (c) Replacing bamboo for construction would preserve local ecology by preventing digging good soil and energy saving for brick making; and (d) producing enriched organic manure for replacing chemical fertilizer for crop production.

REPLICABILITY (150 words):

- Do you think your project could be easily replicated by others or at other sites?
- Could you identify certain aspects that may support replication, e.g. low investment costs, existing production structures, etc.?
- May it attract the interest of the general public?

- 1). Grameen Bandhu plant can be replicated in any place where bamboo is grown in plenty, after the masons and women are provided appropriate training.
- 2). Kitchen improvement and management programme can be replicated after appropriate capacity building of local NGOs for awareness and guiding women for reorganisation existing kitchen to make soot and pollution free, efficient and pleasant cooking place using low cost options.
- 3). Aspects which will support easy replications are: a). Low investment cost; b). Use of locally available building material, like bamboo for GB and local materials like stones, biomass for thatched roofs and mud, dung & straw mixture for plastering, c) Trained local skills, d) Decentralised local area specific solutions, e) Promote employment and f) Availability of funds (subsidies and seed money for appropriate credit linking);
- 4) Yes it will attract the interest of general public as it is innovative and different from any traditional activities.

MARKETABILITY (150 words):

- Where do you see a sufficient and sustainable demand potential?
- Are there existing supply structures that may support further market implementation?
- Is there a valuable economic cost-benefit ratio for potential users?

- 1) Developing countries with domestic farm animals and plenty of bamboo will have sustainable demand for Grameen Bandhu plant.
- 2). As per WHO publication indoor pollution is responsible for 1.6 million deaths annually, mostly due to acute respiratory infection in children under five. Therefore, kitchen improvement and management programme will have great demand in developing countries as most cook in the traditional smoky kitchen using inefficient stoves, causing indoor pollution.
- 3). Each country and region has different socio-cultural fabric. Therefore, though possible, it is not desirable to have organised supply structure to support market implementation. Both GB and kitchen improvement programme has the flexibility to respond more effectively in a decentralised manner.
- 4). GB has a valuable economic cost benefit ratio for potential users as it provides several socio-economic advantages. GB can have marketability for investors in carbon credit projects under the CDM or Voluntary Offsetting under the Kyoto Protocol.

3. IMPLEMENTATION STRATEGY

Please outline your strategy for implementation (200 words):

- What are the most important obstacles to overcome for your project?
- What actions are you considering to facilitate implementation?
- What kind of support do you expect from WISIONS? How could this be helpful?
- Do you have contact to other partners that could help you with your project?

1). Most important obstacles:

a). Non-availability of trained master masons and women weavers for building desired number of GBP; b) No subsidies for building plants in Rajasthan; c) Lack of access of credit for building plants;

2) Actions to overcome obstacles:

a) 2 trainings each to (i) train 10 masons and (ii) 10 women in GBPs; b) 1 refreshers training each, to re-train (i) 10 trained masons and (ii) 10 trained women in GBPs; c) 4 trainings to train 20 women in kitchen improvement-cum-management; d) Subsidies to build 12 GBPs and 4 demo kitchen improvement activity at 4 WAFD centre; e) Seed funds for loan for building GBP and kitchen improvement activity;

3). Entire cost is expected from WISION as grant as per attached budget

4) Next phase of EVD programme submitted to WAFD & INSEDA partner with small training component and building few GBPs but nothing for kitchen improvement activities.

5). WAFD applied (INSEDA as technical partner) for award for GBP as innovative technology to World Bank-India Development Market fund, and was selected one of the winners from 2,500 entries. Award money will be used for building a few GBP and training, but not sufficient to create desired impact.

Please enclose a time schedule, describing the planned course of action.

4. DETAILED DOCUMENTATION

In addition to the summary and the demanded information (budget and time schedule), it is necessary to send detailed documentation. This should be based on the summary's structure and include a **more detailed description of the key aspects and arguments** in favour of your project. The strategy for further implementation of your project is regarded as very important for evaluation and selection of projects.

Furthermore, **special attention** is to be paid to the following issues:

- costs and risks of the project
- existing obstacles
- contribution to aspects of social welfare (gender-issue, poverty alleviation, inclusion of local structures/population)
- employment potential
- co-operation with other partners

The detailed documentation **should not exceed 15 pages** plus supplementary material. For further information please view the project homepage www.wisions.net

5. GENERAL ASPECTS

Only documents in the following formats will be accepted: printed paper documents, fax, electronic text documents, photos and printouts of photos, CDs (only as supplementary material). Video tapes, cassettes, DVDs will not be accepted. Please do not send in any original documents. All documentation will be destroyed after application processes have been completed.

WISIONS cannot accept any liability or responsibility for any documents sent in, or for loss of documents submitted. All data will be treated confidentially, and will only be used for assessing the eligibility of your project for SEPS support.

I (contact person) hereby state that the information provided is true and that false information can lead to expulsion from the application procedure. I agree that the information I send may be used for publication and /or further publication by **WISIONS**.

Send this form via e-mail to info@wisions.net

or as a printed document to

WISIONS

Wuppertal Institute for Climate, Environment and Energy

Doeppersberg 19

42103 Wuppertal

Germany

Fax: + 49 202 2492 – 198