Stakeholder Forum for Our Common Future
Energy Issue

Action Plan: Assessing Best Practise renewable energy projects and their impacts on rural and urban communities in India and Africa

Title: Identification, documentation and replication of integrated renewable energy models in India

Objective of the project:

- Identification of successful integrated renewable energy model (it could be bunch of successful models as 'best' is relative and restrictive terminology) as practiced in India on the basis of well defined socio economic and environmental parameters to make a comparative impact analysis of such models across different regions and nations.

- Awareness generation and capacity building programmes among policy makers, implementing agencies and other stake holders of renewable energy to invoke interest among them to replicate identified good practice models.

Background:

The Government of India has taken an ambitious plan to produce 10,000 MW of electricity from renewable sources by the year 2012. It will constitute 10 percent of total electrical capacity addition with the 10^{th} and 11^{th} five-year plan period.

Over 70 percent of the India's population of one billion still resides in villages. To Indian energy planners, meeting the energy requirements of this vast non-urban population is a challenging development issue.

The Central Government formed the Rural Electrification Corporation (REC) in 1969 for the specific purpose of bringing electricity to the villages. In terms of the number of villages, the REC's performance was impressive: up to March 31, 1996, some 86.3 percent of India's 580,000 villages had been electrified. But the percentage of rural households electrified was dismally low (less than 15 percent). In other words rural electrification could improve the quality of life of the richer section only keeping the majority of the populace in the darkness. Despite its strong political appeal and its sound economic and political objectives, the rural electrification programme as envisaged initially has failed to bring about the intended changes in the lives of rural people.

To meet the energy needs of the majority of villagers with limited purchasing power, it is imperative that the rural energy supply be enhanced and an alternative energy source is to be explored.

India's National Planning Commission launched the Integrated Rural Energy Programme (IREP) in the early 1980s with two broad objectives. (i) To meet the basic energy needs of rural people by utilizing locally available resources and (ii) to supply a critical input for the sustainable economic development of rural areas. IREP also encourages local self-governments, institutions and NGOs in effective energy planning at the local level.

As IREP activities are mostly in the field of non-conventional energy, in 1994 the programme was shifted to the Ministry of Non-conventional Energy Sources (MNES).

On the implementation side, the programme starts with planning at the level of a block of villages, then at the district level and finally at the state level. Each block has a junior engineer and programme officer; the local district administration looks after block activities and co-ordinates overall planning; the state level has a senior engineer and an economist in charge of planning. In each block/district a technical institution functions as technical back-up unit (TBU), while a university serves as a state backup unit- training IREP staffs and beneficiaries.

This model of decentralized integrated energy programme had a mixed record of success and failures. While there are quite a few success stories, examples of failures are also there. Our task will be to identify the integrated best practice model (or a bunch of good models) based on some well-defined parameters. The term 'integrated' is stressed upon because in a particular block or village there could be combination of different forms of energy in use depending on the resource endowment and energy demand pattern of that locality. For example it could be a combination of wind, biogas, solar. In some village it could be a hybrid model (wind and diesel type of generator) as in the case of Sagar island of West Bengal.

The work would be split in two phases to achieve objectives of the project as spelt out in the beginning of the proposal.

Phase I:
Methodology & Parameters: The first phase of the initiative will be primarily of desktop research complimented with field trips. The findings will then be documented and presented before a national seminar.

The major criteria of selecting a model (integrated or standalone) would be steady generation and distribution of energy over a period of say at least two years to the local community using mostly renewable sources. Also it should be sustainable over a long period.

Impact on environment will be another deciding factor in choosing a good energy model. Some of the important parameter will be

- production and emission of green house gases,
- effectiveness of community forests grown specifically for biogas production as carbon sinks,
- water, sound and air pollution level during production of energy, and

The important socio economic factors that would be considered as key parameters for judgment are:

- involvement of local women with the project and benefits reached to them out of it,
- efficient use of energy resources,
- improvement of the quality of education of the children and primary health facility of the community,
- increased cultural, business and industrial activities,
- general economic development of the region.

Duration: Six month

Proposed budget: $12,500

Phase II

The next phase of work will be directed towards achieving the second objective of the project i.e. awareness generation and capacity building programme among policy makers, implementing agencies and other stakeholders of renewable energy to invoke interest among them to replicate identified good practice models.

Apart from above programme there will be community based field pilot projects to experiment on renewable energy models most suited with the resource endowment and demand patters of that particular community.

The project will target policy makers and implementing agencies of India and other South Asian countries.

Duration: 3 years

Proposed budget: $300,000

Implementing Agency:

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NOTE: Awaiting ENDA's input into this proposal.