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Cool Village Power
Progress Report
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...towards global sustainable development

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For more information

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Introduction

The "*Cool Village Power*" project combines TERI-CSIRO's experience to develop and demonstrate an integrated village electrification and food storage facility.

As a result of this project, a rural village in India will be equipped and trained to use a facility which converts woody biomass into;

(1) Electricity; and

(2) Cool storage for horticultural produce.

Successful demonstration of the proposed system, in this project, will highlight a pathway for poverty alleviation in rural communities through reduced food spoilage and the provision of electricity for micro-enterprise.

This progress report details the activities completed during January-June 2012.

Completed Milestones

1. Procure gas engine, chiller, cold room and standby diesel genset
2. Scoping study and demand assessment of alternative uses of waste heat and assessment of functionality improvements from potential smart grid technology

Description of activities

Procurement of major equipment

Following items have been ordered and are ready for dispatch to site:

1. 50 kWe gas engine alternator set for the biomass gasifier engine system
2. 15 kVA diesel genset (standby)
3. Cold room of 4m x 4m x 3m size
4. Vapor compression system (2 X 2TR machines)

Village energy baseline, Scoping Study, and Demand Assessment of Alternative Uses of Waste Heat

Village baseline study was carried out to understand and map current energy scenario in the village. The findings of this assessment exercise were submitted in the form of a separate report to CSIRO. The survey identified three main applications for waste heat

1. Food processing
2. Hot water and clean drinking water generation
3. Desalinated water generation

Figure 1 *- Village members during discussion with*

Formation of Village committee

A village committee has been setup to look into the monitoring of the system once it is implemented in the village. During the course of several village interactions held till now, the village community has been made aware of the benefits of system. The initiative has been well appreciated by the community and they are ready to cooperate.

Eight members were unanimously elected by the village community to form the Village committee. The committee has representatives from the village panchayat, village community and the local NGO (PACE). Additionally care has been taken to have fair representation of women, with 3 female members being elected to the village committee.

With the formation of the committee, few meetings were held to discuss the roles and responsibilities of the committee. Following areas emerged during the interactions:

1. Security of plant and the material including raw material.
2. Fixing of rates of electricity and its recovery.
3. Solving internal problems & disputes.
4. Arranging wood for the plant
5. Penalty for the defaulters on nonpayment of bills and penalty for late payment.

Committee is in the process of laying down its Byelaws.

Figure 2 *- Meeting during formation of the village committee*

Civil work and setting up electricity distribution grid in the village

The land for the gasifier-cold store system has been identified, and is to be transferred in the name of the village committee. This activity is however getting delayed due to bureaucratic process. The local NGO partner is trying hard to get this work done. Once the land has been formally allocated to the village committee, civil work can be started at site. Simultaneously, map of the villages has been prepared for cost estimation of the electricity distribution grid, as shown in Figure 3. Two contractors are in the process of submitting their offers.

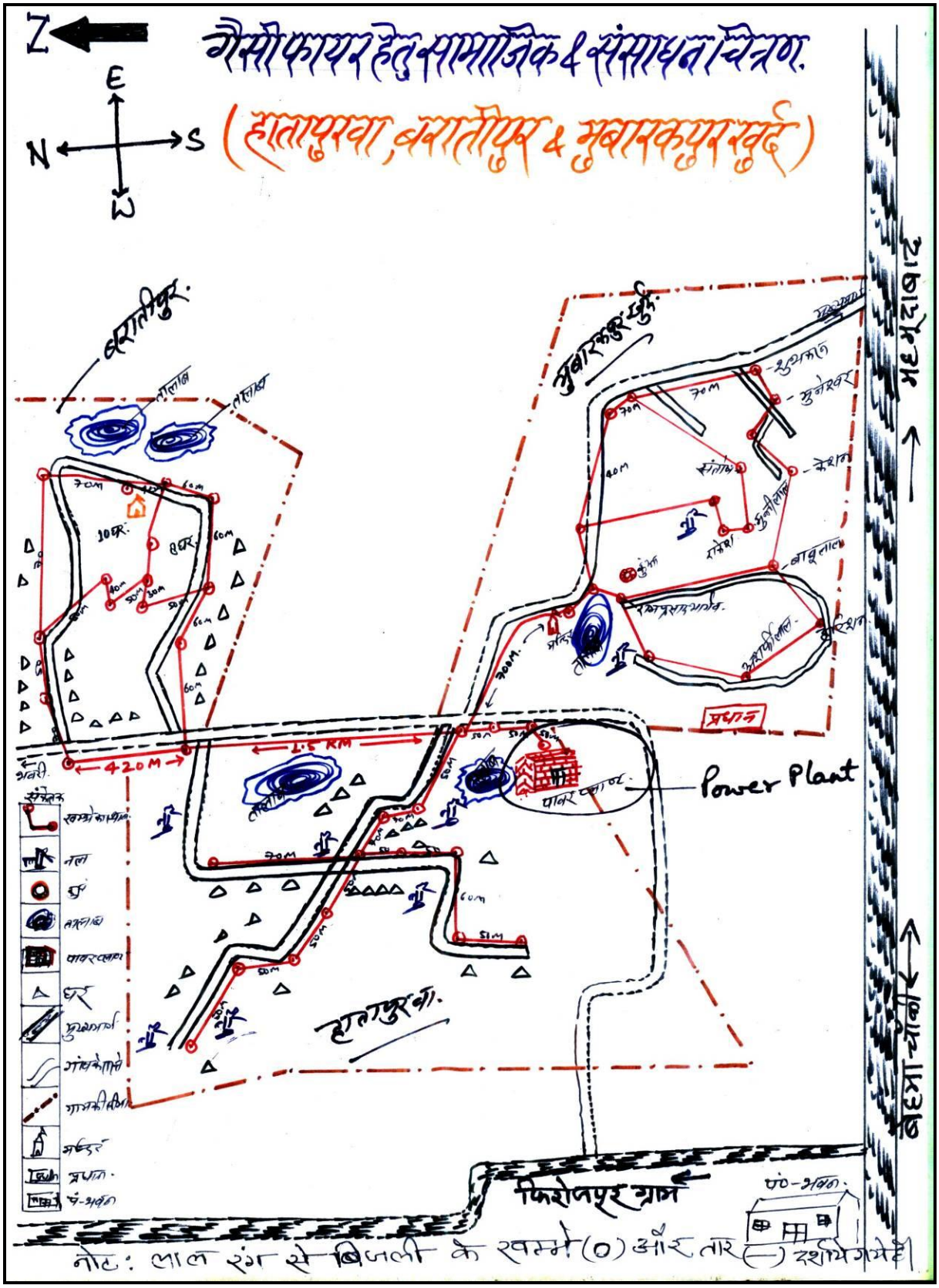

Figure 3 - Map of the villages

Activities in progress

1. Dispatch of equipment to site.
2. Civil work.
3. Finalize distribution grid contractor.
4. Complete installation of system.
5. Training of village community.

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