



Global think tank TERI dedicates landmark rural electrification and cold storage system through biomass to the nation

The project was inaugurated by Dr. Farooq Abdullah, Hon'ble Minister of New and Renewable Energy, Government of India at Sitapur, Uttar Pradesh along with Dr. R.K.Pachauri, Director General, TERI.

Sitapur (Lucknow), November 28th 2013: In a significant development, TERI today inaugurated its Biomass Energy Based Village Electrification and Cold Storage Project in Village Bileria, District – Sitapur today.

Delivering the Inaugural Address, **Dr. Farooq Abdullah, Hon'ble Minister of New and Renewable Energy, Govt. of India** said "While in the energy field our country is lagging, there is no reason that the same cannot be changed if we all work together".

He further said that his ministry would provide all the help to set up more of such systems.

TERI started working on a concept in 2006 whereby indigenously available biomass resources could be used to operate small, decentralized cold storage right at the village level. In addition to providing the cold storage facility to the farmers, such a system - it was envisaged - would also supply **grid-quality power** to the village; thereby offering a holistic solution to some of the key problems facing agrarian India. Since the cold storage can be cooled to temperature as low as 0°C, a wide variety of fruit, vegetables, and horticulture produce can be stored there. The electricity generated by the system is enough to power domestic, community, as well as productive loads in a typical village. TERI has installed its first field level prototype at Sitapur, Uttar Pradesh with support of AusAID and in partnership with CSIRO.

Delivering the keynote address, **Dr. R.K.Pachauri, Director General, TERI** said "In several parts of the country farmers receive low prices for perishable produce because they cannot store it and are compelled to sell it when there is a glut in the market. Cold chains and cold storage facilities are essential to correct this problem and for providing farmers a fair and decent return for their hard work and sustained efforts. With the

opportunities that renewable energy technologies provide, TERI in partnership with the Australian Commonwealth Scientific and Industrial Research Organization (CSIRO) has developed a design for refrigeration using decentralized production of energy based on agricultural residues. This technology once scaled up across the length and breadth of India will bring about a revolutionary improvement in the economic condition of farmers in this country”.

Mr Manish Rawat, MLA, Sidhauri emphasising that this whole region being very backward, urged the Minister to help them get more such projects.

Speaking at the sidelines of the event, **Mr. Amit Kumar, Director, Energy Environment, Technology Development, TERI** said "In developing countries like India use of biomass and other renewable energy resources to address twin challenges of village electrification and decentralized cold storages could help revolutionize the rural economy."

The salient features of the project include:

- 50kW_e advanced biomass gasifier power generation system
- Cold Storage of 15 MT storage capacity
- Advanced prepaid metering system and safety features
- Operated by village community
- Designed and commissioned by TERI
- ❖ 140 households spread over two villages are being provided 100 W each
- ❖ Technical specifications and safety features conforming to REC standards
- ❖ Power monitoring at generation and load centres to prevent pilferage
- ❖ Smart metering
 - Differential prepaid electricity billing for all consumers
 - Display of balance **money** for individual houses/load centres
 - Over consumption isolates the household/load centre automatically, requiring manual intervention to restart
- ❖ LED streetlights with efficient features, dimming, and movement actuated

Productive loads to be covered – irrigation pumps, flour mills and battery charging

It is envisaged that the successful implementation of this system can open up avenues for its replication in other regions of India. Besides providing cold storage facilities as a mean for rural economic development, the system will also be providing electricity to the rural households and communities. The socio-economic impacts of this would be multifold, namely:

- ❖ Electricity for lighting, resulting in (a) clean environment, (b) increased hours for study and social interaction, and (c) improved quality of life.
- ❖ Electricity for essential community applications like primary health centre and ICT based rural knowledge centres.
- ❖ Electricity for commercial activities and entrepreneurship development to generate rural employment.

The project assumes significance since excess produce either floods the market and results in an oversupply or is totally wasted; and an artificial scarcity is created during non-harvesting periods.

A report commissioned by the Planning Commission of India concluded that there is a requirement for building small scale cold storages near the agriculture fields themselves, however the report also noted that poor power supply poses a challenge.

ABOUT TERI:

The Energy and Resources Institute (TERI) is an independent, not-for-profit research organization deeply committed to every aspect of energy, environment, and sustainable development. From providing environment-friendly solutions to rural energy problems, to helping shape the development of the Indian oil and gas sector; from tackling global climate change issues across many continents to enhancing forest conservation efforts among local communities; from advancing solutions to growing urban transportation and air pollution problems to promoting energy efficiency in Indian industries, the emphasis has always been on finding innovative solutions to make the world a better place to live in. All activities at TERI move from formulating local and national-level strategies to suggesting global solutions tackling critical energy and environment related issues.

Headed by Dr. R.K. Pachauri, also the chairperson of the Nobel Peace Prize winning climate change body, IPCC, TERI has emerged as an institution of excellence for its path-breaking research, and is a global brand widely respected by political leaders, policy makers, corporate entities as well as the civil society at large.

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