

Case Study- Decentralized Renewable Energy changing Rural India

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Energetica India looks at two case-studies where the use of Gasifier in Indian villages has changed the economic and social dynamics of the village. The article shows how Renewable Energy; in a decentralized generation model; can be used to change the lives of people. Other technologies can use this as an example to tap the Indian Rural market.

Case Study I:

Kakadpana Test Project in Nasik District of Maharashtra

The trial run of Gasifier in Kakadpana test project in Nasik District of Maharashtra was started on 13th April, 2011.

On 16th April, 2011, one Gasifier of 10 kW capacity was installed and commissioned fully in the project. Kakadpana consist of 85 households of Warli ST Popu-

lation, majorly known for Warli Paintings. The hamlet is situated at a distance of about 110 kms from District Headquarter and 40 kms from Block Headquarter Trim-bakeshwar.

The project was implemented by Gomukh, Environmental Trust for Sustainable Development, Pune and Maharashtra Energy Development Agency (MEDA) has been the monitoring & coordinating

agency for this project.

The Gasifier met with the requirements of domestic lighting in all the 85 households, street lights and other entertainment activities on daily basis. For these purpose, each household has been provided with two light points & one power point.

Electricity changed the lifestyle of the villagers and all their distant dreams of light have been fulfilled.

They now started working late in the evening, especially women folk and also go to bed very late at night, which resulted increase in their income. The students are also started studying during night. The electricity is being provided in the village for 6-7 hrs everyday i.e. from 7.00 PM to 2.00 AM at night.



kakadpana- Household Light.



kakadpana-Biomass Gasifier.



kakadpana-Biomass Gasifier.

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Case Study II:

Kandhal Test Project in Cuttack District of Orissa

Kandhal test project in Cuttack District of Orissa was completed in all respects and dedicated to the villagers in June, 2009. Two Gasifiers, each of 10 kW capacity have been installed and commissioned in the project. Kandhal is a remote, dominated by Scheduled Tribe population and most of the families belongs to Below the Poverty Line (BPL) with 143 households and situated at a distance of about 125 Kms from District Headquarter.

This project has been implemented by Orissa Project & Marketing Development Centre (OPMDC), Cuttack and Orissa Renewable Energy Development Agency (OREDA) has been the monitoring & coordinating agency for this project.

The biomass gasifier meets the daily requirement of domestic lighting in 150 families, community hall and primary school lighting, street lighting and other entertainment activities. Each household has been provided with two light points and one power point for domestic lighting and entertainment.

One oil expeller of 100 kg/hr capacity has been installed in the project, which is being used for extraction of oil from Karanj and other edible oil-seeds. With the introduction of electricity in the village, the quality of life of the villagers has improved drastically and villagers are happy as they have installed Televisions in their houses for entertainment and their children are able to study at night in a proper light.

The fear of wild animals has reduced, as 15 street lights have been installed in the village, which provide adequate illumination during night. This has brought a sea change in their outlook towards development of their village. The villagers have decided to use the power generated for many other applications, such as, flour mill, chafe/fodder cutter machines and water pumps.



Kandhal-Boimass Machine House.



Kandhal-Dungbase Biogas Plant.

20 units of biogas plants have also been installed in the village for meeting out their cooking & lighting requirements. The lighting from biogas plants is facilitating women to work at night in making Dona Patta from Sal / Teak leaves. The role of women in biogas plants involves feeding of cow dung and also slurry treatment for use in agricultural fields. The Village Energy Committee (VEC) has undertaken plantation of Karanj & fuel wood in 10.5 hectare land, which would provide biomass for running the gasifiers and oil seeds for running the oil expeller.

The smiles on the faces of the villagers after introduction of electricity speak volumes about success of the project, which may be termed as DREAM to REALITY.



kakadpana-T D Poll with Street Light.

The Gomukh NGO is now planning to dig a bore well in the village to solve their drinking water, as well as partial irrigation problem, which is at present acute in the village. On the demand of villagers, Gomukh is also planning to construct a Community Hall in the village and place a Color Television, so that the maximum no. of villagers may be benefited and watch the useful programmes of their interest, including National News.

Electricity has also reduced the fear of wild animals attacking the villagers at night, as 10 street lights have been installed in the village, which provide adequate illumination during night.

The villagers have decided to use the power generated for many other applications, such as, flour mill, chafe/fodder cutter machines and water pumps.

Two Biogas plants are also being installed in the village for meeting out their cooking requirements. The Village Energy Committee (VEC) has undertaken plantation of Karanj & fuel wood in 5 hectare land, which would provide biomass for running the Gasifier.

This as in whole has brought a huge change in the outlook of villagers towards the development of their village.

Source: Ministry of New and Renewable Energy Ministry



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