

CASE STUDY 5

CLEAN ENERGY TECHNOLOGY



PROBLEM:

Palghar district in the state of Maharashtra is one of the most underdeveloped regions in the country. Almost 90% of the population in the region is dependent on firewood for cooking as they cannot afford LPG. Women in Palghar often spent their whole day collecting wood. The district witnesses heavy rainfall and it becomes extremely difficult in the rainy season for women to collect wood. They have to collect and store wood before the rainy season starts. Inside the house, women and children are exposed to harmful gases that come from using firewood. Many families in the region are dependent on agriculture, but with fertilizer costs increasing exponentially and with excessive use of chemical fertilizers depleting the soil quality, there was an urgent need to help these farmers adopt sustainable farming practices.

INTERVENTION:

Tata Motors through their CSR initiative approached Cleanergy Tech Solutions for deployment of their unique biogas plant-Kisangas in the Palghar district. Kisangas is an affordable, portable, ready to install biogas

plant. The installation requires only 5-6 hours and it occupies a limited space compared to the traditional biogas plants. Their main objective was to provide access to clean fuel to households and also help farmers adopt sustainable agriculture. Cleanergy Tech Solutions with BAIF Development Research Foundation (who was already working in the area) introduced the technology in the area. Every farmer needs cow dung compost to maintain the nutrient quality. Farmers earlier struggled to get a good quality compost. Kisangas plant apart from clean fuel also generates slurry which acts as a quality organic fertilizer for farmers. The switch to an economic organic fertilizer from expensive chemical fertilizers brought huge respite to farmers. Additionally, to smoothen the process, Farmers were also given training on the application of slurry.

IMPACT:

After installation of the first 3 units and its success, BAIF started getting a strong demand from large numbers of farmers. Farmers liked Kisangas technology as compared to traditional biogas plants as it was very easy for them to operate. One Kisangas plant helps to replace about 1.3MT of wood per year. One plant saves at least INR 25,000 per year of fertilizer cost. Women in Palghar now utilize their time in their farms for more productive purposes.

ABOUT THE ORGANIZATION:

Cleanergy Tech Solutions was founded in 2016. Their aim is to provide sustainable organic waste management solutions. Their indigenous modular biogas, Swachhgas, is one of the most versatile, efficient systems and gives excellent economic returns to urban as well as rural establishments. Our mission is to empower people to utilize waste as a commodity.

CASE STUDY 6

COOLCROP



business and technical aspects of storage, marketing and post-harvest practices.

PROBLEM:

Members of Limkheda Farmer Federation have been selling their produce within a day on the same day of the harvest. Their harvest comprises various vegetables (like leafy greens, bitter gourd, bottle gourd, cucumber, green chillies, etc.), fruits (like watermelon, mangoes, etc.) and flowers. Lack of a preservation or storage mechanism meant they could not aggregate their produce or maximize their value by tiding over the market gluts, especially during low demand and high supply days/periods of the year.

INTERVENTION:

Centre for Integrated Livelihood Initiatives (CInI) who was already supporting the development programme for the Limkheda Women Farmer Federation through their local partners identified the problem and the need for a decentralized cooling solution to preserve the harvest.

In May 2021, CoolCrop commissioned a 6 MT dual-chambered cold storage system completely powered by solar PV. The unit is managed by entrepreneurs who are trained and monitored by CInI and CoolCrop on

IMPACT:

About 30-40 farmers of the federation have started using the storage system on a collective basis. They have stored potatoes, watermelons, green leafy vegetables and marigold flowers over the past 6 months of the system's commissioning. The average post-harvest wastage has reduced from more than 25% to less than 5%. In the case of flowers, during the festive season, the farmers were able to generate a profit of more than 200% with a few days of preservation in the storage facility.

ABOUT THE ORGANIZATION:

CoolCrop develops decentralized solar cold storages at the point of harvest or aggregation so as to provide access to primary processing, preservation and long-term storage to small farmers, farmer groups or farmer companies.

CoolCrop works with Farmer Producer Companies (FPCs), resource institutions, NGOs and multilateral and other development organizations to identify the post-harvest needs of farmers involved in horticulture.