Technology helps Assam village women craft their sustainable future

Women at Sonoabori, a tiny village in the Bhurbandha block of Morigaon district flanked by the Bramhaputra are gradually taking their future into their own hands.

Thanks to the Women's Technology Park (WTP), supported under the scheme, "Science & Technology for Women" by Science for Equity and Empowerment Division (SEED) of Department of Science &Technology (DST), women have empowered themselves with technologies for their sustainable future.

A Common facility centre at village has been established for developing, boarding technologies, and providing training for location specific technologies for women. The women are developing value added products and convenience foods from food crops, adopting smokeless cook stoves and biosand filters for access to clean drinking water.

The team, put together by identifying key individuals and potential women SHGs with relevant technological interest through village level awareness camps, is a formidable one. Twenty eight women led rural enterprises are working for the promotion of improved cook stoves, safe drinking water, and food crop based value addition units. Seven Self Help Groups (SHGs) work on value addition of food crops & convenience food, 11 groups build Improve Cook Stove (ICS) while 10 promote biosand filters. Ten lady village representatives have been capacitated on Solar Photo Voltaic(SPV) service & repair. Smokeless cook stoves have been set up in 262 homes, biosand filters in 150 and seven domestic level food processing units established.

Improved Cook Stoves

Introduction of energy efficient mud cook stoves was envisaged to enhance firewood savings and simultaneously improve health and indoor air quality, given the fact that firewood was the primary source of rural energy requirement for 94% of the households.

In order to overcome this problem women SHGs were trained in cook stove technology for fuel savings and for environment conservation. The raw materials included sawdust, brick, sand, cowdung, clay, pottery chimney with cowl. The cook stove was built in the kitchen of the beneficiary households. Through house to house visits SHGs invited women folks to visit the demo sites and also appraised them about the possibilities of the monthly installment (EMI) system.

Training women to improved Cook Stove technology

Biosand filters

Organizing women folks in water quality monitoring and management and introduction of Biosand filters became crucial as about 82 % households were dependent on private hand pumps for drinking water which was largely untreated resulting in water borne diseases.

Ten women SHGs were organized & trained as water managers. Raw materials include plastic barrel, tap, pipe and accessory fittings, strainer net, coarse sand, charcoal, stone chips, charcoal retaining bag. They sell the products only to known customers under an equated monthly installment (EMI) system on the product. Post installation of the filters, the SHGs carried out water quality testing for the customer's confidence. creating the

Training program on Domestic water quality management and Biosand Filter production

Micro Food processing & Value addition unit

Small agro processing enterprises for value addition of local fruit and vegetable for rural-Income Generation was an immediate necessity to improve the lives of a population 87% of whom depended on agriculture as the primary source of livelihood.

Seven women SHGs post capacity building established themselves as small scale agro processing enterprise processing local food crops and gain meaningful employment. The SHGs procured the major raw materials from the village households and carried out food processing at a common facility chosen amongst the group members. The value added products produced by the SHGs were marketed in the village shops, weekly markets and at the nearby townships.

Training program on Value addition of food crop & convenience food

Capacity building for SPV Service & Repair

At a place where 61.32% of households did not have any access to electricity and only 14.71% households have solar lighting facility, local capacity for maintaining and repairing photovoltaic (PV) systems was essential.

A four day training program was conducted during at WTP premises. Participants felt the capacity building was an excellent opportunity to learn several aspects of Solar PV technology and received

hands on experience in assembling solar PV systems for home lighting. They learnt about fundamentals of batteries, practical with hydrometer, interconnection of batteries (series and parallel connections), electronics that are used in PV systems and details about wires, their physical sizes, Maintenance and troubleshooting of PV components from AEDA professionals.

Training program on Solar Crop Dryer production;

There are shortcomings in the conventional system to dry grains, fruits, fish and other products, drying in sun directly . But after the solar crop dryer training, they realized that the **Cabinet type dryer** and **tunnel type** drying system was conducive to preserve fruits, vegetables, grains, fish and other agricultural products from renewable source of energy.

SHGs after the capacity building exercises on specified themes have been able to successfully implement and execute the horizontal transfer of technologies. They have promoted and distributed biosand filters, cooking stoves and other technologies, to the community.

The women's group implementing the activity on value addition of food crops beyond capacity building and facilitation with basic food processing kits have engaged themselves in making various value based food products from local food crops; star- fruit, Chili , bamboo shoot, Lemon, King Chilli, goosbery, ginger, lemon, coconut, etc. and have made value added products like pickle, jelly,

jam, biscuits, fruit juice, coconut oil, cookies, and chocolates. The monthly average earnings amounts to Rs 2700/- only, with a potential to upscale the production and raise the earnings.

The women technology park has addressed rural energy requirements amongst 35% rural households, improved energy efficiency & indoor air quality, generated health benefits amongst women folks, elevated environmental pressures from firewood extraction from homesteads and surrounding wetlands habitats, and supported a benign environment for local wetland biodiversity. Through the water led enterprises it has provided direct intervention amongst 20% households with safe drinking water which has brought about a great level of satisfaction amongst the benefiting households with respect to reduction in water borne disease; diarrhea and in the improvement in food quality preparation.