SELCO Foundation

Energy access and Health

Key terms: Primary health care, health-energy nexus, bridging energy gap, quality primary health care, critical loads

The Primary Health Centre - Vallipuram, is located in Vallipurum, Tamil Nadu. The PHC faces huge power cut issues on regular basis. There are some critical electrical loads in the PHC like Ice Pack Freezer, Ice Lined Refrigerator, Baby Warmer & Semi-autoanalyser, which needed uninterrupted power supply at the time of load shedding. Hence, Solar system could support the critical loads as a back-up source of power.

Impact

After successful completion of the solar system, all critical & necessary loads are running without any interruption.

Identification

The SELCO foundation identified the PHC through J. Krishnamurthy Foundation and came to know that the services provided in the PHC (especially the maternal and child health care) was impacted due to the frequent power failure and quality of the power supplied.

Need Assessment

Post the identification; Mr. Ravikiran form SELCO India did the need assessment. With the consultation of the PHC doctor and the staff, the critical load required for the PHC was calculated. Decentralized Renewal energy (DRE)- in this case solar powering was suggested to bridge the energy gap in the Vallipurum PHC

System Design

- Hybrid Grid sharing system - for existing PHC loads
- 65% Solar + 35% Grid with 4 hrs. Max. Battery back up
- Automatic Load Bypassing mode (to grid) at Nighttime
- Battery will be operational at the time of load shedding
- 2 Days of Autonomy

Financial

Total System Cost: INR 3,00,000/-(Including Transportation & Electrical Load Wiring)

Overview:

Vallipuram Primary Healthcare Center, is located in Kanjeepuram District, Tamil Nadu. The PHC overs a total population of 42000 and 43 villages. On an average the PHC consults around 100-120 patients in a day, the furthest villages are Nanmali and Mosivakam at 30 kms radius. Mostly people come within a 10-15 km radius. The villagers are registered under the PHC but go to whichever hospital (such as Chengelpettai) that is closer. Typical diseases covered in the PHC are cough, cold, lifestyle diseases such as diabetes, heart disease, hypertension etc., ADD (loose motions), anemia, antenatal care, mental health issues etc.

Monthly deliveries used to be up to 15-20 but now reduced to 4-5 due to staff shortage. Mostly because they are referred to other larger hospitals or community health centers (CHC). Every Tuesday scheduled check-ups for antenatal mothers with lab tests held in the PHC. Since the power is not available once a month, these tests are done on generator and then mothers are asked to come next week for follow-up. This affects the MCH services provided in the PHC. Patients sometimes stay the night before going to other hospitals – during the night stay of the patient frequent power outage creates discomfort to the patients and the quality of the services provided during this time are hampered.

The PHC has a generator donated by a local doctor a year ago; the generator runs most lights, nebulizer, lights, fans etc. The petrol/diesel consumed is approximately 30-40 liters/month.

The PHC has a well with an electric motor. It is switched on early in the morning when power is available. However, if there are power cuts for more than 2-3 days there is a water shortage in the PHC.

IMPACT	
Significantly better working environment, patient experience and quality off the service provided.	Provided reliable source of energy for optimal function of the PHC