Initiatives on solar energy, water management, and waste reusing to avail financial and environmental benefits

Williamnagar Civil Hospital (Meghalaya, India)

GGHH Agenda Goals

- Energy
- Waste
- Water

Hospital goals

- Reduce energy costs
- Promote clean energy
- Reuse waste
- Reuse water

Progress achieved

Savings of up to Rs 97,000/USD 1,246 on yearly diesel expenditure (assuming a diesel generator would have been used as a power backup option) and prevention of 5.11 tons of carbon emissions per year as well.

The issue

The state of Meghalaya faces erratic power cuts which has affected the delivery of healthcare services. These disruptions in power region can last as long as eight hours per day and can be worse during the monsoon period in East Garo Hills district, as the power supply lines go through the forest. Williamnagar Civil Hospital is the only hospital in the district which makes it all the more important to have a consistent power supply.

Sustainability strategies implemented

Solar energy

Considering the rising covid cases, current fluctuations and power cuts, the district collector of Williamnagar approached SELCO Foundation in May 2020. He was already aware of the work that SELCO Foundation had done in the field of renewable energy in the public health sector. Discussions on installation of solar panels continued through the district surveillance officer. After securing the required permission from the district administration and following the required Covid protocol, SELCO Foundation started with the installation work.

In 2020, when COVID-19 cases were on the rise, Williamnagar Civil Hospital was converted into a Covid care centre. The blocks that were used as a Covid care centre and isolation ward were

installed with solar panels that power basic loads like lighting as well as critical equipment for covid care. Specifically, the equipment running off of solar power include - existing LED bulbs and tube lights, fans, charging points, refrigerators, deep freezer, suction apparatus, oxygen concentrators, semi auto analyser, and needle cutter.

Solar energy is used as a backup, whenever there are power cuts. The solar power systems installed in the covid care centre and isolation ward have capacities of 3.96kW (12 solar panels) and 2.97kW (9 solar panels) respectively. In the case of unavailability of sun, the battery provides a backup of up to two days. The staff at the hospital has been trained for the maintenance of solar panels.

Biodegradable waste reusing

The hospital has a vermicomposting pit, about 4x6 feet, wherein food waste from kitchen and patient wards is dumped. The manure that is generated is used for plants and trees on the hospital premises. The pit can process about 4.8 metric tonnes of food waste at a time.

Water management

The hospital staff conducts regular checks for leaking taps to ensure there is no wastage of water. They also have a setup for rainwater harvesting. Rainwater is collected in three sintex storage tanks of 10,000 litres capacity each. The collected water is used for gardening and laundry.

Demographic information

Williamnagar civil hospital was established on 25th June 2007. It is a 100-bedded hospital situated in the main town Williamnagar. It is the only hospital in East Garo Hills district of Meghalaya, catering to a population of 24,725.

Next steps

There are plans to solarise all of the hospital blocks to make its delivery of health services more efficient and reliable.

Links

To learn more about Health and Environment Leadership Platform and its members:

https://www.ceh.org.in/activities/help/about/

To gain access to HELP's information, education, and communication materials and other case studies:

https://www.ceh.org.in/resources/

Main contact person information

Sunila Dixit (HELP)

Email: sunila@ccdcindia.org

Sijil Joseph (SELCO Foundation)

Email: sijil@selcofundation.org

References

http://eastgarohills.gov.in/williamnagarcivilhospital/

https://selcofoundation.org/wp-content/uploads/2021/12/SF_COVID-19-Response-and-Recovery-Role-of-Sustainable-Energy-and-Decentralized-Healthcare.pdf