Promoting Environmentally-Friendly Energy Sources

Cameroon Baptist Convention Health Center (CBCHS)

Background

The Cameroon Baptist Convention Health Services (CBCHS) is a network of over 100 health facilities run by the Cameroon Baptist Convention. It covers seven of the ten regions in Cameroon, and seeing over 1,000,000 patients per year. Most facilities depended on energy from the Hydro Electric power from the national electricity supply company, ENEO, and generators which emit a lot of toxic gases to the atmosphere. Ngounso Baptist Health Center for instance has a bed capacity 25 beds and an outpatient attendance of 12758 and 1078 admissions (CBCHS Annual Report, 2018). It is located in the West region of Cameroon in the Noun division where the population lives on subsistence agriculture and pays medicals bills with money from the sale of farm products.

The Issue

It has been widely documented that the use of fossil fuels is linked to severe diseases in humans including kidney diseases, cardiovascular diseases, respiratory distress, liver disease, reproductive issues, and some forms of cancers. Renewable energy such as solar ameliorates the health of hospital, the environment and the community. An estimated $2300US was spent annually on fuel excluding repairs in over 32 remote health centers whose savings achieved from the installation of solar are now being transferred to patients through other infrastructural development.

GGHH Agenda Goals

- Energy

Hospital Goal

- Improve energy access and dependability with clean renewable energy
- Reduction in energy costs

SOLAR PANELS AT NGOUNSO BAPTIST HEALTH CENTER

Implementation Process

Solar energy for health care improvement is new to many in Cameroon especially in the health sector. Before taking the decision to install solar energy, the Cameroon Baptist Convention Health Services (CBCHS) Technical Services Department (TSD) engineers engaged with other solar energy engineers in the country and visited similar experienced sites. Feasibility studies were conducted considering the geography of the locality and cost. The cost of running a generator annually stood at about $2000US as compared to solar panels at $920US. At inception, continuous monitoring was conducted to assess energy that was being produced to determine required panels. Health center based technicians were monitored monthly for six months to ensure competency in preventative maintenance.

. **Progress Achieved**

- We have started embarking on solar energy beginning with health centers in remote areas.
- Two other health centers, Nwat (located in the Donga Mantung of the North West region) and Nyamboya (located in the Bamkim Adamawa region) both share the same energy challenges being dependent on generators. Each facility is a 24 bed unit that now runs solar panels for lighting and operating basic medical equipment. The panels now provide 1000-1200 watts of electricity creating continuous power to the health Centre (24 beds, a mini theatre and a delivery room in each facility) and twelve staff houses at each facility.
- Savings achieved through on-site solar energy is passed on to patients in the form of other infrastructural developments and improvements and the purchase of basic supplies to improve cleaning such as mops, detergents, and personal protective equipment such as rain boots and utility gloves.
- Some hospitals have started replacing security lights with solar panels.

AN OLD GENERATOR AT NGOUNSO BAPTIST HEALTH CENTER

Sustainability Strategy Implemented

The management committee made up of administrators, medical doctors, nursing leadership and engineers, instituted in these centers annual budgets following the completion of these installations. In a facilitative supervision and management seminar, sustainability and management of solar energy was a module to raise awareness following the pilot that took place in Ngounso Health Centre. An inspection team of engineers was assigned to oversee the management of solar panels periodically to ensure efficiency for a period of six months. During this period, health center based technicians were trained on the management and maintenance of solar panels.

Tracking Progress

As compared to a generator that supplied energy daily for four hours from 6:00pm to 10:00pm, solar panels have sustainably over 24 months supplied 1000-1200 watts of energy for 24 hours each day making the running of health center equipment easy. Inadequate or no electricity at night has become a thing of the past whereas the amount of money spent annually on generating energy using a generator for health center operations has dropped from $2000US to $920US. Less time and money is being spent in repairs and maintenance of solar panels than in generators which sometimes required the acquisition of certain parts which were difficult to find in the local market.

Challenges

- Having higher management accept that solar energy was cost effective and environmentally friendly was a challenge as they were used to generator overs the years.
- Training local engineers on preventive maintenance was a challenge as the technology was new to them.

Lessons Learned

- Instituting change and new concept is difficult especially at the level of higher management as it requires patience
- Solar energy is not only environmentally friendly but is cost effective in running a health center in remote areas without hydroelectricity or other forms of energy.

- Training local engineers and technicians in the installation of solar panels does not require very highly trained personnel,

Next Steps

Preventive maintenance and additional solar panels will continuously be added to ensure regular supply of energy with increased services. Solar panels will progressively be installed in those health centers still depending on generators for energy.

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