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SNAPSHOT

Solar Power Energizes Clinic

Solar power enables 24-hour-a-day operations, improves hygiene, and expands services



Photo: USAID/ACEP: Robert Foster

The Deh Sabz clinic's battery bank, power boards, and inverter.

A new solar-powered electric system, water heater, and refrigerator at the Deh Sabz clinic have improved the services and systems it offers people of the surrounding district.

The Ministry of Public Health's comprehensive clinic in Deh Sabz District on the outskirts of Kabul treats about 250 patients a day, mostly women and children, from a surrounding population base of 150,000. Besides supporting a laboratory and pharmacy, it performs ultrasound examinations and offers a wide range of medical services, including internal medicine, minor surgeries, and maternity and pediatric care. It also handles two or three deliveries every day.

Until recently, the clinic had no hot water for cleaning and sanitation and it depended on an unreliable, expensive diesel generator to provide electricity for lights and essential equipment. Nearly all the money received by the clinic for its services to patients was spent on fuel to run the generator.

With technology provided by USAID, sunlight now powers the clinic's electrical systems and equipment. Through photovoltaic technology, an array of solar panels located alongside the clinic converts the sun's energy into five kilowatts of electricity. Stored in maintenance-free sealed batteries inside the building, the electricity is released on demand to light the clinic at night and to run its computers, microscopes, incubators, autoclave, and other equipment throughout the day.

Another important piece of the USAID equipment package is a solar water heater to enable frequent hand washing, to clean instruments and bedding, and to assure that childbirth is safer for mother and child. USAID also provided a solar-powered refrigerator, which maintains a constant temperature suitable for extended vaccine storage.

When properly maintained, the solar panels will last up to 40 years, while the batteries will need to be replaced after seven to ten years, depending on usage. The systems' operating costs are negligible, unlike diesel generators, whose fuel can cost more than \$30,000 a year when run daily.

According to Dr. Akram of the Ministry of Public Health, "Our goal is to continue to upgrade and improve the services and systems our clinics have to offer. Solar electrical, hot water, and refrigeration systems like those at Deh Sabz make a huge difference in the quality of the healthcare we can offer the people we serve."