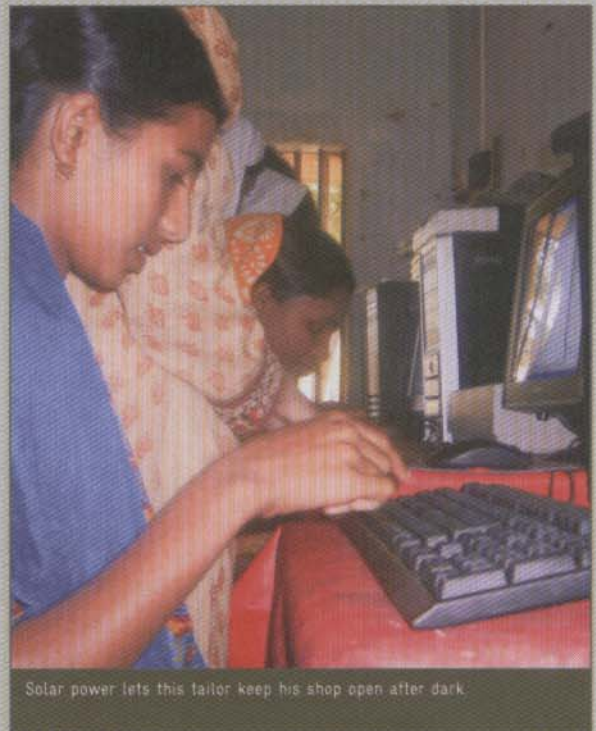


Solar Energy Key to Rural Development in Bangladesh

85 million Bangladeshis have no electricity in their homes – the grid does not extend to the remote villages where they live and, in fact, in most cases, the power lines will not reach them for another 15 or 20 years. These villagers do most of their work from dawn to dusk, and in the evenings they depend on kerosene lamps, which provide poor illumination and cause respiratory and eye problems.

Although the energy needs of these people are modest, energy is essential to their development: They need light to be able to earn income from handicrafts and from extended opening hours in market stalls, cafés, rice mills, saw mills, tailoring shops, and grocery shops. Their children need good light to study in the evenings, and schools need energy in order to be able to teach the IT skills mandated in the national high school curriculum. Community health centers need a refrigerator to store vaccines and other medicines. If they had mobile phones, the villagers could keep in touch with market prices for their produce, and with their relatives working in the cities or overseas.

The cheapest and quickest way to meet the modest energy needs of these people is through solar technology. And, in fact, one of the world's most successful solar energy programs has been working in Bangladesh for the last five years to do just that: over 135,000 solar home systems have been installed in the country's rural villages since 2002, benefitting over 675,000 Bangladeshis. The program was initiated by the Infrastructure Development Company Ltd. (IDCOL), a Bangladesh-Government-owned financing company, and has been supported by the World Bank, GEF, and German development cooperation through KfW and GTZ.



Solar power lets this tailor keep his shop open after dark.

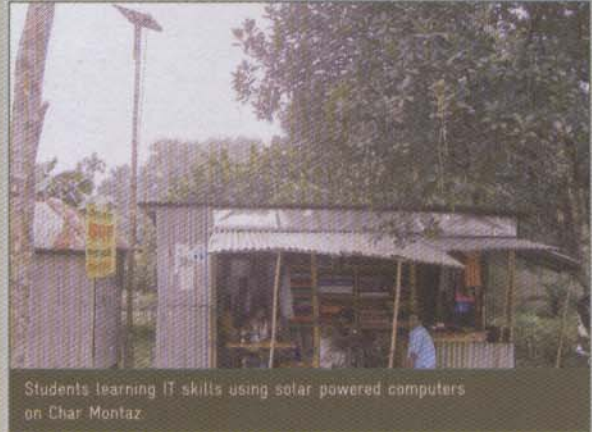
IDCOL works through local partner organizations that sell, install, guarantee, and maintain the systems. A typical 50 watt solar home system, which can power four to six low-energy lights, plus a socket for TV, radio, or battery recharging, and a mobile-phone-charging unit, costs around 25,000 takas (300 euros). Grameen Shakti, the sister organization of Nobel-Prize-winning Grameen Bank and one of IDCOL's partners, designed the innovative micro-credit scheme that made solar home systems affordable for ordinary rural families - for example, allowing a customer to make a down payment of 15% and pay the remaining amount within two years in monthly installments.

The genius of this program lies in the fact that the partner organizations have a permanent presence in the rural areas. They not only extend micro-credit in order to sell the systems; their technicians also install the solar systems, guarantee them (20 years on the panel), and perform any required maintenance, free of charge, when they collect the monthly payments at the customers' homes. If something fails – the lamp, for example – the outlet of the partner organizations is less than 15 kilometers away and a replacement can be obtained within a reasonable time.

According to Dr. Peter Adelman, whose company Phocos AG recently entered into a joint venture with Grameen Shakti to produce components for solar home systems in Bangladesh, this financing and service scheme is the critical element that is missing in most countries, and it means that Bangladesh can become a model for numerous countries worldwide, where two billion people have no access to electricity and can best be served by solar energy.

Small Solar Home Systems for the Very Poor

However, Bangladesh is not the only country in the world to have discovered the potential of solar power: world-wide demand for solar panels is skyrocketing and the solar panel cost per watt peak is also high - \$3.5 - \$5.5. Since the price of solar panels is about 60% of the cost of a solar home system, the price of a system remains out of reach for many rural Bangladeshis. Therefore, the Sustainable Energy for Development (SED) Program, supported by the Bangladesh Ministry of Power, Energy, and Mineral Resources (MPEMR) and the German Federal Ministry for Economic Cooperation and Development (BMZ) through GTZ, is spearheading a new approach.



Students learning IT skills using solar powered computers on Char Montaz.

The SED Program has encouraged Grameen Shakti, the Rural Services Foundation, and other private-sector partner organizations to develop and test the market for still smaller and less expensive solar home systems so that even very poor Bangladeshis can afford them. With SED support, these organizations have used new light-emitting diode (LED) technology to design solar systems of between 10 and 20 watts that can power four to five lights and charge a mobile phone at a cost of only 8,000 to 13,000 takas (86 – 140 euros).

Public response to these small solar home systems has been very positive, so positive in fact, that IDCOL has agreed to include these smaller systems in its solar home systems program and has lined up financing for the first 24,500. GTZ, with co-financing from the Netherlands Directorate General for International Cooperation (DGIS), will be providing buy-down grants and other support for the partner organizations to help them develop the market for these smaller systems, using the same successful model employed for the larger systems.

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