KfW Development Bank

Project Information

Federal Ministry for Economic Cooperation and Development

Implemented by: KFW

Energy – Bangladesh

Power supply from the sun

Whether in Southeast Asia, India or the countries of sub-Saharan Africa – none of the worldwide programmes for expanding solar energy systems in private households are growing as rapidly as in Bangladesh. Every month up to 70,000 new Solar Home Systems (SHS) are installed here. Until early 2015, more than three million systems have already been installed in the country. If the high level of interest in SHS systems continues, the goal of installing six million of these decentralised solar energy power connections will be achieved by mid-2016.

Context

When the sun goes down in Bangladesh, darkness descends on the villages. In the countryside, home to 80 % of the population, there is a lack of energy to light up the night. Private households, small shops and workshops are reliant on kerosene lamps to provide what is a weak source of light and expensive batteries and diesel generators which deliver an insufficient source of energy. And accordingly, the huts lack bright light for children to read and study, with stalls and shops of market traders also affected.
Only around half of the population is connected to the regular energy supply network. For this reason, expanding the energy supply is top priority in Bangladesh. Until the country has expanded its national grid across the nation, the government is and has been promoting the installation of SHS since 2005, to counteract the energy deficit in rural areas.

On behalf of the Federal Ministry for Economic Cooperation and Development, KfW has been supporting Bangladesh with a total of EUR 16.5 million to distribute solar systems in the country since 2007. The lion's share of the funds has been channeled into micro finance institutions as subsidies, to lower the price per system for end-users.
Alongside other donors such as the World Bank, Germany has co-financed around 440,000 SHS in Bangladesh. However, the FC programme in Bangladesh is not yet completed. KfW, in cooperation with its local partner, the government owned Infrastructure Development Company Ltd. (IDCOL), is currently financing further solar appliances, such as irrigation pumps powered by photovoltaic systems or village power supplies.

Project name	Private-sector power distribution, renewable energies – solar energy
Commissioned by	Federal Ministry for Economic Cooperation and Development (BMZ)
Country/Region	Bangladesh
Lead executing agency	Infrastructure Development Company Ltd. (IDCOL)

Children can now also do their homework and read in the evening with electric light from their own solar appliances. Source: Jörn Breiholz

Project approach

The simple, robust SHS systems are sold with batteries, cables, installation material and lamps via micro finance institutions or non-governmental organisations (NGOs) to rural households, and are often financed by loans. The average price per appliance ranges from EUR 80 to EUR 300, depending on size. The organisations involved refinance these loans via the local programme partner, IDCOL, which distributes, coordinates and supervises the SHS programme in Bangladesh.

Maintaining and monitoring the purchased systems is also carried out by the financial institutions and NGOs involved, while customers themselves are responsible for operating them. During installation, users are trained in how to operate them and subsequently receive support locally. This system works well because it is largely the technical staff of each sales organisation that gathers in the monthly instalments.

The majority of the SHS components, charge regulators, lamps or batteries are produced locally, which benefits the domestic economy. Furthermore, parallel to the programme, a formalised recycling industry for used SHS batteries has been established – as well as financial incentives for households to dispose of old batteries in an appropriate way.

Impact

Solar home systems provide a reliable supply of electricity, albeit not around the clock. While the smallest systems are adequate for house lighting and charging mobile telephones, larger SHS can also operate a radio and a black and white television for four hours per day. This has noticeably increased quality of life, for instance by comparison the level of pollutants in the air from traditional kerosene lamps has fallen significantly, as well as the risk of burns and fires. Thanks to their own source of solar power, children can now also do their homework or read even when it is dark, and shops can extend their opening hours and tradesmen can sell for longer. After teething problems, the programme has now reached such a high level of acceptance within the population that it largely works without subsidies. Initially households hired the appliances, but the current model whereby users purchase the systems themselves financed by microcredit has proven to work well. A further important success factor was that Bangladesh has effective micro finance institutions at its disposal, which were able to carry out the marketing and also the financing of the systems through their numerous branches in rural areas.

The decentralised home solar systems are so popular due to their reliability and simple maintenance that they are now an important pillar of the domestic energy supply in Bangladesh. Ultimately, even in areas where regular electricity networks exist, a reliable supply of energy is not guaranteed due to frequent power cuts.

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