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Case Summary: Bangladesh's IDCOL Solar Programme

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Solar panel installation in Bangladesh. Photo: ILO

The Programme

Infrastructure Development Company Ltd. (IDCOL), a government finance institution, has been instrumental in scaling-up electricity access through off-grid solar home systems (SHS) across Bangladesh. This public-private partnership has successfully rolled out approximately 4.1 million SHS since 2003 using innovative financial and technology packages. However the IDCOL's SHS programme has had to modify its original design in order to adapt to changing market conditions. In recent years a fall in price of solar technology, new Government subsidies, and the extension of grid to rural areas have combined to reduce the number of SHSs being purchased through the IDCOL scheme. The Bangladesh case provides an example of a programme that successfully kick started the market for SHS, but also is a cautionary tale of an initiative that was less successful in evolving rapidly enough in response to the changing market environment.

Design Features

IDCOL has provided a channel for dispersing financial support from international donors to the SHS market since 2003. IDCOL implemented the SHS programme through its partner organisations (POs) (e.g. Micro Finance Institutions (MFIs), private entities, and NGOs) by providing them with grants, soft loans, and technical assistance. POs then selected customers to receive subsidies, extend loans, install systems, and provide after sale services. As the market developed, the programme planned to phase out subsidies and concessional finance. The key elements of that underpinned to programme's early success were:

- **A single channel for dispersing financial support** from international donors and multilateral development banks, which helped unify a fragmented market and standardizing the technology, finance and policy in Bangladesh.

- **Concessionary finance to subsidise SHS** in the early stages of the programme. Given the lack of an existing SHS market, this finance package was essential to build the capacity of the private sector and enable the market to grow.

- **Innovative financing model suitable for poor households.** The scheme used monthly instalments - emulating the approximate amount spent on kerosene – to make SHS affordable for citizens, and later adopted innovations such pay-as-you-go financing and mobile banking to expand access. By focusing on the smaller and cheaper SHS, the programme was able to reach the lower income quintiles of the market.

Key Results

Impressive scale of coverage: About 4.1 million SHS installed, enabling households that live on approximately US$2 a day to power at least one light and a mobile phone charger. About 12-15 percent of the population currently using solar in rural, off-grid areas - thanks to IDCOL programme.

Approximately **100,000 jobs were created** directly or indirectly as a result of the programme.

Lessons Learnt

Keep an eye on the market: In 2003, solar required subsidy support to be attractive to consumers. However, the dramatic worldwide drop in SHS cost since 2010 should have prompted a review of the programme.

Build in flexibility: Public agencies are often not the fastest to respond to new technologies (e.g. the rise of pay as you go technology in the solar market). Flexibility in technology design should be allowed without compromising standards.

Plan an exit strategy: The initial success of the programme led IDCOL to continuously increase the number of beneficiaries, leading to an exponential growth that was not sustainable. At the onset of the programme, an exit strategy could have been agreed upon with all stakeholders.

Tailor support mechanisms: Emerging solar markets are not the same as the Bangladesh market. Different support mechanisms will need to be considered for other programmes, e.g. supply side rather than demand side subsidies.

Raise awareness and enforce standards: Increased competition in the solar market has dramatically reduced cost, but also led to poor quality installations and equipment. Future programmes should take consumer awareness and standards enforcement into consideration.

Integrated energy planning: The rapid and subsidised extension of the central grid has undercut distributed grid sectors, something which could have been avoided through coordinated planning and regulation.

Select appropriate technology/business model: Candid discussions and information sharing is necessary among all stakeholders when deciding on appropriate technology and business models for different countries. E.g. mini-grids, nano-grid, and solar irrigation models do not work in every country.

This summary was prepared based on the "Bangladesh: Renewable Energy Scoping Study", which was developed by ICED for DFID Bangladesh to inform its energy programming. Here ICED provides a snapshot of what happened and identifies seven lessons learned relevant to donors wishing to support other private sector development programmes within the solar market and beyond.

If you want to find out more about this scoping study, please contact iced.programming@uk.pwc.com.