

Energy Sector Management Assistance Program :Solar Mini-grid

CAPACITY BUILDING/TRAINING Solar Mini-grid :Bangladesh Case Study

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AN OVERVIEW OF IDCOL

- A development financial institution owned by Bangladesh government
- Started operation in 1997
- Works to support the **private sector**
- Operates in **infrastructure, energy efficiency and renewable energy** sectors
- Largest financier of infrastructure and RE projects in Bangladesh
- Funded by development partners like the World Bank, ADB, JICA, IDB, KfW, GIZ, USAID, DFID, GEF
- Invested approx. **USD 1,000 million** in renewables

Infrastructure



Power



Telecommunications



Port

Renewable Energy



Solar Home System



Solar Mini-grid



Solar irrigation Pump

IDCOL's Solar Initiatives



Financed 4.8 Million SHS



**107,032 Solar Street Lights
Installed under Social Safety-
net Program of GoB**



**23 Solar Mini grid
Projects in Operation**



**1,221 Solar Irrigation
Pumps in Operation**



**Started Financing Solar Rooftop
Projects, Target 300 MWp**

An Overview of IDCOL Mini-grid Projects

- **Size** : 100kWp to 250kWp project
- **Location** : Isolated off-grid islands
- **Sponsor** : Private companies/NGOs
- **Financier** : IDCOL
- **Progress** : 23 projects in operation
- **Finance** : Equity-20%
Loan-30%
Grant-50%
- **Funding source:**
 - **Grant:** GPOBA, USAID, UKAID, KfW
 - **Loan:** IDA, JICA



Key Challenges in the project areas

New Customer Acquisition

High connection fee

Misconception about the tariff

Day load-Optimization

Unavailability of the efficient electric run appliances/machinery

Inefficient cultivation practices

Entrepreneur Development

Lack of innovative ideas & technical know-how

Absence of financial institution

Reporting & Documentation

Lack of proper documentation & reporting skills of plant staffs

Plant Performance Monitoring

Lack of proper skills for operation & maintenance

Usage of energy efficient appliances

Unavailability of energy efficient appliances at project sites

Poor after sales services of the appliances

CUSTOMERS TRAINING INITIATIVES BY IDCOL

2017-2018

- Organized by Sponsors
- Conducted by IDCOL
- 11,597 participants (272 batches)
- 4,483 New customer acquisition
- **Acquisition rate 38%**



2018 (Dec)

- Assessment of effectiveness of the training program
- Restructuring of the training program
- Changes in collection modality of connection fee



2019 (Up to May)

- Organized by sponsors
- Potential customer identification, invitation and training conducted by IDCOL
- 2,210 participants (43 batches)
- 1,910 new customer acquisition
- **Acquisition rate 85%**

Capacity Building Activities



Farmer's Training



Management Training



Operator Training



Entrepreneur Development Training

Women Empowerment



Encourage women participation in the training

Focus on income generating activities

Special emphasis on safety & education

New Development in the Project Sites



Electric Auto-Rickshaw



Laundry



Refrigerator in Grocery Shop



Irrigation



Electric Workshop

Way Forward

New customer acquisition training

Training on productive load i.e. refrigerator, fan etc.

Special entrepreneur development training

Business planning training with the existing workshops/saw mills etc.

Technical training for project staffs

Technicians training for the local technicians

Management training for the project sponsors

The background of the slide is a solid black color. Overlaid on this is a complex, abstract pattern of thin, light blue lines. These lines are arranged in a way that creates a sense of depth and movement, resembling a series of overlapping, wavy planes or a digital mesh. The lines are most dense in the center and become sparser towards the edges, creating a gradient of blue intensity. The overall effect is a modern, high-tech aesthetic.

Thank you.

SMG Customer Training - Contents

- Concepts of Mini-grid
- Differences among Mini-grid, Solar Home Systems and National Grid
- Benefits of Solar Mini-grid & Tariff calculation
- Types of loads that may be used
- Safety aspects and desirable maintenance
- Optimization of electricity consumption and minimization of cost
- Awareness building about energy efficient appliances
- Experience sharing of existing mini-grid beneficiaries

