



**Effective and innovative business models. What viability for privately led initiatives?**

**IDCOL Solar Home System Program in Bangladesh**



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## IDCOL Solar Home System Program

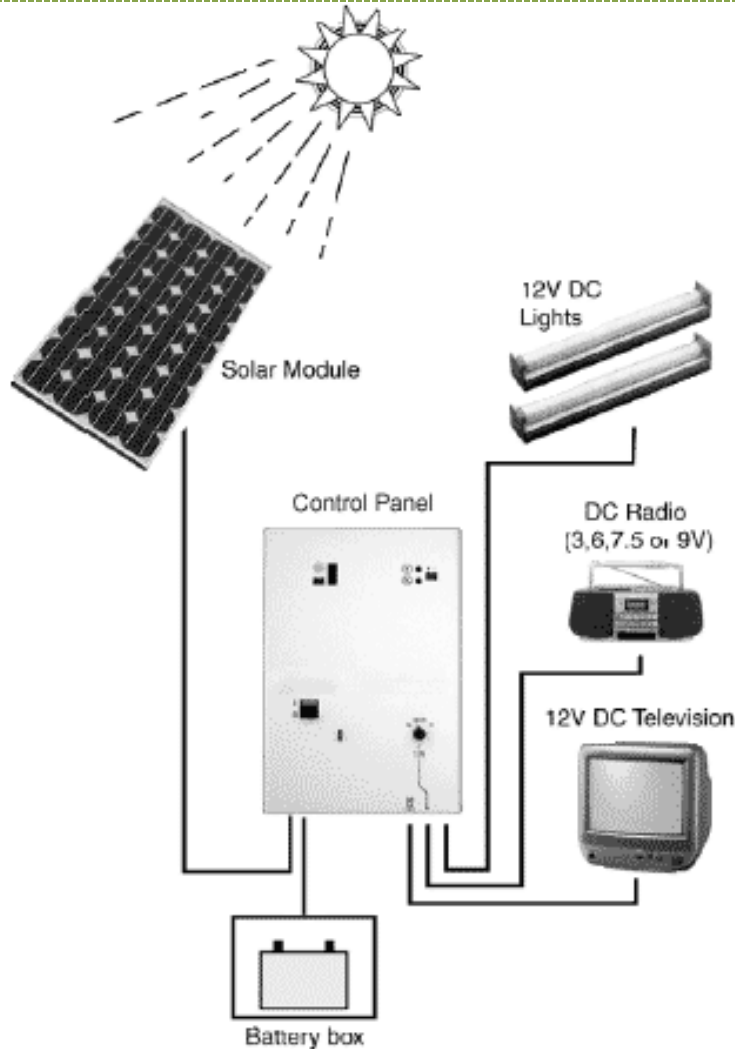


*IDCOL is a state-owned development financial institution dedicated to promote/finance infrastructure and renewable energy projects in Bangladesh.*

### **IDCOL Solar Home System Program:**

- What is a Solar Home System?
- Program at a Glance
- Program Structure
- Fund Flow and Role of Partners
- Financing Structure
- Quality Control Mechanisms
- Challenges & Mitigations

# What is a Solar Home System (SHS)?



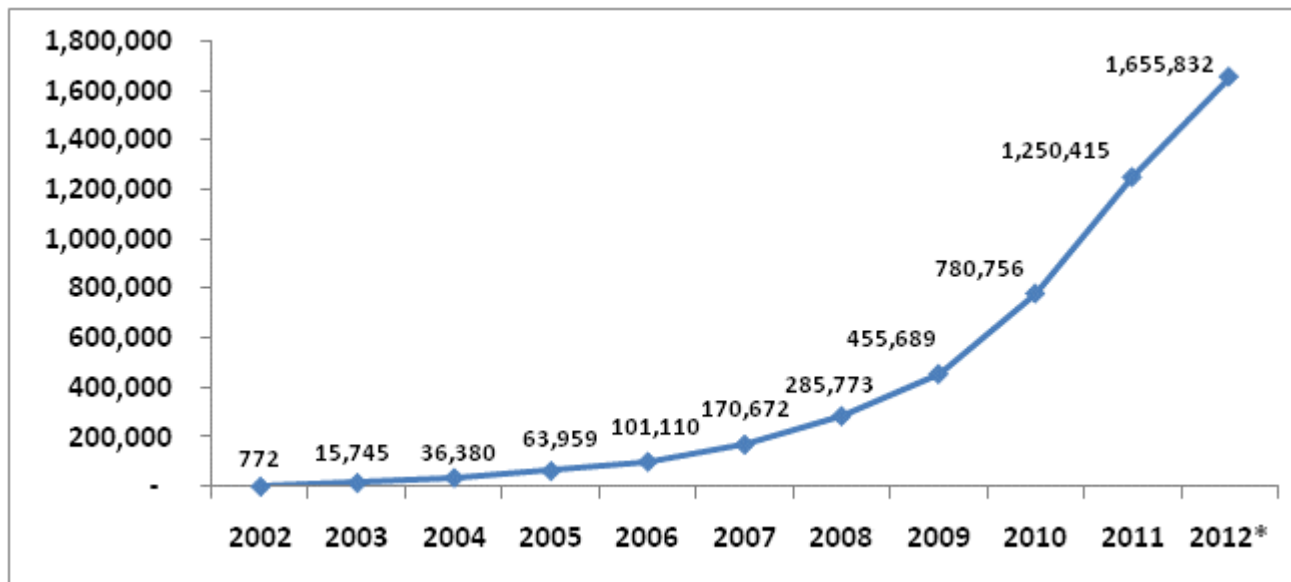
Capacity	Appliances	Operation
20Wp	Lamp: 2 Mobile Charger: 1	4-5 hours
50Wp	Lamp: 4 B & W TV: 1 Mobile Charger: 1	4-5 hours
85Wp	Lamp: 9 B & W TV: 1 Mobile Charger: 1	4-5 hours

- CFL /LED Light
- Gel Battery
- DC-DC Converter to run color television, fan, refrigerator etc.

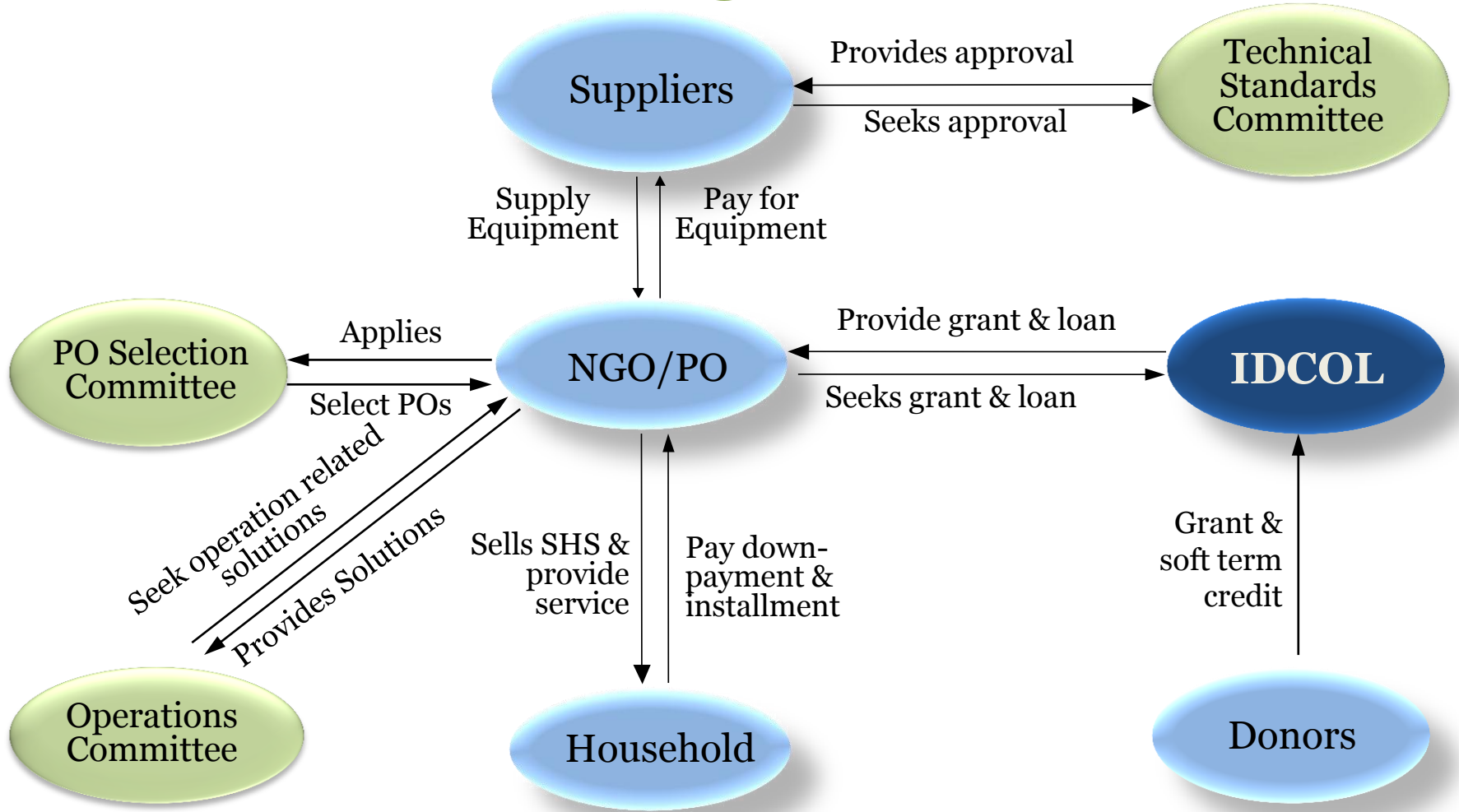
# IDCOL SHS Program – at a Glance



- Program Target : 4 million SHS by 2016
- Program Achievement : 1.66 million SHS by Sep 2012
- Number of Beneficiaries : 8.25 million people
- Power Generation : About 80 MW
- Fossil Fuel Saving : 165,000 ton/year
- Job Creation : 70,000 people
- IDCOL Investment : USD 350 million



# Program Structure



# Fund Flow and Role of Partners

Loan & Grant



Loan & Grant



Loan & Grant



Loan & Grant

## Multilateral Agencies

- Provides grant and soft loans
- Provides technical assistance needed

## GoB

- Provides grant and soft loan to IDCOL
- Provides policy support

## IDCOL

- Provides grants to reduce SHS cost and for capacity building
- Provides soft loans
- Provides training, promo support
- Monitors implementation

## PO

- Identify potential customers
- Installs SHS
- Extends micro-credit
- Provides after sales services

## Household

- Maintain system
- Repay loan in monthly installments

Debt Service



Debt Service



Debt Service



Debt Service

# Mode of Financing: an Example



(a) Market Price of 50 Wp SHS	USD 400
(b) Buy-down Grant (Grant A)	USD 25
(c) System Price for Household [(b)-(a)]	USD 375
(d) Down Payment from Household to PO [15% of (c)]	USD 56
(e) Loan Payable from Household to PO [(c)-(d)]	USD 319
Loan Tenor	3 years
Interest Rate	12% p.a.
Monthly Installment Amount	USD 8.5
(f) IDCOL Refinance [80% of (e)]	USD 255
Loan Tenor	5~7 years
Interest Rate	6~9% p.a.

# A Sustainable Financing Structure



## Phased -out Subsidy:

	2003	2004~5	2006~7	2008~9	2010~11	2012	2013~14
Capital Buy down Grant	\$70	\$55	\$40	\$40	\$25	\$25	\$20
Institutional Development Grant	\$20	\$15	\$10	\$5	\$3	-	-

## Concessional to Semi-Commercial Credit:

	2003~8	2009	2010	2011	2012	2013	2014
Loan Tenor	10 yrs	6-10 yrs	6-8 yrs	6-8 yrs	5-7 yrs	5-7 yrs	5-7 yrs
Interest Rate	6%	6%-8%	6%-8%	6%-8%	6%-9%	6%-9%	6%-9%
% of Loan Refinanced	80%	80%	80%	80%	70%-80%	60%	60%



# Quality Control Mechanisms



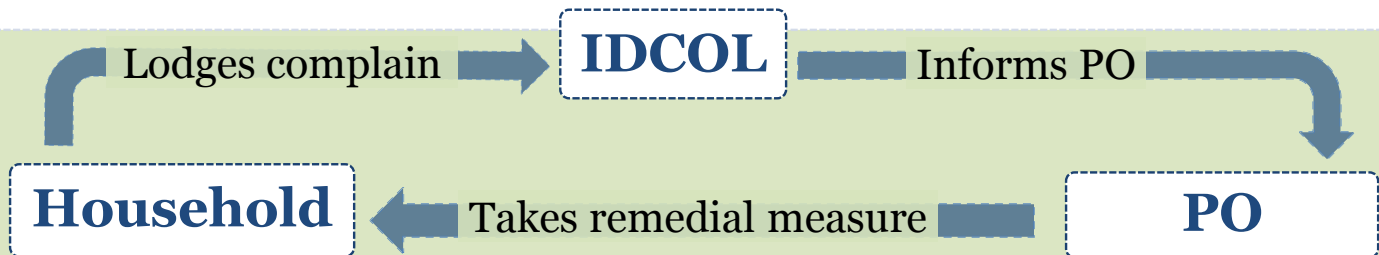
## Physical Inspection

- Physical inspection by technical inspectors
- Verification of collection efficiency by collection efficiency inspectors
- Independent technical and financial audit

## Training Programs

- Training for trainers
- PO Staff / customer training
- Supplier consultation

## Call Centre



# Challenges & Mitigations

Challenges	Mitigation
Lack of awareness	<ul style="list-style-type: none"><li>– Promotional campaigns</li><li>– Training programs</li></ul>
Untested business model	<ul style="list-style-type: none"><li>– Social enterprise model with an ultimate goal of commercialization</li><li>– Presence of multiple POs ensures healthy competition</li><li>– Phased reduction nature of grant</li></ul>
Lack of institutional capacity	<ul style="list-style-type: none"><li>– Institutional development grant / Long-term concessionary credit</li><li>– Staff training program</li></ul>
High cost of SHS equipment	<ul style="list-style-type: none"><li>– Capital buy-down grant / Concessionary credit facility</li><li>– Local support industry development</li></ul>
Lack of quality assurance	<ul style="list-style-type: none"><li>– Technical standard committee</li><li>– Quality control mechanisms by IDCOL</li></ul>
Lack of fiscal support	<ul style="list-style-type: none"><li>– Tax holiday</li><li>– Duty free import</li></ul>

# Replicability Potential : Prerequisites



**Every market is unique and has its own needs. However the following helps:**

- User access of private sector agencies/MFIs/NGOs
- Micro-credit outreach experience of the private sector agencies
- Adequate financial support from the donor agencies
- Availability of concessionary credit facility to the executing agencies
- An agency to monitor quality of products and services
- Development of local support industry
- Active support from the government i.e. fiscal benefits

**IDCOL provided knowledge support to a number of African countries to develop similar programs in their respective countries.**



Thank You



Q & A



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