

INTEGRATED **WATER & ENERGY** SOLUTIONS IN BANGLADESH

An Intervention Through “Peer-to-Peer” Solar Energy Trading

Sohel Ahmed

Managing Director of *Grameen Shakti*



Grameen Shakti

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- 524 SOLboxes across
22 P2P microgrids
under the UNDESA
“Solar PV Program for
Rural Areas”

- Access to 2000+
beneficiaries

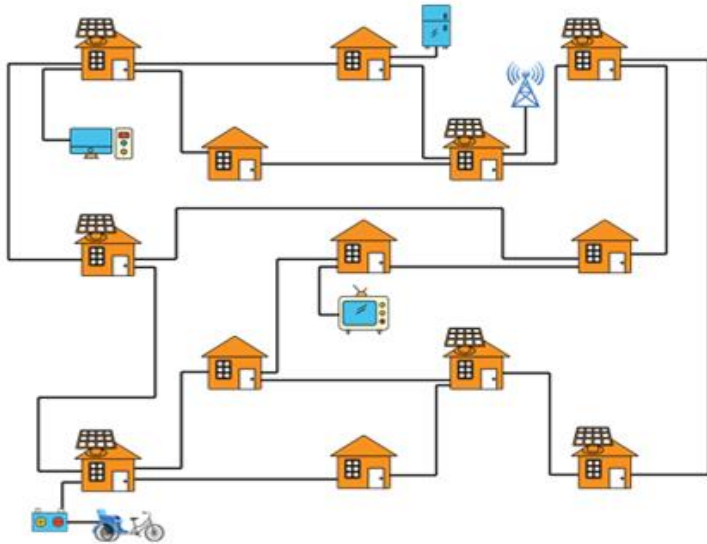


United Nations
Department of Economic and Social Affairs



OUR HOMEGROWN SOLUTION

PEER-TO-PEER SOLAR MICROGRIDS



A platform where solar home system users and non-users can exchange electricity seamlessly

PRODUCT



SOLbox 3.1

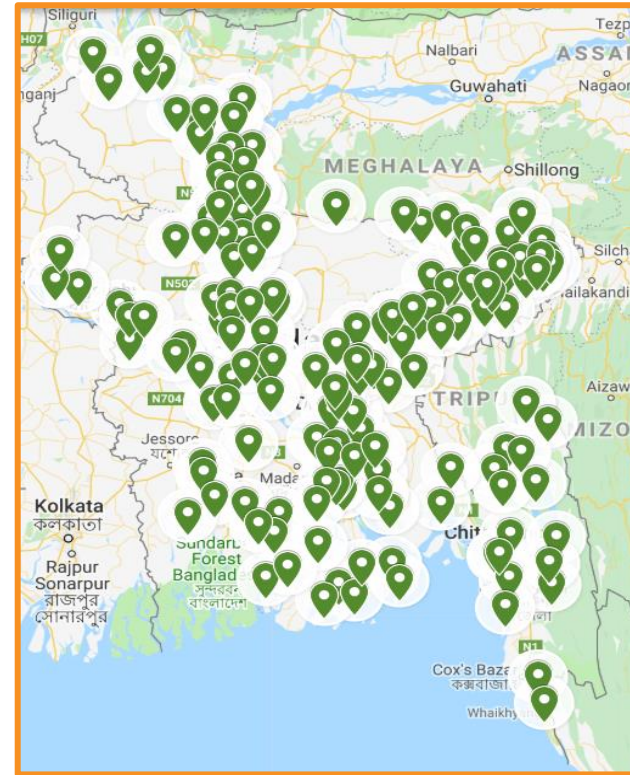


SOLbox NG (Q1 2021)

UNDESA ENERGY ACCESS SCALING



Map of Bangladesh showing all **22** locations of **UNDESA**'s microgrids



Map of Bangladesh showing all **78** potential location for **UNDESA**'s future microgrids

THE IMPACT

1 NO POVERTY



84% of end-users live on less than **USD 5 per day**

600+ **households**, including >**1,000 women** access **75 MWh** of additional energy, valued at **USD 75k**

Selling excess energy of over **24 MWh** customers earned additional income worth approximately **USD 16,177**

7 AFFORDABLE AND CLEAN ENERGY



Serving over **4,000 beneficiaries** with access to clean energy

5 GENDER EQUALITY



40% of our beneficiaries are **women and children** who benefit most of the access to electricity

13 CLIMATE ACTION



Reduced over **50,000 kgCO₂** against clean energy consumed over grid energy



Productive Use Appliance

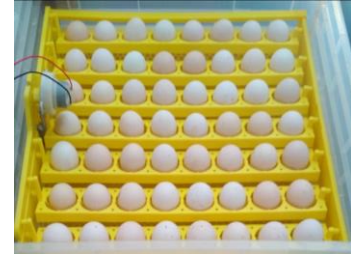
Surplus energy of SHS to be utilized to run different productive use appliances (PUAs) for various income generating activities.

Different PUAs :

- 1) Solar Water Pump
- 2) Egg Incubators
- 3) Rice Huller
- 4) DC fridge
- 5) Sewing machine



DC Water Pump



DC Egg Incubator



DC Sewing machine



DC Rice Huller



Chicken hatched from incubator

Water Purification

Impact

- Reduced water borne disease
- Better Health

(In Bangladesh, 60% of the population has to endure unsafe drinking water
-source: WHO)



Drip Irrigation

Impact

- Income generation
- Livelihood improvement

(Currently, 1.34 mill diesel pumps in Bangladesh consumes 1.2 billion USD of diesel & causes 1,250,000 tCO₂ emission/annum)

Household pump

Impact

- Reduced pressure on utility grid
- Proper Hygiene & sanitation

(Daily 15,000 MWh of electricity is consumed by the households to get access to water)



Trial Projects



Solar Irrigation Pump



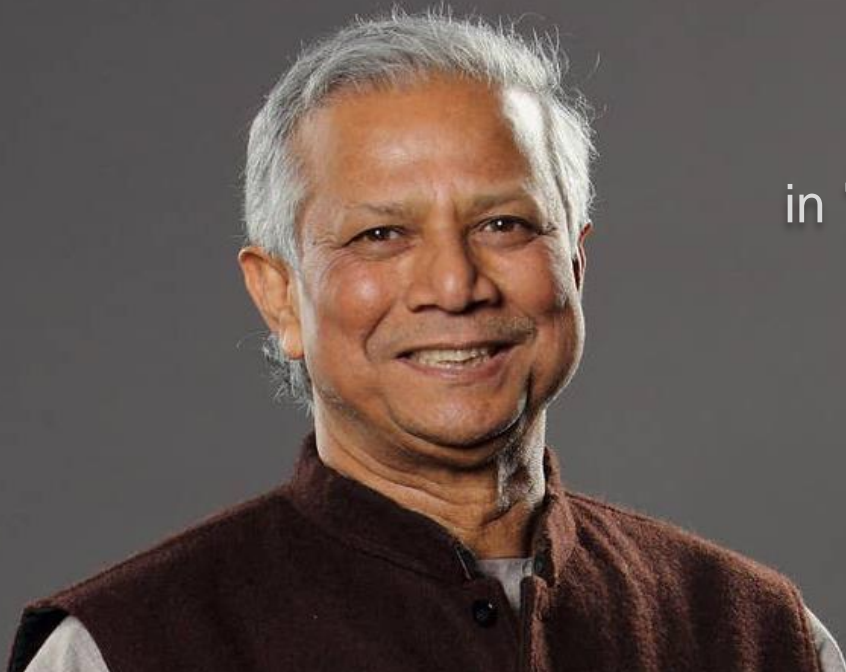
Solar Drinking system

Upcoming Project :



500 Solar Pumps in next 4 years-

- covering 17,500 acre of field
- saving 375 MT diesel fuel annually
- reducing 2,000 MT emission



Nobel Laureate
Professor Muhammad Yunus
established **Grameen Shakti**
in **1996** with the Objective of providing
Access to Energy

Key Programs

Solar Home System



1,80,000

units installed

(**33%** Share
in Bangladesh)

Improved cooking stove



1,000,000

units installed

(**35%** Share
in Bangladesh)

Biogas Plant



35,000

units installed

(**40%** Share
in Bangladesh)

Thank You!



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