IDO Solar Home Systems SHS Project

Introduction:

The earth receives from the sun, primarily as visible light and other forms of electromagnetic radiation. Solar energy is the radiant light and heat from the sun that has been harnessed by humans since ancient times using a range of ever-evolving technologies. Solar radiation is along with the secondary solar resources of account for most of the renewable energy available in the world.

IDO was founded in 1993, with a simple idea of providing affordable electricity to the heart-poor, neglected rural people of Bangladesh, which encouraged the spread of Solar Home Systems (SHS). So far, IDO has established more than 6000 SHS. IDO is unique among non-government organizations in Bangladesh. IDO is benefiting more than 30,000 rural poor people in remote areas of the country.

Solar Technologies and Techniques:

Solar energy technologies refer primarily to the use of solar radiation for practical ends. All other renewable energies other than geothermal derive, their energy from energy received from the sun. Solar technologies are broadly characterized as either passive solar or active solar depending on the way they capture, convert and distribute sunlight. Active solar techniques include the use of photovoltaic modules (also called photovoltaic panels) to convert sunlight into useful outputs. Passive solar techniques include orienting a building to the Sun, selecting materials with favorable thermal mass or light dispersing properties, and designing spaces that naturally circulate air.

Solar Home System Initiative in Bangladesh:

IDO has collaborated with national, international and local partners to install solar home systems in remote rural areas, where the national electricity grid cannot easily access. The emphasis was on providing basic electricity coverage to improve the living standards of rural areas and low-income households in Bangladesh, which has impacted the entire Bangladeshi population.

Creating electricity access:

Decentralized SHS has pushed back the boundaries of energy access. Even a decade ago, only 45% of Bangladesh's population had permanent access to electricity. In a very short time, this number has increased to 92%. Of these, 13% are reliable for installing solar home systems. SHS installed by IDO has worked for 1% of the country's electricity facilities.

Rural Education:

Solar home systems SHS have made a unique contribution to rural education for students. Kerosene lamps, which were once the only means of rural lighting, were not sufficient for studying, and hence, impacting the literacy rate of the country. Introduction of solar electricity resolved that situation significantly, facilitating better education for students after dusk. In monetary terms, it is estimated that there is a potential return of $80–$150 per month by improving educational opportunities and ambience through SHS. The role of IDOs in rural education is commendable.

Income generation:

Solar home systems SHS Project Access to Electricity is an inevitable component of socioeconomic development. Due to SHS, rural shops are enjoying extended business hours resulting in better income generation and livelihood development. Presence of electricity has also caused good no. of Small and Medium Enterprises (SME), many of them are empowering rural Men and women. Through this project, IDO is making a unique contribution to the socio-economic development of the disadvantaged people in its work area.

Health and Environment:

Kerosene lamps were commonly used for household lighting in rural areas of Bangladesh and this resulted in impacts on health, especially on the respiratory system. The SHS installed by IDO is emitting many tons of CO2 every year, thereby preventing many tons of kerosene consumption/waste. The pressure on health and environment is being reduced to a great extent.

Access to Information:

Solar Home System SHS has made access to information and communication possible even in remote areas by powering mobile phones, radios, laptops, TVs, etc. This is a significant contribution of SHS to rural communities in terms of information empowerment, business, health protection, education facilities and much more, which has been made possible through the innovative thinking of IDO.

Challenge:

A combination of limited access to infrastructure and the dispersed nature of rural settlements have provided significant obstacles to achieving universal electrification. Therefore, the Bangladeshi government considered off-grid renewable energy technology to be one of the best options for bringing electricity to rural areas, where more than 70% of the population live.

IDO's Action on SHS:

Increasing access to electricity to off-grid households through Solar Home Systems (SHS) is becoming increasingly popular in Bangladesh. This program has not been possible despite the government's vision of ensuring 'access to electricity for all' by 2021. IDO has been conducting solar home system programs since 2006. And it is still ongoing.

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