



**Green Growth and Energy Transformation (GROW-GET)
Solar for Education
Event Report of Forum for Finance, Jaipur
Friday, July 28, 2017**

Background:

CUTS International, in collaboration with Friedrich Ebert Stiftung (FES) had commenced a project called **Green Growth and Energy Transformation (Grow GET)** in April, 2016 in Jaipur, Rajasthan. The core idea of the project is to create an implementable strategy for energy transformation at state level by engaging all the concerned stakeholders into fostering a dialogue to identify common interests. To serve this purpose, long-term multi-stakeholder working groups or the 'Seed Communities' were set up at Rajasthan, West Bengal, National and the International (India- EU Cooperation) levels. The ultimate target of the project is in coherence with the national aim of increasing the share of renewable energy in the overall energy mix.

In the Expert Group Meeting held in Delhi on May 18, 2017, issues that restrict the uptake of off-grid solar solution in Rajasthan and West Bengal were discussed. Improving financial sustainability, creation of a market for decentralised solar solutions, need for mandate on energy efficiency and a system for operations and maintenance of solar projects, need for standardisation of solar solutions, etc. were some of the recommendations of the meeting.

Improving financial sustainability is the key to improving the uptake of decentralised solar solutions to the last mile. CUTS International organised a Roundtable in Jaipur on July 28, 2017 called **Forum for Finance** to discuss challenges faced in channelizing finance towards solarisation of schools and educational institutions in rural areas of Rajasthan.

The representations in the event were from commercial banks, NABARD, project developers, Indian Institute of Corporate Affairs (IICA), District Education Officer, Sawai Madhopur and beneficiary communities.

The key discussions of the session focussed on challenges faced by commercial banks while lending for off-grid solar solutions in rural areas, role of NABARD in channelizing rural finance, ways to channelize corporate funds under Corporate Social responsibility (CSR), potential in convergence of state funds under various schemes and workable models for solarisation of rural schools.

Challenges of Banks:

1. **Qualification of Solar Projects under Priority Sector Lending (PSL):** As per Reserve Bank of India, all Renewable Energy projects qualify for lending under Priority Sector Lending. However, it has been observed that Solar Agriculture Pumpsets are easily financed by the Banks under PSL, but solar installations for households and schools are not considered by many banks to be under PSL. Despite mandate by RBI to consider green projects under PSL, bankers are not willing to provide loans for solar installations to households and schools under PSL. This can be due to the fact that banks would want to lend to only productive assets like agriculture pumpsets that are linked to a revenue generating activity.

Banks have different understanding on applicability of PSL rules. A possible reason for this can be that since RBI circular on PSL mentions Renewable Energy as a broad category with no sub-categories for lending. Therefore, the interpretation of applicability of PSL norms may change from bank to bank as the understanding about the mandates change.

A communication from RBI to commercial banks about the segments or sub-categories to be considered for priority sector lending under renewable energy can help to bring more clarity on the application of the PSL norms for renewable energy.

In order to improve credit lending to green projects, RBI can also conduct an '**All-Banks**' meeting to deliberate on the avenues on formal lending to renewable energy sector, both for grid connected and off-grid applications.

2. **High Transaction Cost of Loans:** In the Decentralised Renewable Energy space, value of a loan for a consumers is smaller as compared to other consumption loans. However, the **Transaction Cost** of the loan (which comprises of interaction with households, documentation cost, Stamp Duty charges, among others) is the same irrespective of loan value. Therefore, the bankers may not be willing to provide loans because of higher transaction costs incurred for smaller loan amounts. Lending being a commercial activity for the banks, they would not be willing to provide expensive loans.
3. **Business Model of Rural Banks:** Rural banks or *Grameen Banks* cater to the financial needs of rural households. It was also suggested by the Forum that the business model of *Grameen Banks* should also be studied to understand their loan disbursement mechanisms and strategies to remain profitable.
4. **Portfolio of Small Loans:** In order to reduce the transaction costs of the loans under Decentralised Renewable Energy (DRE) segment, a portfolio of loans can be created by pooling several loans of small ticket-size. Large solar project developers follow the same practise in order to fund residential solar projects.
A cluster of schools in a block or a region can be identified that requires solar installation and the loan requirement of all these schools can be pooled into **one portfolio** to increase the ticket size of the loan and can be forwarded as a single loan amount. This can allow commercial banks to reduce their transaction costs and can also benefit the schools with lower interest cost to be borne.
The entire process can be facilitated through an active partner or a **Nodal Agency** that will coordinate with all the stakeholders and enable the procedure for acquiring loan.
5. **Possibility of Mechanisms like KCC for DRE financing:** Credibility of the borrower and lack of collateral are two major concerns for commercial banks. Mechanisms like Kisan Credit Card (KCC) may be promoted for renewable energy installations as well. Under KCC, 30% of the credit amount can be provided collateral-free.

Role of National Bank for Agricultural and Rural Development (NABARD):

1. **Two channels of financing through NABARD:**
NABARD can finance decentralised renewable energy space through the following two channels:
 - a. **Through state-governments:** NABARD is a banker to the state government and does not finance individuals. In order to finance rural development projects in their respective states, the state governments can borrow funds from NABARD from the Rural Infrastructure Development Fund (RIDF). This channel can be adopted to install solar solutions for state –run schools in a project mode. A cluster of state-run schools can be identified and after assessing their technical and financial needs, RIDF funds of NABARD can be utilised.

- b. **Subsidies through State Governments:** The state governments may also provide subsidies to individual households under the state funded home lighting schemes. The state governments can channelize these subsidies to the individual households through NABARD.
2. **Use of Unutilised Priority Sector Lending Funds:** Every bank must facilitate around 35% of its funds available for credit towards Priority Sector Lending. However, on failure to comply with the PSL mandates, the bank must deposit its unallocated PSL funds with the Rural Infrastructure Development Fund (RIDF) of NABARD, on which they do not receive any interest income. The RIDF is further allocated by NABARD towards rural development projects.

Concerns of Project Developers:

1. **Recovery of Loans:** Banks are the best channel of financing for DRE space. The market mechanism to support bank financing of DRE is missing. When engaging with Micro Finance Institutions or Public Sector Undertaking banks, there is a larger ecosystem that is created for financial inclusion. Customers have a record of almost 100% repayment of bank loans.

Recovery of the loan amount is a concern for both Project Developers and Banks. Borrowers in DRE space generally belong to the lower income group of the society and are located in extremely remote areas. This creates a challenge for commercial banks to facilitate recovery of loans and hence it increases the transaction cost of the loan. Therefore, an **alternative mechanism** can be designed to facilitate collection of payments from borrowers. Project Developers can partner with Non-Government Organisations (NGO) to enable collection of loan amount and sometimes deploy own infrastructure to facilitate repayment.

A Tripartite Arrangement can be established between Project Developers, a credible NGO and Bank branch. NGO becomes a guarantor for the customers for default in payment. The proposition has been cross-validated with several commercial bankers.

However, MNRE maintains a list of specific project developers as empanelled channel partners and hence banks or their local branches may not be willing to have a tripartite arrangement with a technology provider who is not an empanelled channel partner.

However, another challenge is that since MNRE now has no subsidy scheme for solar home-lighting systems (SHLS), banks may not be willing to give loans for SHLS to households under non-subsidy mechanisms as it might increase their transaction costs.

2. **Delayed subsidies to project developers: Delay in Subsidy may increase costs** for the Project developers (PD) and the banks. When disbursement of Subsidy is delayed by MNRE, the customer is compelled to bear interest on the loan amount for which he has not received any subsidy. To a Project Developer, it is challenging to sustain a huge backlog of subsidies due to delay as it affects their financial sustainability.

Non-subsidy models for livelihood products can prove to be much cheaper than subsidy ones as the extra operational costs and costs due to delays can potentially get reduced.

Channelizing Corporate Social Responsibility (CSR) Funds:

1. **Guidelines for utilising CSR Funds:** The Companies Act, 2013 provides guidelines for usage, eligibility of people, segments where CSR funds can be deployed by the private organisations. **Schedule 7 of Companies Act** mentions the areas where CSR can be used. However, CSR funds are needed to be deployed through an **Implementing Agency** (an agency where CSR funds can directly

be invested) also clearly defined. The Implementing Agency must be a Society, a Trust and a Section 8 Company¹.

2. **CSR Funds to a Registered Society:** It is easy for an entity to deploy its CSR funds to a **Society registered under the Societies Registration Act, 1958**. This is because compliance norms of a society registered under the act is much lesser. Schools can also access the CSR funds through this channel in order to facilitate installation of solar solutions.

In a rural area that experiences frequent outages, the load capacity of the schools would be very less. The entire cluster of schools will have not more than 100kW of load. Smaller loads may shall need a very small loan amount, which can be easily financed through CSR. However, the Project cost of all the schools may depend on storage or non-storage requirements of the school. For remote areas that experience intermittent electricity supply, storage of electricity shall be an important aspect.

3. **CSR Trust of Rajasthan:** Rajasthan has formed **CSR Trust at State Government level**. This includes not only corporate entities or companies but also sole proprietors of Rajasthan. Surprisingly, Sole proprietors spend huge sums on CSR activities. However, as they are quite scattered, there is a need to create such a platform that mobilises the CSR funds of sole proprietors as well. Rajasthan Government, through its initiative, has been successful to amass this source of fund.

In Rajasthan, the CSR Trust can potentially aid mobilisation of funds for electrifying schools. CSR Trust can collaborate with Education department and funding can be provided on project basis.

Mechanisms/ Workable Models for Solarisation of Rural Schools:

1. **Cluster Approach:** In order to facilitate an optimal allocation of CSR funds towards rural electrification projects, there is a need to increase the scale of the project. This can be accomplished by adopting a cluster approach. This means different schools and households with solar energy requirements can be clubbed together into a cluster. Even Aanganwadis can be included as the centres for pre-primary education. In Rajasthan Vedanta provides CSR funds to Aanganwadi centres. The funds are channelised directly to these centres which do not have their own individual buildings. Some centres are run inside the school premises or any rented buildings. (for infra creation)
2. **Segregate Government Schools and Private Schools:** The financing requirement of state run schools and private schools can be different and hence can impact the mode of funding adopted for them. In government schools, electrification can be initiated through the funds under various state schemes and budgetary allocations of the state government itself. Therefore, commercial banks may not be willing to provide loans to state run schools as this might create a liability on the state assets. For private schools, the Managing Committee of the school can seek financing for electrifying school building through various sources.
3. **O&M Challenges in remote areas:** There are **issues with operations and maintenance in the project in remote areas**. Project developers need to be made accountable for operating and maintaining the systems. This can be facilitated by linking the incentives of the technology provider to O&M component of the project. In remote areas, electrification of schools can be accomplished through **project financing model for electrification**. Instead of a Capex model of project implementation, solar solutions can be installed through an **Op-Ex Model (RESCO model)**, which is universally accepted as a model in the project financing mode.
Under a RESCO model, the solar system is owned by the developer and not the school, which just leases its rooftop for installing the system. The school can pay its electricity bills on monthly basis.

¹ An agency established for promoting commerce, art, science, sports, education, research, social welfare, religion, charity, protection of environment or any such other object.

The developer becomes responsible for maintaining the system such that the efficiency of the system does not drop.

The RESCO model can be used for schools where the School Management Committee can use its operational funds for the RESCO model because it does not put an exceptional burden on the client to pay an upfront amount and at the same time, provides generational incentives to the developer (in rooftop solar).

The project developer can obtain money on month to month basis from financial institutions. This way banks shall be dealing with institutions and not individuals and therefore, the issue of collateral, security and defaults can also be solved.

4. **Community Participation: In Rajasthan, the community can contribute towards school electrification projects through *Jan Sahabagita Vidyalaya Vikas Yojana*.** Under this scheme which is exclusively run by the Rajasthan State Government, fund contribution follows a **40:60 Ratio. This means, 40% shall be arranged through community participation and a proportional 60% shall be contributed by the State Government.** This fund shall only be used for infrastructure development of the schools in Rajasthan.

Sawai Madhopur has successfully mobilised community funds under this scheme. Mustard growing farmers of Sawai Madhopur, through revenue generated from husk sale, have contributed around INR 1 crore towards infrastructure development of schools.

The **School Development and Management Committee (SDMC)** of Sawai Madhopur, (a 23 members committee representing Legislator, District Office, village community, parents, school principals, etc.) oversee the deployment of these funds. The committee has been registered as a Society under Rajasthan Societies Registration Act, 1958. This opens up the avenue for CSR funding of the schools in Sawai Madhopur. The Committee also administers the funds collected under the ***Akshay Petika Scheme***, where donation boxes have been installed in the schools. The funds collected under this scheme are used for infrastructure development of the schools. Considering a committed community participation and need of electrification in the region of Sawai Madhopur, it can be considered as an ideal location for proof of concept.

6. **Mechanisms for CSR funds deployment:**
 - a. **Bhamashah Yojana:** IICA in Alwar district of Rajasthan launched ***Project Pragati*** under which philanthropist's money is used for improving school infrastructure.
 - b. **Indian Renewable Energy Development Agency (IREDA) Funding Model:** IREDA has received funds from KfW for deployment in specifically off-grid smaller units. Village electrification can be facilitated through this fund. The funds cannot be utilised for funding grid-connected projects. Under this funding model, IREDA provides 10% subsidies for the project, apart from the subsidy available from MNRE.
The beneficiary needs to provide an upfront initial contribution of 30% of the project cost.

However, the scheme has not been operationalised yet because mini-grids sector are not sustainable and therefore, even the project developers are apprehensive of the financial viability of mini-grids. There is no off-take because the loan amount that is taken under this scheme shall have to be paid back and there shall be no manipulations in the books of accounts that can be done. So nobody takes it.

Approach towards Developing a Model for Solarisation of Rural Educational Institutions:

An ideal model for solarisation of rural educational institution and households shall constitute of an **Implementing Agency**, an **Execution Agency** and a **Mode of Funding**.

1. **Implementing Agency:** the implementing agency can be the School Development Management Committee or an NGO, preferably a Society registered under the Societies Act of the respective state. The execution agency shall be the Project Developer. The entity that is providing CSR funds cannot be the implementing agency.
2. **Execution Agency:** Project Developer
3. **Modes of Funding:**
 - a. **State Government Funds through RIDF**
 - State Government can consider electrification of cluster of schools in a region through RIDF funds of NABARD. It can be channelised through the Education department of the state. In case of subsidies for home lighting system, NABARD can be channelizing agency for the state government.
 - Along with this, the State Level Banking Committee (SLBC) can be engaged in the process in order to obtain PSL status for the particular project from the lead bank of the state.
 - b. **Non-Banking Financial Corporation (NBFC) and CSR funds**
 - Implication on implementing agency: they shall need to give a bank guarantee (BG) against the loan from NBFC. However, Bilateral Bank guarantees available for solar (up to 60% of project cost)

c. **Umbrella Programme of Natural Resource Management (supported by KfW and money is channelized through NABARD)**

NABARD has launched the German Development Cooperation (GDC) assisted Umbrella Programme on Natural Resource Management (UPNRM) to facilitate replication and upscaling of best practices and models of holistic, participatory and financially sustainable livelihood activities for improving the livelihoods of the rural poor based on the sustainable natural resource use and management. Money under UPNRM is granted for agriculture related activities. Loans can be taken by agriculture co-operative society, producer companies and NGOs.

A list of primary and secondary activities (renewable energy-solar is secondary activity) is maintained under this scheme. In order to access the funds, the borrowing agency (agriculture co-operative society, producer companies or NGOs) must mandatorily engage into conducting a primary activity (livelihood activity like selling of mustard husk by Sawai madhopur farmers can also be considered as a secondary agriculture activity).

4. **Develop a Project Plan after Selecting the Mode of Funding**

- a. The project plan should also have a component on **community contribution**. In order to create ownership for the solar installations in schools or community electrification, community contribution should be made mandatory. Also, some CSR funds need community contribution as well. Community participation is also important because villages also experience a challenge of safety of the installations. There problem is of theft of solar panels, especially for aanganwadi centres which are open only for few hours in the day.
- b. The project plan must also consist a component on utilisation of additional electricity generated through the solar panels. The Schools are closed for around 180 days of the year. It shall be ideal to have net metering facility for schools with large rooftops such that cross-trading of electricity can be facilitated and electricity can be transmitted back to the grid. Another solution also could be to use the school infrastructure for other activities. The SDMC can take the responsibility for operation and maintenance of these projects
- c. **VGF:** the viability gap can be funded through CSR. However, the component of VGF that might be required shall be extremely small. 30% of upfront amounts can be mobilised through community funds, 60% can be availed through loans under various schemes (for which bank guarantees are

available). Therefore, there is need of arranging 10% of the money that can be arranged from CSR. Due to decrease in the input cost of the solar components, the VGF required could also be reduced.

Mini-Grids (as an alternative)

In the long run, as the capacities of the mini-grids shall improve, DISCOMS shall find it favourable to even meet their RPO targets through mini-grids. It is perceived that with Mini-grids contributing to demand and supply management, RPOs met through mini-grid may also have higher value than those met through pure RE generation projects. In the rapidly changing energy landscape, DRE has an increasingly important role to play. An inclusive policy is likely to leverage efficiencies and capacities of DISCOMS and DRE players, improving overall efficiencies and allowing DRE project developer to scale technologies from prevalent capacities and commercialise their technologies. In such an event, DRE is expected to add a larger value to the National Grid which shall have ever increasing RE contribution.

Other Funds:

Following are some other funds that can be explored to improve the uptake of solar solutions for schools in rural Rajasthan.

- a. National level Energy Trust
- b. National Clean Energy Fund (more than INR 16,000 crores)
- c. Green Climate Fund of NABARD (national implementing entity)
- d. Bonds (municipal, green):
 - a. No thinking regarding bonds as a mode of financing
 - b. Bonds could provide guarantee and risk coverage to banks in case the receiver does not repay the loan. This may provide some security to the banks that their money is safe.

- **List of participants:**

Sr No.	Name of the Participant	Organisation
1.	Raghuvar Dayal Mathuria	P.O. RMSA, Sawai Madhopur
2.	Sakthi Balan A.S.	NABARD Rajasthan, Jaipur
3.	S.P. Chandak	BIMTEC, Greater Noida
4.	Mukesh Kumar	IICA, Ministry of Corporate Affairs
5.	Sukhpal Dabhai	C.R.D.C. Thalli, Chaksu, Jaipur
6.	Chaganlal	SDGC, Phagi, Jaipur
7.	Harvindra Kumar Sharma	DDICDS, Sawai Madhopur
8.	Harsh Chaudhary	Bank of Baroda, Jaipur
9.	Dharamveer Yadav	UNICEF
10.	Satyanarayan Regar	Chittorgarh
11.	D.D. Garg	NABARD Rajasthan, Jaipur
12.	Shankarlal Gadri	Nehru Yuva Kendra, Udaipur
13.	Simran Grover	BOOND, Udaipur
14.	Shashwat Kulsrestha	Cairn India, Jaipur
15.	Priyam Purohit	CUTS International
16.	Abhishek Kumar	CUTS International
17.	Sayantan Sengupta	CUTS International