

Financing for SDG7-Driven Livelihoods

SELCO FOUNDATION | 2022



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Preface

The poor, across the world, are always in crisis management mode- dealing with one disaster after another. Be it the COVID-19 pandemic or climate related emergencies like droughts or floods, they are the worst affected. The primary source of livelihoods for many of the poor families across the world, is physical labor. The services they provide using their physical labor is expendable and thus most lead very insecure lives with no social safety nets to buffer their fall during times of crisis, keeping them in a state of perpetual poverty.

Inclusive sustainable livelihoods, building on the expertise of local communities, is a critical way to provide the poor with a way out of poverty. Many of these sources of livelihoods, for example, sewing machines, silk weaving machines, power hammers, integrated rice hullers, flat bread (roti) making machines, are assets that the poor can rely on to create the appropriate social safety nets. All of these can be powered by Decentralized Renewable

Energy (DRE) solutions like solar, making the option long term and sustainable.

The ecosystem required for the poor to own and run livelihood assets consists of highly efficient appliances, stable market linkages and affordable financing. The biggest challenge of the three is the ability for poor families to avail financing that matches their cash flows, resulting from the sustainable energy-driven intervention. Till date, only a handful of innovations have happened in this critical part of the ecosystem.

Innovations in financing livelihood assets will open a whole new world of DRE related interventions for the poor across the globe. The poor in society fall into three distinct groups: poor, very poor and object poverty. Cash flows and links to markets differ for all three, and thus, need different forms and instruments of financing. The complexity of financial products is as much as with technology innovations, if not more.

SELCO Foundation has over the last three years strived to experiment with numerous financial instruments that could then be replicated and scaled in other parts of the developing world, focused on SDG7-driven livelihood interventions.

The financial products ranged from revolving funds for very poor segments to reduced interest rates for those having access to slightly more mature ecosystems. The innovations have to consider the maturity of the livelihood and financial ecosystems, without which philanthropic monies may end up subsidizing the wrong link leading to unsustainable interventions.

The document delves deeper into some of the key

financial innovations with specific examples, case studies and potential channels for scale up. The various implementations and replications have further strengthened the hypothesis that DRE focused livelihood interventions have not only enabled several families to come out of poverty but also made them a part of the formal banking sector. DRE and financing has the potential to push poor families multiple rungs up in the social and financial ladder.

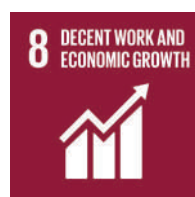
Background

Over the last decade, poverty and climate change have posed some of the biggest challenges in the world. Data from 2017 showed that under 700 million people in the world were living on less than USD 2.15 a day - a measure of extreme levels of poverty, with a large percentage living in Sub-Saharan Africa or in the developing economies of Asia¹. As a consequence of the pandemic, the situation looks more dire, with indications that nearly 100 million people may be forced into extreme poverty in 2020 alone².

The challenges of climate change have aggravated existing issues of poverty resulting in increased levels of inequality across geographies. The impacts of COVID-19 will only exacerbate these inequalities. In recent times, majority of the innovations in livelihoods and productivity have focussed on a centralised industrial scale—but the benefits do not trickle down and ownership does not transfer to households living in

poverty. Innovations for people living in poverty have to be decentralised and customised. At the same time, “innovation” should focus less on technology alone, and more on processes around ownership models, financial models, supply chains and service delivery models, which allow for sustained impact. Sustainable Development Goal 7 (SDG7) combined with an ecosystem approach, provides an opportunity to democratise livelihoods- building resilience through improved incomes and opportunities.

Equipping individual entrepreneurs, farming communities, small and micro enterprises with sustainable solutions for livelihoods (that combine efficient appliances, clean energy systems and efficient building designs with affordable financing models), can contribute to increased productivity and income, reduced expenses (on other energy needs), improved well-being and resilient local economies.



Looking at **SDG7 and SDG8** together brings to light much-needed livelihood related opportunities that are common amongst the poor and can be addressed with appropriate energy solutions. Solutions vary across sectors and are customized across geographies for agriculture, animal husbandry, textiles, micro businesses, local crafts and so on.

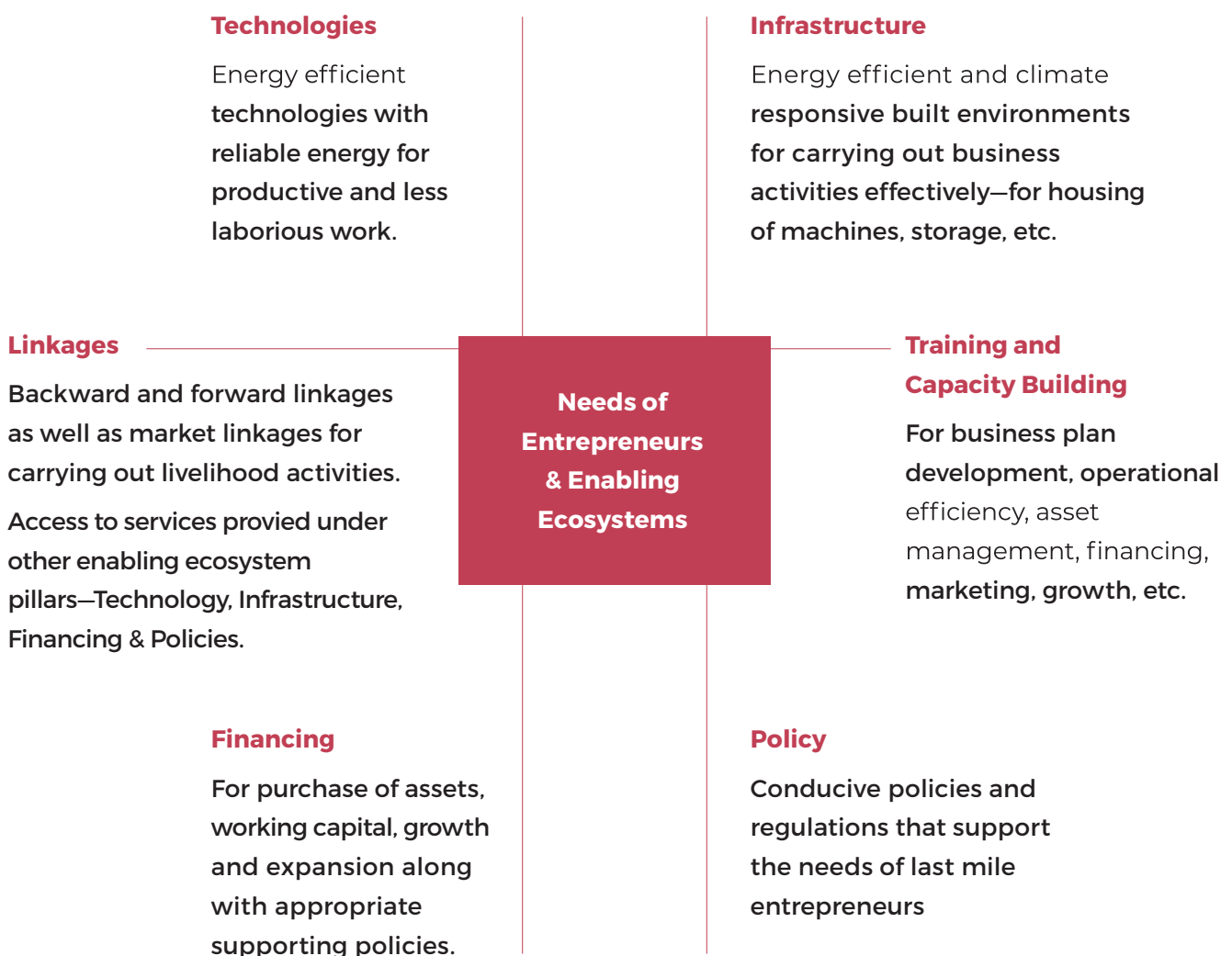
¹ <https://www.worldbank.org/en/news/factsheet/2022/05/02/fact-sheet-an-adjustment-to-global-poverty-lines#2>

² <https://www.worldbank.org/en/publication/poverty-and-shared-prosperity>

Ecosystem for Enterprises and Energy-Based Livelihood Solutions

For the purposes of this paper, ‘enterprises’ refer to all such individuals (farmers, entrepreneurs, artisans) and collectives (Self Help Groups, Cooperatives, Federations, Farmer Producer Organizations and so on) involved in one or more livelihood(s). The focus is specifically

on such individuals and collectives that can benefit or are benefiting from energy solutions to reduce drudgery, improve productivity and increase income within their livelihood. The broader needs and the enabling ecosystem for such enterprises is outlined in the figure below.



In the specific context of SDG7-driven livelihood interventions, the ecosystem access for livelihoods includes technology innovation, training and capacity building, appropriate and affordable financing, conducive policy and

regulation and linkages to markets and raw materials.

The key interventions required and the stakeholders involved for each component of the ecosystem are outlined below:

	Stakeholders	Key Support Areas
	<ul style="list-style-type: none"> ■ Nationalized Banks ■ Credit Cooperative Societies and Cooperative Banks ■ Rural Regional Banks ■ Micro-Finance Institutes 	<ul style="list-style-type: none"> ■ Financial Institute (FI) training and awareness programs ■ Target setting with Financial Institutes (Circulars/ MOUs) ■ Developing loan products with FIs ■ Financial Innovation for unlocking loans (Risk fund/ guarantees Interest subvention for vulnerable livelihoods)
	<ul style="list-style-type: none"> ■ Vendors or Suppliers for efficient need based technologies ■ Last mile delivery enterprises or system integrators ■ Grassroot research and development labs focused on efficient livelihood solutions 	<ul style="list-style-type: none"> ■ Research and development capital, capacity building ■ Purchase agreements with vendors and suppliers to meet minimum orders stipulated by vendors ■ Working and expansion capital for technology/product vendors or dealers and last mile sustainable energy enterprises ■ Incubation and training of sustainable energy enterprises/ system integrators
	<ul style="list-style-type: none"> ■ Industrial Training Institutes ■ Vocational Training Schools ■ Agriculture Training Centers ■ NGOs for Skill Building ■ Microbusiness/Grassroot Incubators 	<ul style="list-style-type: none"> ■ Demonstration facilities for efficient productive appliances ■ Training modules on technology usage, business planning, access to finance, product diversification and marketing ■ Trained personnel mentoring and supervising knowledge transfer
	<ul style="list-style-type: none"> ■ Vendors/ Suppliers/Enterprises/ Institutes/ ■ End Users providing input and output channels ■ Producer Companies ■ Aggregators ■ E-commerce platforms 	<ul style="list-style-type: none"> ■ Providing access to relevant networks and connections with stakeholders. ■ Exposure visits, expert mentorships, workshops
	<ul style="list-style-type: none"> ■ State and National Level Government Bodies ■ Apex banks ■ Rural and tribal ministries ■ Councils and Departments 	<ul style="list-style-type: none"> ■ Broadening scope of skill development beyond wage employment to cover innovation and entrepreneurship/ enterprise ■ Incentives and targets for micro and small grassroots businesses to adopt energy efficient and sustainable-energy driven solutions. ■ Tax policies designed to encourage sustainable value chains

Source: Report https://selcofoundation.org/wp-content/uploads/2021/05/SELCO-Foundation_-65-livelihoods-solutions-from-ground.pdf
 SELCO Foundation, 2019

Typical Profile and Financing Needs of Enterprises



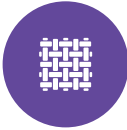


At a micro-level, a holistic energy solution for livelihoods comprises (1) Technology and infrastructure, (2) Financing and business models and, (3) Ownership and social models, as depicted in the figure below.



Financing, in particular, is integral to the creation of assets on the ground and building social security. In the context of energy solutions for livelihoods, it plays an important role in replication and scale. In order for more individual entrepreneurs, SHGs and FPOs to access SDG7-driven livelihood solutions, key financing stakeholders such as DFIs, Apex financial institutions, local banks as well as government bodies need to allocate funds, extend loans and develop appropriate financial products.

Based on learnings over the last 5 years, having implemented more than 100+ sustainable energy driven livelihood solutions, with more 6000 entrepreneurs and enterprises, the solutions have been broadly categorized into micro, small, medium and large with an indication of the typical end-user segments, financial institutions and credit terms that apply for each.

The typical ticket size, end-user segmentation, financial institutions involved and ideal financing terms for each of these categories is captured in the figure below.

Livelihood Solution Types	Micro	Small	Medium	Large
 <p>AGRICULTURE (+ Food Processing)</p>		Roti Rolling Machines	Integrated Rice Hullers Millet Processing Units; Flour & Spice Processing	Cold Storage Solutions Agro-Processing Units
 <p>ANIMAL HUSBANDRY</p>	Hydroponics Poultry-Lighting	Dairy-Milking Machines	Vaccine Refrigerators; Poultry-Egg Incubators	
 <p>SMALL BUSINESSES, TEXTILES & CRAFTS</p>	Sewing Machines, Spinning and Reeling Machines, Blacksmith Blower Machines	Refrigerators, Digital Service Centers Pottery Wheel	Green Looms; Integrated Pottery Solution—Blunger, Pug-mill, Wheel, Kiln, Built Environment	
 <p>Range of Ticket Sizes Energy + Equipment</p>	Upto 50,000 (\$675)	> 50,000 - 1.5 Lakh (\$675-\$2025)	> 1.5 Lakh - 8 Lakh (\$1350-\$10,800)	> 8 Lakh (\$10,800)
 <p>System Size Range Approximate</p>	Panels 40Wp to 60Wp Power 15W to 80W	Panels 75Wp to 300Wp Power 65W to 180W	Panels 1kWp to 2.5kWp Power 150W to 2hp	Panels Agro Processing >3kWp Agro Cold Storage 7kWp to 14kWp
<p>Typical End-User Types Individual, SHG, FPO</p>	Individual	Individual	Individual; SHG; FPO; Cooperative	SHG; FPO; Cooperative
<p>Typical Combination of Financing Institutions</p>	Local Savings—Credit Chanel, MFIs, NBFCs	MFIs, NBFCs, RRBs, National - ized Banks	RRBs, National - ized banks, Gov - ernment scheme	Government scheme part loan through RRB/ Na - tionalized banks

Across all of these categories, there are certain basic financing needs that enterprises have, including access to sustainable energy solutions. A broad outline of the typical financing needs are given below.



Typical Financing Needs of SDG7 Driven Livelihoods

CAPEX

Initial

Purchase of the clean energy system (in case of a loan, this would include margin money/ deposit for loan).

Purchase of efficient appliances / equipment.

Start-up capital or working capital for the livelihood entrepreneur.

CAPEX

In Medium-Long Term

Replacement of batteries or specific components post the warranty period (within the lifetime of the larger asset).

Upgrading energy system (loan for additional generation capacity).

Working Capital for additional expansion and diversification.

OPEX

Maintenance or service fee (annually 1-2% of system cost).

(In case of a loan), monthly payments or installments towards the energy system.

Raw materials, rent, labour, overheads etc. to run the business/ enterprise.

Source: Analysis of SELCO Foundation interventions; Based on available research on financing for DRE solutions ,

Landscape of Financial Institutions

There is a large network of Financial Institutions (FIs) that could be used to unlock financing and meet the needs discussed above. They range from formal banks including Nationalized banks, Regional Rural Banks and Cooperative banks to Non-Banking Financial Company (NBFCs) and Micro Finance Institutions (MFIs), and to local and more informal financial linkage channels such as Self-Help Groups (SHGs), Community

based organizations (CBOs), cooperative societies and so on. SELCO Foundation works across the spectrum with many of these institutions to unlock credit for enterprises to access energy-based livelihood solutions.

The figure below captures the key characteristics of these categories of FIs including typical loan profiles, geographical coverage, interest rates and risk appetite.

Typology of Banks / Financial Institution

Banks			Other Financial Institutions	
Private Bank	SBI & Other Nationalized Bank	Regional Rural Banks	Cooperatives	NBFC-MFI
Loan Profile Varied (40% to priority sector)	Loan Profile Varied (40% to priority sector)	Loan Profile Aimed Towards Agri and SME, Small Personal Loans (75% to priority sector)	Loan Profile Loan Profiles Change with the Type of Cooperative (Housing, Agri, Non-Agri Credit, etc.)	Loan Profile Small Loans with Multi-Utility
Ownership Private Equity	Ownership Govt. Owned (Central Govt. take over of Private Banks)	Ownership Govt. Owned (Central and State along with a Sponsor Bank)	Ownership Owned by Groups of Individuals via Shareholding and are Grouped by Community, Geography or Type of Occupation	Ownership Private Owned
Geographical Coverage Pan Nation	Geographical Coverage Pan Nation	Geographical Coverage Limited to Certain Number of Districts in a State	Geographical Coverage Limited in Scope, Defined by an Individual Co-operative	Geographical Coverage Defined by the MFI
Interest Rates Higher than Nationalized Banks	Interest Rates Same or Lower than Private Banks	Interest Rates Lower or Similar to Nationalized Banks	Interest Rates Higher than Public and Private Banks, Lower than Informal Lending Agencies	Interest Rates Higher than Public and Private Banks, Lower than Informal Lending Agencies
Risk Appetite Low to Medium	Risk Appetite Low to Medium	Risk Appetite Medium to High	Risk Appetite Medium to High	Risk Appetite High
USP Relatively Quicker Loan Sanctioning Process	USP Higher Coverage	USP Mandated to Rural Development & Priority Sectors	USP Relaxed Lending Process or Policies	USP Doorstep / Grassroot Lending

In addition to the ones outlined above, Small Finance Banks also play an important role at the last mile with conditions similar to MFIs.

Another important piece in the financing landscape is the local savings-credit channels such as Joint Liability Groups (JLGs), Self Help Groups (SHGs), and Cooperative societies, that

act as a channel between banks and end users, and as a conduit for government subsidies.

Through the work on energy-livelihood solutions with enterprises on the ground, there are insights about the pros and cons of each of these institutions/ financing channels.

The choice of which financial institution and what terms would make sense for a particular enterprise is dependent on a combination of factors including the geography (remoteness, terrain), socio-economic conditions (low income vis-a-vis extremely vulnerable communities), business prospects (existing demand and market linkages), presence and penetration of financial institutions and so on.

On the one hand, institutions with a local presence such as MFIs, NBFCs and NGOs possess an in-depth understanding of the under-served communities they work with, and some provide complementary livelihood promotion services such as capacity building and market linkage support. However, providing doorstep finance to last mile communities comes at a higher cost. With high transaction costs and limited access to low cost capital, enterprises borrowing from these institutions for energy-based livelihood solutions will have to take on some or all of the burden of higher credit cost. The transaction costs also make it un-viable to provide longer term loans and the time frame is restricted to 12-18 months.

For less vulnerable segments among the poor, loans for smaller capacity solutions such as solar powered sewing machines, roti rolling machines, blacksmith blowers, basic digital service centers can be financed. But accessing loans for larger capacity solutions such as flour, rice and spice processing, green looms, integrated pottery solutions etc. with longer repayment periods is much harder.

On the other hand, Regional Rural Banks (RRBs) that have the mandate to provide affordable financing for a longer time frame (3-5 years)

and at interest rates of between 10-15% are more reluctant to lend for smaller ticket sizes. The collection and transaction costs make it financially un-viable unless there are enough enterprises requiring such small ticket size loans from a certain area where a Business correspondent (with commission from the bank) can manage documentation and collection.

While the landscape above features institutions mainly providing debt, **there is also a critical grant component, from government budgets and schemes, that needs to be unlocked.** These are currently managed and allocated by different departments, targeted at vulnerable communities (Women and Child Welfare Department, Ministry of Tribal Affairs, and so on) or specific sectors (Ministry of Food Processing Industries, Ministry of Agriculture, Department of Animal Husbandry, Ministry of Textiles).

These can be leveraged to fund SDG7 driven solutions for livelihoods that can increase productivity and income within a specific sector while also empowering vulnerable segments to improve wellbeing more broadly.

³ [Green Inclusive Energy—Financing Decentralized Renewable Energy](#)

Challenges in Financing Energy-Based Livelihood Interventions

From an **enterprise perspective**, some of the key challenges to accessing credit include:

Absence of Financial Institutions in Remote Areas

The level of bank and financial institution penetration varies significantly across the country. In more remote parts, such as the hilly regions of North East India and the tribal and forested areas of Eastern and Central India, the low density of population combined with the difficult geographical terrain make it much harder for banks to set up branches, provide doorstep access to credit and facilitate collections.

Limited Awareness and Readiness to Prepare Business Plans

Enterprises have limited awareness about what financial products and government or bank-run schemes exist and more importantly, how these can be applied to access energy solutions for livelihood.

Depending on geography and their socio-economic background, they may lack the flexibility and capacity to follow up and convince banks or financial institutions. Submitting business plans and documentation to access loans would require access to local accountants and project developers to compile financial details about their enterprise and the solar solutions. Many of these enterprises have insufficient credit history and lack adequate collateral or savings, which affects their loan prospects.

Affordability

Where there is access to financial institutions and the knowledge about traditional financial products, a significant barrier is the cost of capital. For example, the upfront deposit or margin money down-payment (between 10-20% of the loan amount), is often too high for some enterprises to afford since livelihoods are dependent on future cash flows.

Another challenge is around unlocking sources

of working capital for someone starting-up a new livelihood. The loan provided is often solely for the asset and does not consider the start up capital required.

Lack of Long-Term Asset Based Financing

Much of the credit available for poorer communities is for smaller ticket sizes, with shorter tenures of 1-2 years and higher interest rates. While these are important in financing smaller energy capacity solutions such as solar powered sewing machines, blacksmith blowers, and digital service centers, they are largely unsuitable for larger capacity energy solutions in agriculture, processing, animal husbandry, textiles and so on.

The credit from MFIs is typically available for a 1-3 year period while in the case of banks, the tenure is a maximum of 5 years for such energy loans. But with the need for more processing equipment and larger assets like cold storage, there is a critical gap in the availability of longer term infrastructure financing at 5-8% interest rates and 7-15 years tenures.

This restricts the options available to livelihood entrepreneurs and groups like FPOs and SHGs interested in energy solutions. Most significantly, it adversely affects the prospects of the most vulnerable to access any kind of affordable credit for asset-based solutions.

There are also challenges from a **financial institution perspective** that cause reluctance and unwillingness to finance energy-based livelihood solutions. These include:

Lack of Awareness About Solutions and Incentives to Take Risk

This is primarily on account of a lack of awareness about the types and viability of energy based livelihood solutions. In the absence of circulars from apex financial institutions or head-offices, targets or incentives, the local branch is unsure of the applicability of schemes for such loans and the terms under which credit needs to be provided.



Perceived Risk and Lack of Confidence About Business Models

The perceived risk is also higher owing to the newness of technology and approach (appliance efficiency, clean energy system, efficient built environment design). Without adequate evidence (within a specific geography) and understanding of the business model, payback periods and the capital support or leverage needed to make the solution work in the near

term, it becomes time consuming to convince banks and other financial institutions to lend for **energy-livelihood solutions**. Other factors such as the transfer of champion branch managers, or negative preconceived notions about regions or communities as a collective also affect the prospects of having a loan sanctioned.

Transaction Costs

Transaction costs involved in facilitating financial linkages, particularly for last mile communities in remote regions can be extremely prohibitive. The activities include formation of SHGs, identification and training of business correspondents, undertaking financial literacy with new end-users, as well as aspects of customer documentation and recovery of credit.

These challenges are exacerbated in more difficult terrains and with more vulnerable populations, that are also most in need of credit and support to access SDG7 driven livelihood solutions.



Mechanisms to Scale Financing for Livelihoods

In order to address the challenges discussed in the previous section and facilitate financial linkages for energy-based livelihood assets, SELCO Foundation has worked with NGO partners and FIs to utilize a set of key instruments, customized to specific needs and contexts. While some of these are in use within programmes/ products of FIs and government

agencies, there is much more potential to use them and catalyse financing for energy-livelihood interventions. The main challenges they address, their characteristics and value add in the context of SDG7 and whether they are supply side or demand side support instruments are outlined in the table below⁴.

Instruments	Financing Challenges Addressed	Characteristics and Value Add <i>In the context of SDG7</i>
<p>REVOLVING FUNDS <i>Supply Side Support</i></p>	<p>Absence of FI in the local area</p> <p>Perceived risk and reluctance to lend to 'first time' customers, particularly in poorer, more remote regions</p> <p>Lack of long term financing and limited credit availability in local community (informal savings-credit channels)</p>	<p>Infusion of capital for on-lending to enterprises/ end users</p> <p>Repayments help replenish the corpus and loans can be extended to an additional number of enterprises/ end users</p> <p>Operational budget for fund managing entity- local CBO, NGO, MFI- may be covered through a percentage of the interest rate on each loan</p> <p>Value add:</p> <p>Help enterprise/ end user develop a credit history and become 'bankable' in the medium term; first step towards establishing linkages with formal FIs</p> <p>Create a portfolio for energy solutions within the local MFI, NGO that can ensure collections and prove modalities about financing to certain communities</p>
<p>INTEREST SUBSIDIES; MARGIN MONEY SUPPORT <i>Demand Side Support</i></p>	<p>Affordability for the entrepreneur; ability to purchase more expensive energy-based assets for livelihoods</p>	<p>Loans for energy-livelihood solutions are more accessible and affordable with lower interest rates, waivers on margin money down-payments and longer repayment periods.</p> <p>Exact amount of subsidy support can be determined based on ticket size, level of vulnerability and expected monthly cash flow of enterprise etc.</p> <p>Value add:</p> <p>Establish financial linkage and unlock capital for livelihood entrepreneurs, while considering affordability</p>

**RISK
GUARANTEES***Supply Side Support***Lack of awareness and incentives for FIs to take risks****Perceived risk and reluctance of banks and low levels of confidence to lend to specific communities; or lend larger amounts to individual entrepreneurs**

Guarantees are essentially collateral (administered as fixed deposits) to be utilized by banks and FIs in the case of a default on loan repayments

Amount/ percentage of collateral required against a loan for a certain community is dependent on geographical context, socio-economic background and the Bank/FI's risk perception

Value add:

Reduce risk and allay concerns of financial institutions

Help entrepreneur/ end user develop a credit history and access additional loans for other livelihood needs

**CAPITAL
SUBSIDIES***Demand Side Support***Affordability for the end user:**

Solutions may be expensive because supply is still low compared to the need

Vulnerable communities are in need of solutions for better income generation prospects

Perceived risk and reluctance of banks to lend for solutions that are:

Large ticket size

Relatively low implementation numbers

New to a geography

Subsidies cover the gap between cost of the solution (appliance + clean energy system) and end-user affordability

Exact subsidy amount is calculated based on a combination of:

- Socio-economic condition and vulnerability of individual entrepreneur,
- Current energy expenses
- Their potential for income generation using the solution (business plan and post-intervention cash flow)
- Cost of capital and terms of the loan
- External factors such as market linkages

Value add:

Ensure that enterprise and community do not pay the cost of inefficiencies within the ecosystem

Reward them, instead, for being early adopters

Democratize energy provision and enable benefits for the community (through improved access to services and savings)

Send out the right signals to manufacturers of efficient appliances or improved battery technology (through increased implementation) about the market demand for such innovations

Allow FIs to part finance interventions that can become part of their regular lending portfolio in the future

SUBSIDIES FOR TRANSACTION & ADMINISTRATIVE COSTS

Supply Side Support

Affordability for end users that are in fringe areas and difficult terrains

High transaction costs to FIs to facilitate financial linkages, and cost to energy enterprises, NGOs to install systems and ensure collections in these remote geographies

Subsidies to cover the costs of reaching out to remote communities:

- Transportation Costs—for energy enterprises to install and service these solutions
- Administrative Costs—for FIs to undertake financial linkage activities including SHG formation, financial literacy, training etc.
- Transaction Costs—for local NGOs/ FIs/ energy enterprises to manage regular collections and repayment

Value add:

Adequate interest from FIs, NGOs and Energy Enterprises to work in remote geographies where solutions would otherwise be inaccessible or be extremely expensive to the end-user

Source: Analysis of SELCO Foundation interventions (2015-2020); Building on research available on financing DRE⁵



Based on the solutions implemented so far across varying socio-economic demographics, the table below maps the kind of financing that is both affordable and feasible for each type of livelihood solution, and accordingly suggests the kind of support or instruments needed.

⁴ Adapted from IIED. Supply side support provides benefits to FIs/ facilitators/ businesses by reducing their costs or risks (examples include: Tax exemptions, concessional debt facilities for energy providers, risk-sharing instruments, RBF, guarantees, transaction costs support etc. Demand side support provides benefits to the end-user by reducing prices. (Examples include cash transfers, interest subsidies for end-user loans, vouchers, capital subsidies).

⁵ https://hivos.org/assets/2021/02/HI-19-44-Report-Financing-for-Renewable-Energy_ONLINE.pdf

Types of Livelihood Solutions

Micro

Small

Medium

Large



Range of Ticket Sizes

Energy + Equipment

Upto ₹ 50,000
(\$675)

> ₹ 50,000
– ₹ 1.5 Lakh
(\$675–\$2025)

> ₹ 1.5 Lakh
– ₹ 8 Lakh
(\$1350–
\$10,800)

> ₹ 8 Lakh
(\$10,800)

Typical Combination of Financing Institutions

Local savings-credit channels, MFIs, NBFCs

MFIs, NBFCs, RRBs, Nationalized Banks

RRBs, Nationalized Banks, Government Scheme

Government Scheme
Part loan through RRB/ Nationalized banks

Affordability of SDG7-Driven Livelihood Solutions in Terms of Credit

Poor

Energy Scenario: Unreliably Electrified

Socio-Economic Status: Energy and income poverty but with some access to resources and capital.

ROI



Tenure



Instruments:

Margin Money Subsidy
Risk Guarantees

Instruments:

Margin Money Subsidy
Interest Subsidy
Risk Guarantees

Ideal Instruments:

Capital Subsidy + Interest Subsidy on Part Bank Loan

Ideal Instruments:

Capital Subsidy + Interest Subsidy on Part Bank Loan

Extreme Poverty

Energy Scenario: Completely Off-Grid

Socio-Economic Status: Vulnerable

Climatic & Regional: Forested, Hilly Regions, Disaster Prone

Socio-Economic: Persons With Disabilities (PWD), Tribal communities, Single mothers

ROI



Tenure



Instruments:

Margin Money Subsidy
Interest Subsidy
Risk Guarantees
Separate Revolving Fund

Instruments:

Margin Money Subsidy
Interest Subsidy
Risk Guarantees

Ideal Instruments:

Capital Subsidy + Interest Subsidy on Part Bank Loan
Higher Value Asset + Capital Subsidy will Mean Risk Guarantee is Not Needed

Ideal Instruments:

Capital Subsidy on Complete System (grant funding for asset creation)
Opex Alone Covered by Enterprise

Source: Compiled based on SELCO Foundation implementation and learnings across livelihood solutions and geographies (since 2015).

Working with partners and FIs across geographies (primarily in South, Eastern and North Eastern India), SELCO Foundation has identified bank-level, sectoral and welfare schemes -some of which have been unlocked—

to finance sustainable energy-powered livelihood solutions. The table below captures a subset of these schemes and the types of support provided through them.

Name of the Scheme	Nodal Agency Category	Interest Subsidy	Margin Money Support	Guarantee / Collateral Free	Capital Subsidy	Notes	Type of Solar Powered Livelihood Solutions Financed
Bank-Level							
Differential Rate of Interest (DRI)	RBI; Banks					For loans of max. of INR. 15,000 @4% ROI	Sewing machines, LSKs, Blacksmith Blower Machine
Mudra Loans	MSME Ministry; SIDBI					3 categories for loans ranging from INR. 50,000 to INR. 10 Lakhs @10% ROI (approx)	Sewing machines, LSKs, Roti Rolling Machine, Blacksmith Blower Machine
PMEGP Loans	KVIC- MSME						Pottery Wheels
CGTMSE	MSME Ministry; SIDBI;						—
Sectoral							
Dairy Entrepreneurship Development Scheme	Ministry of Animal Husbandry; NABARD						Milking Machine
Traditional Artisans Development Scheme	DIC, State Government						Pottery Solutions- Wheel, Blunger, Pugmill
NABKISAN Credit	DIC, State Government					ROI: 9.35% to FPOs	
National Rural Livelihood Mission	DIC, State Government					Interest subsidy for loans upto INR. 3 lakhs to women SHGs	
Welfare-Oriented							
Odisha Livelihoods Mission (OLM) Integrated Tribal Development Agency							Flour Processing—with Destoner, Grader and Milling Unit
Eco Development Committee Fund	District Forest Officer (Forest Department)						Solar Powered Sewing Machines (livelihood center)
Udyogini	Women and Child Welfare Department						
Scheme for Persons with Disabilities (PWDs)	14th Finance Commission					100% Grant for Individuals with Disabilities	Roti Rolling, Sewing, LSK

Revolving Fund

As discussed in the table above, revolving funds can be set up to enable financing through local channels including smaller MFIs, local NGOs and community institutions such as cooperatives and federations. This instrument is simply a first step in proving credit worthiness and helping determine the modalities for financing solutions within a specific community. The next step would ideally be a linkage with formal FI and interest subsidies or margin money support to make the solution affordable for the enterprise.

The fund is administered through a separate bank account, where the repayments or collections can be deposited. New loans are then sanctioned based on the repayments coming into the corpus. It works best for loan amounts which can be repaid within a 1-2 year period (for example micro and small livelihoods. This ensures that there is adequate money in the corpus to 'revolve' and cover the costs of managing the fund (administrative fees etc.). Once the fund becomes too large, the transaction costs increase and make it unviable, warranting a move to more formal financial linkage.

Capacity building of key intermediaries and institutions involved in actually disbursing the loans- local MFIs or community based institutions- is extremely important, particularly where the solutions being financed may be unfamiliar or new, like with solar powered livelihoods. There is also an important element of economic literacy

for livelihood activities (going beyond basic bookkeeping and accounting) so local livelihoods and enterprises are clear about how the energy intervention affects their business model, cash flow and financial management.



Case Study 1

REVOLVING FUND WITH MFIS, MANIPUR, NORTH EAST INDIA

Background

The State of Manipur in North East India is primarily agrarian with some sectors focused on small manufacturing such as handloom, handicrafts, food processing, and khadi and bamboo processing. The hilly and difficult terrain in the region has left the state with poor levels of infrastructure- be it for transportation, communication, energy access or access to financial institutions. There are clear disparities in terms of infrastructure access between communities in the valley region and those in the hilly regions. The conditions are particularly dire for the latter, affecting their ability to earn a steady income. The lack of access to energy

affects timely delivery of essential services like education and health.

While there is a strong network of Micro Finance Institutions (MFIs) in Manipur interested in lending for energy solutions, their experience had been primarily in the financing of basic household solar lighting solutions.

Owing to the high cost of traditional capital, MFIs also have relatively high interest rates, restricted loan amounts and loan tenures are a maximum of 1-2 years. However, energy solutions for livelihood, particularly larger asset based ones, require longer tenures, lower interest rates to be viable solutions for poor, unserved communities.

Solution

A revolving fund was created for MFIs to access grant capital for onlending at lower interest rates, with longer tenures to meet the energy needs of both households and livelihoods across districts in Manipur. The fund is focused on areas with

little or no access to reliable, affordable energy solutions. 8 MFIs were chosen to be part of the programme. An overview of the structure of the fund and the money flows and product flows are captured in the figure below.

Some of the Key Guiding Principles for the Fund Include

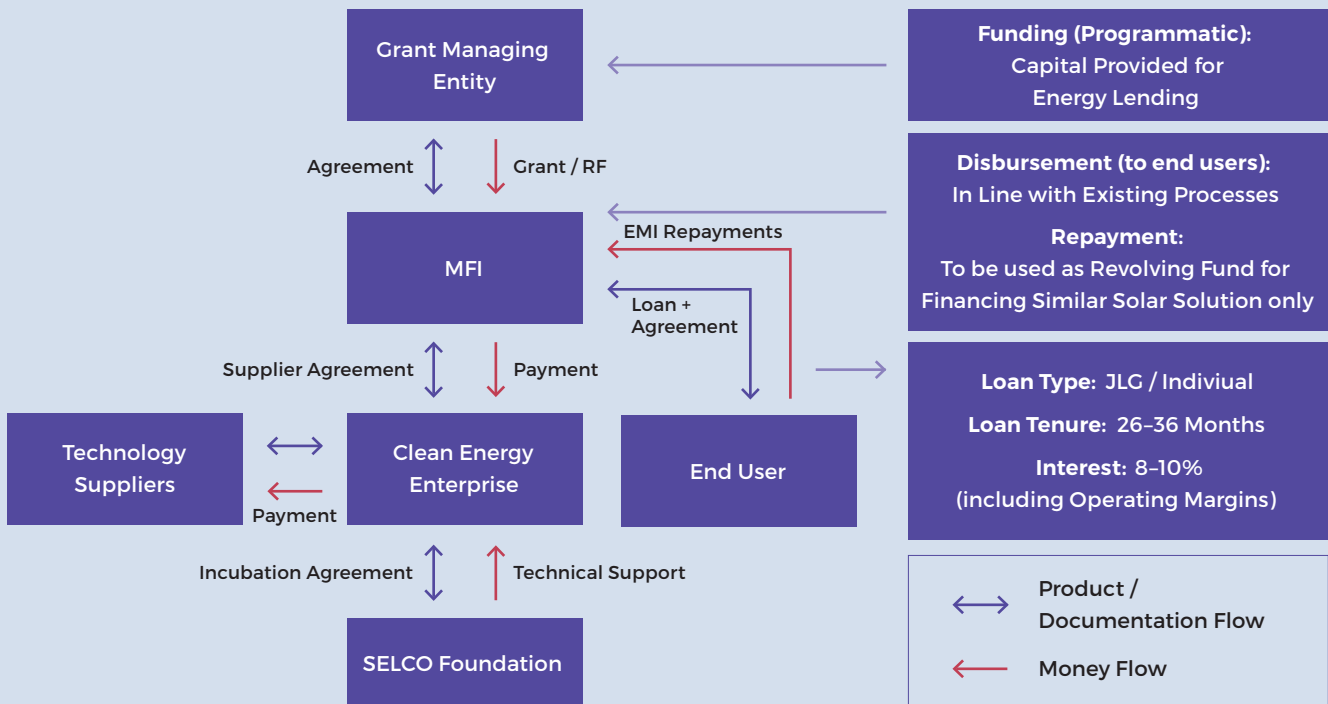
At least **50% of the capital** aimed to finance energy needs of communities in hilly communities—that are typically poorer and more vulnerable.

At least **40% of the capital** aimed at financing livelihood applications.

Interest rates not to exceed **12% per annum**

Longer loan tenure of **24–40 months** to make the finance more affordable

Manipur Revolving Fund—with MFIs



So far, the fund has been used to finance over 190 solar-based livelihood loans, including for sewing machines and digital service centers running solar powered printers and photocopiers. MFIs collect the monthly instalment and deposit the amount in a dedicated account to be used for further lending to solar powered livelihood loans.

There was a significant amount of training and capacity building for participating MFIs on energy-livelihood solutions, business models, risk mitigation techniques, role of clean energy enterprise in installation, servicing etc. This was important in ensuring that MFIs are able to take on this portfolio rather than simply meet a specific target with existing funds.

Through the initial use of grants to initiate transactions, the fund seeks to identify additional sources of capital and continue working with the local network of financial institutions to make loans affordable and accessible for end users to purchase energy solutions for household and livelihood needs.



Case Study 2

REVOLVING FUND THROUGH COOPERATIVE SOCIETY, JHARKHAND, EAST INDIA

Background

The financial infrastructure in Jharkhand is underdeveloped, with bank penetration being lower than the country average. While there are MFIs, their penetration in rural areas is not particularly high either. The World Bank's baseline study shows that between 2005 and 2006, only 20 percent of loans were being used for productive purposes, while the rest were used for consumption.

However, certain districts have a large number of grassroots organizations, supported by NGOs. These include Women's federations and cooperatives, Farmer Producer Organizations (FPOs) and so on. Typically these organizations provide support to members on aspects of production, market linkages and financial linkages.

The Jharkhand Women's Self Supporting Poultry Co-operative Federation Ltd (JWSPCFL) is one such federation that supports rural women producers to set up and run small scale poultry units (not

more than 500 birds per cycle). It functions across 16 blocks in 8 districts and there are 3000 active poultry farmers. These women, typically from poorer families, are organized into cooperatives where each woman rears broilers in modern poultry farms built in their backyards. Gumla Grameen Self-Supporting Poultry Cooperative Society Ltd. is one of six cooperatives that works under the federation. They have 600-800 active women poultry farmers in Gumla, Jharkhand.

The chicks in these poultry farms need continuous lighting during the night time which increases the feed consumption of the chicks and increases the weight of the chicks, enhancing farmers' incomes. Gumla district, an interior area with a large percentage of tribal communities, faces erratic power supply with more than 6-7 hours of power failure on a normal day and complete outages for 6-7 days during the rainy season.

Solution

In three blocks (Raidih, Palkot and Ghagra) of Gumla district, there are 600-800 women poultry farmers with an interest in adopting solar lighting solutions for uninterrupted power supply. The solution was designed by SELCO Foundation for a batch of 400-600 chicks and the cooperative society collaborated with a local clean energy enterprise for implementation, maintenance and servicing.

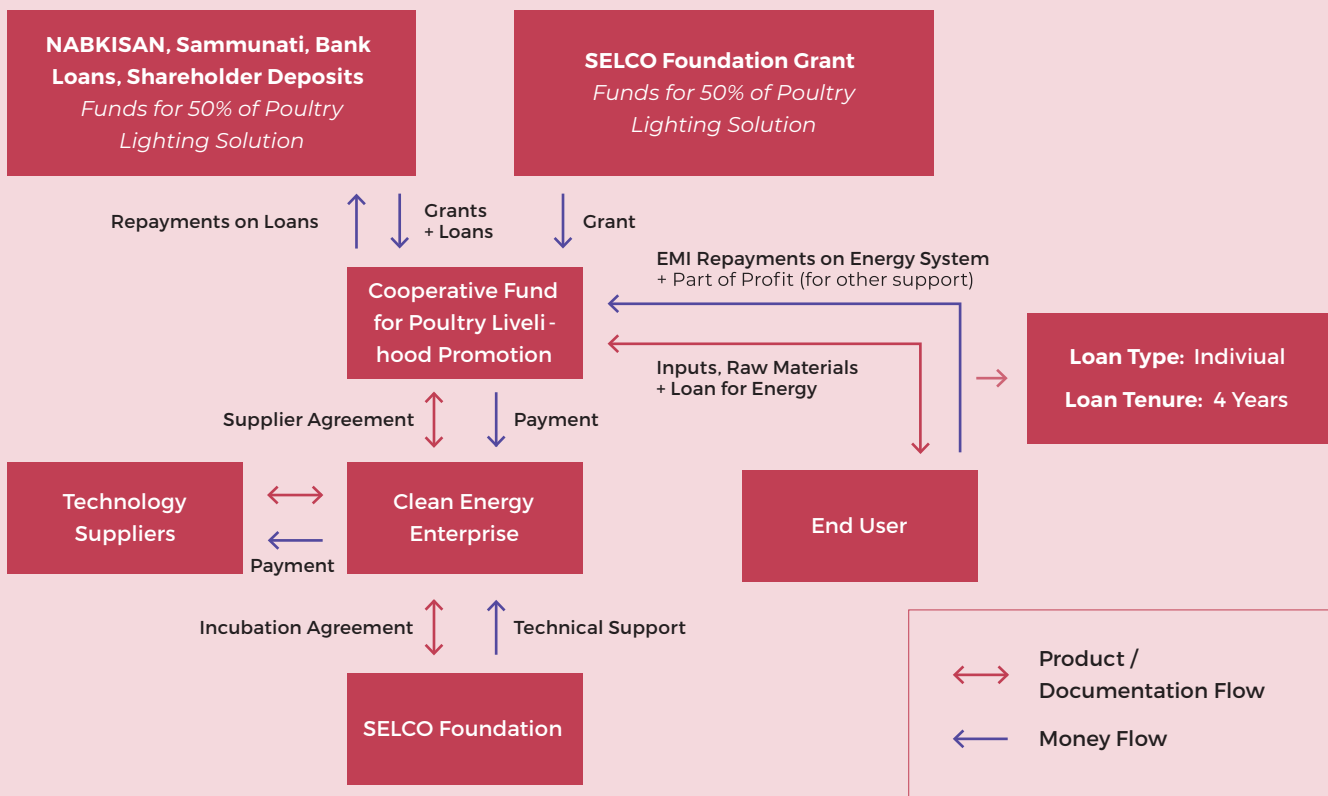
The cooperative has an existing fund that pools together loans from NABKISAN, Samunnati, bank and shareholder deposits to provide materials like chicks, feed etc required by the farmers, and

deducts the amount from the profits earned in each batch.

This existing fund structure was leveraged to enable loans for poultry lighting. SELCO Foundation 50% of the provided energy solution cost as a grant into the fund, while the remaining 50% was covered using the Cooperative's existing corpus. Through this model, financing for poultry lighting was initiated with 55 women farmers in Raidih block of Gumla district.

Given below is a figure outlining the flow of funds in this project.

Jharkhand RF—with Cooperative



Broadly the financials for each system are outlined below:

Per Unit Cost of Solar Lighting Solution

Financed through existing fund—where 50% from corpus and 50% from SELCO Foundation grant

INR. 15,000 (\$200)

Loan Tenant

4 Years

Repayment Installment Per Batch

30–40 days

INR. 329 (\$4.5)

Way Forward

The cooperative plans on revolving the funds and replicating the financing to enable poultry lighting for 165 farmers by March 2021. In a more significant move, based on the success of this model, the Federation plans on integrating

SDG7-driven livelihood financing into its portfolio. This will enable them to access funds from existing sources- banks, NABKISAN etc. and onlend to farmers for energy solutions.

Concessional Debt: Interest Subsidies or Margin Money Subsidies

These interventions serve as tools for inclusion. Livelihood entrepreneurs from poor and vulnerable contexts often struggle to pay the initial 10%-20% down payment to the bank to avail of a loan. The margin money, which is in some sense a part-guarantee to the bank, is then paid on the end-user's behalf to the financial institution in order to avail the loan.

The interest subsidy, on the other hand, reduces the amount that needs to be paid on a monthly basis. In countries where the cost of capital for a financial institution is particularly high- ranging from 8-15% and the interest rates increase for communities living in extremely remote areas where collections are harder, soft funding is necessary to reduce the interest rate for enterprises and thereby the cost of monthly repayments. For enterprises that haven't accessed formal financing before, concessional debt options for energy-based livelihood loans like margin money subsidies and interest subsidies are a next step after revolving funds.



Case Study 3

MARGIN MONEY SUBSIDY FOR BLACKSMITH BLOWER MACHINE, NORTH KARNATAKA, SOUTH INDIA.

Background

Blacksmithing, one of the oldest crafts prevailing, usually involves manually blowing through a blower to keep the coal hot. Mr. Bhimarayappa Kammar, living in Adargunchi near Hubli, Dharwad district in North Karnataka has been a blacksmith for more than 40 years and it's a traditional business of his family. The solar

powered blower solution replaced the time and energy-intensive hand-rotated manual blower unit, which was both tiring and time consuming. While he saw a tangible increase in his daily income with the use of a solar powered blower, in the absence of a loan or affordable financing, he was unable to pay for the solution.

Solution

Mr. Bhimarayappa was connected to Karnataka Vikas Grameena Bank (KVGB), a Regional Rural Bank (RRB) operating in the state with a branch close to his work station. Through multiple visits, SELCO Foundation worked with the bank manager and the entrepreneur to share details about the solution, the business model and the potential for increased cash flows through the intervention.

SELCO Foundation paid up the margin money amount on behalf of the entrepreneur, following which the bank manager sanctioned the loan.

In this case, the margin money down-payment not only helped the entrepreneur overcome the challenge of making an upfront contribution, it also served as a support mechanism for the banker and contributed to reducing the bank's risk. An overview of the business plan and financial details are captured in the table below.

Following the intervention, Mr. Bhimarayappa's profit increased by **INR. 4,000 – INR. 5,000 (\$57–\$68) to INR. 6,000 – INR. 8000 (\$80–\$108) per month.**

Total Cost of the System	INR. 16,500 (\$200)
Margin Money / Down-Payment <i>Covered Through Soft Funding</i>	INR. 3500 (\$ 47)
Name of the Bank <i>30–40 days</i>	Karnataka Vikas Grameena Bank, Adargunchi, Hubli
Interest Rate	12%
Loan Tenure	3 Years
EMI	INR. 432–INR. 500 (~\$6)
Total Amount Spent by the End User on the System <i>Including Interest</i>	INR. 15,554 (\$ 210)

Case Study 4

DIFFERENTIAL RATE OF INTEREST (DRI): UNLOCKING LOW INTEREST LOANS FOR SOLAR-POWERED BLACKSMITH BLOWER MACHINES AND SALON TRIMMERS, TAMIL NADU, SOUTH INDIA

Background

Mr. Serlin Monisha & Mr. Sivananthan both live in Tachamalai hills, Kanyakumari District, Tamil Nadu and work as a blacksmith and barber respectively. They belong to a community that is particularly vulnerable (listed under the 'backward' communities list of the government). Both entrepreneurs used manual methods in their livelihoods and in the absence of technology upgradation, they were unable to capture a significant share of the market.

The upgradation was particularly difficult because of the higher interest rates on business loans, which was a limitation for both entrepreneurs. Serlin used his son's help in the business and now with age was facing difficulties in undertaking more manual labour. He also wanted his son to have the option of undertaking other work and finding higher income sources. Sivananthan on the other hand was losing clients to nearby towns due to lack of technology.

Solution

The solar powered blacksmith blower & solar powered trimmer, helped Serlin & Sivananthan individually through technology upgradation to be more productive, capture larger market during COVID lockdown and were introduced to the low interest rate business loan scheme i.e. DRI from Canara Bank for business upgradation with less financial strain.

The solutions proposed for Serlin and Sivananthan were a solar powered blacksmith blower & solar powered hair trimmer, respectively. The entrepreneurs were connected to the local Canara bank branch and proposals were prepared for the Differential Rate of Interest (DRI) scheme. DRI is an interest subsidy scheme where loans are provided to extremely low income communities at 4% interest per annum upto a maximum of INR. 15000 (\$200) specifically for productive uses.

Taking note of the socio-economic conditions of the entrepreneurs, a capital subsidy contribution was also made by SELCO Foundation towards the total cost of the solution.



The financials of each of these projects are outlined below:

Cost of the Intervention	Blacksmith Blower	Hair Trimmer
Total Cost of the Energy-Livelihood Solution	INR. 25,000 (\$340) Blower + Light + Solar System	INR. 23,000/- (\$311) Trimmer + Fan + Solar System
SELCO Foundation Contribution	INR. 6,700 (\$90)	INR. 6,000 (\$80)
Loan Through Canara Bank <i>Under DRI Scheme</i>	INR. 15,000 (\$200)	INR. 15,000 (\$200)
Interest Rate <i>Under DRI Scheme</i>	4%	4%
Upfront Contribution from Entrepreneur	INR. 3,300 (\$45)	INR. 2000 (\$27)
EMI	INR. 500 (\$6.67)	INR. 565 (\$7.6)

Insights & Way Forward

Over the last two years, SELCO Foundation worked closely with this bank and community, organizing financial training programmes and banker workshops to enable an understanding of solar powered livelihood solutions.

Prior to this, the community was averse to taking business development loans due to the fear of high interest rates. Through the capacity building sessions, awareness has been created about the scheme and its provision of loans for business development at low interest rates.

Through this intervention, the entrepreneurs themselves have been able to access a business development loan at a relatively low interest rate and through its repayment will

be able to improve their CIBIL scores, which can be useful in accessing future bank loans for working capital or other livelihood needs.

The initiative with the bank, regular meetings and the awareness programmes also helped increase confidence about energy-based livelihood solutions, and their willingness to lend for more solutions. In fact, a third energy-livelihood loan through DRI has also been sanctioned in the same village- for an entrepreneur to start a solar powered digital service center (Lok Sewa Kendra). The interventions have also created the possibility of utilizing this scheme through other districts branches of the same bank, thereby enabling replication of energy financing for livelihoods at low interest rates across regions.

Risk Guarantee with Financial Institutes

Soft funding sources are used as fixed deposits in financial institutes to encourage lending to high risk end-users. Typically, the percentage of these guarantees are decided based on the geographical context, socio-economic backgrounds and the risk perception level of the local financial institution. The percentage of collateral or guarantee may vary from 20% - 100% based on the context. Based on regularity of repayment from existing borrowers, the fixed deposit or guarantee can be reused and revolved further within the same financial institution to lend to other enterprises for similar solutions.

Over time, the increased creditworthiness of end-users and lower risk perception about the community would lead banks or FIs to be more open to lending for other livelihood needs as well.



Case Study 5

UNLOCKING MUDRA SCHEME WITH CREDIT GUARANTEE FOR SOLAR POWERED DIGITAL SERVICE CENTER , ODISHA

Background

Dhaneswar Majhi from Thaumal Rampur in Kalahandi is a 10th grade graduate whose parents are daily wage labourers on paddy farms. The village that he is from faces regular power cuts and given the remoteness of the area, there is limited access to

basic digital services such as photocopying, printing and so on. Without these services, people from the community needed to commute hours for basic documentation required to access government schemes, banking services and so on.

Solution

In 2016, SELCO Foundation identified Dhaneswar and suggested setting up a Lok Seva Kendra (LSK) or digital service center. This solar powered center with photocopying, laptop, printer and a camera. His center predominately caters to locals who live nearby and offers an array of services, including printing, photocopying, photography and lamination. A year later after the implementation, he diversified to photo framing, videography, phone recharging and sale of accessories through this center. Dhaneswar was trained by Fellows

from the SBI Gram Vikas fellowship programme on digital entrepreneurship.

To finance the center, Syndicate bank provided a loan of INR. 76,000 (\$1,026) under the MUDRA scheme, which provides a credit guarantee (or a collateral free loan) at a lower interest rate of 9.65% per annum for a period of 5 years.

Soft funding support of INR 50,000 (\$675) was provided towards the infrastructure costs of building the LSK, built on Dhaneswar's relatives' land.

Impact

Dhaneswar makes a **monthly income of INR. 10,000–INR. 15,000 (\$135–\$200) with a profit of INR. 6,000–INR. 8,000 (\$81–\$108) per month.** With reliable and constant power supply, Dhaneswar is able to work productively through the day.

During the course of the lockdown following the outbreak of COVID 19, his business took a hit and he was supported with INR 10,000 by SELCO Foundation to help him diversify his business to include groceries as the market was mainly interested in essential commodities.

Way Forward

In 2016, through its capacity building and advocacy efforts, SELCO Foundation worked with Syndicate bank to create targets on lending for decentralized solar energy solutions, through the branches in the Kalahandi district. Following this, more than 20 MUDRA loans were unlocked for small businesses integrating SDG7 driven livelihood

solutions, primarily LSKs and solar powered sewing machines. This was critical in setting a precedent for unlocking the scheme (with credit guarantee and interest subsidy) for extremely vulnerable tribal communities to access energy-based livelihood solutions.

Subsidies and Gap Finance Support

The effective cash flows of any intervention would define the kind of subsidies required on assets and transaction/ administrative costs. These cash flows are dependent on a number of factors including the cost of hardware (appliances and energy system), working capital needs, cost of finance and so on.

Some of the key steps in this analysis include:

Establish negotiable and non-negotiable parameters of solar/ energy system design input, appliance efficiency and market linkage availability to arrive at post intervention cash flow

Estimate transaction cost for the local enterprise/ FI to reach out to the end-user for installation, servicing, financial linkage



Based on financing available and the terms (i.e. loan tenure, interest rates, margin money requirements), calculate the monthly loan installments

The difference between the business cash flows and the installments needed to pay the financial institutions is the required subsidy (including the transaction cost incurred by the local enterprise/ FI/ NGO.

As part of scaling up solutions, arriving at a clear understanding of the cash flows and therefore the ideal subsidy amount requires an analysis of various factors and determining at what points interventions can be made:

Cost of Hardware: Improving efficiency of the appliance could reduce energy system costs

Working Capital Needs: Improving forward and backward linkages could change these requirements or result in higher returns for a given amount of capital

Cost of Capital: Negotiating with banks for better interest rates or longer tenures could reduce the cost of capital for the entrepreneur.

Transaction Costs: Determining how support can be provided to financial institutions, energy enterprises and NGOs to cover their costs of reaching out would reduce the cost to the end-user.

The types of subsidies and gap financing support would broadly include:

a. Capital / Asset - Based Subsidies: Where the appliance is extremely efficient but manufacturers lack the support and incentives to make it in large enough numbers resulting in early adopters paying a high price. Alternatively, these subsidies could be required for solutions that are being replicated but where the entrepreneurs are particularly vulnerable (because of their physical disability, cultural context or location) and require part subsidies ranging from 30-50% to access sustainable energy based livelihoods.

b. Transaction / Administrative Cost Subsidies:

Where the cost of reaching out to last mile end users is high, typically because of difficult terrains and geographical remoteness, and hence financial institutions and enterprises seeking to provide energy and financing solutions need support to avoid the burden falling on the end-user.

These subsidies are also important in making financial institutions more confident to lend for the remaining amount with some assurance that post-intervention cash flows can cover the repayments. It allows FIs to be part of the process of financing replicable solutions that can in the future become part of their regular lending portfolio.

Subsidies for Capital (targeted at end-user)

In the case of solutions that have larger power consumptions and are higher ticket sizes, the interventions needed to bring down costs are yet to be developed or implemented. These include increased appliance efficiency, reduced costs of portable batteries, improved market access and so on. These interventions within the broader energy-livelihood sector would make solutions more viable for both livelihood entrepreneurs to purchase and for banks to finance.

Till such time, the value of capital subsidies- for appliances or energy systems cannot be underestimated or ignored. These subsidies are essential to ensure that last mile end-users or entrepreneurs do not pay the cost of inefficiencies within the ecosystem, but rather reward them for

being early adopters. The increase in deployment and dissemination on the ground will also send out the right signals to manufacturers of efficient appliances or improved battery technology about the market demand for such innovations.



Case Study 6

CAPITAL SUBSIDY AND LOAN FOR ENTREPRENEUR LED AGRO-PROCESSING UNIT, NORTH KARNATAKA

Background

Preeti Joshi is a 36 year old entrepreneur from Haliyal village of Uttara Kannada district in Karnataka. She tragically lost her husband and was thrust into business to manage the petty shop they owned. She used flour to make snacks and rotis, and sold them from the shop. However, the nearest commercial mill with a large capacity machine faces regular power cuts that last 3-4 hours a day, sometimes the entire

day. In addition, the poor quality of the flour and the travel time/ distance made it expensive and inefficient to use the commercial mill. She also owned a roti-rolling machine that was not in use.

The MFI partner, SKDRDP, identified her as a potential entrepreneur for energy-livelihood solutions and based on the need identification, a solar powered system and a flour mill were proposed.

Solution

A decentralized solar powered flour milling machine was installed at her shop in March 2019. Based on an analysis of various factors including the business model, cost of milling at the other center, cost of the energy-livelihood solution, potential cash flows and earnings, a gap support

was identified to be covered by soft funding.

For the remaining amount, she took a loan from SKDRDP for INR. 1 lakh (\$1,352) which included INR. 1 lakh towards the flour milling machine. An overview of the financials are provided below:

Total cost of the energy-livelihood solution:

Efficient Flour Mill

Solar Energy System

To Power Mill and Roti Rolling Machine

INR. 1.48 lakhs
(\$ 2,000)

Capital Subsidy Support from SELCO Foundation

INR. 48,000 (\$650)

Total Loan Amount from SDKDRP

Part Financing of Energy Solution

INR. 1 lakh (\$ 1,352)

Loan Terms

ROI: 16% for 2 years

EMI Collected on a Weekly Basis

INR. 4,800 (\$65)

Using the asset, she is also able to address the milling demand of the 100+ households in the village. She recently added a refrigerator and printing-photocopying services, both solar powered, to her business offerings. She has since

employed 6 other people within the community to help run the expanding business. She has also gone on to take a working capital loan to support the expansion of her business and services.

Case Study 7

UNLOCKING ECO DEVELOPMENT COMMITTEE FUNDS (TRIBAL WELFARE) FOR SOLAR POWERED LIVELIHOOD CENTER, TAMIL NADU

Background

Pechiparai reservoir is located just 43 kilometers away from the town of Nagercoil in Tamil Nadu. The Pechiparai region is thickly forested and home to an ancestral tribal community called the Kanikars. The area is disaster prone and is frequently hit by cyclones. They work primarily as agricultural labour and in the collection of Non Timber Forest Produce (NTFP). Much like tribal communities in other parts of the country, they are particularly vulnerable with poor access to facilities and low levels of income. On average, they earn less than INR. 3600 (\$48) a month-

falling below the global poverty line of \$1.9 a day. The area comes under the jurisdiction of the forest department and is administered by the District Forest Officer (DFO). The DFO of Kanyakumari district, was very keen to support the community's request for a community livelihood centre with sewing machines for skill development as well as income generation. However, forest laws prohibit the construction of electricity infrastructure and hence, alternatives needed to be identified to power the livelihood center in this off-grid area.

Solution

A solar powered community center with 5 sewing machines (with efficient motors) was set up in August 2019, under the ownership of the Eco development Committee (sometimes referred to as the Village Forest Committee), composed of local tribal leaders and representatives, created to plan and oversee initiatives for tribal welfare in the region. 10 of the women from the community were trained on basic stitching and linked to Manitham Thedi, an NGO in the district, to facilitate orders and market linkages. Initially the orders were for cloth bags, but since the pandemic struck, they have diversified to produce masks, with the market linkage being managed by the NGO.

The financials of the solution are provided in the table below. The solution was implemented by leveraging

funds from the Eco Development committee fund. This fund is available for tribal welfare and is allocated by the DFO following the recommendation by the Eco Development committee.

Having worked with the village forest committee to understand their needs and determine the solution that might work best in the community livelihood center, SELCO Foundation also built a rapport with the DFO to provide details about the technical aspects of the solution, answer queries and submit the final proposal for approval by the DFO and the Board of Directors of the Committee. This outreach and capacity building effort with the DFO was important in accelerating the timelines to receive the approval within a 2-3 month period (while it could've taken 1-2 years in the normal course).

Total Cost of the Intervention

- Solar Energy System
- Sewing Machines

INR. 117,000 (\$1585)

INR. 78,500

INR. 38,500

Capital Subsidy Unlocked from Eco Development Committee Fund

Approved by DFO and Village Forest Committee

- Approx 45% of the Solar System Cost
- 100% cost of the Sewing Machines

INR. 75,000 (\$1016)

Soft Funding Support from SELCO Foundation

INR. 42,000 (\$570)

Way Forward

The larger agenda is to work with the NGO and train 40-50 women within a year so they can explore tailoring as an independent livelihood. For those who decide to set up their own tailoring unit, SELCO Foundation can leverage the learnings and existing relationship with banks like Canara Bank to unlock the DRI scheme (low interest rate loans) for solar powered sewing machines.

The community would then convert the livelihood center into a skill training center and a stepping stone towards self-employment.



Subsidies for Transaction and Administrative Costs

In areas that are remote, hilly with difficult terrain, often home to marginalized and vulnerable tribal communities, additional support is required to enable energy enterprises and financial institutions to reach out and facilitate implementation and financing. In the absence of this support, the solution becomes prohibitively expensive for the end-user or completely inaccessible.



These subsidies could take on a range of forms:

Transportation costs: for clean energy enterprises serving a remote region

Administrative subsidies: for financial institutions to undertake financial inclusion activities such as formation of SHGs, identification of banking correspondents and their training

Transaction costs: for local energy enterprises, financial institution representatives or local NGO members to support on ground processes of loan documentation and repayment collection.

In the process of scaling up energy solutions for livelihoods, local governments and livelihood promotion agencies like the State Rural Livelihood Missions need to allocate separate funds, particularly in areas like the North East, to cover administrative and transaction costs.



Case Study 8

TRANSACTION COST SUPPORT IN MEGHALAYA, NORTH EAST INDIA

Background

MOSONiE Socio-Economic Foundation, a local NGO has been working closely with communities affected by stone quarrying in the district of Ri-Bhoi, Meghalaya on aspects of healthcare, livelihoods, education and environment.

Given the hilly terrain, households and enterprises face frequent power failures especially in the rainy season. Sometimes, the power outage lasts for more than 15 days. To address this and provide reliable and affordable energy access for households and livelihoods, MOSONiE initiated

the energy programme in partnership with SELCO Foundation.

The energy programme began with a Revolving Fund for 60 households, that has now financed over 100 households. Following the capacity building sessions with SELCO Foundation and the local energy enterprise on generating leads, installing and maintaining systems, managing collections and the fund and so on, MOSONiE took on the responsibility at the local level.

Solution

Following the success of the revolving fund, with good collection and repayment rates, MOSONiE approached Meghalaya Rural Bank (MRB) with a proposal to finance additional livelihoods and households. In this phase, similar to the previous phase through the revolving fund, MOSONiE is responsible for identifying households and enterprises interested in energy solutions, install and maintain systems (acting as a Business Associate for the local energy enterprise through a commission model). The NGO has taken on the role of supporting documentation for loan application and collecting monthly instalments from households to be deposited against their loan accounts in the bank. The bank has now involved three of its branches to lend for energy solutions.

However, due to the hilly terrain and remoteness of the communities in this region, the operational costs of collections and financial follow up is much higher than the revenue from selling and installing energy systems. MOSONiE was in need of support to cover the transaction and administrative costs of managing the financial linkage and repayments, for which it has been supported through soft-funding as transaction cost subsidies. **This includes the human resource costs for 2 individuals and travel costs which comes to approximately INR 59,000 (\$800) per month. In the absence of this amount as soft funding, they would not be able to sustain the effort needed to keep the bank interested in financing such remote and last mile communities.**

Way Forward

MOSONiE plans on increasing the number of loans unlocked from each of the MRB branches for household energy and for energy-livelihood solutions, to a stage where the NGO can apply to become a formal corporate Banking

Correspondent. This banking correspondent status will then make them eligible for commissions and operational costs to undertake financial linkage activities on behalf of the bank.

Way Forward

As illustrated in the sections above, whether directly or through existing schemes, the five instruments play an important role in addressing specific gaps for energy-based livelihood financing and provide the support required to make the solution more affordable. In order to scale the use

of these instruments in disseminating energy-livelihood solutions, the way financial products and programmes are designed would also have to evolve and the broader ecosystem would need to be strengthened.

Financial Products and Programmes

In order to accommodate the instruments discussed above and to bridge the gap where appropriate financing is not currently available, the designs of products and programmes need to be reconsidered. Some of the key needs and considerations are articulated below:

Design Products for Energy and Working Capital Needs

In developing business plans and articulating the credit needs of livelihoods- particularly of those adopting micro, small and medium energy solutions- working capital requirements must be considered alongside financing for the energy solution and equipment.

This is often a point of contention with government schemes and bank programmes that may have a mandate to provide credit only for hardware. In the absence of working capital to buy raw materials and set up the enterprise, the entrepreneur/ SHG may be left with an asset that cannot be used. Some banks and financial institutions also have restrictions around providing additional loans while a first loan is still being serviced. This restricts the options available to the enterprise/ entrepreneur.

Hence, any additional business capital needs

must be considered while designing the financial product for the energy-based livelihood solution itself. The business model and projected cash flows from the solution would also be more realistic when it includes working capital needs.

Long Term Asset-Based Financing and the Role of Capital Subsidies

While there are schemes that can potentially be unlocked to support smaller ticket size solutions such as sewing machines, LSKs, blacksmith blowers and so on, there is a dearth of schemes that provide capital subsidies along with affordable credit for larger capacity solutions such as agro-processing units, cold storage units, green looms and so on.

Learning from large scale infrastructure credit: Funds offering credit at lower rates of interest or credit guarantees are often available through Development Finance Institutions (DFIs), for large-scale infrastructure projects for telecommunications, centralized power generation and distribution, roads and so on. These concessions are possible with the intention and justification that infrastructure projects are important for social good and can bring additional growth, income and well-being to the community/ village/ city/ region etc.

By extending this same instrument to meet the energy financing needs of micro and small enterprises, it is possible to improve the cost and access to basic services within the local economy, increasing their savings, productivity and well-being. This is relevant for agriculture services such as rice processing, flour milling, cold storage, vaccine refrigeration (for livestock) or services provided by local artisans such as blacksmiths, weavers, potters and so on.

Long term, low interest credit for energy-livelihood solutions: There are questions around the uptake of such solutions, without which evidence building is harder and local bankers are more reluctant to lend, but this becomes a chicken and egg scenario. Similar to large infrastructure projects, if there was concerted effort from international development institutions and national government to infuse capital subsidies and long term (7-15 years), low interest credit (3-5% per annum), the dissemination of SDG7 driven solutions would probably be higher as well.

The sources and intermediaries to enable this sort of financing and other products are discussed at the end of this section.

Gender Based Financing Products and Models

The impacts of COVID- 19 in employment and livelihood sectors have been felt disproportionately by women, particularly in lower income households. For migrant workers who have returned home, only a small proportion of the women are likely to return to the city, given uncertainties in income. This would mean a new set of income generating skills to create a livelihood in the village.

Gender based financing models that take note of the specific needs of women entrepreneurs or women-run enterprises and their use of sustainable-energy based solutions will be critical to design. This would mean working closely with FIs in the design and dissemination of such products, and would need to be accompanied by appropriate capacity building and awareness on the ground- amongst field staff and potential enterprises.

Sources and Intermediaries for Financing

To provide the sort of credit discussed above, allocations need to be carved out from existing climate and infrastructure funds as well as budgets and philanthropic funding. Some of the key funding sources include:

- Climate funds (Green Climate Funds, National Clean Energy Fund)

- Agriculture Infrastructure Funds

- Low cost/ concessional capital from DFIs

- Bilateral and Multilateral institution grants

- Private philanthropic funding

- Government budgets available for:

- promotion of efficient manufacturing,
- sustainable energy
- livelihoods promotion and income generation
- welfare programmes

Institutions such as the Asian Infrastructure Investment Bank (AIIB), Asian Development Bank (ADB), Africa Development Bank (AfDB) play an important role in making these allocations.

At the national level, apex financial institutions such as NABARD, SIDBI along with various government departments that are sector focused (eg: textiles, agriculture, animal husbandry etc.) and welfare focused (women and child welfare, tribal welfare) will play a critical role in channeling these funds to the right individuals and enterprises.

There needs to be a conscious effort to ensure the allocations made through these intermediaries are then accessible for vulnerable and poorer communities that are most in need of such energy-based livelihood assets.

Ecosystem Level Interventions

Going beyond the design of financing itself, the interventions needed across the ecosystem on energy solutions for livelihoods are outlined below.

Capacity Building with Financial Institutions

Using evidence and learnings from each of the replicable SDG7 driven livelihood solutions, capacity building and awareness need to be undertaken with financiers at all levels. This would include local branch and MFI staff, bankers at a national level at Apex banking institutions and FI head offices, and staff in development organizations' and DFIs at the international level and so on.

This engagement with financiers would cover the following aspects:

- Energy- livelihood ecosystem and holistic models (technology, business and ownership models) of different replicable energy-livelihood solutions
- Customized FI linkage activities for such solutions including the capacity of Banking Correspondents to identify the right kind of livelihood entrepreneurs, undertake economic literacy with enterprise to help them build out their business models etc.
- Target setting within FIs (circulars and plans from head offices and apex financial institutions) combined with incentives for local level branches for disbursement of SDG7 driven livelihood loans

Convergence with Bank Schemes, and Within Sectoral and Welfare Departments

As illustrated in the case studies and outlined in Table 2, there are a number of schemes that have the potential or have already been unlocked to finance energy-based livelihood solutions. It does require capacity building and sensitization with relevant ministries on the value of energy solutions for their specific portfolio or welfare goals.

However, the convergence, however, needs to go beyond inter-department convergence to intra-department convergence within livelihood

programmes of a certain nodal agency. For example, NABARD's existing programmes that provide training to farmers on specific agricultural practices should ideally be complemented with capital subsidies and low cost credit to purchase on-farm energy solutions such as sprayers, threshers, irrigation pumps, as well as agriculture processing solutions like rice hullers, millet processing units, flour mills and so on.

Entities like NABKISAN (an affiliate of NABARD) can then work through partners to facilitate market linkages for the final produce. This would mean designing end-to-end programmes for the value chain- be it agriculture, dairy, handloom etc.- and determining where energy solutions can play a role and what sort of financing instrument and credit could be made available for that solution.

Similarly, the welfare and promotion measures available for handloom weavers include insurance, yarn supply, market linkages etc. They should ideally also include appropriate financing for green-looms that reduce the drudgery of working on the traditional loom, but retain the artisanal qualities and decentralized nature of the handloom.

Similarly should ideally be providing capital subsidies and low cost credit for energy-livelihood s on the Additional sources of funding can Identify additional sources of funding that can be routed through existing schemes + undertake.

Role of Bilateral and Multilateral Institutions

Bilateral and multilateral institutions, including International Development Organizations and Development Finance Institutions (DFIs) play an important role not just as sources of financing but also as agencies of advocacy and change-providing the right signals and guidelines for national governments and financial institutions to follow.

In particular, international institutions that work closely on livelihood value chains such as the FAO, IFAD, WFP, UNIDO, UNDP and agencies interested in the environmental and

energy inputs into livelihoods such as UNEP and SEforAll⁷. For the under-developed parts of the world, this would mean allocating funding primarily as grants and guarantees.

⁷ FAO: Food and Agriculture Organization; IFAD: International Fund for Agriculture Development; WFP: World Food Programme, UNIDO: United Nations Industrial Development Organization; UNDP: United Nations Development Programme, UNEP: United Nations Environment Programme; SEforAll- Sustainable Energy for All

The after-effects of the pandemic are likely to be felt the most and for the longest by the poor, in India and in countries across the world. To alleviate their challenges, it is important to begin designing and planning the integration of SDG7-driven solutions for livelihoods at scale. This would mean new instruments of financing, new models of ownership and committed policies with funding to support poor and vulnerable communities in accessing these solutions.

With low incomes and no savings, capital support for assets will be the need of the hour. Collective ownership models would need to be explored where groups or institutions own these assets for use by a larger number of people from the community, through for example, Common Facility Centers (CFCs), Custom Hire Centers (CHCs) and livelihood centers that promote skill development alongside income generation.

With more concerted effort across key stakeholder groups, there is an opportunity to redesign financing for SDG7-driven livelihoods and make it accessible and affordable for communities. This is integral to building local resilience and making the much-needed progress on achieving SDG7 and SDG8 .



Air Compressor



Mini Rice Huller



A Dairy Farmer's Workplace



Blacksmith Workplace



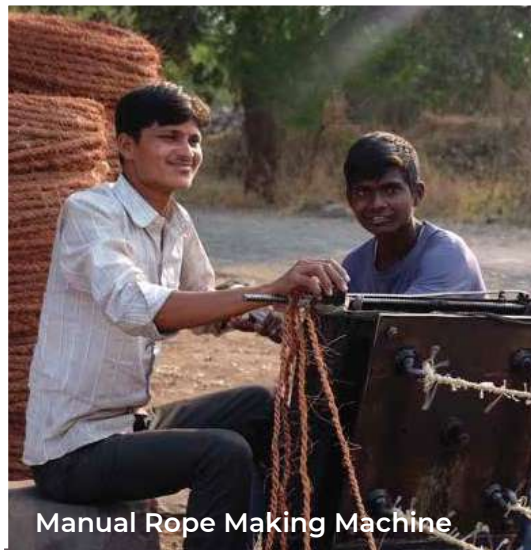
Mobile Livelihood Center



Carpentry



Pottery



Manual Rope Making Machine



Tailoring Entrepreneur

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