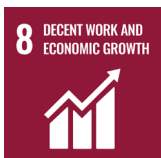




COMPENDIUM

# Unlocking Schemes for Sustainable Energy-Led Livelihoods

August 2023





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# I . Introduction

Poverty and Climate change pose two of the biggest threats to our world today. In the current circumstances, the poor are also the ones hardest hit by climate change. This could be owing to droughts affecting income from agriculture or owing to extreme heat, cyclones and floods that result in a loss of life and property. With the onset of the pandemic and subsequent lockdowns, the challenges of the poor were only compounded.

Improving income from livelihoods is critical to strengthening the resilience of last mile communities and breaking out of the cycle of poverty. This is true for small and marginal farmers, individual households, micro and small business entrepreneurs. Small and marginal farmers in India face challenges such as low quality input, lack of mechanisation, difficult access to institutional credit, poor market infrastructure, water stress, erratic weather patterns, and lack of end user finance which inhibits agricultural productivity. Their dependence on traditional and dirty fuels and on manual labour for productive activities, in the absence of mechanisation and reliable energy, has implications on savings, health, quality of life and the environment.

In addition to strengthening the agriculture ecosystem for small and marginal farmers, it is critical to develop alternative livelihoods to supplement their existing income sources. Animal husbandry and small businesses play a key role in this process- especially in times of drought and dry periods when agriculture cannot provide sufficient income. With lack of small-scale mechanisation, this pursuit of small enterprise and supplementary livelihoods is also constrained by gaps in reliable and affordable energy access to mechanise effectively.

There is a strong potential for sustainable energy, combined with efficient appliances to accelerate livelihood development and income generation opportunities particularly through decentralised models across rural and remote parts of India. However, deploying these solutions requires a concerted effort that encompasses an understanding of the needs, designing appropriate solutions to meet these needs, deploying pilot solutions and enabling ecosystem building for this deployment and future efforts of replication and scale of successful solutions

## Ecosystem for sustainable energy-led livelihoods

These livelihoods are run by individuals (farmers, entrepreneurs, artisans) and collectives (Self Help Groups, Cooperatives, Federations, Farmer Producer Organizations and so on) involved in one or more livelihoods. They benefit from reduced drudgery, improved productivity and increased incomes within their livelihoods.



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

Source: Booklet on sustainable energy for livelihoods; SELCO Foundation, 2018

**Till date, SELCO Foundation and its network of partners have been able to catalyse over 30,000 clean energy driven livelihoods across 150+ solutions spanning agriculture, animal husbandry, textiles and crafts and micro business sectors.** This has been a consequence of critical ecosystems with local livelihood and agriculture NGOs, clean energy and technology enterprises, financial institutions and government departments at district and state level.

**A number of government schemes today are aimed at strengthening value capture at the last mile-** through better post harvest management of agricultural produce, food processing opportunities, micro enterprise development, individual entrepreneurship etc- **by working closely with Self Help Groups, Farmer Producer Organizations, Individual micro enterprises.**

<b>Ministries and Nodal Agencies</b>	<b>Financiers/ Credit sources</b>	<b>Scheme subsidy sources (govt affiliated)</b>	<b>On-ground and ecosystem partners</b>
Ministry of Rural Development, Ministry of Agriculture and Farmers welfare, Ministry of MSMEs, Ministry of Food Processing Industries, Ministry of Finance, NABARD, Odisha Millet Mission and Mission Shakti Kalyan Karnataka Regional Development Board	Punjab National Bank, Bank of India, State bank of India, Canara Bank Karnataka Vikas Grameen Bank Gram Panchayat Level Federation (GPLF), Cluster level federation	Prime Minister's Employment Guarantee Programme (PMEGP) Pradhan Manthri Formalization of Micro Food Processing Enterprises (PMFME) Gram Panchayat funds, District Collector fund, Kalyan Karnataka Regional Development Board (KKRDB)	State Rural Livelihood Missions- Odisha and Assam RUDRA Foundation Gram Vikas SBI Gram Seva Sarvodaya Divya Prerna Foundation Coroat Trust Trichy Agribusiness Incubation Forum (TABIF) NABARD KKRDB

This compendium **showcases 10 schemes promoted by different Ministries that have been unlocked across 6 states in South, East and North East India, to enable sustainable-energy led livelihoods** using solutions ranging from flour mills, millet and spice processing units, roti and papad rolling machines for agri and food processing to digital service centres, power hammers, agarbatti making machines, sewing machines and eateries, egg incubators, and agri cold storage units.

The support provided through the schemes range from **credit linkage facilitation, interest subvention, capital subsidy and credit guarantees for collateral free loans.** Many of them also provide significant soft support in the form of **training and capacity building, market linkage facilitation, branding and business practices for micro enterprises, SHGs, FPOs involved in new business development.**

Given above is a brief representation of the range of stakeholders involved in facilitating the schemes covered in this compendium. This includes the Ministries and nodal agencies involved in their promotion, the financial institutions and organisations providing credit or direct subsidies as well as the on-ground and ecosystem partners who build community awareness, market linkages, training and capacity building for the micro enterprises and collectives.

The schemes and cases in this compendium seek to build awareness and inform better policy-making amongst government and non-government ecosystem stakeholders. **They showcase the opportunities to use existing resources and initiatives to build local ecosystems and finance solutions** that create an impact for livelihood enhancement via clean and distributed energy solutions, while also building climate resilience and contributing to climate action.

These schemes have created an impact by enabling different individuals and groups to take up entrepreneurship, enhance their livelihoods, and manage their produce more efficiently. This includes some of the most vulnerable in our society like differently abled individuals, transgender communities etc.

This has led to **income security, food security and community access to local produce/services, and importantly a sense of dignity and empowerment amongst otherwise marginalised individuals and women.**

Strengthening of local livelihoods is **quintessential to building climate resilience in a manner that brings together climate adaptation and mitigation opportunities.**



Micro businesses



Textiles and Crafts



Food and Agri-processing



Animal husbandry



Cold storage



On farm







## Scheme 1

# National Rural Livelihood Mission (NRLM)

The Ministry of Rural Development implemented the National Rural Livelihood Mission (NRLM), to foster self-employment opportunities amongst vulnerable communities and enhance their socio-economic well-being. The State Rural Livelihood Mission (SRLMs) in respective states provide a platform for the organisation and mobilisation of individuals into Self Help Groups (SHGs), enhance skills and capacity, support business planning and development, facilitate access to financial services such as microcredit loans with zero or low

interest rates, channel gap funds and subsidies from other initiatives.

For example, under the Odisha Livelihood Mission (OLM), each SHG creates an annual Micro-Investment Plan which helps determine the investment needs. The Gram Panchayat Level Federation (GPLF) plays a critical role in helping the SHGs access loans and financing, including at lower interest rates directly from the GPLF corpus or through banks.

# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided	Interest Rate	Tenure
Ministry of Rural Development (NRLM- implemented through State Rural Livelihood Missions)	Primarily women groups (Self Help Groups, Producer Groups)	<ul style="list-style-type: none"><li>• Interest subvention</li><li>• Collateral free loans</li><li>• Linkages to other government subsidies/gap support funds</li></ul>	12% p.a	upto 3 years

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed



Digital service centres, refrigerators



Sewing machines for Tailoring units, Eri Spinning Machines



Solar Dryers



Egg Incubators

### Solution ticket size (range)

INR 20,000 – INR 2,50,000

### Typical end-users

Women SHGs, Women PGs

### States

Odisha, Karnataka, Assam, Meghalaya



# Case Study A:

## Facilitating food-processing businesses for rural women groups in Odisha

### Context:

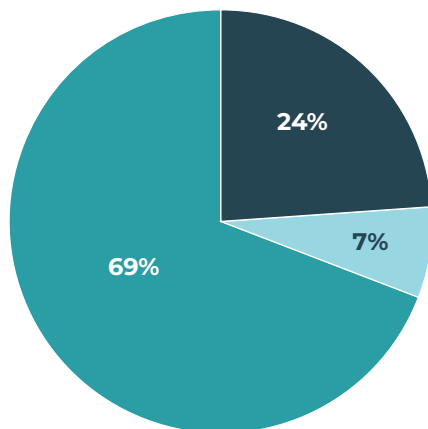
In the village of Birikote in Kalahandi district, the members of 'Maa Samaleswari' Self Help Group (SHG) had a monthly income of less than INR 12,000 (per household), with the 11 members primarily engaged in agriculture and bamboo-related labour work.

A typical household in the area consumes 2-3 kgs of puffed rice a week. **In the absence of a puffed rice processing unit, people within the local community travel 20-30kms to buy puffed rice; or women would resort to labourious manual production methods. Unreliable power supply in the area** acted as an additional barrier to use mechanized options for production.

Odisha Livelihood Mission (OLM) recognised the potential of 'Maa Samaleswari' SHG and orchestrated a transformational intervention and facilitated a loan through GPLF.



### Financing:



- Loan Through GPLF
- SGH Contribution
- Gap Support

Total Cost of the Solution	INR 4,25,255/-
Credit source	Gram Panchayat Level Federation (GPLF)
Interest Rate (Under GPLF)	6% p.a.
Tenure	12 Months
Monthly EMI	INR 8,606/-

### Solution specifications:

Solar powered puffed rice unit (750W motor), with Pedestal fan and LED lighting  
Solar system capacity: 1.95 kWp

### Impact:

- The SHG's production capacity jumped to 150 kgs per day, **yielding a monthly revenue of INR 90,000.**
- The solar-powered puffed rice unit **reduces the drudgery involved in puffed rice** production and with sustained power supply, the group is able to cater to external orders in a timely and efficient manner.
- Neighbouring communities are also benefitting from **accessibility to locally produced puffed rice.**

# Case Study B:

## Transforming Poultry Farming for Women groups in Assam



### Context:

Kharika Poultry Group (PG), located in the Chayani block of Kamrup Rural district in Assam is a collective deeply rooted in agriculture and livestock farming. **Their traditional methods of egg hatching proved time-consuming and inefficient, with incomplete hatching periods and loss of eggs and income.**

Pallabi Mali, a dedicated member of Kharika Producer Group (PG), was looking to improve the Group's overall operations with more efficient and reliable hatching techniques.

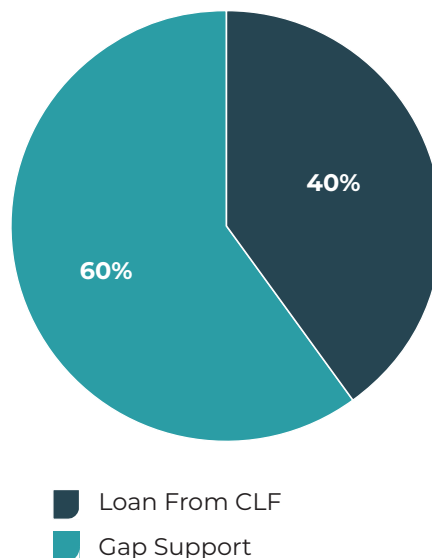
### Solution specifications:

Solar powered Egg Incubator: 100 egg capacity (120W)

Solar system capacity: 500Wp

<b>Total Cost of the Solution</b>	INR 1,20,000/-
<b>Credit source</b>	Cluster level federation
<b>Interest Rate (Under GPLF)</b>	12%
<b>Tenure</b>	5 years
<b>Monthly EMI</b>	INR 1,068/-

### Financing:



### Impact:

- With financial support from the Cluster Level Federation (CLF) and gap support, Kharika PG successfully acquired the solar egg incubator leading to improved hatch rates, reduced labour and greater income generation.
- The solution has helped revitalize the market for indigenous poultry production, thereby strengthening local food security



## Scheme 2

# National Agriculture Infrastructure Financing Facility

Under this financing facility, an Agri Infrastructure Fund with a corpus of INR 1,00,000 crore is dedicated to enhancing farm-gate and aggregation infrastructure for farmers. The scheme provides medium to long term debt financing for investment in post-harvest management infrastructure and community farming assets through interest subvention and credit access. It leverages credit guarantees available from the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) for loans upto INR 2 crores.



The scheme creates an opportunity to improve on-farm productivity and reduce post-harvest losses by modernising agriculture infrastructure. This includes infrastructure for smart and precision agriculture, custom hiring centres for rental of agricultural machinery, primary processing centres, cold stores and cold chains and so on.

# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided	Interest Rate	Tenure
Ministry of Agriculture and Farmers Welfare/ Department of Agriculture and Farmers Welfare	FPOs, SHGs, Agri-entrepreneurs, individual farmers, relevant federations and cooperatives	<ul style="list-style-type: none"> <li>Interest subvention of 3% p.a.</li> <li>Credit guarantee for loans upto INR 2 crores</li> <li>Financing through Commercial banks, Cooperatives, RRBs, Small finance banks, NBFCs</li> </ul>	Effectively 4 - 9% p.a. (after 3% interest subvention depending on bank interest rates)	Maximum period of 7 years

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed

-  Cold storage units (5MT- 10MT)
-  Rice processing unit, Spice processing unit, Millet processing unit, Vegetable-drying unit



### Solution ticket size (range)

INR 5,30,000/- to INR 15,00,000/-

### Typical end-users

FPOs and FPCs

### States

Karnataka, Jharkhand, Telangana

# Case Study:

## Decentralized cold chain solutions for tribal farmers in Jharkhand to reduce post-harvest losses

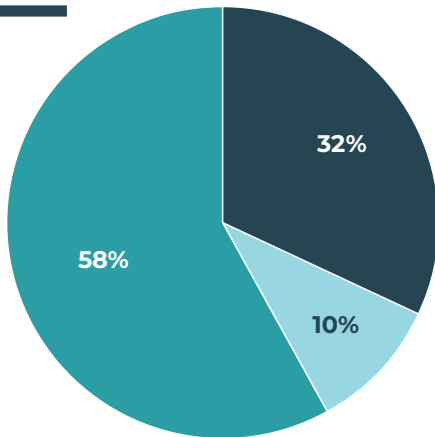
### Context:

In the absence of cold chain facilities, farmers from the tribal communities in Leda village of Giridih district, Jharkhand, were facing significant agricultural losses. With the nearest market about 30 kms away, they sought to aggregate and sell their produce by setting up a Farmer Producer Company (FPC) named Aarohi Farmers Producer Company Limited with the support of NABARD and a local NGO, Rudra Foundation.

These small and marginal farmers typically grow potato, tomato, brinjal, cabbage, cauliflower, ladyfinger, pumpkin, bitter gourd, cucumber, sweet potato, and other vegetables. Even with this diversity in place, **the group was facing losses averaging 10-15% of their total horticulture produce, amounting to nearly 240 MT per year.** This resulted in an overall revenue loss of between INR 35,00,000 - 40,00,000 per year for the FPC, and a subsequent loss of income at the household level between INR 15,000 - 20,000 per year.



### Financing:



- Loan Through Agri Infrastructure Fund
- Entrepreneur Contribution
- Gap Support

### Impact:

- Access to the decentralised cold chain facility has resulted in a **50% reduction in spoilage of agricultural produce**, thereby increasing the group's bargaining power and positively impacting 1200 farmers of the FPC. Their existing market linkage channels such as the local Panchayat Haat ensures that any avoided wastage can be sold.
- Using the cold storage unit, the FPC's **earnings have increased by INR. 36,000 to INR. 50,000 per month.** It is currently earning between INR 30,000 to INR 40,000 per month through its trader model – where produce is bought and aggregated from farmers and sold on the open market; and between INR 6,000 to INR 10,000 per month through the rental model – renting out the service at INR 20 per basket of horticultural produce.
- As the solution is available at the farmgate, **farmers have the flexibility to harvest based on their convenience and sell it.**

Total Cost of the Solution	INR 15,20,000/-
Credit source	Bank of India
Interest Rate	5.3% p.a.
Tenure	48 Months
Monthly EMI	INR 11,500/-

### Solution specifications:

Solar-powered cold storage unit: 10MT capacity (with maximum daily loading capacity of 500 Kgs)  
Solar energy capacity: 5kWp



### Scheme 3

## Prime Minister MUDRA Yojana (PMMY)

The MUDRA scheme is a government initiative aimed at providing financial support and promoting entrepreneurship among micro and small enterprises - which often struggle to access formal credit channels. The scheme enables micro entrepreneurs to borrow from a range of financial institutions for loans upto INR 10 lakhs for non-farm income generating activities. These financial institutions can then avail of refinance support from MUDRA.

The loan can be availed by entrepreneurs/ micro enterprises directly through formal financial institutions including banks, MFIs and NBFCs. It

is available for enterprises engaged in the services, food processing, textile, trading and manufacturing sectors, and is extended for purposes such as working capital loans, equipment finance, agro and food processing, livestock and allied activities.

A significant facet of MUDRA is its focus on inclusivity and financial empowerment of individuals from marginalized sections of society, including women, SCs, STs, and OBCs.

[More details on MUDRA here](#)



# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided
MUDRA	Individual entrepreneurs and artisans, MSMEs	
Tenure	Interest Rate	<ul style="list-style-type: none"> <li>• Loan categories: Shishu: ≤ INR 50,000; Kishor: INR 50,000 – INR 1,00,000; Tarun: INR 5,00,000 – INR 10,00,000</li> <li>• Re-financing through public and private sector banks, Regional Rural Banks and Cooperative Banks, Micro Finance Institutions (MFI) and Non-Banking Finance Companies (NBFC)</li> <li>• Interest subvention: 2% for Shishu loans; Additional 0.5% for women beneficiaries</li> <li>• Credit guarantee and collateral free loans</li> </ul>
1 - 7 years	8% -12% p.a. (dependent on bank's rate)	

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed



Digital service centers, Refrigerators



Sewing machines, Blowers for blacksmithy, Power hammers, Rope-making machines



Small-scale chilli grinding unit, Small-scale flour milling unit



### Solution ticket size (range)

INR 20,000/- to INR 1,20,000/-

### Typical end-users

STs/OBCs, First-Time Account holders

### States

Karnataka, Odisha, Tamil Nadu, North-East

# Case Study A:

## Bridging the digital divide and promoting rural entrepreneurship rural Odisha

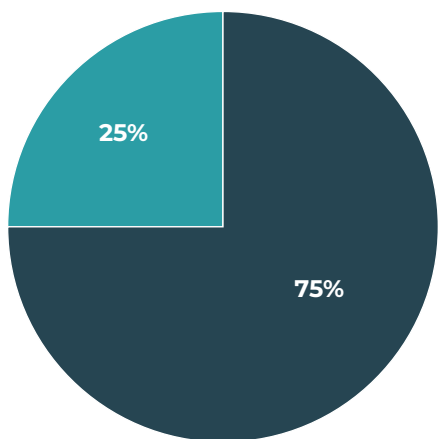
### Context:

Maligoan village in Thaumal Rampur Block, Kalahandi District, is a remote village that has restricted availability of essential digital services like photocopying and printing, as well as limited earning opportunities. One of the primary reasons for such limited services is frequent power outages and the inability to run laptops, printers, and other devices. The absence of these facilities compels residents to **travel for extended periods to avail fundamental documentation necessary for accessing governmental initiatives and banking services**, among other needs.

Mr. Nakula Naik, a resident of Maligoan who was in touch with Gram Vikas, a local NGO indicated an interest in taking up a livelihood to improve his household income. With the support of a MUDRA loan, a Lok Seva Kendra (LSK) or digital service center was set up and Mr. Naik was trained by Fellows from the SBI Gram Vikas fellowship programme on digital entrepreneurship.



### Financing:



■ Loan Through MUDRA    ■ Gap Support

### Impact:

- Mr. Nakula initially generated a monthly income of INR 10,000–INR 15,000 with a profit of INR 6,000–INR 8,000 per month from the LSK. With a reliable and constant power supply, he was able to cater to demand for these services in the area.
- With increased income he was able to diversify his business and has now expanded to a grocery shop, a small tiffin shop and a chicken outlet. Considering all sources, his current income stands at INR 27,000 per month on average.
- At the village level, the community now has access to basic digital services and is able to save time and out-of-pocket expenditures otherwise incurred in travelling to the nearest town

### Solution specifications:

Solar Powered Lok Seva Kendra/ Digital service center (powering a photocopier, laptop, printer and camera)  
Solar system capacity: 300Wp

Total Cost of the Solution	INR 1,18,290/-
Credit source	Canara Bank
Interest Rate	9.65% p.a.
Tenure	60 months
Monthly EMI	INR 1,876/-

# Case Study B:

## Empowering Rural Blacksmiths through Solar-Powered Innovations in Assam



### Context:

Karanga, a small village of the Jorhat district, is known for blacksmithy work that successfully caters to the demand from neighbouring tea estates and local farms.

Even though the cluster had many blacksmiths practicing the craft, in order to do the initial hammering they had to travel 14 km to Moriani, and depending on the size of the tool, they paid INR 5-10 per tool. **In addition to the cost of hammering, they would pay for a vehicle to Moriani to carry raw material and bring back tools to Karanga**, costing them around INR 1400-1500 per visit.

A progressive blacksmith from the cluster, Mr. Mintu Dutta, attended an awareness-cum-demonstration program on solar-powered blacksmith solutions by SELCO Foundation. He forges agricultural tools and works 8-9 hours every day. **He wanted to mechanize his workstation, but lack of reliable electricity limited his ambitions as the region faced massive power cuts** which sometimes lasted 8-10 hours per day, affecting any mechanisation.

### Solution specifications:

Solar powered Power hammer (25 kg; 2 hp)

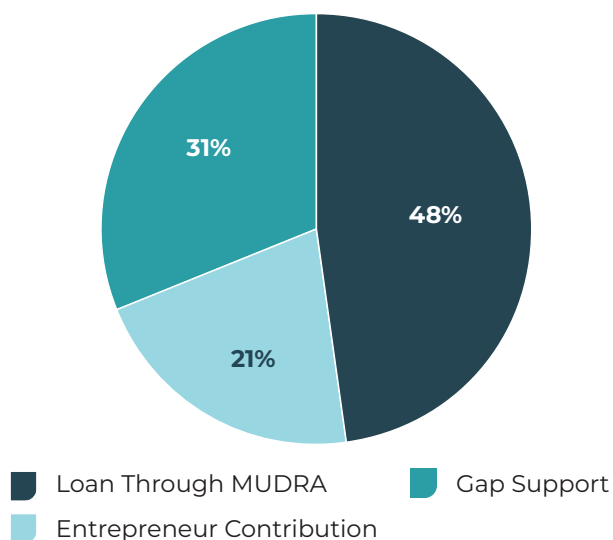
Solar system capacity: 4kWp

Total Cost of the Solution	INR 4,19,000/-
Credit source	Punjab National Bank
Interest Rate	9.55% p.a.
Tenure	60 Months (+ 6-month extension owing to COVID-19 lockdown)
Monthly EMI	INR 4,205/-

### Impact:

- Mr. Dutta has **eliminated the transaction costs of travel to Moriani** and cost of initial hammering, as he can do the initial hammering himself.
- He not only saves the out-of-pocket expenses related to travel and outsourced hammering, but also gets an extra day to work which has led to an increase in productivity and subsequently, of income.
- In addition, others in the community looking for tools or carry out the hammering work do not have to travel long distances to carry out the hammering work.

### Financing:





\*Representative Image

#### Scheme 4

## Prime Ministers Employment Generation Programme (PMEGP)

The Prime Ministers Employment Generation Programme (PMEGP) is a strategic initiative undertaken by the Khadi Village Industries Commission (KVIC) at the national level, in collaboration with State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs), District Industries Centres (DIC) and banks at the state level. It aims to promote entrepreneurship and employment by offering financial backing to individuals, particularly from marginalised

backgrounds, to establish micro and small enterprises.

The scheme bridges the financial gap and empowers beneficiaries to create viable ventures. PMEGP provides funding for manufacturing and business/ service sector projects with maximum costs of ₹ 25 lakhs and ₹ 10 lakhs respectively. It includes subsidies from 15% to 25% based on location and beneficiary category.


[More details on PMEGP here](#)


# Scheme overview

<b>Nodal Ministry</b> Khadi Village Industries Commission (KVIC)	<b>Eligible end-users</b> Entrepreneurs, SHGs	<b>Support Provided</b> <ul style="list-style-type: none"> <li>• Supports projects of upto INR. 25,00,000 for manufacturing sector, INR. 10,00,000 for business or service sector.</li> <li>• Subsidy rates for beneficiaries based on location and category: ranging from 15%- 35% based on end user category: urban/ rural/ Special categories and marginalized communities</li> <li>• Credit linkages for remaining project cost through term loans and working capital.</li> </ul>
<b>Tenure</b> 3 - 7 years	<b>Interest Rate</b> 11% -12% per annum	

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

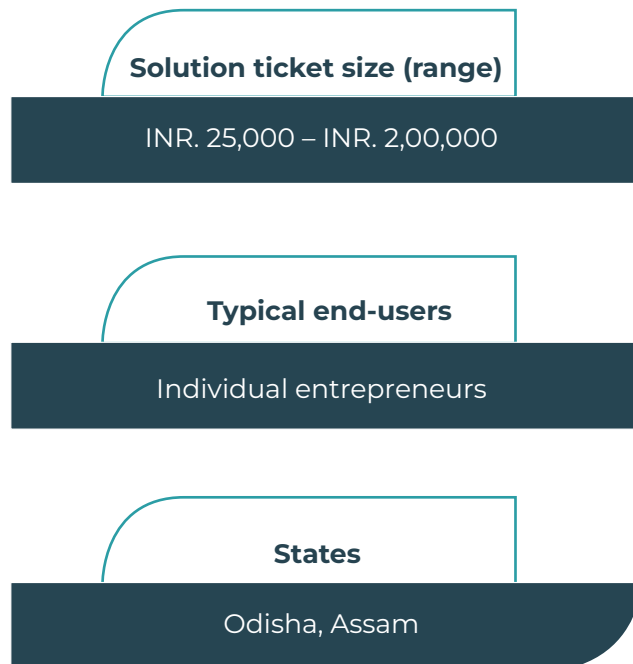
### Solar powered solutions financed

 Sewing machines, Pottery wheels

 Solar dryer, Papad rolling machine, bottle sealing machine, vacuum sealing machine



\*Representative Image



# Case Study A:

## Enabling food processing enterprise development for rural women in Assam

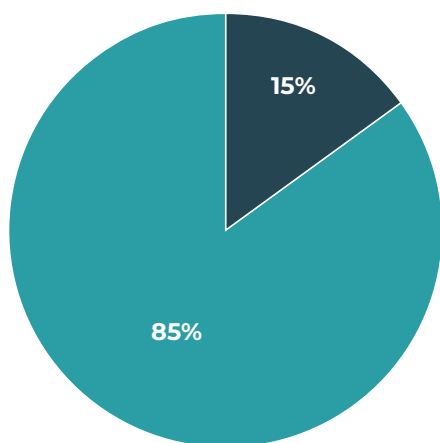
### Context:

Ms. Raju Boro, an enterprising woman from Kamrup, Assam, co-founded Bandhabi Milan SHG in 2017 with 9 others to establish a food processing unit. After training in papad and pickle making, they launched products locally under the 'ASOMI' brand.

Aided by the Assam State Rural Livelihood Mission (ASRLM) and driven by popular demand, they added machinery including a flour mill, weighing machine and manual sealing machine. To build out the business further and integrate other appliances, she applied to the PMEGP scheme which sanctioned a loan of INR. 5,00,000 with 35% capital subsidy. The group decided to use part of this subsidy to address the challenge of manual papad rolling and bring efficiency into other parts of the process. A solar-powered papad rolling machine, 40 kg solar dryer, bottle sealing, and pouch sealing machines were acquired, in part through the support available under PMEGP.



### Financing:



■ Scheme Subsidy    ■ Gap Support

### Impact:

- Substantial rise in income: Prior to intervention, her income was in the range of INR 5000-6000. Post-intervention, she has been able to **meet escalating demand owing to the increased production capacity, and it surged to INR 11,000 per month.**
- Solar drying has ensured hygienic conditions and controlled drying of raw ingredients- **avoiding wastage and contamination.**
- The papad rolling machine eliminated the need for additional manual labour, enhancing business efficiency. While the packaging machines streamlined product packaging and bottling processes. She plans to upgrade to a semi-automatic papad rolling machine.

Total cost of system	INR 1,85,290
Total Gap support	INR 1,57,497
Support from PMEGP Scheme	INR 27,794

### Solution specifications:

Solar Dryer of 40 kg capacity,

Solar powered papad rolling machine, Solar powered vacuum sealing/ packaging machine and bottle sealing machine.

Solar Energy capacity: 500 Wp



## Scheme 5

# Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME)

The Pradhan Mantri Formalisation of Micro Food Processing Enterprises (PMFME) Scheme, operating under the Aatma Nirbhar Bharat Abhiyan, is a program executed by the Ministry of Food Processing Industries (MoFPI). This initiative is designed to formalize micro-enterprises of the food processing industry that are largely unorganized in nature. The scheme is operationalized through nodal agencies at state and district level, typically in collaboration with

the district agriculture department. The scheme places a special emphasis on providing support to groups like FPOs and SHGs engaged in agriculture and food processing sectors, with a goal to transform micro enterprises within the food processing industry.

[More details on PMFME here](#)

# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided
Ministry of Food Processing Industries (MoFPI)	FPOs, FPCs, SHGs, Individual entrepreneurs	<ul style="list-style-type: none"> <li>• Credit-linked capital subsidy of 35% of project cost from center (max. project cost of INR 10 lakhs per unit for food processing entrepreneurs; higher for FPOs/ SHGs/ producer cooperatives); Additional 15% capital subsidy from state.</li> <li>• Seed capital of INR. 40,000/- per member of SHG for working capital and purchase of small tools (max of INR.4 Lakhs per SHG)</li> <li>• Branding and Marketing support to groups of FPOs/ SHGs/ Cooperatives running micro food processing enterprises</li> </ul>
Tenure	Interest Rate	
Lock-in period of 3 years	11% -14% per annum	

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed



Chilli pounding machine, Flour milling, Oil extractor  
 Roti-rolling machine, Roti-making conveyer belt machine (with atta mixing, kneading and rolling), Vermicelli making machine, Chips making unit, Khowa making machine

#### Solution ticket size (range)

INR 2,00,000/- to INR 6,00,000/-

#### Typical end-users

Individual entrepreneurs, FPOs, SHGs, Micro enterprises

#### States

Karnataka



\*Representative Image



# Case Study A:

## Establishing Green Agro- processing enterprises with progressive farmers in Karnataka

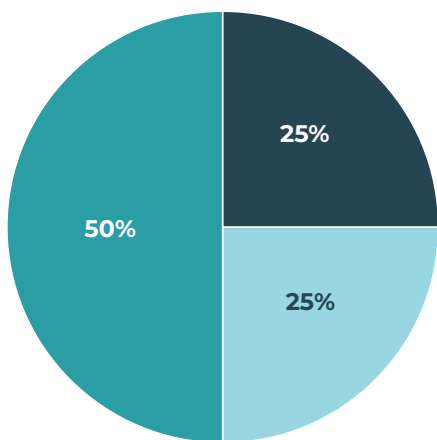
### Context:

Hailing from Kalloli village in Belagavi district of North Karnataka, Ramesh Khangoudar is known **locally for his integrated approach to farming**. His 10-acre farmland showcases a diverse array of crops including turmeric, sugarcane, soya and horticulture produce. In addition, he successfully manages a variety of livestock including cattle, hens, ducks, rabbits, pigeons, fishes, honeybees and turkeys.

Partnering with the local Krishi Vigyan Kendra, Ramesh and his brother Mallikarjun are actively engaged in agri and allied activities. Having been introduced to solar powered hydroponics for fodder production, Ramesh became interested in exploring other applications of DRE-powered solutions, particularly for post-harvest processing. With the guidance of Karnataka Vikas Grameen (KVG) Bank, he was able to **leverage the benefits of the PMFME scheme to acquire solar-powered appliances to establish an agro-processing micro enterprise**.



### Financing:



- Loan
- Gap Support
- Scheme Subsidy

Total Cost of the Solution	INR 7,86,940/-
Credit source	Karnataka Vikas Grameen Bank
Interest Rate	12%
Tenure	36 months
Monthly EMI	INR 6,534.42

### Solution specifications:

Solar powered flour mill: 3hp; Turmeric pulveriser: 3hp; Oil extractor: 2hp  
Solar system capacity: 10 kWp

### Impact:

- Using the PMFME scheme, Ramesh has **established a thriving business, a trade-and-service hub, well equipped with solar powered processing machinery** for turmeric, oil and flour processing. His petty shop, strategically located by the highway, offers a diverse range of farm-processed goods, including organic turmeric and oils such as groundnut, safflower, and coconut oil.
- He provides **essential services to the farming communities and households in five surrounding villages, offering flour milling and oil extraction facilities**.
- Ramesh has emerged as a knowledge leader and champion in the agricultural domain. As a resource person for Krishi Vigyan Kendra (KVK) and the Department of Agriculture, **he actively promotes Distributed Renewable Energy (DRE) at local trainings and workshops**. This dissemination of sustainable practices contributes to a larger movement towards eco-conscious agriculture.



## Scheme 6

# Mission for Integrated Development of Horticulture (MIDH)

It is a centrally sponsored initiative aimed at promoting development within the horticulture sector. The scheme offers capital subsidies and support for skilling and capacity building, alongside technical assistance for horticulture production and post-harvest processing. The Mission works closely with State Horticulture Boards and other state nodal agencies, while also converging with initiatives under the State Horticulture Missions (SHMs), the Rashtriya Krishi Vikas Yojana (RKVY) and the National Mission for Sustainable Agriculture (NMSA).

One of the main objectives of MIDH is to facilitate the enhancement of skill sets and foster the generation of employment opportunities among rural youth within the horticulture and post-harvest management sector. The program places a strong emphasis on organic farming practices and their certification, while also encouraging the construction of water resource structures and effective watershed management. The creation of infrastructure for post-harvest management and marketing further underscores the comprehensive scope of the initiative.


[More details on MIDH here.](#)

# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided	Interest Rate	Tenure
Ministry of Agriculture and Farmers' Welfare	Individual farmers, FPOs, FPCs	<ul style="list-style-type: none"> <li>Capital subsidies of upto 100% (based on technology)</li> <li>Credit linked subsidies of 35%-50% of project cost (with upper limits based on technology)</li> <li>Possible credit linkages with other schemes such as AIF for interest subvention</li> </ul>	NA	NA

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed


 Cold Storage Unit (5MT- 10MT)



**Solution ticket size (range)**

INR 10,00,000/- to INR 16,00,000/-

**Typical end-users**

FPOs and FPCs

**States**

Telangana

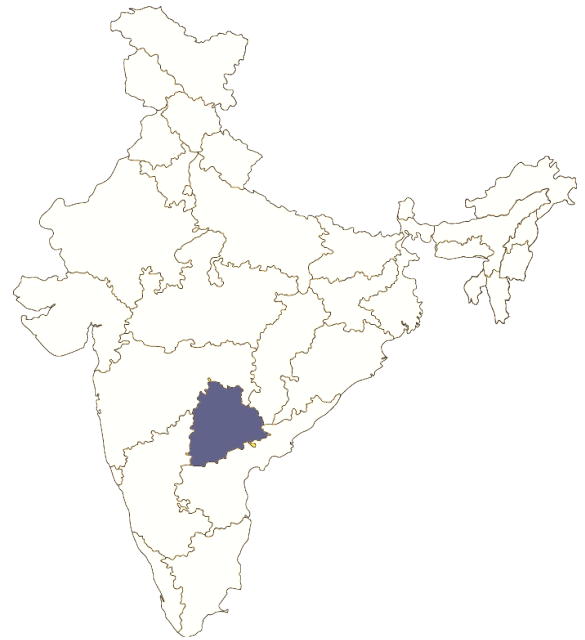
# Case Study:

## Enhancing Post-harvest Cooling Infrastructure for a Farmers Producers Company in Telangana

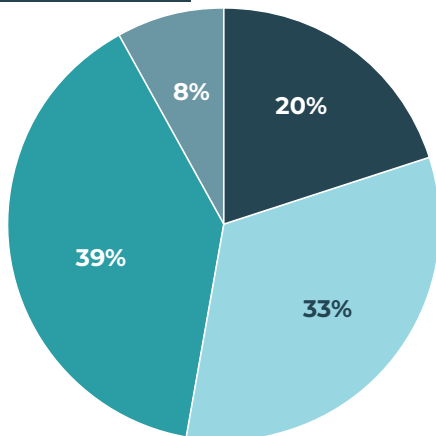
### Context:

Kattangur Farmers Producers Company Ltd in Hyderabad, Telangana, was incorporated in January 2019 with 10 farmer board members and a substantial shareholder base of nearly 1000 farmers. Spanning 1800 acres, the FPC excels in agriculture and horticulture, with its core activities including seed supply to members and local farmers through an outlet in Kattangur.

The FPC has a packhouse to aggregate and package the produce from their member farmers for sale in the market. However, a critical challenge was the absence of adequate cold storage facilities for post-harvest produce at the farmgate level. This compelled farmers to **hastily sell their produce to middlemen post-harvest, eroding their bargaining power and diminishing returns to the farmer.**



### Financing:



Total Cost of the Solution	INR 16,00,000/-
Credit source	State Bank of India
Interest Rate	6% p.a. (including 3% interest subvention through AIF)
Tenure	7 years
Monthly EMI	1.78 lakh per quarter

### Solution specifications:

Solar Powered Cold Storage of 10MT each (12 units deployed across catchment area)

Solar energy capacity: 90kWp (across 12 units)

### Impact:

- The installation of cold storage facilities at the farmgate level across the catchment area is helping individual farmers **avoid distress sales and decrease their post-harvest losses**
- Seeing success, the group is now **interested in installing solar-powered reefer vans to further strengthen their post-harvest practices** and enhance the value of their produce.
- The addition of decentralized cooling has **enabled business diversification for the FPC** which is now able to use a hub-and-spoke model to ensure the quality of produce and aggregate more volume for sale in the market, ensuring value capture at the last mile.



\*Representative Image

## Scheme 7 15th Finance commission

The 15th Finance Commission of India, established on November 27, 2017, serves as a constitutional entity responsible for recommending the distribution of tax revenues between India's Central and State governments. One of its key objectives is efficiently allocating Panchayat funds to address civic needs and foster livelihood opportunities.

Under the 15th Finance Commission, 5% of the development fund is reserved for candidates with disabilities or differently abled. This scheme embodies the Commission's commitment to empowering local bodies and driving inclusive development by having earmarked support for marginalized differently abled individuals.

[More details on 15th Finance commission here](#)

# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided	Interest Rate	Tenure
Panchayats and Local governance bodies	People with Disabilities/ Differently abled individuals	Capital subsidy to enable livelihoods and micro entrepreneurship	NA	NA

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed



Digital service center, Refrigeration, Salon/ Barber shop appliances, Sugarcane Juicer



Oil Extractor, Chili Pounding unit, Flour Mill Chips making unit, Chakli making unit, Papad Making unit, Roti Rolling machine.



Sewing machine, Agarbatti making machine



### Solution ticket size (range)

INR 22,000 - INR 4,15,000/-

### Typical end-users

FPOs and FPCs

### States

Karnataka

# Case Study:

## Fostering entrepreneurship for People with Disability in Karnataka

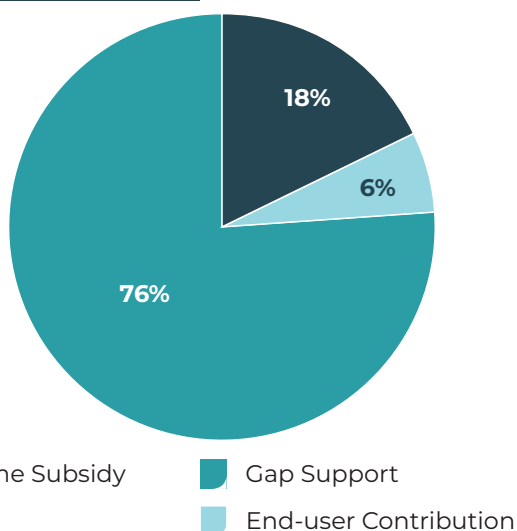
### Context:

Gowamma, a resident of Devsuguru, Karnataka, is determined to overcome challenges and contribute to her family's income. She lives with her husband, two children, sister, brother-in-law, and her husband's parents. The presence of her husband's coconut business near a local temple offered a unique opportunity to diversify income avenues.

**Owing to a disability in her left hand, Gowamma was previously not engaged in any income-generating activities.** However, her enterprising spirit led her to explore opportunities that aligned with her husband's business and proximity to the temple. **Identified through the Gram Panchayat mobilisation drive** facilitated by SELCO Foundation in Raichur, she emerged as an individual with the zeal to transform her life and harness solar-powered solutions for livelihood enhancement.



### Financing:



Total Cost of the Solution	INR. 2,65,000
Fund source	Gram Panchayat funds (allocated as per 15th Finance commission recommendations)

### Solution specifications:

Agarbhatti making machine : 1 hp  
Solar system capacity: 1.2 kWp

### Impact:

- Through her agarbatti production, Gowamma actively **contributes to her family's financial stability, generating a monthly profit of INR 6,000–7,000.**
- She and her husband aspire to establish their own brand in the market. They **envision producing scented agarbattis, a higher-priced product** that could significantly boost their income. To achieve this, they have already acquired samples of 70-80 different perfumes to create the best scented incense sticks. If successful, selling these scented products in the same quantity as their current production could lead to an additional revenue of INR 14,000.az
- Having a business of her own and being more productively engaged has given her greater confidence. **For individuals who are differently abled, a livelihood can have profound psychological impacts** by also reducing their reliance on other members of the family.

## Scheme 8

# Kalyana Karnataka Regional Development Board (KKRDB)

Established in 2013, the Kalyana Karnataka Regional Development Board (KKRDB) is present across districts in the drought-prone and arid belt of North Karnataka, including Bidar, Bellary, Kalaburagi, Koppal, Raichur, Vijayanagara and Yadgir. Central to its mission is the pursuit of inclusive growth and the establishment of balanced regional development across the districts.

In response to the challenges posed by the COVID-19 pandemic, the KKRDB harnessed its role

to allocate COVID relief funds. Through a judicious approach, these funds were channelled to empower marginalised communities. This was achieved through collaboration with empanelled NGOs and community-based organisations.

[More details on KKRDB here](#)





# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided	Interest Rate	Tenure
KKRDB	Individuals	Direct fund transfer to end-users	NA	NA

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

Solar powered solutions financed



Sewing machine

Solution ticket size (range)

INR 22,000/-

Typical end-users

Women entrepreneurs

States

Karnataka



# Case Study:

## Sewing a brighter future: empowering women's livelihoods in Karnataka



### Context:

These 7 districts within North Karnataka also known as the Kalyan Karnataka region, face economic challenges, particularly for women who rely on uncertain livelihoods such as casual farming and domestic labour. The impacts of climate change on agriculture further exacerbates household income possibilities. Their income often fluctuates, putting them and their families at financial risk.

Many women, including those from vulnerable segments like differently abled individuals, widows and sole providers, have **received training in tailoring but struggle to initiate self-employment due to various obstacles**. Ownership of essential assets like sewing machines and financial constraints in accessing them hinder their possibilities.

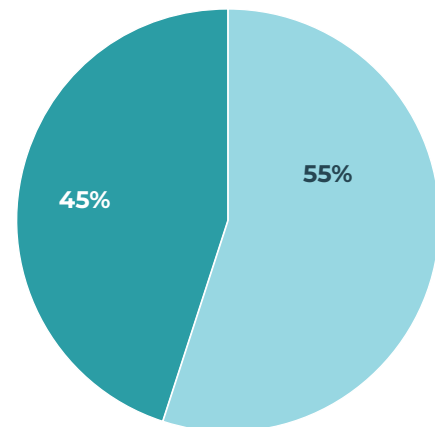
A total of 135 women have benefited from this initiative, gaining access to new avenues of financial growth and independence.

### Solution specifications:

Solar-powered sewing machines: 60 W motor  
Solar system capacity: (60Wp \* 135 systems) = 8.1kWp

Total Cost of the Solution	INR 15,86,000/- (Per unit cost: INR. 11,748)
Fund source	KKRDB

### Financing:



■ Scheme Subsidy      ■ Gap Support

### Impact:

- This has resulted in the ownership of productive assets (sewing machines) amongst women, enabling them to take up a supplementary livelihood
- It has contributed to increased income and savings as well as improved the psychosocial well-being of women end users.



## Scheme 9

# Odisha Millets Mission (OMM)

Odisha Millets Mission (OMM) is a flagship programme of the Department of Agriculture and Farmers Empowerment, Government of Odisha, with an aim to “revive millets on farms and plates”. It does so by working with stakeholders on all aspects of the value chain, and building local ecosystems for production, processing, consumption, marketing and inclusion of millets in government schemes.

It has sought to do this by strengthening policy frameworks including direct incentives for farmers through Direct Benefit transfer (DBT), benchmarking prices of specific kinds of millets, developing specifications for minor millet machinery, social public procurement practices to integrate millet and its value-added products into Integrated Child Development Scheme (ICDS) and Public Distribution System (PDS).

[More details on Odisha Millet Mission](#)

# Scheme overview

Nodal Ministry	Support Provided
Odisha Millet Mission; Department of Agriculture and Farmers Empowerment, Government of Odisha	<ul style="list-style-type: none"><li>● Incentives for on-farm millet production and minimum support prices for specific millets</li><li>● Support in terms of working capital credit, gap funds for promotion, expansion and commercialisation of enterprises</li><li>● Support for purchase of machinery and appliances for processing</li><li>● Capacity building support for Women SHGs to establish and run millet enterprises converging with Mission Shakti scheme</li></ul>
Eligible end-users	
FPOs, SHGs, JLGs and other groups	

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

### Solar powered solutions financed



Millet processing units; huller, grader, destoner, pulverizer, polisher

### Solution ticket size (range)

INR 6,40,000/- to INR 22,45,000/-

### Typical end-users

FPCs, PGs, Women SHGs

### States

Odisha



# Case Study:

## Facilitating millet processing businesses for farmer groups in Odisha



### Context:

In the Koraput District of Odisha, majority of blocks have gained recognition for their substantial millet cultivation. As part of the Odisha Millet Mission, farmers are actively expanding millet cultivation throughout the district. However, several critical challenges persist. These include ensuring the production of high-quality commodities, strengthening post-harvest management and driving value addition and effectively marketing the millet products.

Currently, there is a lack of new technological advancements at various stages of millet cultivation. The millet processing unit highlighted in this case study is managed by the Boipariguda - Sabujima Farmer Producer Company (FPC).

### Solution specifications:

Solar-powered millet processing unit:

Grader with Aspirator: 1 Hp

Destoner: 2 Hp

Huller with Aspirator: 2 Hp

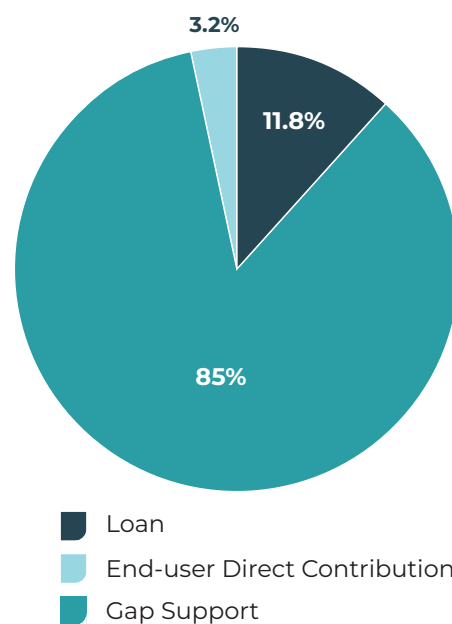
Polisher (Emery roller): 3 Hp.

Solar system capacity: 6 kWp

### Impact:

- With the installation completed in the recent past, the FPC expects to process approximately 70kg of millet grains and 20 kgs of ragi powder per day. By running it for 20-25 days in a month, the FPC is expected to earn 15,000- INR. 20,000 per month through the processing business
- These solar powered solutions have helped upscale the business without any concerns of power outages hampering production.
- The FPC plans to expand into by-products of millet such as health drink, horse gram protein powder, ragi dosa, rava and so on. A critical aspect of this scheme is the supportive ecosystem being created through other aspects of the mission that can enable strong market linkages and potentially minimum value for their final products.

### Financing:



<b>Total Cost of the Solution</b>	INR 12,30,590/-
<b>Credit source</b>	Co-operative Bank
<b>Interest Rate (Under TCB)</b>	6%
<b>Tenure</b>	18 Months
<b>Monthly EMI</b>	INR 8,735/-



## Scheme 10

# NABARD Micro Enterprise Development Program (MEDP)

This transformative program is dedicated to imparting food processing skill training to transpeople through NABARD's Micro Enterprise Development Program (MEDP). These are skill development training programs to help SHG members optimize production and business activities. Training programs are regularly organized by NABARD in partnership with other entrepreneurship training initiatives, incubators and NGOs. The training is expected to lead to the establishment of micro enterprises either on an individual or group basis.

In Tamil Nadu, this program is also being used to enhance the socio-economic landscape for the transgender community members by establishing and nurturing Sustainable energy-driven micro-entrepreneurship. Through MEDP, transpeople are empowered with the knowledge and skills required to establish and effectively sustain their livelihoods.

[More details on MEDP here.](#)

# Scheme overview

Nodal Ministry	Eligible end-users	Support Provided	Interest Rate	Tenure
NABARD	Individuals, SHGs, including Women and Transpeople groups	Training and Capacity Building	NA	NA

## Unlocking on the ground: Instances of integrating sustainable energy-driven livelihood solutions within the scheme

Solar powered solutions financed



Solar Powered E-seva and Juice shop  
(Conceived through EDP training)

Typical end-users

Transgender entrepreneurs

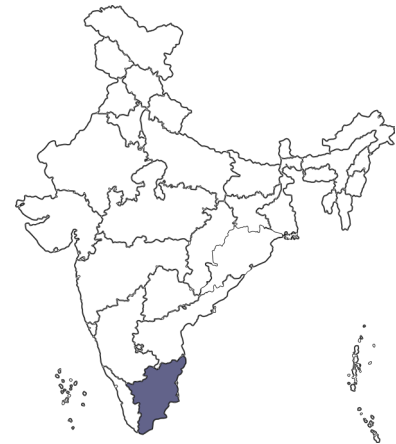
States

Tamil Nadu



# Case Study:

## Enabling micro businesses for Transgender entrepreneurs in Tamil Nadu



### Context:

Pooja, a determined transwoman from Trichy, faced an array of challenges due to her gender identity. The struggle to secure viable livelihoods as a transgender individual is steeped in societal stigma, discrimination, and structural barriers. The absence of formal identification documents, including government-issued ID cards, posed significant hurdles and limited her opportunities and her access to financial support. Pooja went through a 15-day Entrepreneurship Development Program (EDP) facilitated by NABARD and TABIF- Trichy Agri Business Incubation Forum. This initiative not only rekindled her aspirations but also empowered her to establish an E-seva center.

Through a collaborative effort involving the District Administration, Divya Prerna Foundation, and SELCO Foundation, a Solar-Powered E-seva Centre and Juice Shop was established within the Collector's office premises. The design of the space harmoniously integrated work areas and a shop front, prioritizing accessibility, ventilation and heat stress reduction for optimal functionality.

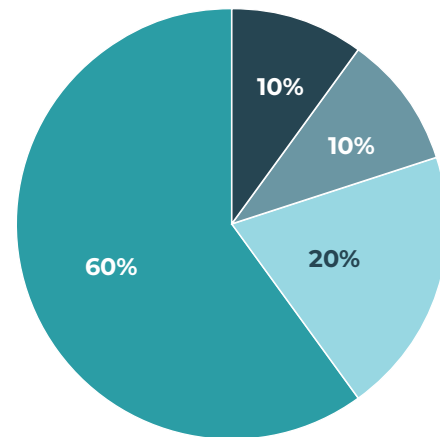
### Solution specifications:

E-Seva digital center and Juice shop: Printer 15W, Sugarcane Juicer machine 400W, Refrigerator 200 Liters; Fruit Mixer  
Solar system capacity: 1.5kWp

### Impact:

- Pooja's life underwent a profound transformation through this intervention, catalysed by COROAT's identification of her as an end-user for SELCO Foundation's program.
- Pooja's monthly profit of INR 20,000 stands as a testament to her accomplishments and the sustainable income she has achieved. Her journey signifies a shift from societal stigmatisation to empowerment, as she thrives as a business owner
- The Entrepreneurship Development Program (EDP) became the platform where the idea for her E-seva Center and juice shop was conceived, with the District Collector's support and funding. This supportive ecosystem created through MEDP, and similar training initiatives ensures that any solar powered livelihood solution will result in actual income generation.

### Financing:



- District Collector Fund
- End-user direct contribution
- Divya Prerna Foundation Contribution
- Gap Support

<b>Total Cost of the Solution</b>	INR 10,00,000/- (including Built environment/ structure)
<b>Fund source</b>	District collector fund, Divya Prerna Foundation



## III . Key Takeaways and Conclusion

The schemes and case studies highlighted above reflect the opportunities for integrating sustainable energy to improve livelihoods, while leveraging existing resources through government initiatives, and credit-linked support.

Learning from the efforts so far, there are certain aspects that need to be considered for program design, including the identification of areas requiring support in terms of sectors, target communities, regions; and the creation of appropriate financial products and subsidies accordingly.

### 1. Climate-resilient infrastructure as a default addition in schemes

There is an increasing emphasis on schemes targeting local economic development with income improvements and wellbeing for last-mile communities. This includes small and marginal farmers, micro entrepreneurs, Women groups, Farmer producer companies and cooperatives. The use of technology by these groups will need reliable and affordable energy infrastructure. Decentralised renewable energy sources and efficient appliances can ensure that this increase in technology usage is sustainable, climate resilient and enables local development.

Actively promoting the integration of 'green infrastructure' as a combination of small scale efficient appliances, decentralised solar energy and efficient built environment can go a long way in ensuring that these schemes are able to bring lasting impacts while creating climate resilience on the ground.

Current approaches to development are likely to

exacerbate emissions by merely increasing energy capacity without optimising for efficiency and decentralisation.

Decentralisation brings with it the benefit of improving access to basic services locally- whether that is flour milling, cold storage, or tailoring and digital services. In doing so, it reduces emissions from transportation and wastage. It is essential to ensure that the latent demand for energy to power these decentralised services is met through sustainable energy to avoid worsening emissions while also building local resilience.

The addition of solar energy and efficiency through this 'greening' at the last mile can contribute to India's broader targets for Renewable energy capacity, Net Zero while building climate resilience and incomes for last mile communities.

### 2. Mechanisation for climate-resilient agriculture value chain:

For small and marginal farmers, as well as micro entrepreneurs, mechanisation is increasingly becoming a critical contributor to improvements in productivity and wellbeing. Solutions are being developed for activities along the agriculture value chain from input and on-farm processes to post harvest management and value addition. The solutions showcased here are replicable and scalable across contexts.

Many of the flagship initiatives of the government such as the Agri Infrastructure Fund, Mission for Integrated Development of Horticulture (MIDH), Rastriya Krishi Vikas Yojana (RKVY) are focused on post harvest loss management and infrastructure for greater value capture on the ground. Where it is the promotion of Farmer Producer Organizations

(FPOs) for better aggregation of farm produce and market linkages, or the emphasis on micro enterprise development through SHGs and individual entrepreneurs, the relevance of infrastructure and technology are being recognized within the schemes and policies.

While promoting greater mechanisation for these small scale farmers and entrepreneurs, it would be prudent to integrate decentralised, sustainable energy options to power the machinery. This overcomes the need for traditional energy sources and makes the system more resilient to shocks- be they intermittent power supply, access and costs of back-up diesel fuel, climate risks like heavy rainfalls and natural disasters that otherwise destroy grid infrastructure. Overall, this helps make local economies more resilient.

### 3. Prioritising Inclusion of marginalised communities:

For marginalised communities such as Differently abled individuals, transgender individuals, marginalised women, and so on, accessing a livelihood is a strong means for socio-economic and psychological empowerment. It increases their confidence and enables them to view themselves as active contributors to society. By giving them some level of financial independence, it also reduces their reliance on family members.

1. **Leveraging existing welfare schemes** that provide direct fund support or training and entrepreneurship development for these marginalised communities can be used to build assets and increase productivity. For example, the 15th Finance commission funds that are allocated through the Panchayat for differently abled individuals who have undergone entrepreneurship training and set up a business. Others are directed at helping individuals access built environment structures for their business.

These schemes can be used directly as fund sources for purchasing assets to run the business, such as efficient sewing machines, processing equipment, snack making machines and solar energy systems to power them. But the training and entrepreneurship skill building could also be viewed as non-financial collateral to explore credit access.

2. **Building credit linkages for marginalised communities** requires that the financial products be developed keeping in mind the opportunity cost and what would otherwise be spent on supporting an individual with no other income source. Affordability of financing is also important in light of the limited mobility or access to markets that People with disabilities or transgender individuals are faced with. Longer tenures, collateral free loans, low or zero interest rates, longer moratorium periods can go a long way in creating options for them to take up livelihoods without the risk of a debt trap.
3. **Systemic change in terms of the documentation requirements** is another critical aspect of facilitating financing inclusion- for example, women entrepreneurs are less likely to access loans for livelihoods in the absence of land or other assets in their name. Similarly, trans people are often unable to access credit in the absence of government issued identity documents. Strengthening financial inclusion would require rethinking the kind of documentation and collateral requirements that are expected from specific vulnerable groups and the feasibility of accessing them.



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