Creating Sustainable Livelihood Ecosystems for Persons with Disabilities in Karnataka

SELCO FOUNDATION

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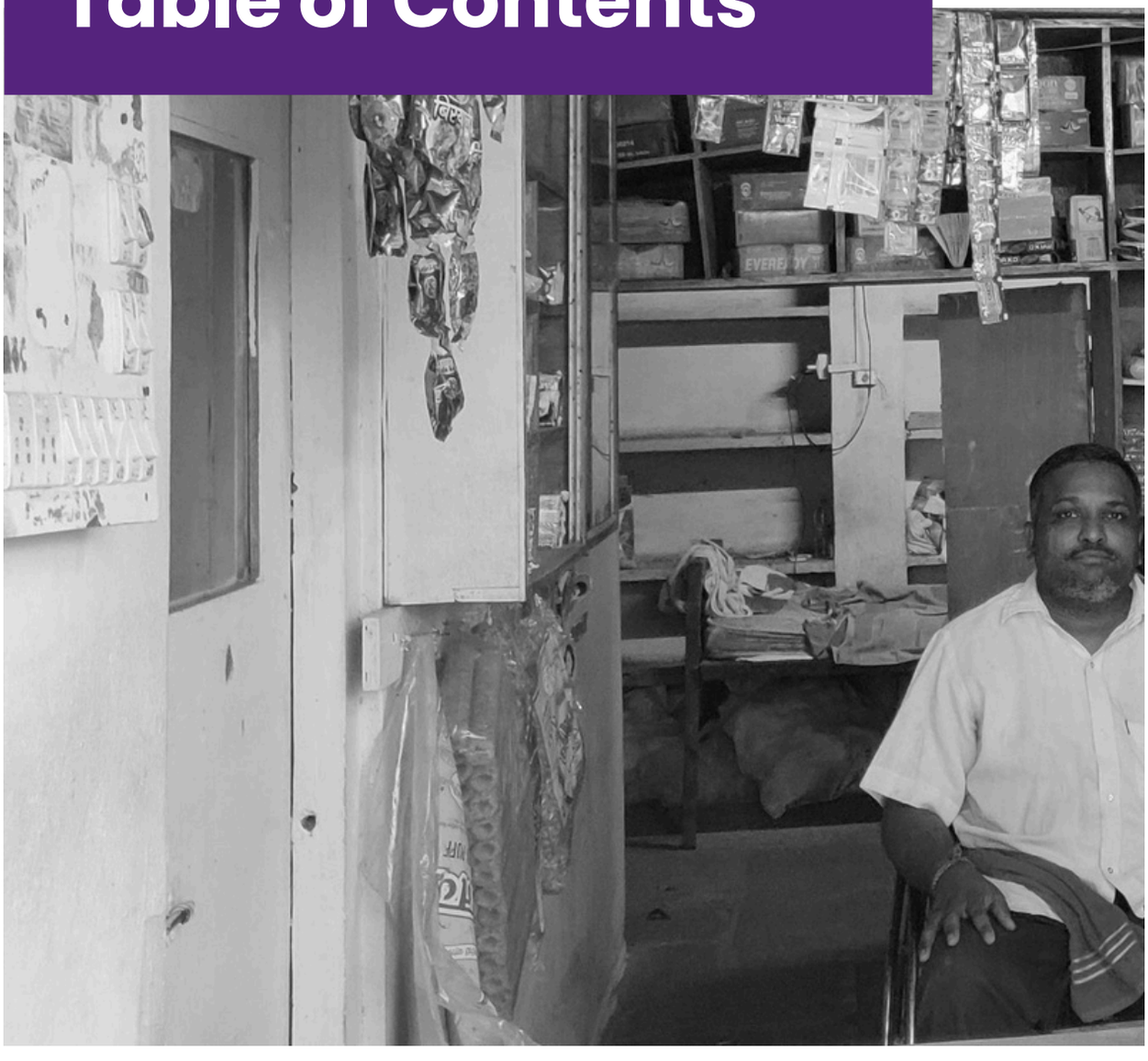

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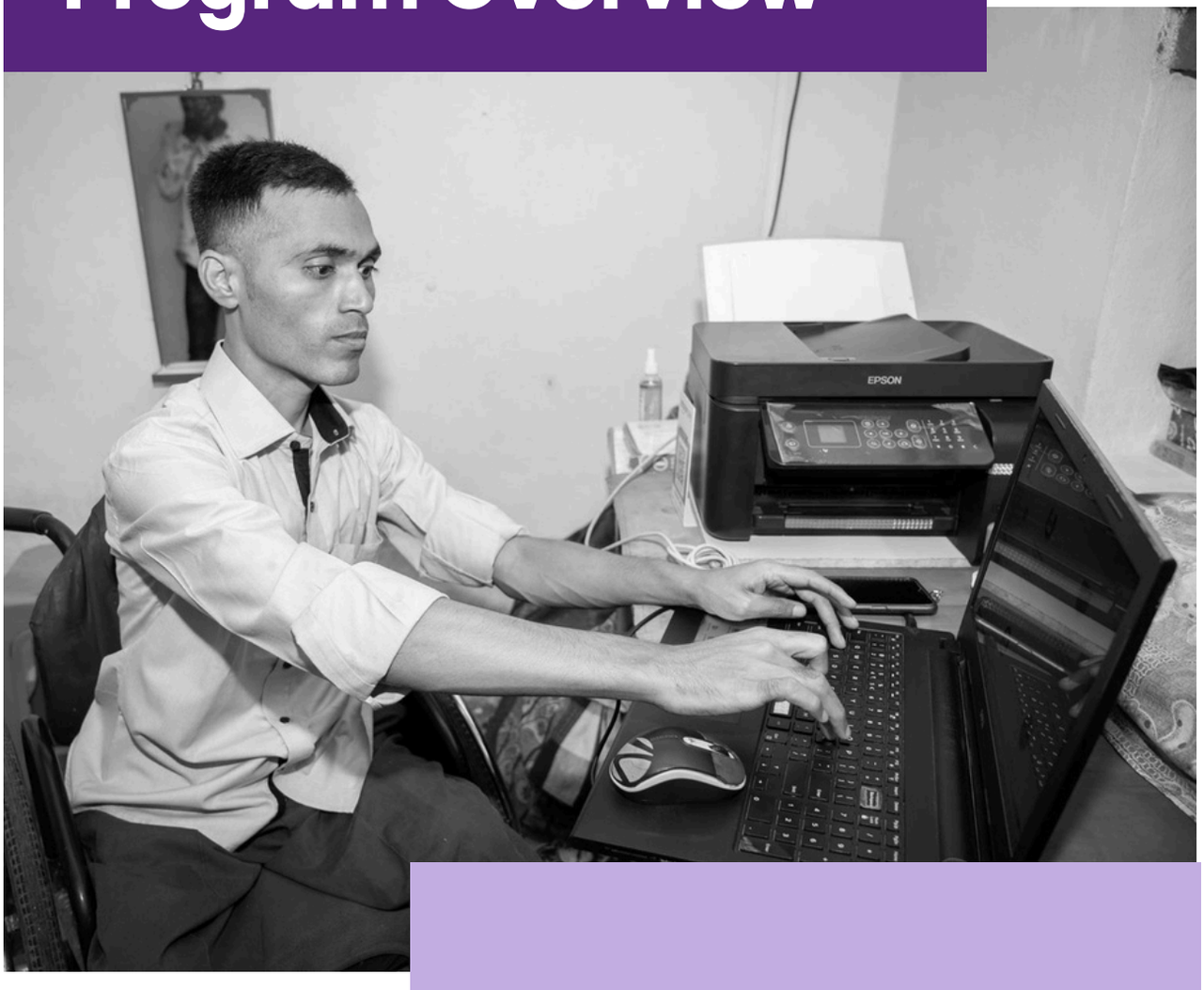
Background and Program Overview

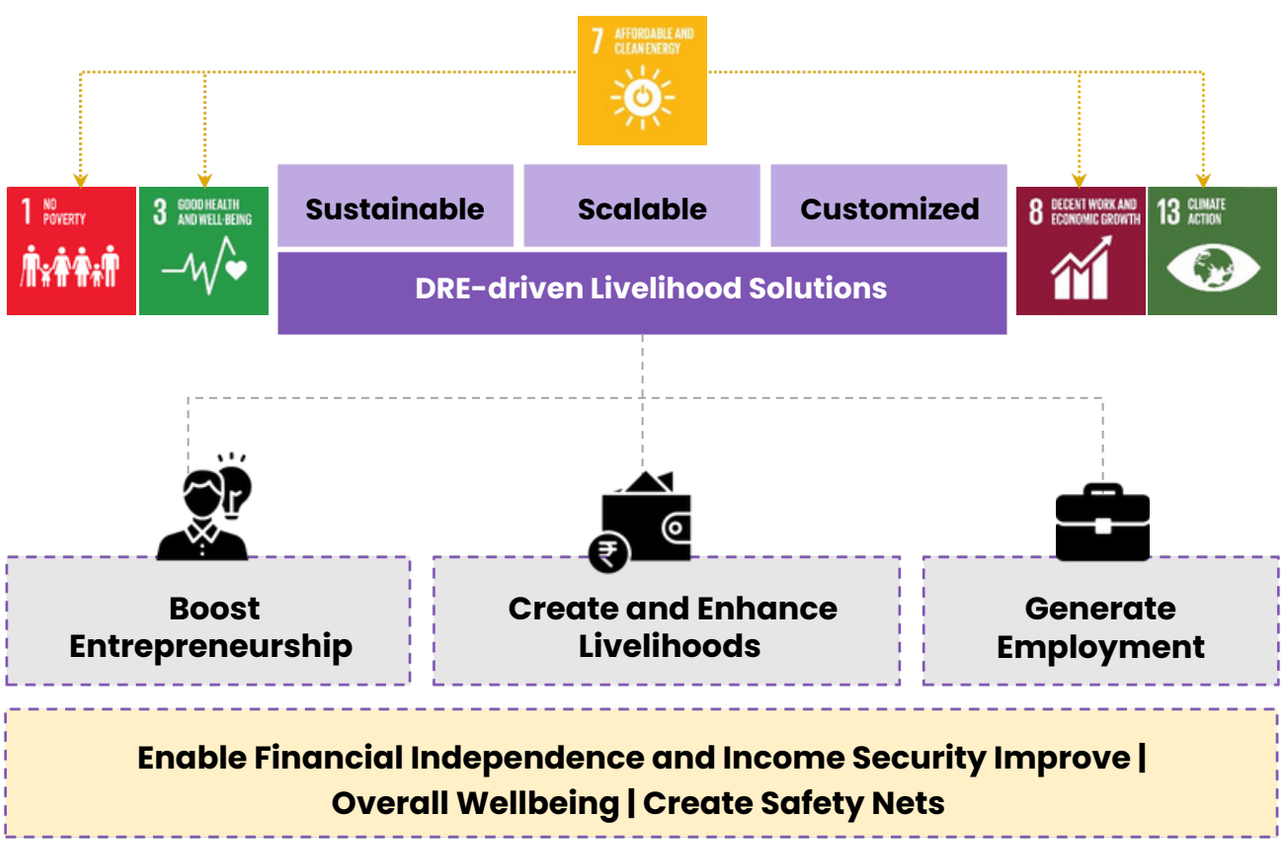


Using Decentralised Renewable Energy (DRE) as an entry point, the program creates inclusive livelihood ecosystems that expand economic opportunity while strengthening community-level resilience to climate change.

Persons with Disabilities in rural India face compounding, interconnected barriers that no single intervention can address.

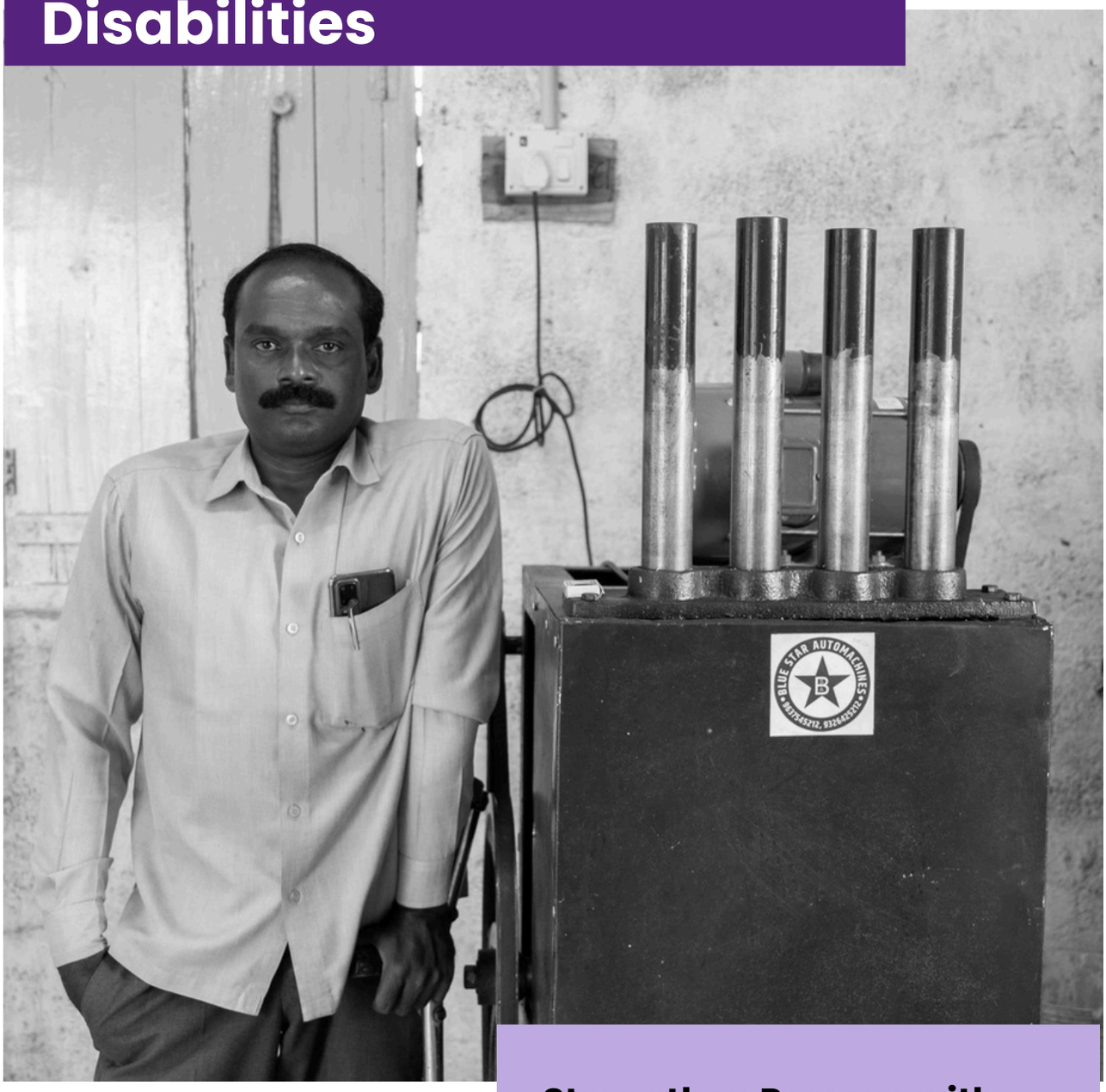
- Poverty is disproportionate: 69% of persons with disabilities live in rural areas, where multidimensional poverty runs deepest, and nearly half live in income poverty, almost double the rural average (NITI Aayog/UNDP, 2023)
- Economic potential goes unsupported: 42.6% are self-employed, showing real entrepreneurial drive, but this is held back not by individual limitation but by systemic gaps (Ugendar & Chandra Sekher, 2025)
- Additional out-of-pocket expenses for healthcare, assistive devices, and rehabilitation create sustained financial pressure on households, gradually eroding their economic stability over time.
- Healthcare remains out of reach: 55.9% of rural women with disabilities face significant barriers to accessing healthcare
- Climate vulnerability is acute: When disasters strike, evacuation routes are inaccessible, heat stress hits harder, and assistive devices fail without power, with PwD needs largely absent from disaster planning (Mongabay India, 2025)

No single barrier exists in isolation. Each gap reinforces the next. What is needed is an ecosystem that works across these interconnected dimensions simultaneously.



SELCO Foundation's Approach

Ecosystem Building for DRE-driven Livelihoods for Persons with Disabilities



Strengthen Persons with Disability led businesses to grow incomes, reduce dependence, and expand their agency, economically and socially.

Develop solutions shaped by the lived experiences of PwDs to build holistic livelihood models resilient to climate change.

HOLISTIC SOLUTION DESIGN

Disability friendly Productive-Use Technology

Inclusive and Accessible Workspaces

Accessible and Blended Finance

Trainings, Mentorship and Linkages

Create an enabling environment for delivery of appropriate **livelihood technologies, financial and market linkages, trainings and policy environment**

ECOSYSTEM BUILDING & STRENGTHENING

Linkages

Backward and forward linkages with market linkages. Access to services provided through other ecosystem pillars

Energy efficient technologies productive and less laborious work

Technologies

Infrastructure

Energy efficient and climate responsive built environments for accessibility, housing machines, storage, etc.

User and Livelihood Needs

For business development, operational efficiency, asset management, financing, outreach & marketing etc.

Training & Capacity Building

Policy & Advocacy

Supporting policies for financing or sales expansion and linkages

For purchase of assets, working capital, growth & expansion along with supporting policies

Financing

SELCO Foundation x EnAble India

Partnership for Strengthening the Ecosystem

Phase 1 (21-22) & Phase 2 (22-23) of SELCO Foundation & EnAble India's **Persons with Disabilities Entrepreneurship** Program, focused on the scaling of DRE livelihood solutions for PwDs through their Garv Se Centres in 2 districts of Karnataka.

Phase 1 and 2 Outcomes

75+
Entrepreneurs

- **Locomotor Disability**
- **Post-Polio Residual Paralysis (PPRP)**
- **Cerebral Palsy**
- **Low Vision / Blindness**
- **Deaf / Hard of Hearing**

02
Districtsin Karnataka

- **Doddabalapur**
- **Hassan**

09
DRELivelihood Solutions

- **Roti / Papad Making**
- **Chilly Poundin**
- **Petty Shop (Printer/ sugarcane)**
- **Tailoring**
- **Digital Service Centre**
- **Barber Shop**
- **Agarbatti Making**
- **Dairy**

Entrepreneurs Level Impact

Average
30 to 50%
Monthly Income
Increase across cases

Reduced Physical Strain and Improved Health & Wellbeing
of PwD Entrepreneurs

Higher and Improved Work Productivity
for entrepreneurs

Self Reliance, Financial Independence and Increased Confidence
through DRE Livelihoods

Ecosystem Level Impact

Integrating DRE livelihood technologies into PwD entrepreneurship programs to strengthen climate-resilient livelihoods.

Mapping of viability of technology solutions against **different types of disabilities**

Evidence of cash flows and validation of business models for 9 DRE solutions

Creation of SuryaMitra Training Centre as a sector asset for all aspiring PwD entrepreneurs

SELCO Foundation x EnAble India

Stories of Change

Mahaboob bi

From Home-Based Papad Making to a Growing Micro-Enterprise

Chikkaballapur, Karnataka

Locomotor Disability (Congenital)

Papad making business

"With this machine, my work has become much easier, especially with the support of my husband and children."

Background and Context:

Mahaboob Bi is a 42-year-old entrepreneur from Chikkaballapur. When the factory she worked at shut down in 2017, she and her husband turned the setback into an opportunity, starting a family enterprise making papads. While Mahaboob handled production, her husband managed transport and sales.

Problem Statement

Limitation by Disability	**Locomotor disability made lifting, mobility, and sustained manual effort physically taxing.**
Limited Productivity and Income	Rolling papads by hand was slow and exhausting, limiting how much she could produce and earn each day.

Solution Suitability

Existing factors determining the need for the solution	**Mechanisation reduced physical strain while unlocking the production capacity needed to grow her business and income.**

About the Solution:

After attending EnAble India's Enterprise Development Program, Mahaboob recognised the potential of mechanisation. SELCO Foundation, in collaboration with EnAble India, provided her with a Solar-Powered Hydraulic Papad Making Machine, eliminating dependence on the grid and making production faster, lighter, and more consistent.

Total Cost of the Solution (Technology + Solar) : INR 1,85,000 /-

Impact of the Solution:

Ease of working due to reduced drudgery and time required for tasks.

50% Increase in monthly Income from INR 5,000 to INR 10,000

3 times increase in production from 100 to 300 packets/month

50% reduction in the time taken to produce 1 packet of papad, from 2 hrs to 1 hr

Thipppe Rudraiah

Revitalizing a Traditional Milling Livelihood

Chikkaballapur, Karnataka

Locomotor Disability (Congenital)

Milling Business & Dairy Farmer

Background and Context:

Tippe Rudraiah, aged 54, resides with his wife and two sons. He has been operating a flour mill for the last 15 years, offering milling services for ragi, masalas and other grains. He also rears two cows and sells their milk to a local cooperative collection centre. Due to the financial constraints, Thippe was using the same machine to grind ragi, chilly powder and masalas, which would often alter the flavour of the end products, thereby leading to a decline in the number of customers.

"Everyone is coming to my house these days to see the machine. They are amazed to see it and congratulate me for this venture."

Problem Statement

Limited Productivity and Income	**Use of a single machine for both grains and chilli caused flavour contamination, leading to customer dissatisfaction and loss of repeat orders, reducing income stability.**

Solution Suitability

Existing factors determining the need for the solution	**Local households regularly require both grain and spice grinding services but declining repeat customers due to inconsistent product quality.**

About the Solution:

With support from SELCO Foundation and Enable India, he installed a chilli crushing machine exclusively for spices. Earlier, the same flour mill was used for both grains and chilli, requiring thorough cleaning after each batch to prevent flavour mixing. The separate machine removed this step, improved product quality, and allowed continuous work without interruptions. It also ensured that chilli and grain flavours no longer mixed, resulting in better product quality and improved customer satisfaction.

Total Cost of the Solution (Technology + Solar) : INR 4,30,000 /-

Impact of the Solution:

Improved Customer Satisfaction and Increased Sales due to segregation of milling processes.

Reduced wear and tear on the flour mill as chilli processing is now handled by a dedicated machine.

60% Savings on Energy Expenditure (Electricity) from INR 5000 to INR 3000.

Social Recognition for adaption of Solar Livelihood Technology.

Manjunatha

Strengthening a Neighborhood Petty Shop Through Energy Access

Chikkaballapur, Karnataka

Low Vision (Congenital)

Petty Shop Owner and Seasonal Agricultural Labourer

Background and Context:

Manjunatha Reddy, 37, lives with his parents, wife, and young son on a 2-acre farm in Karnataka. To supplement farming income, he set up a petty shop opposite the Panchayat office in 2020, selling condiments, tea, coffee, and water. The shop's location near the Panchayat and Dairy Cooperative ensures steady footfall through the day. However, Manjunatha's low vision makes working in poor light extremely difficult, limiting his ability to keep the shop running after dark and constraining his earning potential.

"Presence of light in the shop is really helpful since it helps me to see better in the evening and also when there is no electricity."

Problem Statement

Limitation by Disability	**Low vision makes working in poor light impossible, forcing the shop to close after dark.**
Limited Productivity and Income	**Unreliable grid electricity reduces lighting dependency, compounding his vision limitation and further reducing working hours and income.**

Solution Suitability

Existing factors determining theneedfor the solution	To extend working hours beyond dark, enabling consistent shop operations and opening new income streams through printing services.

About the Solution:

After attending Enable India's 'Enterprise Development Program' , Manjunath realised the importance of diversifying his income sources. While he had prior knowledge of solar technology, he was introduced to the benefits of DRE-powered livelihood solutions through the collaboration between SELCO Foundation and EnAble India. In order to diversify his income and enhance his existing petty shop, he opted for a Portable Printer.

Total Cost of the Solution (Technology + Solar) : INR 41,000 /-

Impact of the Solution:

Business expansion through extended working hours enabled by lighting availability after 6 PM.

67% Increase in monthly Income from INR 15,000 to INR 25,000.

50% Savings on Energy Expenditure (Electricity) from INR 1500 to INR 750.

Increased customer footfall.

Gangaratna

Scaling Agarbatti Production with Improved Work Efficiency

Chikkaballapur, Karnataka

Locomotor Disability (Acquired)

First-Generation Entrepreneur

"Earlier, when I had nothing to do, I would just sit idle. Now, I'm able to use my time productively."

Background and Context:

Gangaratna, 35, lives with her husband and two children in Chikkaballapur, Karnataka. Her husband farms jowar and the family supplements income by selling milk from their two cows to the local cooperative. A stroke left Gangaratna with limited function in her left arm, making sustained manual work difficult and closing off most conventional employment options. With no grid electricity in her village, home-based livelihoods that depend on reliable power were equally out of reach - leaving her with few pathways to contribute economically and build financial independence.

Problem Statement

Limitation by Disability	**Limited function in her left arm makes sustained manual work difficult, restricting her ability to pursue most conventional livelihoods.**
Absence of Grid Connection	**No electricity at home rules out power-dependent livelihood options, further narrowing her economic choices.**

Solution Suitability

Existing factors determining theneedfor the solution	**To enable a home-based livelihood that works around her physical limitation, requiring low manual intensity, reliable off-grid power, and a viable market for the product.**

About the Solution:

Although familiar with solar technology, Gangaratna had not considered it as a livelihood tool. A SELCO Foundation demonstration changed that, helping her recognise entrepreneurship as a viable path. Through the collaboration between SELCO Foundation and EnAble India, she was provided with a Agarbatti Making Machine, thereby beginning her entrepreneurial journey.

Total Cost of the Solution (Technology + Solar) : INR 2,85,000 /-

Impact of the Solution:

- Diversification of Household Income.
- Financial independence through monthly income generation of INR 10,000/-.
- Ability to efficiently cater to existing market demand due to mechanized processes.
- Self reliance and renewed sense of livelihood.

Bharath

Expanding Dairy Farming Through Mechanized Support

Hassan, Karnataka

Locomotor Disability (Congenital)

Dairy Farmer

Background and Context:

Bharath, 28, lives with his family of six in Hassan District. Previously working as a wage labourer in nearby agricultural fields - earning around ₹300 per day - the seasonal nature of the work and the physical demands of lifting and travelling long distances made it an unreliable and unsustainable livelihood. His father owned one cow, and Bharath saw an opportunity to build on this - expanding into dairy farming as a more stable, home-based income source.

"After getting the milking machine, managing the cattle became easier, so over time I increased the number of cows and began focusing on dairy as a regular livelihood."

Problem Statement

Limited Productivity and Income	**Locomotor disability makes manual milking slow and physically exhausting, affecting consistency of milk collection and reducing reliability of dairy income.**

Solution Suitability

Existing factors determining theneedfor the solution	**To reduce the physical intensity of milking and making dairy farming sustainable.**

About the Solution :

Through EnAble India's Enterprise Development Program, Bharath recognised the potential of solar-powered solutions for enhancing his livelihood. With support from SELCO Foundation and EnAble India, he installed a Solar-Powered Milking Machine - mechanising the milking process and enabling him to expand his herd independently.

Total Cost of the Solution (Technology + Solar) : INR 85,000 /-

Impact of the Solution:

Reduced drudgery and time consumption, due to mechanization.

Improved income stability enabled the family to gradually increase their herd size from 1 to 7 cows over time.

76% Increase in monthly Income from INR 6,000 to INR 25,000 due to increased milk production and improved hygiene.

Increased self reliance and financial independence .

Saraswathi

Powering a Local Eatery for Stable Daily Income

Devanahalli, Karnataka

Deaf with Speech Impairment (Congenital)

Hotelier and Agriculture-Dairy Farmer

"Without a fridge, I had to cook again and again in small batches. Food would spoil, I couldn't expand the menu, and I barely had time to handle customers properly. Reliable cold storage would let me sell more and earn with confidence."

Background and Context:

Saraswathi, 45, lives with her parents, brother, and sister-in-law. The family farms 0.5 acres of ragi and rears cattle. In March 2023, the family set up an eatery next to the DC Office, serving biryani, curries, and lunch items. Saraswathi is an active contributor to both the farm and the eatery - but the absence of communication aids and inclusive infrastructure has historically limited her ability to engage independently with customers and expand her role in the business.

Problem Statement

Limited Business Participation	**No refrigeration meant small batches and frequent cooking, limiting her independent sales and service.**
Restricted Product Range and Income	**No cold storage caused spoilage, limited the menu, and reduced income.**

Solution Suitability

Existing factors determining the need for the solution	**Reliable cold storage would directly expand the eatery's product range and reduce perishable losses, creating a tangible income opportunity.**

About the Solution:

Through EnAble India's Enterprise Development Program, Saraswathi was introduced to solar-powered livelihood solutions. When SELCO Foundation and EnAble India approached her, she was inspired to install a Solar-Powered DC Fridge at the eatery - enabling cold drink sales and reliable storage of perishables independent of grid power.

Total Cost of the Solution (Technology + Solar) : INR 95,000 /-

Impact of the Solution:

Ability to cater to customer demands for cold beverages.

Additional monthly Income of INR 3000 through the sales of cold drinks and water.

Reduced transaction costs due to reduced losses of perishable items that are now stored in the fridge.

Srinivas

Enhancing Carpentry Productivity with Reliable Energy

Chikkaballapur, Karnataka

Locomotor Disability — Amputation (Acquired)

Carpentry and Mat Weaving Business

Background and Context:

Srinivas, 33, lives with his family in Chikkaballapur. Following an amputation, he channelled his energy into building sustainable livelihoods for his household. He started by weaving mats and, three months ago, co-founded a carpentry shop in his backyard with his father and nephew, on land provided by the Panchayat in recognition of his enterprise. While his family supports with labour-intensive tasks, Srinivas leads the business, bringing craftsmanship and quality finishing to every piece produced.

"After getting land from the panchayat and solar power for my workshop, I can work continuously and take more orders."

Problem Statement

Unreliable Power Supply	**Power cuts halted carpentry machines, delaying orders and reducing daily output.**
High operational cost	**Commercial electricity bills and frequent power outages strain margins and cut working hours.**

Solution Suitability

Existing factors determining the need for the solution	**To reduce operational costs from high commercial electricity bills and ensure uninterrupted power supply , enabling the carpentry shop to run efficiently and expand output**

About the Solution :

Through EnAble India's Enterprise Development Program, Srinivas recognised the potential of solar power to reduce his monthly operational costs. With support from SELCO Foundation and EnAble India, his carpentry shop was fully solar-powered, running 10 light systems and all equipment on solar energy.

Total Cost of the Solution : INR 3,52,000 /-

Impact of the Solution:

Improved Productivity due to additional 2 to 3 hours of operation per day due to uninterrupted power supply.

60% Savings on Energy Expenditure (Electricity) from INR 5000 to INR 3000.

Increase in monthly Income from INR 35,000 to INR 45,000.

Employment generation for 5 people at the shop.

Satish

Extending Business Hours for Higher Retail Earnings

Devanahalli, Karnataka

Locomotor Disability (Acquired)

Petty Shop Owner

Background and Context:

Satish, 38, lives in Devanahalli with his wife and two daughters. Following an accident in 2017 that ended his work at a mining quarry, he channelled his energy into building a new livelihood, setting up a petty shop in his locality, which he now runs together with his wife.

"After we got this fridge and realised it's potential, we are now shifting our shop to the main road. This will attract more customers and help us with our business."

Problem Statement

Limited Product Offering

The shop lacked refrigeration, preventing storage and sale of cold beverages and other perishable items, especially during high-demand summer periods.

Solution Suitability

Existing factors determining the need for the solution

- **Established petty shop with regular customer flow**
- **Demand for cold drinks and evening purchases in the locality**

About the Solution:

With support from SELCO Foundation and Enable India, Satish installed a solar-powered DC refrigerator to expand his product range. The fridge allowed him to stock cold beverages and other perishable items, enabling him to attract and retain more customers.

Total Cost of the Solution (Technology + Solar) : INR 95,000 /-

Impact of the Soluiton:

Ability to cater to customer demands for cold beverages

33% Increase in monthly Income from INR 6,000 to INR 9,000 due to an added service. Income Diversification

Increased customer footfall

Shahidullakhan

Building a Rural Digital Service Hub for Community Access

Doddaballapur, Karnataka

Locomotor Disability (Congenital)

First-Generation Entrepreneur

Background and Context:

Shahidulla Khan, 25, lives with his parents and elder brother in Doddaballapur. His father is a semi-skilled worker specialising in installation and repair services. His brother runs a cyber shop, where Shahidulla assisted in the evenings during college, building hands-on experience in digital services. Despite this, formal employment remained out of reach due to inaccessible workspaces and repeated exclusion from the job market. With an interest in digital services and basic computer skills, he sought to establish a livelihood that could be operated from home while serving his local community.

"I set up my digital service centre at home facing the road so more people can easily see and access my services."

Problem Statement

Limitation by Disability	**Physical inaccessibility of workplaces and commuting challenges restricted his participation in salaried jobs.**
Dependence on Reliable Power for Digital Services	**Digital services needed continuous power; frequent outages disrupted delivery and reliability.**

Solution Suitability

Existing factors determining the need for the solution	**To build on his existing experience in digital services and meet growing local demand for printing and cyber services, establishing a sustainable, home-based enterprise.**

About the Solution:

Seven years after connecting with EnAble India, Shahidulla joined their Enterprise Development Program and learned how to build a sustainable livelihood. With support from EnAble India and SELCO Foundation, he installed a solar-powered printer and independently started a home-based digital service centre.

Total Cost of the Solution (Technology + Solar) : INR 41,000 /-

Impact of the Solution

- **Ability to cater to customer demands for cyber services in the locality.**
- **Income generation of INR 10,000 monthly through the business.**
- **Improved self reliance and more financial independence.**
- **Owns and independently operates the enterprise and capital assets.**

Svarnamangla

Transforming a Petty Shop into a Sustainable Micro-Business

Bangalore Rural District, Karnataka

Locomotor Disability (Acquired)

Petty Shop Owner and ASHA Worker

Background and Context:

Svarnamangla lives in Hosahalli with her husband and children. She and her husband run a petty shop selling tea, coffee, and condiments. Following a spinal injury and subsequent stroke, Svarnamangla acquired limited function in her left hand, affecting the range of tasks she can perform. Determined to contribute to household income and cover medical expenses, she enrolled as an ASHA worker alongside managing the shop, demonstrating remarkable drive across two demanding roles.

'Earlier, I was only managing the shop somehow. Now the machine earns regularly, and I feel confident to expand. Next, I want to add services like printing, so customers have more reasons to come."

Problem Statement

Limitation by Disability	**Reduced left hand function limits physical tasks. She could not cut fruits, grind batter, or cook continuously.**
Limitation due to unreliable power	**Inability to work in the evenings due to lack of reliable electricity.**

Solution Suitability

Existing factors determining the need for the solution	• **Manual crushing was not viable; a motorised system would replace physical effort.** • **Solar power would remove grid dependence and allow flexible work hours.**

About the Solution:

After attending EnAble India's Enterprise Development Program, Sarvamangla learned about product diversification and strategies to increase her income. The training encouraged her to look beyond her disability and focus on growing her business. With support from EnAble India and SELCO Foundation, she installed a sugarcane juicer at her petty shop, reducing physical strain and expanding her offerings.

Total Cost of the Solution (Technology + Solar) : INR 1,14,000 /-

Impact pof the Solution:

Business Expansion via Increased hours of working, due to availability of solar lighting post sunset.

Increased customer football due to longer working hours.

3X Increase in Income from INR 250 to INR 750 perdayduetotheadded sugarcane service.

Self reliance and renewed sense of confidence.

DRE Livelihood Opportunities

Food Processing Sector

- Roti Making Technology
- Papad Makig Technology
- Dough Kneading Technology
- Chips Making Technology
- Chakli Making Technology
- Oil Milling Technology
- Chilly Pounding Technology
- Flour/Dal Milling Technology

Manufacturing Sector

- Rope Making Technology
- Agarbatti Making Technology
- Blacksmith Unit with Blower
- Tailoring Unit with Sewing Machine

Retail & Services Sector

- Petty Shop with Printer / DC Fridge / Digital Service Centre/ Sugarcane Juicer/ Chakli making
- Barber Shop with Trimming Technology
- Eateries / Hotels
- Puncture Shop

Dairy & Poultry Sector

- Milking Machine Hydroponics (Fodder Technology)
- Biodigester Technology
- Pressure Washing Technology
- Milk Chilling Technology
- Egg Incubator
- Poultry Shed Lighting

Scan to know more about these technologies

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