

# INSTITUTIONALISATION OF SDG7

SUSTAINABLE ENERGY ACCESS AS  
A CATALYST FOR INCLUSIVE DEVELOPMENT



IKEA Foundation



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# INSTITUTIONALISATION OF SDG7

## SUSTAINABLE ENERGY ACCESS AS A CATALYST FOR INCLUSIVE DEVELOPMENT

SELCO has always viewed SDG7 as an important catalyst in enabling sustainable delivery of essential services like health, education and livelihoods. The world's attention has primarily been on the supply side of sustainable energy rather on the demand side. The primary focus of any intervention should be on developmental outcomes. These critical outcomes can be achieved if sustainable energy is treated as a catalyst for democratization of services and opportunities for poorer populations.

Efficient use of energy or sustainable energies like solar, are never given the required importance in program design for health, education or livelihood services. And more so they are rarely considered even as an afterthought. Apt utilization of energy and integration of sustainable energy into a program design is an approach that leads to a holistic approach with long term sustainability.

SELCO defines SDG7 institutionalization as integrating sustainable energy into the agendas and work of key champions and sectoral experts who excel in the provision of essential services (other SDGs) – in livelihoods, health, education, skills, gender, innovations and policy. There are numerous grassroots organizations who have worked in these sectors for years and have made significant impacts. SDG7, if integrated into their planning, thinking, processes and systems would help those stakeholders impact more populations and create delivery models that could long term and sustainable. Moreover it helps scale and meet the Goal 7 much faster and in the most effective way possible.

As part of its vision to scale sustainable energy nexus innovations, solutions and interventions, SELCO together with IKEA Foundation created the "SDG 7 Institutionalization" program in 2017. Through the

program SELCO Foundation initiated its work with carefully curated and selected experts and sectoral champions who anchor grassroots organizations. The collaboration builds on their strengths, existing programs, outreach and, networks of partners to amplify innovation, effectiveness of impact and scale.

The program goal is to introduce the SDG 7 ecosystems approach<sup>1</sup> as a part of the design and planning process for development programs within sectoral partners Eg: Systems needed for the adoption of energy efficient and solar powered agri-processing equipment for Farmer Producer Organizations (FPOs) with a livelihood partner, or systems needed to incorporate sustainable energy as part of day care centers for low resource settings with a maternal and child care focused partner. With each partner SELCO Foundation worked closely with champions at various levels of the organization to co-develop strategies, approaches, programs, implementations and train and incubate people within the organization on the SDG 7 ecosystems approach.

The outcomes aimed through the program included:

- Policy inputs for SDG7 as a critical catalyst in health, livelihoods etc that are championed and represented by respective sectoral experts.
- Fundraising for SDG 7 nexus programs by stakeholders outside of the core energy sector realm.
- Strengthened partner organizational capacities of SDG 7 program design and implementation.
- Improved cross-sectoral awareness on the role that SDG 7 can play as a catalyst to meet other development goals through the outreach of milestones within various partner networks

# APPROACH TO INSTITUTIONALISATION

SELCO Foundation over the years has pushed for an “ecosystem approach”, with energy access as an enabler for development to happen in a holistic and sustainable manner. The SDG 7 integration process formulated by SELCO can be through 2 types of partners:

## A Ecosystem Partners

Addressing the missing part of the energy access ecosystem and identifying partners who have an expertise in that area and therefore can plug into that part. Ex. Creation of appropriate curriculums within local training institutes that encourage young innovators and entrepreneurs to explore sustainable energy solutions thereby nurturing future job creators and job seekers.

The eco-system parts that SELCO has explored during this phase include:

- Human Resource Development (skilling)
- Financing and,
- Built Environments

## B Sectoral Partners

Using Sustainable Energy as an enable for other development goals to be fulfilled ex. Powering a common livelihood centre where silk weavers convene to undertake different activities related to silk weaving. The reliable power supply enables them to continue their work and also have access to machinery which as on an individual capacity might be difficult to afford or access.

The sectoral parts that SELCO has explored during this phase include:

- Health
- Livelihood
- Disaster

Numerous developmental organizations and governments have been working for ages to deliver services such as reliable health facilities, livelihoods, education, access to clean water, decent housing etc. to the poor. While most of these developmental organizations did not initially recognize SDG7 as a critical component that could increase the reliability, affordability and accessibility of their solutions, SELCO Foundation over the past 3 years has demonstrated the nexus for multiple sectors by working closely with each of the champion organizations.

## The following process outline was implemented with all partners:

### Step 1

#### Mapping the Ecosystem

For each partner an ecosystem template is mapped as per the sector ex. livelihoods. This map is intended to present a visual comprehensive understanding of flagship sub sectors that are pertinent to SELCO Foundation, explanation on each critical aspect of the ecosystem and finally the different types of existing stakeholders that belong to each ecosystem aspect.

Please see figure X for the Livelihood- Energy Ecosystem Map

### Step 3

#### Integration of Decentralized Energy Solutions

Once the above is identified, the map also offers an analysis of the untapped opportunities within the ecosystem where sustainable energy related interventions can play a role. This provides a preliminary understanding of where the gaps lie and how a program can be designed to address these gaps with the suitable stakeholder.

### Step 2

#### Ecosystem Pillars

Each part of the ecosystem represents a critical aspect of the overall energy nexus ecosystem. They are interdependent, with each aspect feeding into the other. Ex. Without appropriate market linkage the increased production from the technology can go waste or worse, land the end user in a technology debt.

By viewing the density of identified partners and their respective expertise per pillar of the ecosystem, one is able to gauge where partners are either missing, exist but need to play a stronger role or needs to be created etc.

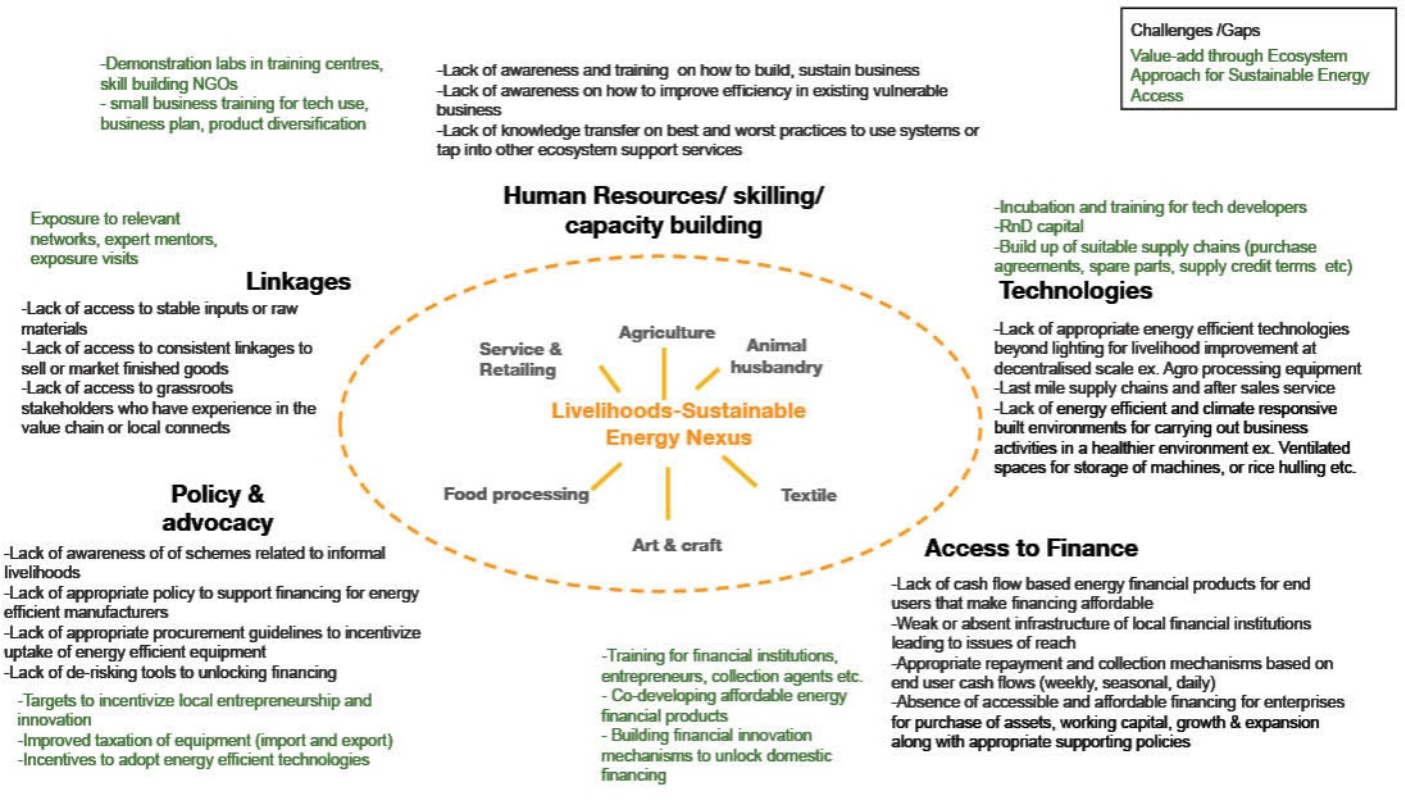
### Step 4

#### Selection of the Partner and Conceptualisation of the Program

Potential partners are selected for the program based on whether 50% of the following holds true at the time of shortlisting:

- They have influenced the sector which they represent in the past 3 years and are able to present evidence for the same (ex. written a policy recommendation which is being considered by the Government etc.)
- They have geographical reach over more than 5 states in India and are closely working with government in at least 30-50% of their programs to ensure the convergence
- They have an approach of long term fundraising (50% of their portfolio is secured with long term fund raising, rather than project based funding that comes for a timespan of a year or less)
- They have represented the sector in over 5 key important sector workshops on average yearly for past 3 years)

# Figure X



Phases	Gap Analysis	Pipeline	Scouting & Evaluation	Pre-Institutionalization - Joint Program Development	Pre-Institutionalization - Final Partner Selection	Institutionalization	Post Institutionalisation
<b>Output</b>	Map ecosystem and identify gaps in the SDG 7 sector that need partnerships	Pipeline channels earmarked to develop a long list of partners document	(i) Filtering partners (ii) Reference checks on partners (iii) First level partner connect- meeting/phone call (iv) Categorization into type of partnership	Clarity on the strengths and weaknesses of the partner organisation and SELCO Foundation  A joint program developed together	SF Trustee Board approvals  Partner approved  Finalized teams from both organisations with an internal board of 2 member each to ensure strategic direction is being reviewed and smooth operations of the joint program	Partner onboarded via orientation workshops  Execution of planned joint program. Various operational meetings guidelines and timelines set	Partner exit strategies and next steps finalized (next 3 year plan, etc.)
<b>References</b>	SDG 7 ecosystem vertical templates	Selection criteria  Review of identified list of potential partners with their strengths (geo reach, annual budgets, pipeline source etc.)	Preliminary partner evaluation document with the reference recommendations  A justification document (with partners categorized, next steps for induction into orientation, envisioned long term strategy	Joint field visits to SELCO and potential partner sites to gain mutual understanding of each other's work.  Joint program document (proposal format)  Budget (including the parts that each organisation will bring in along with what is leveraged)- to be made jointly (iii) internal justification by vertical	Partner admin checklist set as per the checklist (attached with templates)  Board approvals w comments	Regular operational meetings including program tracking	Updated strategy document  Updated partner tracking document

# IDENTIFYING THE PURPOSE OF INSTITUTIONALISATION AND THE ROLE OF SDG7 IN THE CHOSEN PARTNER

## Existing Partners

Based on the process outlined above, currently SELCO Foundation is working actively with 21 selected partners, spread across 4 sectors (livelihoods, finance, health and skills). Each of these partners have been evaluated based on the certain criteria outlined below-

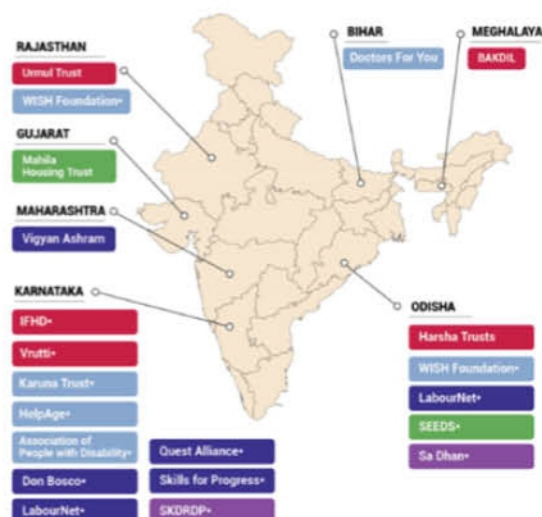
### 21 Partners Onboarded

#### SECTORAL

##### LIVELIHOOD



##### HEALTH



#### ECOSYSTEM

##### FINANCE



##### SKILLS



##### BUILT ENVIRONMENT



## Partnership Monitoring

In addition to the above, the following aspects are considered during the joint board meetings and partnership discussions post on-boarding of the partner:

- Aspects identified as part of the ranking matrix (see below)- this is used for internal evaluation of the partners to strategise way forward and support offered to the partner. Aspects identified as part of the ranking matrix, which include parameters such as- presence of a champion leadership and the strength of their implementation and mid-management team, their understanding of their sectoral ecosystem, funding and financial sustainability, geographical reach, partnership network and ability to innovate and replicate solutions. This is used for internal evaluation of the partners to strategise way forward and support offered to the partner
- Each partner is re-evaluated as part of their originally envisioned role in the sector ecosystem map
- Recommendations from the joint advisory board including their ability to develop an energy nexus programs
- Potential to develop a new energy driven programs, and > Analysis of short term and long term thinking process within the partnership programs

Through the experience of Institutionalisation in the past 3 years, the following milestones have been identified. These milestones are aspects which indicate an institutional or structural change in the approach and vision of the organization selected under the program.

Indicator	Evidence
Internal capacity of team built to undertake SDG 7 nexus programs and projects	Capacity of the team amongst the organisation for the following built: (a) technical know/how or consultants mapped for undertaking SDG 7 nexus programs (b) one of the key persons in the partner can represent SDG 7 within their sectors (c) partner being able to write proposals for SDG 7 integrated programs and strategize with their teams around it
Partner starts internalising the SDG 7 in their existing long term programs	at least one of the program with all key partners has DRE component inbuilt in it
Organisation starts writing and publishing about SDG 7 nexus in their network or become advocate of the same in their respective sector	Partner publish about their work in the SDG 7 nexus: (i) either in their social media or in policy papers (ii) partners hold SDG 7 related workshops at larger networks
Organisation put efforts and raise money for SDG 7 related programs (i.e SDG 7 becomes part of their portfolio)	Organisations write proposals and apply for grants and monies for the SDG 7 nexus programs Partner secures at least 1 funding resource for a proposal on the SDG 7 driven program
key decision makers in the organization (key staff, board members) who have influence over the organization's future strategies and direction:	(a) Being part of important sector workshops, writing key articles in relevant platforms, writing policy papers and briefs (b) They conduct (are reached out for) SDG 7 workshop/ meeting at 5 such forums in one year period (c) They represent SDG 7 programs and projects in their state level meeting (d) they become custodians of SDG 7 within their organisation at various levels



# SDG7 FURTHERING DEVELOPMENT GOALS THROUGH INSTITUTIONALISATION PROCESS

## Harsha Trust

Livelihood Animal Husbandry  
Agriculture Horticulture Cooling

### About the Partner:

Harsha Trust works with the tribal marginalised communities in one of the most backward regions of the country (in the state of Odisha). By intervening with backward communities on basic needs of food sufficiency and livelihoods, Harsha Trust strives to build women led institutions and improve opportunities among communities who have not benefited from many of the development progress that the world has made.

The organization has over the past 18 years tried to demonstrate models of sustainable livelihood that disincentivizes migration and provides a platform for people to develop within their context.

Harsha Trust, located in South Odisha, is considered as one of the leading NGOs in the state and the country. It has made significant contribution in demonstrating innovative and sustainable models, which have been scaled by the local government. It has a strong network of local stakeholders, particularly government departments and institutions. It also works with many prominent Indian philanthropies as a long term partner, who have been playing a critical role in supporting the development of livelihood and particularly the agriculture sector in the country.



### SDG7 and Harsha Trust:

Rural livelihoods perspectives are very poorly understood from an energy lens, particularly clean and sustainable sources of energy like solar energy due to lack suitable technical specifications and lack compliance mechanisms for meeting specifications.

The key objectives together, for SELCO Foundation and Harsha Trust, is to enhance understanding of the relationship between access to energy and the pursuit of sustainable rural livelihoods. The following table summarises how the partnership is taking Harsha Trust's impact forward by the integration of Sustainable Energy or SDG7 in its different work streams:

	Livestock Development	Food and Nutritional Security	Horticulture & commercial vegetable cultivation
Harsha Trust Interventions/ Activities	<p>Primarily working with landless families depending on wage labor.</p> <p>Mobilizing and collectivising of Self Help Groups &amp; Cooperative members around poultry.</p> <p>Knowledge transfer and capacity building in livestock breeding, rearing and feeding.</p> <p>Providing training and input services for poultry development. Facilitating critical health care linkages for livestock through vaccination and deworming.</p> <p>Enabling financial and market linkages</p>	<p>Focus on millet, pulse value chains</p> <p>Improved practices through training &amp; ToTs of community cadre.</p> <p>Encouraging kitchen gardens for household nutritional needs through community resource persons &amp; community service providers.</p> <p>Bringing in scientific practices such as the SRI System for rice intensification (a practice of paddy cultivation) to better yield.</p>	<p>Production and income enhancement of small scale farmers through agro - forestry plantations and intercropping.</p> <p>Providing input support, such as plant saplings, pesticides, insecticides.</p> <p>Technical training on sustaining orchards through intercropping of different seasonal crops.</p>
SDG7 in Harsha Trust	<p>Improving inputs into the value chain, for improved breeding via mortality reduction. Enabled through access of clean energy for solar powered poultry lighting and decentralising vaccination services for poultry through SHG run solar powered vaccine refrigerators.</p>	<p>Bringing decentralised models for agro processing (for eg: solar powered agri processing units for millet, pulses, spices and rice) as community services.</p> <p>Replacing dirty fuels, high operational costs and bringing in efficiency and reducing transaction costs.</p>	<p>Improved financial viability through sustainable energy interventions- reducing input costs (for eg: adoption of solar powered sprayers, and solar powered water pumps in nurseries), and increasing capacity to untap markets for improved price realisation while reducing wastage (for eg: solar powered cold storage units)</p>

## Case Study: Bissamcuttack Poultry Co-operative Society Ltd

### Subtitle: Using Sustainable Energy to Improve Efficiency in Poultry Farming

One of the primary livelihood options in the areas of Harsha Trust's work is poultry. In Odisha, approximately 30% of households are involved in poultry rearing with flock size ranging from 5-25. Poultry also plays a significant role for adding sustainability to the livelihood of poor farmers, especially for farmers who are landless. Harsha trust works with multiple poultry cooperative societies to enhance their business, thus impacting the society members. One of them is called the Bissamcuttack Poultry Co-operative Society Ltd. It is a women led cooperative society registered under Societies Act 1962. Totally 184 women farmers practice poultry farming as their primary or additional livelihood. As most farmers are landless they rely on practices such as broiler rearing. Usually, 5 to 6 batches of poultry rearing is carried out within a year which generates an income of INR 25,000 to INR 35,000 per year for a poultry farm of around 400- 500 flock size.

Harsha Trust partnered with SELCO Foundation to demonstrate the use of sustainable energy for

enhancement of productive rearing of broilers in Bissamcuttack Poultry Co-operative Society.

#### Pre-Intervention Scenario

Bissamcuttack Poultry Cooperative Society carries out its operation based on retail and wholesale models. The inventory of chickens, for the cooperative, is provided by 120 individual small scale marginal farmers. The farmers are remunerated based on the performance criteria of the chicken (a rate that is established considering the feed conversion ratio and mortality rate). The cooperative pays farmers a minimum price of INR 6 and maximum price of INR 10 per chicken. Typically a cycle of rearing a batch of chicken takes 50 days.

The rearing sheds have very little access to lighting and the chickens are usually fed during the daytime and under kerosene lamps in the night. For some of the farmers who had access to grid, frequent power cuts and power quality issues made it highly unreliable. Lack

of access to reliable lighting at the shed result in lower feed conversion ratio and higher mortality rates.

## Impact

Harsha Trust works with the cooperative to improve its technical knowledge on rearing practices and also train its member poultry farmers. Under the 1st stage of the SELCO-Harsha Trust partnership, a solar powered poultry lighting solution was implemented with 49 small scale farmers, each with an average flock size of 400. The solar powered lighting solution aims to feed the chicks for longer hours and decrease chick mortality. Lighting increases rearing efficiency and brings down the days of rearing from 50 to 35.

The solar powered lighting solutions reduced the rearing cycle of chickens by attaining the required weight by 15 days. The possibility of having additional rearing cycles through the year also increased. Overall, Harsha Trust works with 4 poultry cooperatives with a membership of 3000 farmers. With the help of the cooperative, Harsha Trust has helped farmers with

financial linkages and helped achieve scale of operation rather than limiting them to traditional rearing practice of backyard poultry farming. Harsha Trust and SELCO Foundation have also mapped the complete Poultry Value Chain and identified other points for interventions where sustainable energies can help improve the livelihoods for the farmers and the cooperative. These include egg incubators, vaccine storage refrigerators and energy efficient poultry sheds.

The partnership is also planning on aiding its Farmer Producer Organizations to locally produce poultry feed by setting up a decentralised solar powered feed mill which would cater to local small scale farmers. The reason being, during COVID-19, the supply chain for Poultry Feed has been severely affected since it has been traditionally very centralised.

The sustainable energy interventions developed under the partnership are not only being replicated within the Harsha Trust Network, but is also being used to influence and unlock government programs with Integrated Tribal Development Agency (ITDA), Odisha Renewable Energy Development Agency (OREDA) and Odisha Livelihood Mission (OLM).



# Mahila Housing Trust

Built Environment

Cooling

Productive Use Space

Financing

## About the Partner:

Mahila Housing SEWA Trust (MHT) was founded by the Self Employed Women's Association (SEWA) in 1995, a union of poor, self employed women workers, in order to facilitate better housing and infrastructure for its members in the state of Gujarat. MHT is considered as a leader on housing for low income households in the Urban geographies of India. It has played a significant role in connecting urban poor communities to public housing programs by creating awareness, mobilizing them to access finance, assisting them in the application & construction processes, and training communities to manage and monitor common

infrastructure and services.

MHT believes that housing is a critical asset for women specifically- for whom the house is also a place of work. It works closely with grassroots community leaders, government officials and institutions; and is often seen as a bridge organization- innovating for the inclusion of the poor in urban planning and facilitating implementation of government sanctioned urban plans through grassroots mobilisation.

## SDG7 in Mahila Housing Trust:

Since 2014, SELCO has been partnering with MHT to look at the role of energy in underserved urban habitats. SELCO trained the community colleagues of MHT to conduct energy audits and map out potential technology and financial products that can build in



sustainability in their existing housing portfolio.

For example, one of the outcomes of the engagement was a product- Airlite, which was an incremental roofing solution to bring in natural lighting and ventilation- increasing the lighting in a room by 60%. The program to scale day-lighting and ventilation using Airlites was taken forward by MHT across different cities. MHT was instrumental in influencing the Heat Action Plan with the Ahmedabad City Municipality to include cool roof solutions for the slums in the city.

Based on these experiences, The SELCO Foundation

and MHT partnership conceptualized to create an innovation and knowledge hub for the Habitat and Energy sector. Identifying home as a work space for women, the partnership aims to showcase models where women take a lead for sustainable housing through collective action, and incubate technological products/processes, to devise locally relevant, pro-poor, energy efficient and gender sensitive housing solutions and promote a culture of sustainable development and resilience among the poor in India. The following table summarises how sustainable energy and energy efficiency measures are being integrated into MHT's work for improved outcome:

Activities or Work Themes for MHT	Primary activities			Corollary activities	
	Land Tenureship and Housing Finance	Climate Resilience Building for Urban Poor	Participatory Governance and Planning	Institutions - Strengthening Community Infrastructure	Public Housing: PPP model for Resettlement or Slum Rehabilitation Programs
	<p>Mobilising women for Land rights and tenureship</p> <p>Create awareness on savings and investing. Eg: credit cooperative also offers fixed deposit plans</p> <p>Developing viable financial products for personal loan, housing loan etc with suitable EMIs and tenures</p>	<p>Research and advocacy related to effects of climate stress such as heat stress, vector borne diseases, water scarcity and flooding in slum settlements eg: advising the municipal corporation for the ahmedabad heat action plan</p>	<p>Demystifying city development plan and governance process</p> <p>Organise women in action groups to advocate their infrastructure needs at a settlement level</p> <p>Create awareness on water and sanitation issues eg: motivate women for installing rainwater harvesting systems for water security</p>	<p>Monitor and support the implementation and maintenance of community institutions such as Day Care Centres, Schools, Health Centres etc</p> <p>Empower and mobilise women to advocate for their needs to be represented in the design of these services</p>	<p>Monitor Slum rehabilitation programs commissioned by the Government under Public Private Partnerships (PPP)</p> <p>Mobilise households in the chosen settlement for rehabilitation and raise awareness around the administrative and governance processes</p> <p>Bring in quality checks and facilitate design consultation between the PPP partner and the households in the settlement</p>
SDG7 in MHT	<p>Energy and Habitat assessment to identify key energy needs and the critical energy pain points for households</p> <p>Developing energy efficient solutions for cooling and heat stress</p> <p>Energy efficiency and sustainable energy loan products for reduced bills on energy</p> <p>Developing financial products for energy efficient buildings</p>		<p>Train women leaders on the linkages between urban planning, climate adaptation, sustainable energy and energy efficiency.</p> <p>Build on provisions in city plans for access to infrastructure that have reliable, efficient and affordable energy provisions</p>	<p>Improving well-being and productivity of inmates by incorporating energy efficient designs- natural lighting and thermal comfort by improving ventilation and implementing efficient active cooling technologies</p>	<p>Improving adoption of public housing by using sustainable energy to:</p> <ul style="list-style-type: none"> <li>-Build climate resilient and thermally comfortable houses</li> <li>-Reduce recurring costs of high electricity bills due to inefficient building design</li> <li>-Reducing recurring costs of electricity bills by raising awareness amongst dwellers on energy efficient appliances</li> </ul> <p>Influence guidelines for resettlement colonies for energy efficiency and solar energy for common use spaces</p>

## Case Study: Housing Design and Financing for Improved Thermal Comfort, Nainaben

As part of the SELCO-MHT Institutionalisation program, MHT recognised the need to encourage households to invest in energy efficient housing. This is primarily so that households have reduced recurring costs in electricity bills and active cooling technologies being used throughout the year. For this reason, it initiated a partnership with credit cooperative society to encourage people and generate demand towards adoption of efficient layout designs- increasing the resilience and sustainability of their dwelling.

The transitions from Kutcha/ Semi-Kutcha (informal) to a pucca House requires capital investment and the availability and access to finance becomes the

integral factor that determines a household's decision to invest in improving their dwellings. Over the past decade specifically, MHT has worked with the credit cooperatives in Ahmedabad, Surat and Vadodara in the state of Gujarat to enable people in the informal sector to access unsecured loans for housing upgradation. MHT has played a critical role in designing these financial products for unsecured loans and partners with the credit cooperative societies to facilitate due-diligence of households.

As per the partnership, households who were seeking housing loans from the credit cooperatives, will be offered technical assistance in layout designing through

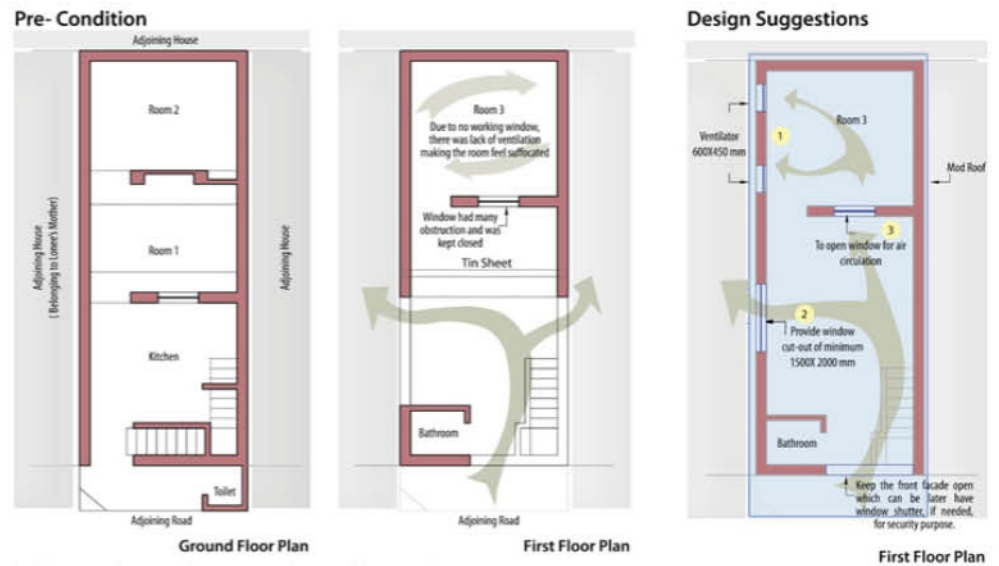
MHT. SELCO Foundation, along with MHT worked towards guidelines for such assistance under the following categories:

1. Energy Efficient Material
2. Layout and Orientation for Improved Lighting, Ventilation and Thermal Comfort
3. Renewable or Energy Efficient Products

One such example is Nainaben who wanted to upgrade her roofing from a tin sheet roof to an insulated roof. During the financial due-diligence process, MHT also conducted an overall habitat and energy assessment. As the loan was approved, Nainaben was also given a few guidelines on other modifications that she could make to the planned upgradation in order to further improve the energy and climatic performance of her home. The total cost of

the extension was INR 200,000, where the sanctioned loan amount is INR 125,000 and rest of amount were mobilised by Nainaben from her savings.

The following is is the modification that was suggested to Nainaben:



After consultation, Nainaben was not only able to improve her roofing, but also improved her layout and window placement to facilitate wind circulation.

BEFORE



AFTER



# INDIA FOUNDATION FOR HUMANISTIC DEVELOPMENT

Livelihood Agriculture Enterprise Development Financing

## About the Partner:

India Foundation for Humanistic Development (IFHD) came into being as a response to economic, social and ecological distress of farming communities. The platforms bring together different resources and stakeholders like Farmer Producer Organizations (FPOs), technical experts, funders etc. to enable transformation on the ground. By investing in transformative development interventions and collaborating with individuals, civil society organisations, the private sector and the government, IFHD aims to enable social change, in both rural and urban areas.

IFHD, over the past few years has incubated and developed a network of grassroot institutions-

enterprises, Farmer Producer Organizations and Cooperatives to improve livelihoods and build resilience through localised ownership.

## SDG7 in IFHD:

IFHD has a FPO Incubation Facility (PRoCIF) which helps FPOs shift from the orbit of farmer collectives to that of a self-sustaining business enterprise capable of accessing mainstream financial instruments. The program encourages the focus on sustainable production and consumption, assisting MSME's to use sustainable technologies in the entire value chain. In addition to ecological dimensions, it works with MSME's to establish fair trade standards that ensure sustainability for all actors in the supply chain.



The partnership believes that building resilient productive assets is one of the key ways of ensuring continuous revenue streams and long-term sustainability for FPOs. SDG7 makes possible the creation of decentralized assets, which can be placed within micro-enterprises at the village level, enabling value-addition at source, reduce operational costs and improve producer incomes multi-fold. However, to operationalize these assets, a strong supporting ecosystem needs to be in place – organizational capacities, entrepreneurial skills,

access to uninterrupted energy, logistics, technology support, ICT solutions, skilled labour, flexible financing solutions, favourable market, etc.

The PRoCIF Program was identified as the pilot program to building capacity and demonstrate the impact of SDG7 in IFHD. Following is the end to end process that IFHD follows under PRoCIF. SDG7 specific activities and processes have been built along this chain in order to build a greater impact (demonstrated in the case study in the following section)

IFHD ProCIF Program	FPO on-boarding and scoping high potential value chains	Value chain development workshop	Micro-enterprise development workshop	Capital support for infrastructure	Skill development workshop	Handholding support to access finance and markets	Dissemination workshop
SDG7 in ProCIF	<p>Assessment and mapping of selected value chains to identify critical energy points</p> <p>Mapping of energy solutions to improve the efficiency of the value chain and decentralise the value to the marginalised farmer</p>	<p>Integrate energy delivery models in order to demonstrate efficient practices</p> <p>Introduce entrepreneurship models use sustainable energy to decentralise the services in the value chain</p>	<p>Introduction to technologies and awareness on sustainable energy and energy efficiency interventions</p> <p>Monitoring of cashflows to monitor feasibility of the business</p>	<p>Incorporate capital support for energy efficiency and sustainable energy based solutions for infrastructure for FPOs</p>	<p>Develop training material for sustainable energy based solutions for FPOs</p>	<p>Monitoring of cashflows to monitor feasibility of the business</p> <p>Create evidence and provide support in developing financial products and/or unlocking financing for energy efficiency and sustainable energy based solutions</p>	<p>Share best practices on FPOs who have been impacted through the integration of SDG7</p>

## Case Study: Parna Western Ghats Farmer Producer Company Ltd

### Subtitle: SDG7 for Processing Units : Strengthening Farmer Producer Organizations

Parna Western Ghats Farmer Producer Company Ltd is in Sirsi in Uttara Kannada, Karnataka. It was formed in 2017 by India Foundation for Humanistic Development (IFHD) under its ProCIF (Producer Enterprise Catalyst and Incubation Facility) program, with the objective of improving the livelihoods of forest dependent communities through value addition and collective marketing of Non-Timber Forest Produce (NTFP) and agricultural commodities, and promoting sustainable natural resource management and conservation of endangered ecosystems in the biodiversity-rich Western Ghats.

It has 525 registered members from forest-dependent communities such as Siddis, Kunbis, Khare Vokalligas, Hallaki Vokkaligas, Namdharis, Gowlis, Hasgar, Patgar, Marathas, etc. spread across 14 villages in the hilly terrain in the central Western Ghats. 25% of the members are smallholders and are engaged in the cultivation of paddy, coconut, arecanut, pepper, turmeric, mango, cashewnut, jackfruit and collection of NTFP like garcinia indica (kokum), garcinia gumigutta (uppage), honey and herbal extracts.

The FPO members are also part of smaller Self Help Group (SHGs), Farmer Interest Group (FIGs) and Village Farmer Committee (VFCs) at the village-level and the FPO has a strong engagement with its members and underlying community institutions. Several products such as honey, kokum syrup, turmeric powder, etc.

manufactured by SHG and FPO members were packaged and marketed under the FPO's brand name.

#### Prior to the Intervention:

The FPO previously made an average daily income of INR 100-200 per day. All livelihood activities were carried out manually by the SHG members associated with the FPO. Manual outputs did not capitalize on the potential outputs across all produce. Low production limited local farmers from value addition and profits enabled through price realisation.

During the capacity building workshop on participatory business model design, the ProCIF team facilitated a discussion on the operational model and linkages between FPOs and SHGs. It was decided that the FPO would take ownership of all the assets, while SHG members could access the machinery and engage in value adding activities. Further, the FPO would provide marketing support. The solutions are accessible to other individual farmers on a service charge basis but are free of cost for the SHG members. The FPO is based on a community based service model.

The FPO and its underlying SHGs and individual members showed interest in undertaking value addition of NTFP (uppage, kokum), spices, banana, jackfruit, areca leaf, herbs, honey. In February 2020 the FPO adopted an array of technological solutions to meet the processing needs of various kinds of produce (detailed



in the following section). For additional income, the FPO has its own retail brand, where they package and sell the produce. The FPO procure the produce from the farmers and sells it to farther markets.

### SDG7 Integration:

The technological solutions are kept at a common

facility centre and operated by the FPO and SHG members. All the listed livelihood activities below, were performed through manual practices and methods. For the first time, all livelihood activities at the FPO were mechanised to aid farmers better output and reduce their drudgery. The technological solutions implemented are as mentioned in the table below.

Livelihood activity	Challenges faced	Interventions through SDG7
Areca leaf plate making	The region is abundant in areca nut trees, which were not commercially sold and mostly used for local or household consumption. The market potential of the activity was identified but the lack of means was the challenge.	Solar Powered Hydraulic press for Areca leaf plate making
Herbal soap extraction	Soaps extraction was accessed through a facility at Kumta (about 60kms away). The production of them were operationally difficult.	Solar powered juice extractor for a decentralised extraction unit
Turmeric and Triphala powder	Turmeric and Triphala powder were manually powdered by SHG members. The drudgery involved with the low outputs were a key identified challenge.	Solar powered pulverizer and sealer for improved productivity in processing and packaging by the SHG unit
NTFP value addition	Produce such as garcinia gummi gutta (uppage), pepper, monkey jackfruit etc. were dried naturally, thus depending on sunlight over days in order to dry it before processing them further .	Fuel-efficient dryer resulting in efficient and hygienic drying methodologies- also improving wastage
Kokum juice	Juice extraction was manually done before. The output was minimal with wastage as the manual force is limited through squeezing.	Solar powered juice extractor improving productivity- time and the quantity per unit
Banana and jackfruit chips	Manually done with long working hours	Solar powered slicer and sealer for improved productivity and drudgery reduction for the workers
Pickle making	The allied activities such as powerding spices for pickle making was performed manually, which would take long hours when making pickles in bulk	Solar powered pulverizer for increased productivity in spice grinding

### Impact:

- Reduced dependence on electricity resulting in cost savings. During heavy monsoon, the electric poles tend to fall down, affecting the electricity supply and impacting operations.
- Use of machinery has reduced labour requirement, time required for operations and drudgery.
- Improved relationships and linkages between SHGs and FPOs.
- Reduced dependence on third party vendors for outsourcing processing operations, resulting in

reduced transportation overheads and more control and transparency over processing.

Based on this grounded evidence of the impact of sustainable energy interventions within the select incubated FPOs, IFHD has raised funds to support upgradation of activities in FPOs through sustainable energy powered interventions. The approach of working FPOs is also being taken forward across different value chains (animal husbandry, textile, in addition to agriculture) and in their other enterprise promotion programs.

# SEEDS

Disaster Built Environment Cooling Livelihoods

## About the Partner:

SEEDS (Sustainable Environment and Ecological Development Society) is a not-for-profit organisation that enables community resilience through practical solutions in the areas of disaster readiness, response and rehabilitation. SEEDS has been actively working in the disaster sector for the last 25 years in India and other Asian countries. In the disaster scenario, the work undertaken by SEEDS ranges from relief work during disaster, recovery work and resilience building post disaster. SEEDS is member of The Code of Conduct for The International Red Cross and Red Crescent Movement, SPHERE Standard in Humanitarian Aid, The International Council of Voluntary Agencies, Asian Disaster Reduction and Response Network (ADRRN), Active Learning Network for Accountability and Performance (ALNAP), Core Humanitarian Standard (CHS) - an international certification system for quality and accountability in disaster relief, Global Network of Civil Society Organisations for Disaster Reduction (GNDR), Network for Empowered Aid Response (NEAR), Owner-Driven Reconstruction Collaborative (ODRC).

Adopting a strategy based on Sendai framework for disaster risk reduction, the long term goal of SEEDS is to create resilience through mitigation strategies by undertaking proactive measures than reactive measures.

## SDG7 in SEEDS:

SELCO and SEEDS partnered to evaluate and strength the role of sustainable energy in Disaster Risk Reduction and Mitigation. More often, energy supply is disrupted in multiple forms, making it harder for communities to head back to normalcy. Further, reliability of energy is also critical in times of disaster to ensure delivery of services- such as relief, healthcare etc.

Specifically, the following were the key opportunities identified for decentralised energy models in a disaster context:

- The access to decentralised energy can enhance the response capacity community during the disaster. It not only secures continuity of functional use of space (lighting, ventilation, water pumps) but also provides psychological well being for the community (connectivity), reducing the impact of the disaster and supporting them to build back better.
- Tapping into the potential of public/community infrastructure. Securing the energy needs of these buildings can help build capacity at a local level to respond to needs during future disaster emergencies.
- Adaptation of solar technology to ensure the early warning systems are functional during the disasters



A summary of the workstreams under SEEDS, and the identified SDG7 interventions have been summarised below:

	Immediate Relief	Early Recovery	Rehabilitation	Awareness & Mitigation	Future Strategy
<b>SEEDS Interventions/ Activities</b>	<p>Mapping of settlements post disaster- vulnerability and impact mapping- specifically on built environment infrastructure and housing</p> <p>Partnerships and coordination with stakeholders for urgent deployment of relief</p>	<p>Coordinate with stakeholders and the local government to develop 2-3 year plan for rehabilitation projects</p> <p>Building infrastructure for transitional requirements- specifically housing (transitional shelters) and sanitation</p> <p>Strengthen institutional buildings (particularly schools and health centres)</p>	<p>Regional disaster management plans and guidelines for resilient infrastructure development</p> <p>Local skill building and training for climate resilience buildings</p> <p>Cluster development- climate resilient housing programs, delivered in partnership with the local government in the more vulnerable pockets</p>	<p>Course creation for children and parents on disaster response, mitigation and adaptation- rolled out through schools and government programs</p> <p>Creating school infrastructure to education children on climate change (climate labs, kitchen gardens etc)</p>	<p>Strategy laid out by SEEDS for 2030 covers the following additional sectors - Livelihood, Governance, Food security, etc</p> <p>These have been identified as key aspects of resilience building to reduce vulnerability of communities to hazards</p>
<b>SDG7 in SEEDS</b>	<p>Energy mapping post disaster to understand needs and households, institutions most vulnerable to disasters</p> <p>Creation and deployment of portable energy solutions for relief activities (foldable panels, portable lights, mobile health vans etc)</p>	<p>Build energy resilience in planned infrastructure to ensure reliable and consistent power during disaster scenarios</p> <p>Portable solutions for transitional infrastructure- designed to move to the permanent structures after the transitional period</p> <p>SDG7 integration in development of off-grid community infrastructure</p>	<p>Guidelines for rehabilitation infrastructure for energy efficiency and sustainable energy integration for periods of disaster</p> <p>Build construction training programs on energy efficiency, energy auditing and climate responsive building technologies and material usage</p>	<p>Awareness workshops with children on energy efficiency, energy auditing and the role of sustainable energy in mitigating climate change, disasters and creating resilient solutions for their communities</p> <p>Problem mapping using a human centred design approach through workshops- assisting in solution building using SDG7</p>	<p>Ecosystem approach for livelihoods- creating resilient entrepreneurship opportunities through sustainable energy</p> <p>Mapping of critical activities which are vulnerable to climate change and developing alternate solutions through SDG7 - for eg: hydroponics for fodder growth for dairy farmers in drought prone areas</p>

The partnership was initiated by narrowing down on creating resilient models for rebuilding and strengthening of public/community infrastructure which are often the first point of contact and a crucial nodal point at a district level for developing disaster response plans. Engagement between the two organization has been two-fold,

- Capacitating the implementation team of SEEDS with the processes of conducting energy needs

assessment and audits (focussed on energy savings), ie using community infrastructure as a pilot to build know-how in the SEEDS team for transfer of similar processes in other projects of repairs and recovery;

- Engagements with their design and strategy team for advocacy in the form of guidelines and benchmarks for integrating decentralised energy as a tool for disaster mitigation.

### Case Study: Biranirsinghpur Primary School, Odisha

#### Subtitle: Rehabilitation and Infrastructure Strengthening for Relief Shelter cum School through SDG7

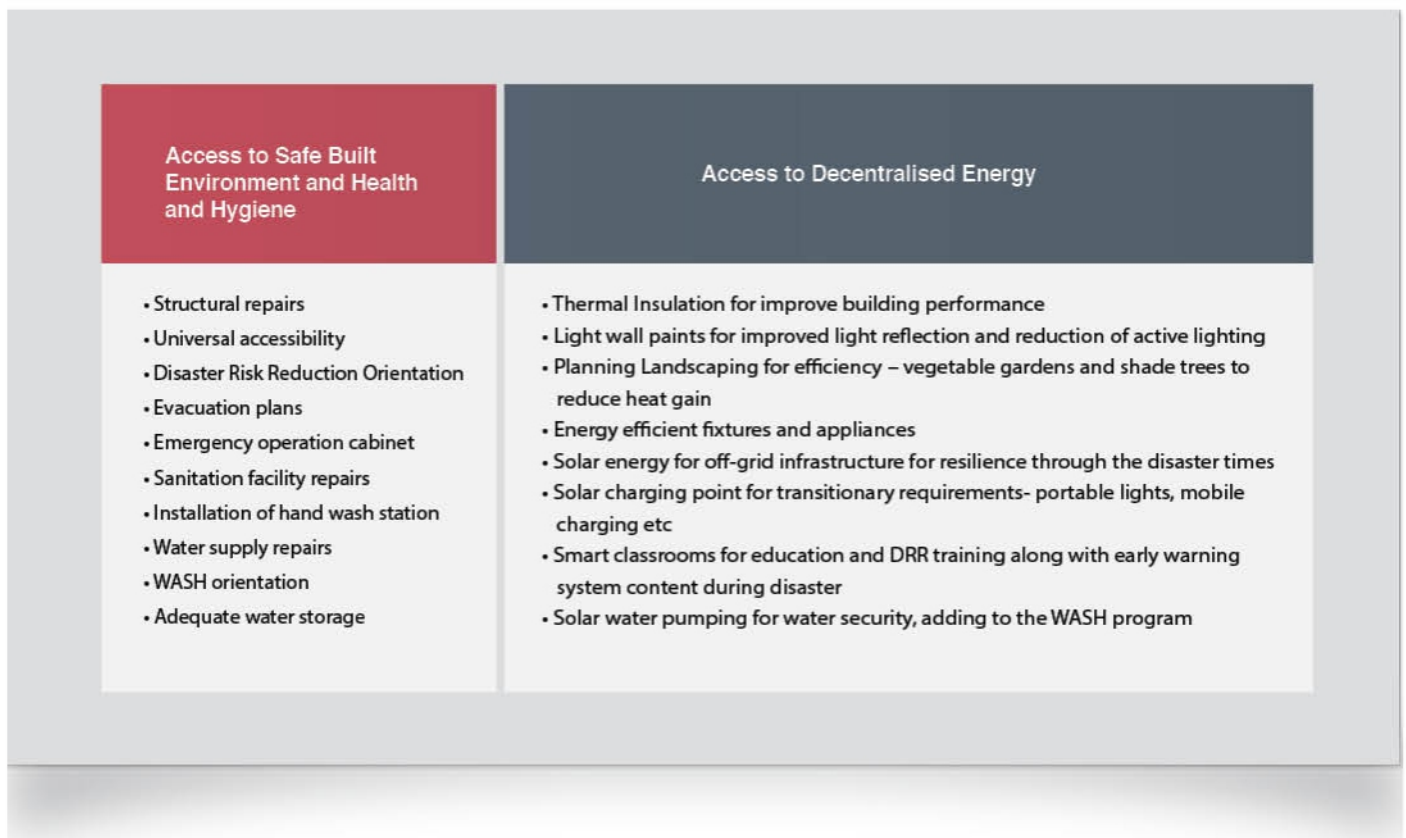
Biranirsinghpur School in Odhisa, is also a dedicated relief shelter during disaster times. It caters to a large number of households nearby. During the Fani cyclone (in 2019), the relief shelter saw 1000-1500 people taking shelter in the building. The electricity connection

was completely affected during the cyclone and it took more than 3 months to restore.

The premises of Biranirsinghpur primary school serves as a place of refuge for two most vulnerable communities – the underserved and the children, who

suffer the most during the occurrence of a disaster. In a post disaster situation, providing an enabling environment for learning, growth and play becomes of utmost importance to engage the children as they are particularly at a greater risk due to their physical

and psychosocial vulnerabilities. The programme is developed to ensure that these communities have access to a safe shelter, a reliable energy source, water, sanitation and food to prevent injuries and loss of life during the disaster.



This community infrastructure has a potential to become a hub for disaster response from catering to the community immediately after disaster as shelter to fulfilling energy needs in the recovery phase and lastly creating awareness and

empowering the community to respond to disasters. With dedicated relief shelters seen across Puri district and the state generally, this example has a potential to become a model for all relief shelters cum schools in the state.

# KARUNA TRUST

Healthcare Built Environment Cooling Immunization Cold Chain

## About the Partner:

Karuna Trust was established in 1986, in response to the widespread prevalence of leprosy in Yelandur Taluk of Karnataka. Since then Karuna Trust has widened its services from primary healthcare, education, sustainable livelihoods, and advocacy. Karuna Trust works for provisioning an equitable and integrated model of healthcare, education and livelihood by empowering marginalized people to be self-reliant. Karuna Trust's interventions have been consistent through the Public Private Partnership (PPP) model for comprehensive healthcare at the PHC level, which was first piloted at Gumballi PHC in 1996, a model picked upon by several state governments to replicate.

Karuna Trust works across across 7 states in India and its founder, Dr. Sudarshan is considered a pioneer in the healthcare sector across the country.

## SDG7 in Karuna Trust:

Karuna Trust is an institutional partner for SELCO Foundation. SELCO has worked together with Karuna Trust to develop the energy-health ecosystem- innovating on processes for assessments, procurement, training, service delivery, maintenance and financing. SELCO has also worked as a knowledge partner with Karuna Trust to implement energy efficient buildings for primary health care, showcasing models which reduce energy consumption in a holistic manner.

	Health Care (Primary and Secondary)	Training and Capacity Building
<b>KT Interventions/ Activities</b>	<p>Establishing and running of primary and secondary health care facilities (maternal and child care, immunization, vision care, dental care, NCD etc as per the guidelines set out by the Government of India)</p> <p>Coordinating with the state government for permissions, allocation of funds, health staff, medical equipments, medicines etc</p> <p>Changing health seeking behaviour by creating community insurance programs, and raising awareness amongst the community members (especially in remote rural and tribal geographies) on health issues</p> <p>Management of health records of the population served under the jurisdiction of a particular health centre</p>	<p>Provides hand-holding and on-site training to all the health care staff at the facilities</p> <p>Runs a centralised training centre for capacity building of last mile health workers- encouraging adoption of latest cost effective technologies</p> <p>Builds capacity of local officials and stakeholders in the public health sector for smooth running and maintenance of the health centres</p>
<b>SDG7 in Karuna Trust</b>	<p>Improving quality of services through reliable and uninterrupted energy provision</p> <p>Reducing costs of running services at a decentralised level</p> <ul style="list-style-type: none"> <li>- Introduction of mobile services with mobile energy solutions or additional critical services in areas where energy availability was challenging</li> <li>- Reducing operational costs of the health centre through energy efficiency drives and high expenses on dirty fuels for backup</li> </ul> <p>Increasing well-being of patients due to timely services, reduced waiting time</p> <p>Improved well-being of health staff due to improved energy infrastructure</p>	<p>Training and awareness building across the local health ecosystem on sustainable energy on its use and impact on health delivery</p> <p>Training for health workers on the use of energy efficient health / medical appliances</p> <p>Training on basic maintenance of the solar energy appliances</p> <p>Training of local health bodies and institutions such as the Arogya Raksha Samiti or the Rogi Kalyan Samiti for allocation of untied funds towards maintenance of the solar energy system or energy efficiency drives in the health centres</p>

## Case Study: Gumballi Primary Health Centre, Yelandur, Karnataka

Subtitle: Sustainable Energy and Energy Efficiency for Improvement and Decentralisation of Primary Health Services

Gumballi Primary Health Center, in Yelandur taluk, Karnataka which began in 1996 is one of the pioneering examples of Public Private Partnership between Karuna Trust and Government of Karnataka. Gumballi PHC is the first PHC in South India to be accredited by NABH (National Accreditation Board for Hospitals & Healthcare Providers). It runs on a 24hrs basis and has an OPD, eye care, dental care, labour room, eye operation theatre, pharmacy, laboratory, medical record and computer room, wards, which are beyond what PHCs usually offer. It caters to nearly 23,000 population with 60% of them being tribal.

The PHC was developed with the vision to act as a hub where multiple services can be provided. With a developed ecosystem around the health centre- it was chosen as the first health centre which Karuna Trust and SELCO Foundation partnered to create a model that could be replicated across the country.

One of the challenges that the Gumballi primary health

centre faced was access to energy for conducting surgeries in the eye OT, dental clinics and other services provided at the health centre. The PHC suffered power cuts of 5 to 6 hrs/day. The power availability was a critical issue during the summer. During the power cuts, the dental patients had to wait for hours or appointments had to be cancelled. Some times patients would need to be sent back. Moreover, the population served by this health centre had to travel by bus, local transport or by walking and there was an opportunity cost incurred by people. Also, initially, all the loads were powered by a diesel generator, which added to the operational costs of the health centre. SELCO and Karuna Trust worked together to identify critical services, conduct an energy efficient drive. This resulted in an optimized 3.2 kW solar system that supports medical equipment including dental and ophthalmology equipment. This system also ensured uninterrupted power for the delivery room, eye operation theater, and the dental unit, apart from the core PHC.

Services provided for Comprehensive Care at Gumballi Primary Health Center include:

### 1. Vision Care

The vision care center aka Vivekananda Eye hospital at Gumballi PHC provides quality and affordable primary eye care at the PHC, like, basic eye testing, testing for cataract and intraocular surgeries. Having the cataract surgery available at the PHC had helped many elderly save out-of-pocket expenses to travel to the city. In addition to the energy infrastructure for the health centre, a smaller unit for eye care was established in further interior pockets of the MM Hills- decentralising the service further. This would not have been possible earlier due to unavailability of power.

### 3. Community Health Insurance

Karuna Trust in collaboration with UNDP and Government of India, conducted the first pilot for Community Insurance at Gumballi PHC. Under this every person under the administrative boundary of the Panchayat, would pay INR 20 per year. These funds were used to compensate daily wage workers for their loss of daily wage earnings due to a visit to the PHC. While the wait time has reduced for the patients due to reliable power, loss of daily wage is a barrier for many in accessing health care.

### 2. Dental Care

Gumballi PHC also has a comprehensive well-equipped dental care unit, with a full-time well trained dentist. The unit provides basic dental care like cavity fillings, teeth cleaning (scaling) and extractions. The PHC field staff also conducts outreach programs for Oral health awareness and health education. The PHC also has a Mobile Dental Unit, which provides essential dental care, like fillings, tooth extractions, composite restoration and root canal treatments, to the last mile in remote villages on certain designated days. The mobile dental unit, as well as the dental care unit at the health centre are powered by solar energy.

### 4. Traditional Medicine

The traditional medicine i.e. Ayurveda, Yoga and Homeopathy (AYUSH) was also incorporated at the PHC along with the conventional existing system.

## 5. Immunization:

The PHC earlier had the grid based conventional vaccine storage refrigerator i.e. ILR. Due to frequent power cuts at the center before the DRE solutions, made it difficult to store the vaccine at required temperatures i.e. 2-8 degree celsius. Also, the temperature distribution within the ILR was not the same at all the places, which created trouble for the pharmacist to utilize all the storage space efficiently. To address the problem SELCO Foundation with Karuna Trust, implemented a solar powered vaccine refrigerator. Being energy efficient and cost effective, this cold storage also allows for accurate temperature maintenance, less maintenance and cleaning cost irrespective of contexts.

## 6. Comprehensive Primary Health Care Management application:

Karuna Trust, in collaboration with the India's National Health Mission Comprehensive Primary Health ICT programme, piloted the public-health and facility management application at the Gumballi PHC. The entire population's health records were digitised via this application. Also, the ANMs from the corresponding 5 sub-centers used this application via tablets to record antenatal care data from their respective villages.

### Impact:

Year on year comparison of the data at the PHC has shown improvement in terms of increased number of diagnostic tests done at the PHC and increased OPD patient footfall by 80% and 10% respectively. Moreover 14% reduction in referral rate is remarked when compared to previous year. It is difficult to link the attribution of the energy intervention to these improvements as there are other confounding factors which could affect the impact; however, impact can be established with respect to improvements in the light of the perception of PHC staff.

One of the dentists from Gumballi PHC, Dr. Sagar expressed himself saying; "we are very happy that the

dental unit is connected to the solar and now we have round the clock power to run the compressor and Dental chair. Before we used to send the patients back home due to power cuts, or they have to wait for long hours. Now more procedures can be done due to uninterrupted power supply. Now we also see many more patients, in fact double the previous numbers." Apart from the impact with respect to service delivery, on an average around 27% of reduction in electricity consumption, and 60% saving of its monthly energy expenses at the PHC was noted when compared to previous year, which contributes to crucial financial expenditure.



# DOCTORS FOR YOU

Healthcare Disaster Response Nutrition Built Environment Cooling

## About the Partner:

Established in 2007, Doctors For You (DFY) is a pan India humanitarian organization that works in various disaster hit zones for over a decade. DFY focuses on providing medical care to the vulnerable communities during crisis and non-crisis situations, emergency medical aid to people affected by natural disaster, conflicts and epidemics. Today, DFY has also established its organisation presence in three other countries, i.e. Nepal, Bhutan and Sri Lanka. Their core mission is to serve vulnerable communities providing efficient, effective and equitable distribution of "Health care for all".

## SDG7 in DFY:

Given DFY's strong history of working in health, nutrition and disaster and their pertinent contacts within government at national and state level. They are potentially a good partner to be engaged with for influencing policy change within these core areas of the health and nutrition domain. The partnership with SELCO was to build with DFY programs that add value to their larger mission of education and health for maternal and child care by integrating the role of energy via appropriate built environment spaces and/or infrastructures. This includes ample amount of natural lighting, cross ventilation or air circulation which contributes to well insulated spaces from the heat and cold to promote thermal comfort for habitation indoors.

	Health and Nutrition	Disaster Relief	Maternal Care
DFY Interventions/ Activities	<ul style="list-style-type: none"> <li>Improving children's nutrition levels at last mile through Anganwadis or Day Care Centres</li> <li>WASH Programmes</li> <li>TB Programmes</li> <li>Cancer Care Programme</li> <li>Adolescent Sexual Reproductive Health</li> </ul>	<ul style="list-style-type: none"> <li>Emergency Medical Relief</li> <li>Disaster Risk Reduction</li> <li>WASH</li> <li>Dedicated COVID Care Centre</li> </ul>	<ul style="list-style-type: none"> <li>Reducing MMR &amp; IMR by making ANC and PNC accessible</li> <li>Increasing last mile immunization</li> <li>Health kits at Anganwadis or Day Care Centres</li> </ul>
SDG7 in DFY	<ul style="list-style-type: none"> <li>Improving well-being of children and Anganwadi workers with efficient and climate responsive Anganwadi Centres</li> <li>Introducing digital learning modules for holistic development of adolescent children</li> <li>Improving reliability, quality and efficiency of delivery of testing facilities, last mile cancer treatment facilities</li> </ul>	<ul style="list-style-type: none"> <li>Innovations for quick deployment of portable/ transitional/ expansion of health services during Disasters.</li> <li>Off-grid models of health delivery improving resilience of the public health system</li> </ul>	<ul style="list-style-type: none"> <li>Improving the last mile vaccine cold chain through efficient vaccine carriers for effective immunization</li> <li>Empowering last mile health worker with portable energy maternal kits for regular monitoring of pregnant women and identification of high risk pregnancies</li> <li>Improving reliability, quality and efficiency of delivery rooms- providing comfort to expecting mothers</li> </ul>

### Case Study: Anganwadis or Day Care Centres in Kerala

Subtitle: Using Sustainable Energy Approach for Improved Nutrition for Children, Pre-natal and Post-natal care for Women



Jointly, DFY and SELCO Foundation have implemented sustainable energy interventions in Anganwadis, COVID hospital, a Portable Health Center for Disaster Set-up with Labour Room, a model immunization room and cancer hospital.

Anganwadi centres deliver early education, health, and nutrition services as part of the country's Integrated Child Development Services (ICDS) scheme. ICDS was launched in 1975 to improve Indian children's health and quality of life. The goal of ICDS was to help feed, educate, and care for vulnerable kids and their mothers and is now evolved to one of the world's largest integrated early childhood programs.

An assessment in 2016 (conducted by the Government of India) revealed that the infrastructure of these centers are often terrible, which prevents them from delivering essential services. For instance, centres did not have designated buildings for daily functioning, a severe lack of water, toilet, and electricity facilities, as well as little in the way of play materials or a play environment with less ventilation and daylighting. With DFY's strong prior presence for health care and connections with the District Administration, in the states of Kerala and Bihar, DFY conducted a thorough study of Anganwadis in these regions. They surveyed around 945 AWCs, to understand their current situation, infrastructure gaps, nutrition levels in children. With their primary research and consultations with District Administration and ICDS personnel on ground they finalized 20 AWCs in Kerala and Bihar. The selection criteria depended on following parameters: electricity connections at the AWCs, level of support from the ICDS personnel, number of malnutrition children, and infrastructure condition of the AWCs.

### Solution:

SELCO Foundation with DFY has worked towards upgradation of 40 Anganwadi Centres (AWCs), in Kerala and Bihar (20 each), to make the AWCs energy efficient and thermally comfortable, with uninterrupted

energy access through DRE solutions.

Solutions were designed to create model spaces that had ample amount of daylight, cross ventilation, air circulation, and insulation from heat and cold.

Some of the interventions included:

- larger windows and ventilators for improved ventilation
- cool roof paints
- shaded chajjas and verandahs for cooling
- lighting and fans
- waterproofing and painting finishes

### Impact:

The completion of this project piqued District Administrations's interest in Buxar, Bihar, towards the need and significance of energy efficient model AWCs. Since, DFY team was engaged in the district of Buxar in Bihar under the Poshan Abhiyaan scheme, working with a Swasth Bharat Prerak Fellow there deployed with the district under fellowship program by the Ministry of Women and Child Development & Tata Trusts. This concept of model Anganwadi was presented by DFY to the District Magistrate of Buxar with the help of the fellow, where on enquiry it was found that the ICDS has given the district a fund of 2 lakh per anganwadi for 12 Anganwadis to improve them under the Jal Jeevan Hariyali Abhiyan- a govt scheme. DFY approached SELCO to look at the scheme document that was made public by the district administration and to suggest solutions encompassing the role of decentralization renewable energy, proper building infrastructure and design for better thermal comfort and safety of children and the digital component to be able to help students and also use the same audio/video tools running on solar to spread awareness on various schemes under the district administration and govt. of Bihar. This in turn led to a sanction of further replication of 12 AWCs under Jal Jeevan Hariyali Abhiyan, by leveraging funds from District Administration (about Rs. 1.2 lakh per unit), and complementing gap financing support by DFY and SELCO Foundation (Rs 80, 000 per unit).



# KEY LEARNINGS

As the program has completed nearly two and a half years, there are trends and insights that are beginning to emerge defining some of the processes and way forward for SDG 7 institutionalization. Below are a some of the learnings:

## Individual champions

While agreements, work plans, and other related programmatic requirements are critical, success boils down to individuals who embody certain characteristics and value systems that propel the program beyond a project-based thought process. This includes being able to envision the program beyond its defined scope of work, leverage external partners or networks to bring added value to the program, able to articulate and spread the importance of these nexus approaches among their peers and other related stakeholders in order to create a multiplier effect.

Each of the 21 partners have a strong champion either as a founder or in senior leadership. For example, in Harsha Trust, Gautam Pradhan has been able to push the outputs of the program into policy discussions at a state level thus multiplying the scale of impact. As a well-respected influencer in the region, he is regularly called upon by government agencies and other stakeholders as a speaker or mentor or master trainer to share his experiences in contributing significantly to improving livelihoods of marginalized communities.

## Important that the partners know their role in their ecosystems

Each of the partners onboarded are experts in their fields such as health, education, livelihoods, habitat, etc. Part of that expertise includes an understanding of their ecosystems and the position they fill. This results in better strategies to bring in external partners and other strategic planning processes such that they can go beyond the scope of the program.

For example, LabourNet sees its strength as a skilling expert in various trades but also recognizes that forward linkages post training is a crucial aspect of training. Efforts are underway to leverage ministries tasked with building local infrastructure to include criteria that incentivizes participation from local contractors that have graduated from these skilling programs that integrate "green building" materials and layouts such that they are given opportunities to participate in infrastructure projects of social welfare institutions, businesses and households at a village level that incorporate these practices.

## Important that the program complements their existing programs or future programs

A critical aspect of the program design is for partners to layer the resources from this program on their existing programs such that we are able to collectively blanket interventions in a manner that has more impact on the end user and judiciously leverages existing resources and efforts. In this case, these monies bring in a sustainable energy delta focus and in itself is not effective rather it needs to be in nexus with other interventions. For example, SEEDS mandate

to prepare communities and build resilience for impending disasters or ones that have occurred, already have programs with aspects of construction, infrastructure development, skill building and so on. This program seeks to co-leverage resources such that if efforts are underway in an existing disaster affected area the program complements ongoing efforts to integrate energy into materials, layouts.

An important aspect to consider however the organization has a strong champion and long-term vision to see things beyond a project level such that integration of interventions is seen as strategic versus funder driven. In other words, programs are not designed based on exclusivity that can be assigned to individual funders rather how it can be meaningfully layered to create more impactful solutions.

## Partner Perceptions

Over the course of 3 years, learnings included our evolving understanding of partner perceptions of institutionalisation and SELCO Foundation. For example:

-Despite multiple efforts to integrate long term thinking in energy interventions, for some organizations that are used to short turnaround times particularly in emergency situations it was challenging to alter that highly embedded thinking across teams, leadership and their programs. Therefore, there needs to be careful analysis of a partner's time span of programs and their ability to integrate changes that require a longer gestation period before impact can be visible.

-For a couple of partners, despite strong understanding of the value add of sustainable

energy interventions, turnover of internal teams meant that time was lost in repetition of the concept and program goals including the ability to plan long term based on prior efforts. Therefore internal team stability at multiple levels is highly important in ensuring "memory" of the program.

-The understanding of an organization's internal structures, organization structures are critical to ensure continuity of program, internal championing by individuals at a level that can influence decision making, ownership of the outcomes that would lead to larger level scaling of programs. In ignoring this aspect, it can lead to ill designed with weak assumptions on adoption and scale up of solutions.

-The concept of energy being associated only with solar or lighting or an appliance input also lead to difficulties in mindset shifts to SELCO's evolved programmatic engagement in green buildings, efficient building materials, trainings, facilitator of networks for market linkages for livelihoods and so on. Currently, the idea of sustainable energy extends beyond solar and lighting but early training or periodic exposure visits is necessary to include throughout the partnership.

## Internal Learnings

There are multiple levels of learnings and at an implementing level, during periodic evaluations, SELCO Foundation continuously evolved its approach to ensure successful institutionalisation for current and future programs. For example,

-It was determined that grassroots experience and understanding of an ecosystem approach was critical to work with teams, without which there would be continuous reinventing of the wheel. Therefore corrective measures included limited new hires for the program at senior level, internal advisory boards on both teams to oversee program progress.

-During orientation, in some cases expectations were set in a manner that involved siloed conversations or under impressions of a "funder" approach, thereby limiting the growth and direction of programs. Consistent oversight by internal boards helped to assuage these misconceptions and also output of interventions in which impact became apparent as a result of joint program designs (between partner and SELCO)

-Ensuring that the only type of partners were not limited to an NGO profile but could be individuals or government departments and so on. Through the program it became apparent that beyond NGOs there were other typologies of partners that can be institutionalised.



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