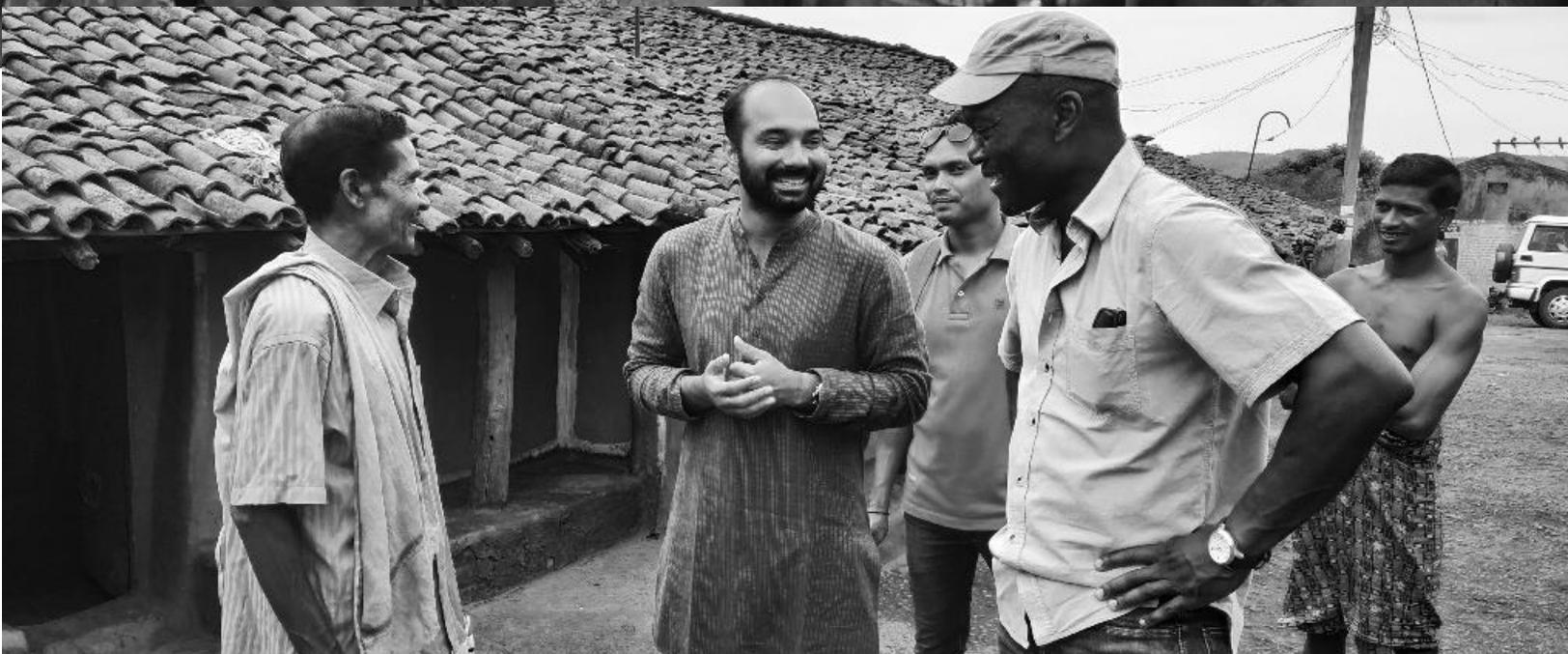




SELCO Foundation – The Energy Nexus Network  
Learning Exchange Visit to India : Report & Way Forward for  
TENN – Sierra Leone – SELCO Foundation partnership

June 2019

**SELCO FOUNDATION  
GLOBAL REPLICATION PROGRAM**



## Learning Exchange Visit Report & Way forward

### Framework for SELCO Foundation, TENN & Energy Access Ecosystem Development work in Sierra Leone



*1 During the field visit to Kalahandi Tribal Settlement*

This report provides an overview of the Learning Exchange Visit conducted for the delegation from Sierra Leone, summary of discussions occurred during the visit with key takeaways and a broader framework for way forward. The visit was jointly coordinated by SELCO Foundation & The Energy Access Network (TENN) with an aim of facilitating foundation work for energy access development activity with the collaboration of The Energy Nexus Network (TENN) & SELCO Foundation.

**Purpose:** Learning Visit of TENN Delegation to [SELCO Foundation](#),

**Location:** Bangalore, Karnataka; Southern Odisha; Sittilingi, Tamil Nadu, INDIA

**Date:** June 8-18, 2019

**Background:** In March 2016, Mr. Harish Hande, SELCO Foundation, in his discussion with Hon. Kandeh Yumlella, recommended a possible visit for a delegation from Sierra Leone to travel to India on a learning exchange visit to SELCO Foundation. In response to the request, Hon. Kandeh K Yumkella, co-founder of TENN asked Paul T. Yillia and Abraham Grass-Sessay to travel to India. The visit was planned to pave the first steps into a long term relationship that TENN and SELCO Foundation could form in developing nexus between energy and development sectors.

- **TENN (The Energy Nexus Network)** is a multi-dimensional and interdisciplinary centre founded in 2019 to provide leadership, best practices, research and advisory support on the synergies between energy and crucial energy-enabling SDGs.
- **SELCO Foundation** is a non-profit established in 2010 in India with a purpose to build and strengthen enabling conditions that support local partners in developing in-country sustainable energy solutions for the poor that uplifts their socio-economic status. As part of its Global Replication Program, SELCO Foundation aims at strengthening local partners in different geographies to develop sustainable energy ecosystems across the development verticals.

#### **Delegation from TENN:**

Paul T. Yillia & Sahr Abraham Grass-Sessay

**Note:**

Unfortunately, the onward travel of Abraham Grass-Sessay was terminated in Accra, Ghana while he was on his way to India due to a glitch in the airline’s booking methodology. It was hence decided that the information would be shared on a constant basis with Abraham to make sure he’d involved with the visit as much as possible.

**Staff at SELCO Foundation involved:**

- Sarah Alexander (Senior Advisor)
- Harish Hande (Chief Executive Officer)
- Huda Jaffer (Lead Designer)
- Shripathi Hadigal (Program Manager, Global Replication)
- Asit Kumar Purohit (Program Manager, Odisha)

**OBJECTIVES OF THE VISIT:**

- To facilitate an overall understanding of SELCO’s ecosystem approach in connecting sustainable energy access with environmental and socio-economic sustainability.
- To co-develop a foundational understanding of energy – agriculture innovation nexus work in Sierra Leone by drawing parallels from SELCO/ partners interventions here in India, that will feed into the drafting of USAID innovation proposal for Sierra Leone.
- To create a broader framework for collaborative efforts of SELCO Foundation, TENN, and other existing stakeholders for Sierra Leone energy access + development nexus.
- To propose a roadmap of activities involving SELCO Foundation, TENN and other stakeholders of Sierra Leone that are aligned towards the long term sustainable development goals of the country.

**Activities during the visit:**

Date	Description/ Discussion Points
<p><b>10-06-2019</b> @SELCO Foundation, Bangalore</p>	<ul style="list-style-type: none"> <li>• <b>Introduction:</b> Climate Change + Poverty Alleviation + Energy connection</li> <li>• <b>SF Overview, Deep-dive into SELCO Foundation Innovation</b></li> <li>• Context of the visit by <b>Paul Yillia</b> + Expectations</li> <li>• Discussions with Skills, Livelihood &amp; Built Environment vertical leads</li> <li>• <b>Innovation:</b> Agri + Livelihood Nexus in depth, USAID Proposal – next steps</li> </ul>
<p><b>11/06 – 14/06/2019</b> @ Odisha</p>	<ul style="list-style-type: none"> <li>• Visit to Harsha Trust, Bissamcuttack, discussion <b>with Mr.Gautam Pradhan, ED, Harsha Trust</b></li> <li>• The formation, structure, and the processes of <b>Self-Help groups, Cooperatives, Farmer Producing Organizations, Farm-based livelihood generation activities</b></li> <li>• Role of sustainable energy access and how it has been used to catalyze agriculture sector goals - <b>community mobilization, financing, market linkages, and facilitate the implementation of relevant energy innovations</b> - pre-harvesting, post-harvesting, cold-storage, processing, irrigation projects, etc. In particular focusing on common crops such as rice, maize, vegetables being common.</li> </ul>

	<ul style="list-style-type: none"> <li>• <b>Community visits</b> to understand various non-farm interventions in tribal settlements, highly relevant for Sierra Leone.</li> <li>• <b>Meeting with Dr. Aquinas</b>, Swasthya Swaraj, to understand health-energy nexus, and criticality of strengthening last-mile healthcare facilities.</li> <li>• Inauguration of Mobile Computer Lab in Junagarh, Odisha, and interaction with MSME minister, Education+policy+energy nexus.</li> </ul>
<b>15-06-2019</b> @SELCO Foundation	<ul style="list-style-type: none"> <li>• <b>Roadmap for Sierra Leone</b> + SELCO Foundation partnership.</li> <li>• Stringing together the visits, discussions towards both USAID proposal and broader context for SELCO+ Sierra Leone work on Energy access ecosystem development work</li> <li>• <b>Way forward</b> for next few months discussion</li> </ul>
<b>16-06-2019</b> @Alto Precision	<ul style="list-style-type: none"> <li>• <b>Meeting with Asad</b> from Alto Precision, discussion regarding applicability of small rice hullers for West African context + local manufacturing</li> </ul>
<b>17/06/19</b> @Sittilingi, Tamil Nadu	<ul style="list-style-type: none"> <li>• <b>Meeting with Dr.Regis, Tribal Health Initiative</b>, Discussion on Energy + Health, Energy + Agriculture + Community Development, and how they are all interconnected.</li> </ul>

### 10/06/2019, @SELCO Foundation, Bangalore

*Introduction to SELCO Foundation* – A session on the history and evolution of SELCO Foundation, its guiding principles and operating ecosystems philosophy on finance, technological innovation and incubation. Also, specific project examples that take into account policy considerations and human resources development, including capacity building at the community level to ensure project sustainability for end users were also discussed.



2 - Discussion with Thomas Pullenkav, Sikha of SELCO Foundation

After the introductory session, a detailed discussion was held regarding the innovation aspect of Foundation. Further, team leads of various verticals (Livelihood, Skills & Capacity Building, Built Environment) provided insights that were specific to each vertical yet how they interconnect with other aspects of energy access. Thomas from SELCO Foundation provided the history of SELCO, and how learning shaped its more than 2 decades journey.

Paul gave an introduction of TENN along with some of the foundational understanding of their philosophies and goal towards developing energy and development nexus work in Sierra Leone. Then the introduction to the fields was made.

### 11/06 to 14/06/19, Field visits & Discussion with partners, @ South Odisha:



3: Paul with the community in Vaccine Storage center during the field visit

The visits included of a selection of project sites in Southern Odisha, a State in eastern India. The visits were facilitated by Asit Kumar Purohit (SELCO Foundation Program Manager, Odisha) with the support of local partners operating in partnership with SELCO Foundation in the region. The local NGO in Odisha and a key partner of SELCO Foundation, [Harsha Trust](#) led several visits to specific project sites on Livelihoods, one of the operational verticals of SELCO Foundation. The visit specifically focused on the "ecosystem concept" for decentralized

standalone renewable energy access (solar panels) innovation for small-scaled agricultural practices. All projects have been piloted through viable social innovation models, including cultural acceptance, loan payment methods, innovative technology and repurposing, plus incubation and capacity building components.

#### Key points from the visit + discussion with Harsha Trust:

- Understanding of Energy + Agriculture nexus & criticality for Sierra Leone's context where 80% of population is involved in agriculture.
- Understanding of formation of Farmer Producing Organizations, their relevance in improving agriculture value chain for marginal farmers, various sustainable delivery models for interventions.
- Possible partnership with Harsha Trust – development of similar (but customized for West African situation) models with the advisory from the NGO.
- Mr. Gautam Pradhan explained how small farmers are mobilized to create different FPOs that cater to different value chains in agriculture. The process of which was of particular interest from the Sierra Leonean context, and the documentation to be shared by Harsha Trust
- Visiting sites with specific interventions such as vegetable and fruit farming, nursery, poultry, farm based livelihoods, irrigation projects helped in plugging in practical examples of the role of energy access in the agriculture and livestock value chain.
- Harsha Trust to put together a set of process documents providing an overview of modalities of formation of FPOs by mobilization of small farmers and how developing energy access interventions have played a critical role in making solutions more effective.



4: Discussion with Gautam Pradhan at Harsha Trust, Bissamcuttack,

**Note:**

- Harsha Trust is a not for profit organization that works with the tribal and the poor in remote locations in Southern Odisha, in the east of India.
- Operational “Verticals” of SELCO Foundation - “Verticals” are the four main operational and focus areas of SELCO Foundation, namely i) Livelihoods (e.g. Agriculture value chain, SMEs); ii) Wellbeing (e.g. household lighting, sustainable housing); iii) Health iv) Education

**Projects and sites visited on 12/06/2019**

- Vaccine storage facility (refrigerator) for small-scale poultry and livestock farmers. The ownership model of a local entrepreneur owning the solution providing cold-storage facility for the animal vaccine needs of the community where he does the timely delivery of the medicines is found to be relevant for Sierra Leonean context.
- Irrigation scheme for small holder farmers powered by solar panels. One of the interesting aspects was to know how work of installation of the irrigation system (constructing channels, piping, plumbing, etc) for their individual fields was taken up by the community itself, and how that had brought a sense of ownership among the community members.
- FPO 1 - vegetable farming, semi intensive poultry and livestock farming (no intervention by SELCO Foundation but important FPO case study supported by Harsha Trust).
- FPO 2 + Harsha Trust office : vegetable farming and cold storage container powered by solar, soil lab and farm equipment, learning centre with gender and youth empowerment activities.
- FPO 3 hatchery and rearing of chicken chicks powered by solar power including water plumps. The visits to the FPOs provided insights onto how bringing marginal farmers (Majority of farming in Sierra Leone is done by marginal farmers with a need for similar structure) can be brought together based on their crops, livelihoods and region while bringing sustainable solutions in the water-energy-farming nexus. Ownership of each FPOs in running different yet connected operations pertaining to local agriculture has provided wide-range solutions.
- Solar powered pottery wheel project – The way solar intervention has resulted in stopping of entrepreneur’s migration to the city, and bringing the aspect of efficiency and sustainability to his traditional activity.



*5: At Solar Powered Pottery entrepreneur's place*

**Note:**

The visits specifically focused on the “ecosystems” concept of SELCO Foundation for decentralized standalone renewable energy access (specifically solar power) in all aspects of social innovation for small-scaled agricultural practices and SMEs in marginalised communities.

**Projects and sites visited on 13/06/19**



*6: At Kalahandi tribal settlement*



*7: At the inauguration of the Solar Powered Mobile Computer Lab, with the State minister and the SELCO team.*

- Tribal houses of Kalahandi, in the mountainous terrains of the region – similarity with rural Sierra Leone. Solar home lighting systems have been implemented here.
- SME with rice huller and rice polisher powered by solar
- SME with computer and printing services, including making ID cards, printing photos, photocopying services, lamination, etc.
- Solar powered mobile computer laboratory for schools in remote tribal communities – opportunity to participate in the inauguration ceremony attended by the State Minister of Energy and SMEs for the State of Odisha – Capt. Dibya Shankar Mishra .
- Primary Health Care Centre operated by local NGO called [Swasthya Swaraj](#) which has partnered with SELCO Foundation to install solar panels that provide lighting, electricity for refrigeration, lab equipment, recharge of miners lamp that have been repurposed for field nurses working with tribal communities. Empowering healthcare centres, and bringing healthcare to the remote communities are highly relevant for Sierra Leone, and discussion with Dr. Aquinas provided insights onto how organizations working in the local context championed by visionary individuals could bring such long-term impact to the underserved communities.
- SME with repair and retail store for spare parts, as well as a compressor powered by solar panels for pumping tires of tractors, cars, motor bikes and bicycles. The solar powered compressor had replaced a diesel-powered compressor that was difficult to operate due to market access to diesel.
- SME with solar powered stationery store with a computer, printer, photocopying machine and mobile charging ports.



8: Meeting with Dr. Aquinas, Swasthya Swaraj, Kalahandi

**Note:**

Swasthya Swaraj is a secular, not-for-profit, organization working towards making health a reality for the poorest and unreached. Swasthya Swaraj has set up a model community health programme – Swasthya Swaraj Comprehensive Community Health Programme in the tribal-dominated Thuamul Rampur block of Kalahandi district in Odisha, India.

**15/06/19 – Discussion on roadmap and way forward for SELCO – TENN – Sierra Leone work:**

- Discussions were held at SELCO Foundation office between Harish Hande, Sarah Alexander, Huda Jaffer, Shripathi Hadigal and Paul Yillia in creating a broad plan for SELCO – TENN collaboration.
- The points discussed and plan of actions are described in detail at the end of this report.

**16/06/19 – Visit to Alto Precision manufacturing unit and discussion with Asad, from Alto Precision, @Bangalore**

(ALTO PRECISION – Small Agricultural Machinery Manufacturer in Bangalore, Karnataka State)

- They produce a comprehensive range of solar powered efficient machinery for agriculture – a range of individual machines including rice huller and rice polisher, and complete integrated projects in the rice processing industry that is aimed at value addition.
- **All equipment manufactured are powered by solar power and proven to be relatively more energy efficient than diesel and electricity powered equipment they are made to replace.**
- Modern milling solutions for rice are provided through a complete cycle from design, innovation and technology, to incubation involving team effort and a reiterative process aimed at continuous development in machineries quality, design adaptation and customer service and support.



9: At Alto Precision manufacturing unit

### 17/06/2019, Field Visit to Sittilingi (energy +health/ livelihood/agriculture nexus)



10: With Dr. Regi at Sittilingi Tribal Health Initiative

- [Sittilingi Tribal Health Initiative](#)

- The initiative was started in 1992 by a couple, Dr. Regi George and Dr. Lalitha Regi as a small primary health care outpost in the tribal community of Sittilingi Valley in Tamil Nadu State.

- Today, the initiative has expanded into a team of over 55 highly trained people, working to improve the lives of the tribal communities living in the Sittilingi valley and surrounding hills. **Lighting and power for running hospital equipment and pumping water for the hospital and associated annexes is powered by solar.**

- In addition to health care, the initiative has expanded to include a variety of

programmes in health care, community health, farming and craft work, human and livestock insurance schemes, grassroot empowerment, rural sensitisation programme medical students, banking, etc.

- [Sittilingi Valley Organic Farmers Association – SOFA](#)

- SOFA (Sittilingi Organic Farmers Association) is an association of some 200 farmers currently practicing organic methods with 'organic certification' from the State Govt. of Tamil Nadu.

- Under SVAD (Sittilingi Valley Agricultural Development) brand, SOFA has taken steps on value addition of 25 organic products that are sold in various cities in south India. **Lighting and the processing equipment are powered by solar power.**



11: Discussion at SOFA, Sittilingi

- Associated with farming and value addition is a strong component of women empowerment, with the formation of women's Self-Help Groups (SHGs), which are heavily involved in processing of specific products to increase value-addition and profit margin.

- Seed Banks ensure the survival of various minor millets and other traditional seeds, which were at risk of extinction due to the increased demand for rice and decreased demand for other similar sources

## KEY POINTS AND ACTION PLAN FOR SELCO – TENN PARTNERSHIP :

- The visits and discussions were planned after a background research that was done in order to **understand the socio-economic fabric of Sierra Leone**, and then to explore how SELCO's knowledge and expertise could complement The Energy Access Network's (TENN) long term strategies. Main focus was given towards interventions and discussions related to **energy + agriculture/ livelihood innovation & energy + health nexus** – which was done through discussions with **SELCO personnel, field visits and deep-dive interactions with champion partners**.
- Interactions with Mr.Gautam Pradhan of Harsha Trust provided foundational understanding of impact of sustainably managed marginal farmer groups. Harsha Trust has agreed to provide insights to the delegation from Sierra Leone to assist them with formation of similar (customized to suit local context) entities with small-holding farmers of the country. Main areas of common interests would be energy interventions in **rice value chain, cold-storage, livestock farming, and solutions delivery models**.
- Interactions with Dr. Aquinas at Swasthya Swaraj provided an overview of **last-mile health-care facilities delivery, and the relevance of the same in Sierra Leone was discussed in detail**. The possibility of identifying a similar champion in rural Sierra Leone initiated discussions on how could the learning from Swasthya Swaraj be shared with the champion. The model of building local capacity in health-care delivery that Swasthya Swaraj follows is relevant for rural Sierra Leone.
- **Visit to the local manufacturing unit in Bangalore** that produces efficient need-based agri-equipment that runs on solar and the subsequent discussions with lead of the unit initiated discussions of possibilities of piloting out small rice hullers in West Africa in the coming months.
- **Visit to Sittilingi (Tribal Health Initiative + Sittilingi Organic Farming Association -SOFA) concluded the visit by providing a great proof of how all the fundamental aspects of socio-economic fabric (health, water, education, livelihood, agriculture) are interconnected, and sustainable energy cuts across them**. Interactions with Dr.Regis and staff at SOFA helped in understanding how holistic approach could be the most effective way in addressing the issues pertaining to any individual community issue. (Increasing health issues due to the imbalanced diet/nutrition that was resulted by unsuitable crop growing patterns – hence establishing an effective, sustainable organic farming association by bringing local farmers together improving overall health situation of the community)
- Considering **TENN's involvement as a nucleus that connects various energy access ecosystem stakeholders**, interactions with various partners during the visit provided an in-depth understanding of how strengthening partnerships can become a long-term sustainable way of developing successful energy nexus.



needs and evaluating the potential. This is important for designing any solutions, undertaking pilot projects and eventually scaling of the model.

- It is advisable for TENN to take early action in identifying champions for each enabling “Ecosystem” environment (i.e. innovators of technology, potential incubators of ideas and technology, financing institutions, e.g. banks that can put in some risk capita), education institutions for human capacity development, policy makers and government personnel at all levels of governance. TENN could ensure that those champions are carefully selected and are influential persons in society that are able to influence change and provide an advocacy platform to support the operational areas of TENN and their associated ecosystems.

### **WAY FORWARD FOR THIS YEAR AND POSSIBLE NEXT STEPS:**

After site visits in Southern Odisha, there was a meeting at the SELCO Foundation HQ in Bangalore on 15/06/2019 to discuss a working strategy on the way forward with a particular focus on the initial steps in the immediate future that would lay the foundation for work ahead. The aim will be to strengthen the relationship between TENN and SELCO Foundation through interactions and learning exchanges at multiple levels. The items below were proposed during the meeting:

- **TENN will hold internal discussion in Freetown immediately after the learning visit**, and start taking steps to **identify potential champions, locations/geographies and end users**, as well as **potential local partners** to work with in Sierra Leone.
- Within a month after the learning visit, **TENN facilitates a brainstorming session with SELCO Foundation** on the proposals outlined below. This could be done through a Skype call with 3-4 persons each from TENN and SELCO Foundation.
- A 2-3 persons delegation from **SELCO Foundation to visit TENN in Freetown**, Sierra Leone in August (within 6-8 weeks after the learning visit) to finalize a strategy to continue the engagement and map out a working methodology to consolidate the TENN-SELCO Foundation partnership, and start looking into methods and channels to glue that relationship with other partners and identified champions in Sierra Leone.
- **A high-level Sierra Leone delegation consisting of 3-4 champions of different sectors of energy access to travel to India in October/November** for a conference on Self-Help Groups Movement for the SDGs (details of this event will be provided in due course). Considering this as an opportunity for active interactions between champions from different parts of the world, it could provide a platform for initiating sustainable energy access dialogues between the right stakeholders. TENN should carefully select those persons as they will be helpful later in supporting and promoting the operating philosophy of TENN and supporting action in the energy nexus development and elements of the [ecosystems approach](#) for project sustainability, e.g. Finance, Policy, Human Resources Development, Technology Innovation and Incubation, and community engagement.
- **SELCO Foundation and some of its partners and champions in India, e.g. Harsha Foundation/ Swasthya Swaraj/ others will explore the possibility to participate at the MRU law makers event that will take place in Freetown on 11-13 November, 2019** to

showcase some of their [approach, methods and processes](#), as well as some of their [innovative interventions](#). At the very least, a delegation will be sent to the event.

- **TENN to initiate USAID Agri-innovation proposal**, which would provide an opportunity to formalize certain processes as well, and SELCO Foundation to provide support (structure to be decided) in drafting the proposal.

All this is meant to consolidate a sound working relationship between TENN and SELCO Foundation as TENN identifies its key operational areas, geographic location, as well as the potential partners it wants to work with in Sierra Leone. TENN could initially focus on identifying partners for each of its operational verticals, e.g. agriculture value addition and SMEs (livelihoods), wellbeing, health or water and sanitation, and building a strong relationship with those partners.

