

VOLUME: 02  
ISSUE: 08  
APRIL 2021





# COVER STORY

**Kalavati;** a widow and a mother of two sells routines and vermicelli for living. But she couldn't full fill the demand due to frequent power cuts and lag in production. Therefore she has opted for solar powered vermicelli machine. She also says that her best decision was opting this technology, as she can make vermicelli anytime and any number without any physical pain



## TABLE OF CONTENTS

**4** Judicious way of using natural resources- Solar powered Hydroponics

**11** Experience sharing from members of the SELCO Family

Technology Interventions can help rural businesses build back better **6**

**13** DRE helped a person with challenges achieve his dream!

**8** Solar livelihood solutions can encourage women entrepreneurship

**14** A comprehensive DRE system can uplift the rural families from poverty

Essential services in rural areas can be made seamless through adoption of technology **10**



# EDITORIAL

With the second wave of the Covid-19 infection unfolding, India is facing a calamitous situation. Contrary to the projections of a V-shaped economic recovery, it has become evident that growth is halting and can be stalled. The core sector comprising eight segments marked its steepest contraction in six months. Manufacturing output had hit a seven-month low even before the second wave began. Now with restrictions being imposed due to the surge like night curfews, weekend lockdowns and restrictions on movement, economic activities are going to be further dampened. According to the Centre for Monitoring Indian Economy, a think tank, the unemployment rate grew from 6% in March to 8% in April. Studies show that more than 200 million Indians are expected to fall into poverty as a result of shutdowns and healthcare costs.

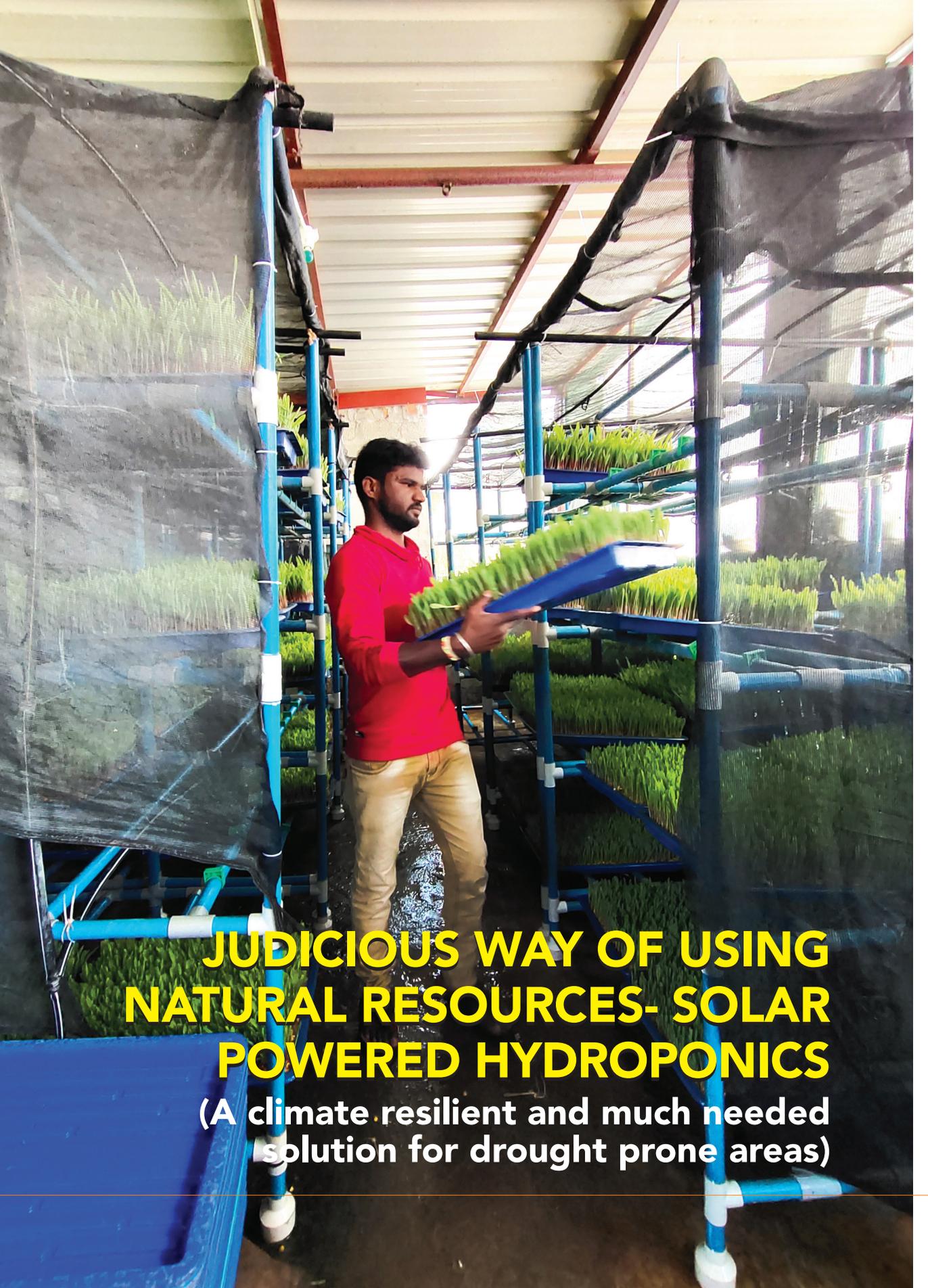
A protracted Covid wave is shrinking incomes and wiping out savings of people, posing the risk of a double whammy for Asia's third-largest economy. Economists warn depleting household savings and falling incomes will have an impact on domestic consumption, which accounts for almost 60% of GDP. As a result of all the turmoil that started last year, income inequality is deepening in India. A study by the Azim Premji University in Bangalore showed even more alarming numbers. About 230 million individuals slid below the national daily minimum wage threshold of 375 rupees during the pandemic. Though India could still emerge as one of the fastest growing economies in the world, it will also be one of the most unequal countries.

In the background of this colossal impact of the pandemic, policies of the future must entirely focus on supporting the poor and creating opportunities for income generating activities and mass employment. In India most of the economically backward are in the urban and low income households or in rural areas with agriculture as a primary occupation. New ideas and technological innovation should be focused on how to help the farmers increase their productivity while minimizing the cost over a longer period of time. For the urban slum dwellers, rehabilitation and access to basic facilities should be ensured to make them feel secure.

In this edition of Sunchalana, we continue to highlight SELCO's work and the inspiring stories that encourage entrepreneurship at the micro level. During such challenging times, when the society is grappling with depressing news items and hopelessness, these entrepreneurs are breath of fresh air.

We hope the readers enjoy this edition of Sunchalana!

**COMMUNICATIONS TEAM, SELCO**



# **JUDICIOUS WAY OF USING NATURAL RESOURCES- SOLAR POWERED HYDROPONICS**

**(A climate resilient and much needed  
solution for drought prone areas)**

India is home to more than 150 million dairy farmers and a cattle population of more than 302 million (across species). When faced with chronic climate risks such as drought and unpredictable rainfall, uncertainty grows among the farmers. Livestock is a critical safety net for small, marginal farmers. However, climate risks also affect livestock:

- **Forage and water:** limited access to fodder, reduced quality of forage, reduced access to water despite increasing need for it
- **Health and disease:** Poor metabolism, increased transmission of & susceptibility to disease

On the other hand, improper livestock production practices particularly feed production, manure management, land use change etc. can increase carbon dioxide, methane and nitrous oxide and contribute to climate change.

Prolonged seasons of drought and reduced water availability affects small farmer's access to green fodder for cattle feed. In the absence of open grazing in pastures, and inability to purchase expensive green fodder, the hydroponics fodder production unit can give individual small farmers in the drought-prone areas, the option of growing fodder at home using maize seeds, with minimal water inputs.

Hydroponics is a type of horticulture and a subset of hydroculture which involves growing plants (usually crops) without soil, by using mineral nutrient solutions in an aqueous solvent. Hydroponics fodder production units with timed sprinkler systems, powered by solar water pumping solutions for each individual farmer or for collectives can help address the need for green fodder in dry months, with higher nutrition and water content improving health, increasing dairy yield and therefore farmer income, while also contributing to key climate adaptation and mitigation needs:



- Reduced water requirements for same quantity of fodder production
- No land requirements
- No dependence on grid or erratic power supply to supply water
- Reduced emission intensity per liter of milk produced
- Improved cattle health and increased yield

Through our interventions using solar energy, the hydroponics unit contributes to overall sustainability of the production unit.

In partnership with Hydrogreens, SELCO installed a solar powered green fodder station for cattle feed. The plants are grown without soil and only water is sprayed for a set period of time to control the moisture in the room. Silent airflow humidifiers and exhaust fans are used when needed. An IOT (Internet of things) automation controls the pumps, humidifiers and exhaust fans, which operates based on the room temperature.



# TECHNOLOGY INTERVENTIONS CAN HELP RURAL BUSINESSES BUILD BACK BETTER

(An inspiring story of tailoring entrepreneur Udaya)

**U**daya stays in Ellimale Village of Sulya Taluk in Dakshina Kannada district. He runs a tailoring shop. He also conducts training sessions for women free of cost. Once they learn he employs them and currently there are around 7 women working in the unit, on a profit sharing basis. In 1997, he started the business in his house with two sewing machines. Few years later he constructed a shop adjacent to

his house, where he carried out training for school dropout girls as a community service without charging. As of now, he has trained 25 girls, of which 5-6 girls have started their own tailoring shops in the city. Before the pandemic he used to make a profit of INR 12,000/- per month and the women employed in the unit were paid up to INR 6000/- per month. Majority of the orders he receives are for stitching school uniforms. Due to the



ongoing pandemic, the business has slowed down to a large extent, since schools are closed and wedding orders are also limited, in the current scenario. As a good employer even in such situations he has supported his employees

SELCO witnessed several small and micro businesses are at loss as businesses slowed down due to the pandemic . To support such businesses, SELCO took a few steps to rebuild their businesses by providing basic infrastructure required. The sewing machine that Udaya used was manual. Hence the machines were solar powered to improve efficiency and reduce drudgery. The shop was old fashioned and required renovation. It also required storage spaces. The lockdown period had exhausted all of Udaya’s savings and so

there was a requirement of capital along with exploring new market linkages to boost the business. Seven of the sewing machines were retrofitted to solar powered motors with 3-5 hours of backup. SELCO also helped Udaya in designing the rate card of the services offered at his unit.

Udaya says “Using the manual sewing machine involved pedaling which strained the legs but now with the solar powered motors the activity seems a lot more easier. COVID-19 brought my shop to a standstill for a month. It affected my employees as well. As the lockdown lifted and through the months the business was picking up, we were working 3 days a week in the initial period, now have resumed working all days accommodating all my employees”



## **SOLAR LIVELIHOOD SOLUTIONS CAN ENCOURAGE WOMEN ENTREPRENEURSHIP**

**(Shilpa Chandrashekar leads the way)**

**S**hilpa Chandrashekar is a dairy farmer from Bettahalli village, Mandya district, Karnataka. A family of 4, Shilpa and her husband practice dairy farming as their primary occupation. They have 12 cows of which 8 are adult cows with

5 giving milk regularly and 3 more which will start within a month. The couple also own a 3 acre farm which is uncultivable as their borewell failed after multiple attempts to recharge water into it. They have dug a small pond which allows them to cultivate

**Shilpa and her husband practice dairy farming as their primary occupation. They have 12 cows of which 8 are adult cows with 5 giving milk regularly and 3 more which will start within a month. The couple also own a 3 acre farm which is uncultivable as their borewell failed after multiple attempts to recharge water into it.**

little fodder and some vegetables. Early this year, right before the installation of the milking machine in January 2020, Shilpa's husband suffered a serious bike accident severely injuring him in the head and his stomach. Since his accident, he has not been able to engage in dairy activities; and is unable to take up any alternative employment. He has to receive regular treatment in the district hospital which is 22 kms away from their village.

Shilpa is an active member of a Self Help Group formed by Shri Kshetra Dharmasthala Rural Development Programme, popularly known as SKDRDP a local micro finance institution that supports women. In January, 2020 a local enterprise along with the dairy secretary had conducted a meeting where they showed some videos of solar powered milking machines and its applications to local dairy farmers. She was very keen on adopting the solution as her husband could not help her in the dairy farm anymore, reducing her productivity and milking capacity. She saw this machine as an opportunity to revive her livelihood and sell to the nearest collection centre. SKDRDP informed SELCO of her poor credit history due to which she was unable to take loans from financing institutions. The Karnataka Milk Federation came forward to help her with some financial assistance through one

of their ongoing schemes. Support was also lent by SKDRDP & SELCO. Since the region also suffers erratic power supply issues, she adopted the lighting solution (2 light systems in her home and 1 light system in the shed) as they needed to start milking the cows by 5 AM before sunrise. Due to the milking machine, her husband is also able to help with milking the cows where it takes about 6 minutes to milk each cow, twice a day. If not for this machine, Shilpa would have had to hire a labour to support her with milking and other activities. With the milking machine, she has been able to manage by herself even on days that her husband cannot assist her. Although the repayment of her loan to SKDRDP has been put on hold due to the ongoing pandemic, she is able to pay the loan installments regularly.

Shilpa says "I was hesitant in adopting the milking machine initially because it felt like an expensive prospect. However, I would not have been able to practice my livelihood today without it. After my husband's accident I have to manage all the work myself and without the machine it would have been impossible. Due to the lockdown, KMF collection centres are only open in the morning and evening between 4.45-6.00. With such odd timings, my family cannot help and I cannot hire labour because of the lockdown. The intervention has been very helpful to us."



## ESSENTIAL SERVICES IN RURAL AREAS CAN BE MADE SEAMLESS THROUGH ADOPTION OF TECHNOLOGY

(Story of Rangayya and his solar powered photocopying machine)

**R**angayya from HD Pura, Holalkere Tq, in Chitradurga, Karnataka runs a small shop. And the income was not sufficient to run his family. His shop was just opposite to a bank and he thought of installing a photocopy machine since it would fetch him more money. Coming from a low income background he did not have enough money to buy one. In 2018 through his wife's SHG group he got to know about solar powered photocopy machines. Through a loan from a local finance institution, Rangayya bought the photocopying machine powered by solar energy. Rangayya has now printed over

80,000 pages providing a much needed service to the villagers living in the vicinity. He has also cleared his debt amount within a year. Now he is happy and has expanded his business by adding courier service. Now after 3 year while we enquired he had to say this "The machine has brought financial stability in my life. My shop is just opposite the bank which is an add on. I have a good customer base as I can take photocopy even when there is no electricity. I earn around INR 2000/- to INR 3000/- per week, now due to covid lockdown business is a little dull yet I earn around INR 1000/- per week."



# EXPERIENCE SHARING FROM MEMBERS OF THE SELCO FAMILY

## **GANESH P**

Suila Branch, Customer service representative

I joined SELCO 8 years back. I have been working in the Service and Installation field in Sullia taluk. Sulya is a hilly region and is very difficult to commute in during the rainy season. We have installed solar lighting systems for many unelectrified houses in this area. Apart from the solar lighting system

I have installed a lot of products like solar water heaters and solar based livelihood solutions. Usually we tend to get complaints only in the rainy season. But my first priority for service goes to the people who just rely on solar light for their homes. At times when I have paid service charges for some families since these are very poor people and they cannot afford the expenses. I know putting money from my own pocket would be a loss



for me, but the relationship I share with them is more valuable to me. I never treated this as my profession, it's just an integral part of my life. When I go for servicing, people usually treat me like their family and offer me lunch and tea and in case if I say no, they will feel bad. Most of the time people take my number and call me often for both service related and to share their personal issues. What makes me happier is whenever I go to attend complaints or service, customers insist that I must come again. This makes me feel proud and responsible that I have done justice to my work.

When I go to any of the functions, even their customers identify me and talk to me. This was all possible because of the good relationship that I share with them. A customer who has been in contact with me

for many years helps in getting new enquiry for solar systems. They have trust in me and the trust was not built in a day. Trust that was built through the services we provided over the years and customer centric philosophy of SELCO. This Trust is a great responsibility and we must maintain it by providing proper service at the proper time. No matter what the situation is, I never delay on providing service, I make sure I clear it on the same day only then I can be at peace.

I had installed a lighting system in the house of a financially poor family. I have been servicing it for many years. 5 years later, the warranty had expired and there were some technical issues in the system. When I went to check, I realised it was a battery related problem and just a few months back the warranty had expired. As they were very poor they did not have enough money to buy a new battery, but this solar lighting system was very important since they heavily relied on this. I could sense the anxiety and disappointment in the family. I promised to take care of this situation. Then I recharged the battery through my own expenses and installed it back on the same day. The happiness of that family knew no bounds. I did not do this because I have a stash of cash reserves, I know how difficult life would be without light. And I strongly believe in SELCO's principle - I sacrifice, We sustain.

A month ago, I visited one of the old customers' houses. They wanted to install an additional solar system under the condition that I must come & do the servicing. A week later, I called to get their feedback and they were happy about the system. Just installing a system is not important, what is more important is that we need to have a good rapport with the customers then in future, this will help us in getting enquiry for more systems.



## DRE HELPED A PERSON WITH CHALLENGES ACHIEVE HIS DREAM!

**D**inesh Shetty is from Koraditil Village, Koppa Taluk. He is specially abled and has a small kid. He used to get a lot of stitching orders from the villagers and from many places. Due to the erratic power supply in his village, he was not able to process the orders.

He came to know about the solar interventions presented by SELCO in one of the SHG meetings. He got a better picture about

solar powered sewing machines by seeing a video of a specially abled person like him working with ease. He got his solar powered sewing machine installed with the support of SELCO Foundation. Now his electricity bill has drastically reduced and he is able to process all the orders now as he can work even when there is no electricity. His wife also helps him in his work as they both are specially abled, As his income started growing he gained confidence.



**A COMPREHENSIVE DRE  
SYSTEM CAN UPLIFT  
THE RURAL FAMILIES  
FROM POVERTY**

**W**omen have reached higher echelons of success in society in spite of vulnerability. Access to education, resources, financial support, societal sigma etc., are important factors for success. A study conducted by Plan India on Gender vulnerability index mentions that the top 15 states of India score around 0.5 to 0.6 out of 1, which is very poor. This means vulnerability is also specific to gender. SELCO has been focussing on creating appropriate solutions to reduce the impact of these factors through DRE interventions. This case study identifies some of the factors and brings out how the DRE has helped Roopa, an entrepreneur who has gone through several hardships in life. She started an enterprise to address the pressing need of providing photocopying services which is very difficult to access in the village due to lack of transportation and the high opportunity cost of going to the nearby town for printing.

Roopa hails from the small village of Sadagaravalli in Haveri district of Karnataka. She had seen many setbacks including losing her husband. As a mother of 2 who had to take care of the children and elderly mother-in-law, the need for earning pushed her to start a new business. She used to work along with her husband on a small farm. After her husband's sudden demise she stopped working in the farm and then she decided to lease the farm for a meagre amount.

Since the income was not sufficient, she took the job of cooking food for the children as an Anganwadi Assistant, In addition to this she also took a step ahead by opening a petty shop selling groceries and stationery items.

Roopa is an active SHG group member of SKDRDP. She came to know about the solar interventions presented by SELCO in one of the SHG meetings. First she decided to get a

solar home lighting system installed because the village is next to the forest area and has erratic power supply. This was important for her children to study in a healthy and bright environment. It also provided a sense of security during the dark. The interaction with the SELCO staff when they came for servicing and the SHG meetings helped her to keep in touch. She came to know about various solar powered livelihood solutions in the SHG meetings.

Since there was no photocopying facility in that particular village, which houses 300 families, the villagers had to travel far. The village is not so well connected there is no proper public transportation to travel to a city and get the paperwork done. This motivated Roopa to think about photocopying as an additional source of income. She got her solar powered photocopier installed in her petty shop. During the day she goes to the Anganwadi and in the evening she runs the shop. In her absence her mother-in-law runs the shop. After installing a solar powered photocopier in the petty shop, she could earn Rs 150-180 per day.

This was further improved by installing TV in the petty shop through the support from SELCO. This has helped in having her neighbours come to watch news and other programs on the TV and in the process buy small grocery items from the petty shop. This has also made the shop a place for social gathering. This has increased the social standing of the family in the community which is important considering that the man in the family is no more and Roopa was rebuilding the entire family. Through her efforts she had inspired several others in the community to take up such initiatives.

This proves to be a replicable model and also highlights the fact that DRE can prove to be a source of inspiration to destitute women.

