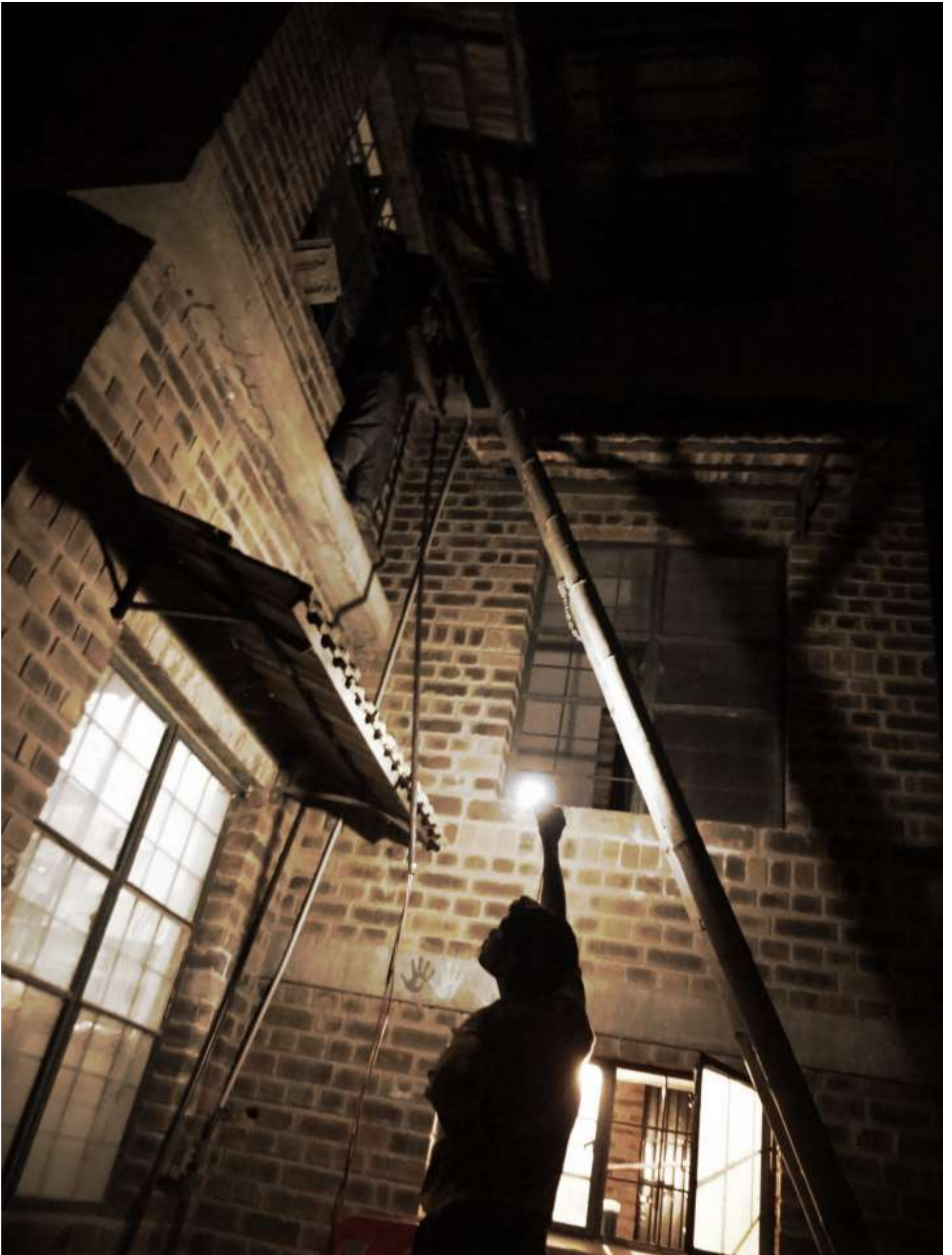




**SELCO FOUNDATION**  
**2012-2013**  
**ANNUAL REPORT**

[www.selcofoundation.org](http://www.selcofoundation.org)



Absa community meet and installation check up

Cover photo: solar panels on school rooftop



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**SELCO** Foundation has had an ambitious year of growth and expansion. It remains an organization committed to improving the clean energy ecosystem and expanding the energy and technology space to reach and cater to the needs of underserved communities.

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# Message from the Trustees

This last Financial Year (2012-13) has been a busy and fruitful year as we expanded our activities, added more staff, and reached out to many more people and communities. Some of the main highlights of FY 2012-13 are:

**SELCO** Foundation received permission under the prior-permission route to receive the funds under the Foreign Currency Regulation Act (FCRA), from the Ministry of Home Affairs, Government of India on May 17, 2012, and this enabled us to receive grant funds from the Lemelson Foundation.

The Foundation would like to acknowledge the tremendous continued support received from Menda Charitable Trust (MCT), Bangalore, towards the Light for Education program. Not only has MCT contributed significant funds, it has also mobilized more funds from many other like-minded organizations.

The **SELCO** Foundation was awarded a grant by the Renewable Energy and Energy Efficiency Partnership (REEEP) to establish a Women's energy co-operative in Bihar which will become the energy service provider in the local area. The co-operative will take up energy service in a businesslike fashion with a long term plan of providing energy services to thousands of households in Bihar. The United States Agency for International Development (USAID) also awarded a grant of around \$200,000 towards setting up an umbrella structure for expanding Selco Labs. We have applied to the Indian Ministry of Home Affairs (MHA) for prior permission to receive both these grants.

The Foundation launched several major programs this year, which are described in detail below.

## Product and service related programs:

- User-segment specific programs: LFE, Energy centers, Small Scale agricultural machinery, Urban Communities Labs
- Solar and other RE technologies for higher loads: Solar inverter system, Solar wind hybrid system
- Other products: Improved cook stoves, Driers, Hawker lighting product, Insect Trap, S Light

## Outreach and Inspirational activities:

- Internship programs
- Educational Supplemental Programs- Mechanical Design course; Shristi Lab, Nivasa course
- Rural training: entrepreneur incubation; ITI solar awareness program
- K-12 programmes: Student programme; Teacher training

## Policy and Documentation

- Policy initiatives
- Knowledge management: State of the market reports; Process Documentation

Additionally, the Foundation presents a concrete assessment of its operations and goals, as described through its score card



## Scorecard

<i>Program</i>	<i>Metrics</i>	<i>Outcomes</i>
<b><i>Product Innovation</i></b>	<ul style="list-style-type: none"> <li>• Technical products worked on</li> <li>• Products taken to market</li> <li>• Business innovations introduced</li> </ul>	18 4 3
<b><i>Technical Testing and Evaluation</i></b>	<ul style="list-style-type: none"> <li>• State of Market reports</li> <li>• Corporate relationships</li> </ul>	2 6
<b><i>Community Organizations</i></b>	<ul style="list-style-type: none"> <li>• Organizations worked with</li> <li>• Products introduced</li> </ul>	14 5
<b><i>University and student relationship</i></b>	<ul style="list-style-type: none"> <li>• Capacity Building with students</li> <li>• Interns with SELCO Labs</li> </ul>	2000 30
<b><i>Rural training Institutes</i></b>	<ul style="list-style-type: none"> <li>• Rural technicians; village level workers</li> </ul>	695
<b><i>Entrepreneur Incubation</i></b>	<ul style="list-style-type: none"> <li>• Small and mid-sized</li> </ul>	5
<b><i>Policy</i></b>	<ul style="list-style-type: none"> <li>• Number of policies impacted</li> </ul>	3
<b><i>Process Documents</i></b>	<ul style="list-style-type: none"> <li>• Reports</li> </ul>	4
<b><i>End users impacted</i></b>	<ul style="list-style-type: none"> <li>• Direct impact</li> <li>• Through partners</li> <li>• Through entrepreneurs</li> </ul>	8000 4000 1500



## Product and service related programs

### Light for education

The Light for Education (LFE) program has expanded both given the needs of schoolchildren and the generous support of our partners. The program has gone from 4 schools in Financial Year (FY) 2011-12 to about 175 schools and 8700 children served by the end of this year.

A detailed impact survey was also conducted which we plan to continue on an annual basis using college students. This provides the benefit of a close look at the program operations and impact, while also allowing for a deeply educational experience for students conducting the survey, some of whom are visiting deprived communities for the first time in their lives. The survey indicates an 87% increase in student attendance, a 97% improvement in homework completion and a 95% improvement in awareness about renewable energy. 51% of the users said they shared the light with a sibling or neighbor.



1. SCHOOL GIRLS LISTEN TO A LIGHT FOR EDUCATION PRESENTATION

The program operations of LFE have largely been handed over to **SELCO Solar** now, marking a transition of the program given its scale of deployment.

### KEY LEARNINGS

- **School-centric program:** There is a clear benefit in associating the program with the school (as opposed to giving individual lamps to students). Every stakeholder (student, teachers, parents, village elders) then sees the program in a larger context, as a community initiative rather than a one-off donor effort.
- **Dealing with maintenance concerns:** Since the lamp is not owned by the students, the handling is a lot rougher. This means 2 things: a) the training and awareness creation among the users has to be a lot more rigorous b) the school has to be roped in to be a part of the maintenance process – by acting as the enforcer of maintenance rules. In this regard, we have introduced some documents to be signed off by the schools, which indicate their consent to be part of the awareness and maintenance process.
- **Technical issues (connectors):** The product is as strong as its weakest link. In this case, the lamp connectors have to be made more robust. We have moved away from the RCA jack used in Year-1, to the barrel DC jack, which seems to be much more durable. Towards the end of 2012, the product manufacturer was changed, to ensure smoother supply and better product reliability.
- **Difference in service structure:** The service effort for this model is much higher than for the regular home lighting systems, and the approach has to be re-tuned for LFE. The common failure points (connectors, wires, battery cases) need to be anticipated and spares kept in stock. There has to be a quick turnaround of spare parts when issues are reported.
- **Dealing with collection of maintenance fee:** Our efforts to collect an annual maintenance fee from every student have not always been very successful. This is an area where we need to figure out alternative strategies.



## Integrated Energy Centers



2. IEC IN THUBRAHALLI

Integrated Energy Centers (IEC) are solar powered community centers that can host a range of basic services and activities that are lacking in any under-served community. The centers aim at positively impacting quality of life and livelihoods by addressing fundamental energy needs and services relying on energy. The services, activities and structure of an IEC are generally designed depending on the need in a particular community. Each IEC is custom designed to best suit local environments and situations such that every aspect of it can be sustainable. Income generated by the IEC through the various services is used to recover all costs including running, maintenance and capital costs of the centers. The centers are typically run by partners, operators, groups or entrepreneurs from the community itself.

The main goal of this program was to run a pilot (8-10 centres) through which the following variables could be tested: types of services and activities; locations where the centre fit best; forms, business models and structures that can work around the centre; processes to establish and sustain a centre. Based on the results from this pilot, an appropriate business model for the IEC scale up will be prepared.

Currently we have over 8 centers up and running and over 5 in the pipeline- through which:

- 7 activities have been implemented
  - 6 partnerships with organizations working in communities have been formed among many that were initiated
  - Multiple processes emerged from our learnings on establishing, running and sustaining IEC, as well as introducing a new service

IECs were mainly located in urban/ semi-urban areas during this phase to make monitoring and evaluation smoother. However through the roll out of initial energy services, various other problems of the poor have been captured and projects have been undertaken which have formed the basis of an Urban Community Lab.

### KEY LEARNINGS

The key leanings have been on the lines of Community Engagement, Identifying and Incubating Entrepreneurs and Technology (which have evolved along with the project).





## Small scale agricultural machines

There is currently a huge labour shortage in rural India which is causing hardship for small-scale farmers. This program looks to identify and develop machinery which will be beneficial to help reduce the labour requirement and then make these products available and accessible to farmers. Its initial phase is targeted at paddy production, as this is one of the most adversely affected activities within farming.

There are three processes which are currently being addressed: transplanting, threshing and dehusking. Several prototypes of the thresher have developed and tested with farmers. Two prototypes of the dehusker have also been constructed and undergone extensive in-lab tests. For the transplanting process, a Chinese, manual transplanter has been identified as having potential for farmers in this region. Two of these have been acquired and extensively tested. Following these, there have been discussions with two other organizations working with farmers on how we can make these more widely available to the farming community.



3. TRANSPLANTER MACHINE

In order to capture our experiences from our machinery testing for the benefit of other organizations engaging in similar activities, a document on machinery testing with small-scale farmers has been created.

### KEY LEARNINGS

- **Dependence on agricultural seasons:** Progress has generally been slow with all of these projects as efforts have to be coordinated with agricultural seasons
- **Limited human resources:** There are challenges of extending the work given our limited deployed human resources. We have applied for further funding for these projects, as we believe that they require a large, dedicated team in order to yield significant progress. Work will continue on this in a limited fashion, with the program progressing slowly, until further funding is secured.



4. THRESHER TESTING BY USERS



## Urban Communities Lab

During this past grant period, the **SELCO** Foundation replicated (in collaboration with S3IDF and SEWA) some of the activities from Innovation Center for Poor (ICP) in Ahmedabad in addition to a few new programs, under the umbrella of a new Urban Communities Lab (UCL).

Need assessments and small pilots were carried out in the areas of Energy, Infrastructure and Water, while working with a number of other community organizations. The outcome of this exercise has been a three year plan. A logical next step at this stage would be to continue most of the activities started through the lab and raise funding for future activities.

### Hybrid solar inverter- Research project

Rural energy needs extend beyond lighting, particularly those linked to people's livelihoods. Unless these needs are met, people are unable to carry out their trades or start new businesses in their villages. Inverters are devices that help to

power machines that run on alternating current (A.C). Solar inverters can help run non-lighting loads, and solar hybrid inverters ensure that grid power (to the extent that it is available) is combined with solar power to provide an optimized solution to the end user.



5. TUBRAHALLI SLUM

**SELCO** Labs has taken up solar hybrid inverters as a research topic. The goal was to:

- prepare a specification for the ideal product
- contact existing vendors to understand the state of the market
- choose a product which is closest to the ideal, and negotiate terms with the vendor
- influence the vendor to incorporate other changes that our market needs
- prepare system design tools according to the features of the product
- test and characterize this and other inverters, so that the end customer can make an informed choice about the product

The Labs has identified a local vendor, PowerOne, as the approved supplier. Inverter designs have been created for applications like rural institutions (lighting, TV, computers), banks, petrol pumps, etc. Almost 50 installations have happened in the last 6 months. A test and characterization bed has been designed and commissioned at our Lab location in Bangalore.

### Hybrid small wind-solar systems

We are leading a project, in partnership with **SELCO** Solar, to investigate how wind turbines can be integrated into their current activities and ultimately become part of their product list. This would enable hybrid small-wind solar systems to reach the market where it is feasible.



We have met with several potential wind turbine partners to determine which one would be most suitable. We have installed a trial solar-wind hybrid system and will be logging its performance to understand more.

Once we have learnt enough about wind turbines, we will help **SELCO Solar Light** to build the capacity to sell, install and maintain these systems independently from us.

## Driers

Over the course of the last year, the focus on driers has shifted from small (5 kg) driers to larger scale (> 100 kg) ones, mainly to cater to more commercial uses of a drier. Our first such project involved fabricating a 100 kg fish solar-hybrid drier funded by the state fisheries development corporation (KFDC), in partnership with Bayer whose material we have used. Initial tests have confirmed that the drier suits their purpose, and the next steps involve trying to install multiple such units at other sites through KFDC. We have also sold and installed a 300 kg solar chilly drier in Bangalore, besides working on inquiries for drying bricks, coffee, medical equipment and agricultural produce.



6. HYBRID DRIER

Through this program, we have commercially sold 2 driers, worked with Bayer and KFDC on the fish drier, and have worked with 3 independent, small-scale entrepreneurs for fabricating our driers, who are now capable of reproducing the same.

### KEY LEARNINGS

- **Dependence on market linkage:** We have observed that it is very difficult to promote driers for products where the market linkage for the dried produce is weak, like for dried tropical fruits that we attempted before. Our focus will, thus, be products that are dried anyway, wherein a drier brings about a significant improvement in quality and reduces the time taken for the process.
- **Too early to push for numbers:** At this point it is not really feasible to be aggressive on driers; however, we are equipped to undertake orders on a case-by-case basis, which we keep getting through SELCO's extensive network.

## Cook stoves

Some of the main improved biomass cook stoves were analysed on certain aspects including user segmentation, testing, piloting and monitoring. Based on this, possible business models for these cook stoves were developed. Independently, an analysis of past experiences and failures in terms of financing innovation, operation and business aspects of stoves was undertaken. This included a survey of the impact of stoves sold by SELCO-India two years ago that was undertaken.



The project involved Innovative user research techniques, User segmentation (by understanding cooking, perception and behaviors), piloting of business models and sales, and close monitoring and evaluation. Through demonstration activities, 40 stoves were sold/disseminated in urban slums and their usage analysed.

#### KEY LEARNINGS

- **Portable stoves not ideal for rural scenarios:** The need assessment in rural areas will lead to very different stove specifications as compared to any single burner portable stove). Since space is not an issue, masonry/cement and mud based efficient stoves (with 2 and 3 pots and proper chimneys) such as TIDE, Astra, Sargur are more efficient in many ways and widely accepted. Only these have the potential to completely replace traditional stoves.
- **Sale does not ensure usage; Need for monitoring:** Metallic efficient stoves do not solve any problems and merely selling the stove does not encourage adoption by the user. Formats must be developed for baselines and monitoring and evaluation is integral to understanding impact of improved cook stoves.



7. COOK STOVE TESTING

#### Hawker lighting product

The project sought to revive the Hawker model undertaken by **SELCO** about 4-5 years ago using a new portable battery pack with LED lighting. The plan was to organize Pilot projects through which the functioning of the technology could be understood. The models through which dissemination could occur included Cash sales (one time or through installments) for individual vendors, Loan or grant supported project for Entrepreneurs or Operators who can charge batteries on a daily basis and distribute. As of today, there are 5 sites in which the systems are being tested- albeit in very small numbers- 1. 7 systems through individual installment based sales in Chitradurga, Dharwad, Bangalore and Bellary. 2. Entrepreneur center in demonstration phase through Community partner. 3. Operator based center in Chitradurga. The next 3-4 months will focus on converting demonstration projects into full-fledged Operator or Entrepreneur models.

#### KEY LEARNINGS

- **New products flooding the market:** Today, inverter charged batteries with CFL lights have flooded the market- although they do not have any warranty or maintenance facilities, they are relatively inexpensive and the one-time cost is low. The system is preferred by customers, particularly where grid is accessible.
- **Partner support to finalizing customer segments and entrepreneurs:** Ideal customer segment is one that is using LPG for lighting, where the economics are highly in favour of our system. Competition with CFL and inverter products is only worth the effort if ground partners can support. These partners are also helpful in identifying operators.
- **Funding source:** Involvement of bank before proving the technical strengths and functionality of the product (through 6 months of comprehensive field testing) is a risky proposition. During testing, it is better to use a model where the capital expenditure (CAPEX) is initially covered through soft funding and recovered from the Operator through monthly instalments (without interest) along with maintenance fee.



## Insect Trap

Currently 4 prototypes are being worked on in partnership with Krishi Vigyan Kendra (an organization that disseminates relevant information to farmers). The partner will facilitate contact with the community and undertake field testing. This is another project being undertaken to test, determine feasibility and acceptance for such a product. These prototypes will be an outcome of research, market surveys and user feedback received on the first set of prototypes. We are also designing a Test methodology along with the Prototypes to be used by the partner during field tests.



8. INSECT TRAP PROTOTYPE



9. S.LIGHT MODEL

## S- Light

Small Portable light was designed specifically for the Light For Education program, where there was a felt need for a versatile portable light that could also be used for study. The S-light was an outcome of user scenarios, feedback and testing. A design patent for the S-light has been obtained and the manufacturing possibilities are now being looked into.

Currently three prototypes are going out to various **SELCO** branches with a feedback form to determine how the project should be scaled up.



## Outreach and Inspirational activities

### Internship program

The **SELCO** Labs internship program, in its fourth year of operation continues to attract passionate and motivated interns from various disciplines around the world. This year, through the conventional internship program we saw more than 30 interns between the Ujire and Bangalore locations. They have come with a diverse set of skills ranging from engineering to product design and social entrepreneurship to business administration and policy.

#### KEY LEARNINGS

- **Importance of well-defined projects:** Internships are most fruitful for the organization and the intern when tasks and deliverables are fairly well defined early on. Intern management requires time and effort in ensuring that the final deliverable is of value to the organization in the medium and long term.
- **Excellent source for recruitment:** The programme has been an excellent source for recruitment for the Labs. Interns are able understand the requirements of the organization and are in a position to determine whether or not this is an area of passion for them. Likewise, it allows the Labs to take note of the intern's skill-sets and decide on whether these are relevant in the context of our work.
- **Exposure to realities and changing mindsets:** In its least impactful form, the programme has been a good means of exposing students to ground level realities in the area of energy access and getting them to engage with the concept of socially relevant work- ideally, this experience does have an impact on the mindset of the intern independent of the career path chosen.

### Educational supplemental programs

#### Design Course:

The engineering education system in most universities in India does not allow for much creativity and does not encourage students to apply what they learn to the real world. We believe this is one of the main reasons there is so little innovation or entrepreneurship coming from these students. We designed and taught a 5 week design course for mechanical engineering students, which takes the students through the design process from problem identification to getting their product mass produced. The initial trial of the course was conducted for 30 students, with 12 of them completing everything and graduating the course. The program was generally a success, with very positive feedback from students and faculty and with one of the groups placing second in a state level design competition with their project.

#### KEY LEARNINGS

**Dependence on college faculty:** Although the course material can be taught by anyone with sufficient knowledge of this topic, due to the highly interactive nature of the course, its success is largely dependent on the quality of the teacher and so it is not easily scalable and we are not currently looking to continue with this program.



### Srishti and Nivasa courses

In addition to the above, two courses of 1-3 month periods were undertaken by the Labs- One with a design college and another with student interns in a local NGO- Nivasa.

For Srishti School of Art Design and Technology- Urban poverty issues became the theme for a Lab course in the college itself. This was run as a part of their curriculum and is an optional graded course which contributes to the GPA of students. We have also initiated and supported a student initiative called **CORD Labs** which gives students an opportunity to work on real design/ architecture projects in the social sector. As a part of **CORD Labs** students have worked with us on building two energy centers in slums. Through the Lab course, 3 student groups have worked on three specific projects- 1. Infrastructure in migrant tent homes (worked on solutions for ventilation, smoke extraction and natural lighting); 2. Water in the urban poor scenario (worked on solutions related to access, transport, storage and small scale water businesses); 3. Mapping and Profiling Urban Poor (work on ways to track and document our urban projects).

For Nivasa, a group of students working specifically on energy access and clean cooking issues were mentored by the lab for a two month period. This project was directed towards finding and implementing solutions for a village in Anekal where the community organization already had a presence. Through this course, appropriate solutions for clean cooking have been implemented in the village.

The plan is to continue offering these courses officially through the respective colleges/organizations. These courses have given us a direction for future Labs projects and initiatives.

### SEFA challenge

The Sustainable Energy Challenge was launched as a platform for college students to provide ideas that would impact the rural or urban poor under the umbrella of renewable energy and sustainability. Conducted across colleges in Bangalore and Ujire, the challenge offered the opportunity for the top 10 teams to implement their idea through the **SELCO Labs**. It consisted of a series of workshops, mentorship sessions and the actual Competition- each level of engagement being deeper than the previous. Out of the 42 Student teams that participated, 22 were shortlisted and 10 were chosen as Finalists.



10. SEFA TEAMS LISTEN TO PEER PRESENTATION



The Winning Concepts were awarded in three different categories- Innovative, feasible and holistic. The winning ideas included low cost method of water distillation using solar energy, production of domestic fuel using urban waste and electricity generation from drainage water-flow to be used in the nearby slum households.

The plan for next year's challenge would ideally be to expand the target segment and include rural colleges and increase the efficiency of the processes involved. A similar challenge with more hands-on focus through a few Industrial Training Institutes (ITIs) in the state is also a possibility.

#### KEY LEARNINGS

- **In-depth mentorship sessions** that include exposure to field realities, assessment of other aspects of the ecosystem etc do bring about some change in the way students perceive problems- helping them beyond the latest technology intervention.
- **Mobilizing students to participate** in initiatives that require time outside of regular academic curriculum is challenging and requires constant follow up and encouragement
- **Mobilizing students to go beyond the level of ideation** and take on the task of actually implementing a project is perhaps the most challenging aspect of Outreach. Despite considerable follow up, the academic schedule tends to always catch up with students and becomes an obstacle to engage at a practical level.

### Rural entrepreneurship training



11. HANDS-ON TECHNICAL SESSION ON SOLAR ENERGY

**Entrepreneurship development:** SELCO Foundation aims to widely replicate successful enterprise models that provide sustainable energy services to the underserved. This will be done by identifying and developing passionate entrepreneurs who want to set up enterprises that have a primarily low-income clientele as well as nurturing existing like-minded enterprises that want to expand into energy services. A 10 day training session for 30 beneficiaries was conducted in conjunction with the Rural Development and Self Employment Training Institute (RUDSETI). Out of those trainees, many were energy entrepreneurs and some were general entrepreneurs.

**ITI solar awareness programs:** We were approached by GIZ to collaborate with their program to upgrade Industrial Technical Institutes (ITI). On a trial basis, in

collaboration with SELCO India, we conducted 8 one day sessions which consisted of interactive sessions around green energy, entrepreneurial opportunities in green energy, and technical sessions around solar energy technology. The response was overwhelming, and there is a request to expand this program as well as undertake longer duration courses that will go a long way to bridging the skills gap in this sector. We are further looking to expand this collaboration in the coming year.





## K-12 programs

**Student programme:** On an experimental basis, we decided to explore the areas of experiential learning and invention encouragement in the K-12 space. The program involved interacting with students of a government rural school on a regular basis (one hour session once in a week). Different types of activities were conducted with the students including Origami, Science experiments; Group activities on the village development, activity based learning, field visits, and a waste segregation project implementation at the school.

The impact assessment shows that this programme helped students identify issues in their village and also helped develop the confidence to solve them. The students have also gained practical, real-time information on renewable energy. This programme has increased their awareness on renewable energy and also developed their curiosity towards science, inspiring students to work 'hands-on'.

Partnerships with Education based NGOs would be a possible way ahead, considering the resources that need to go into a programme that has to be effective and scalable.

**Teacher training:** A one –day teacher training programme was organized for the teachers of rural government schools in Belthangady Taluk. The training programme was aimed at showing how renewable energy in the curriculum can be taught to students. This workshop exposed the disadvantages of didactic learning and introduced the concept of experiential learning to the teachers. The training helped the teachers brainstorm on what enhancements they will make in their existing way of teaching to teach renewable energy more effectively to students. It also brought up issues on what resources will be required, the barriers using such resources and how they can be overcome.

### KEY LEARNING

**Dependence on facilitator; Need for more resources:** This kind of educational intervention is heavily dependent on the facilitator (their passion, training and understanding of students' mindset). Hence they are not scalable with the existing team. Moreover there are many organizations that are already working with students using innovative, non- conventional teaching methodologies. Though the impact is direct and evident, the amounts of resources that will take to make it sustainable, scalable and effective are very high.



12. CHILDREN HOLD MATERIALS FOR STUDENT PROGRAM

## Talks and exhibitions

**SELCO** Foundation staff have given numerous talks at various for a throughout the year. We have also participated in many exhibitions attended by people from underserved communities such as farmer's fairs, temple fairs and so on.



## Policy and Documentation

### Policy

Over the course of the year, the policy team of SELCO Foundation has begun to carve out its core area of work-interventions in the areas of off-grid renewable energy, energy financing and social enterprise concerns. The emphasis is on bringing the practitioner's perspective to policy issues and representing the ground level realities to decision makers.

Specifically, the main issues worked on included:

1. National Solar Mission -off grid component (national level issue);
2. Abolition of Value added Tax on solar devices (State level issue);
3. Social Enterprise rating tool (social enterprise concern).

In addition, the team is supporting other projects in understanding policy issues that affect implementation-such as subsidies, bank loans, other programmes to capitalize on etc. The plan for the coming year is to get more involved in the consumer financing aspect of renewable energy at the rural level and look beyond the MNRE to other development-oriented ministries as a target audience for off-grid renewable energy interventions.

### KEY LEARNINGS

- **Customize channel and format for presenting information depending on issue:** It is best that based on the needs of the issue, audience etc. the channel for lobbying as well as the format for information presentation is decided (Briefs, videos, short note, letter etc.)
- **Focus on Field based experiences:** On any policy, the missing link today is the lack of knowledge or interest in the implementation side of things. Translation of these field insights into policy could make implementation more effective. Small scale piloting of some recommendations through partners is also useful in acting as a proof of concept.
- **Drawing some generic and other specific conclusions from research:** The most effective process for working on large programmatic areas has been in-depth research on the conditions in one area with basic and broad understanding of the conditions in other areas. Consequently, the learnings and recommendations can be presented in the form of both generic and specific insights (in terms of geographical or thematic areas).

### Knowledge management and Documentation

**State of the market reports:** Although initially meant as a means of documenting technical testing and evaluation alone, this category has evolved to include documentation and dissemination of our research on different product-service-systems. These are based on field experiences and expertise of those who have worked in the field. Here, the documents put together include an understanding of the 'current state of biogas', and 'viability of cook stoves'.



**Process documentation:** With specific reference to process documentation, briefs have been put together on four different issues:

1. Problem capture and Assessment on **SELCO** Foundation projects
2. Light for Education (LFE): The process of scaling up
3. Agricultural machinery testing
4. Analysis of Non-Performing Assets (NPA) from solar loans.

#### KEY LEARNINGS

- **Lack of trail of older Foundation projects:** Some of the older projects of the Foundation lack a clear documentation trail and most of the information on the process followed had to be extracted through conversations with Project leads. This is problem has been addressed in more recent projects with clear documentation trails that make the process easily understandable.
- **Projects have had processes- more unconsciously** – As the Foundation’s teams and organizational capacity grows, project structuring has become more noticeable and underlying processes have been replicated in different projects
- **Need for new forms of documenting processes:** A process document can be a dry document since it may not be able to capture too many aspects through visual images and may rely heavily on written communication. New methods of process documentation must be utilized; including videos, story boards, etc. to make the reading easier and suitable for a wider audience.



## Major Donors (2012-13)

The following list recognizes SELCO Foundation's major donors, who contributed more than Rs. 50,000 from India.

<b>Name of Entity</b>	<b>Amount Contributed (Rs)</b>
<i>Menda Charitable Trust</i>	10,875,000
<i>JSW Steel Ltd</i>	1500000
<i>Bangalore Indiranagar Rotary Trust</i>	1200000
<i>Rotary Club of Bangalore -Charitable</i>	858000
<i>Saligram Nanjappa Rajesh</i>	200000
<i>Technology Alumni Association</i>	200000
<i>Sindhi Federation of South India</i>	150000
<i>Rotary Bangalore South West</i>	112500
<i>Syniverse Technologies Services</i>	100000
<i>Swasthi Charitable Trust</i>	94500
<i>Children's Movement for Civic</i>	68180
<i>Sungard Technology Services</i>	50000

## Major Partners

### Funding Partners

Lemelson Foundation  
Menda Charitable Trust

### Community Partners

SKDRDP  
GMRVF  
Parinaam  
SEWA  
S3IDF



## Audit Report and Financials of SELCO Foundation (2012-13)



M/s Ramesh Ashwin & Karanth

CHARTERED ACCOUNTANTS

Premier Presidency  
# 35/17, 1<sup>st</sup> Floor  
Langford Road  
Opp. St. Joseph College  
Bangalore - 560 025  
Phone: 080 41464630

15<sup>th</sup> May 2013

### INDEPENDENT AUDITOR'S REPORT

#### To the Trustees of Selco Foundation

We have audited the accompanying consolidated financial statements of Selco Foundation (Trust), which comprise the Balance Sheet as at March 31, 2013, and the Statement of Income and Expenditure and the Cash Flow Statement for the year then ended, and a summary of significant accounting policies and other explanatory information.

#### *Management's Responsibility for the Consolidated Financial Statements*

Management is responsible for the preparation of these consolidated financial statements that give a true and fair view of the consolidated financial position, consolidated financial performance and consolidated cash flows of the Trust in accordance with accounting principles generally accepted in India. This responsibility includes the design, implementation and maintenance of internal control relevant to the preparation and presentation of the consolidated financial statements that give a true and fair view and are free from material misstatement, whether due to fraud or error.

#### *Auditor's Responsibility*

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with the Standards on Auditing issued by the Institute of Chartered Accountants of India. Those Standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Company's preparation and presentation of the consolidated financial statements that give a true and fair view in order to design audit procedures that are appropriate in the circumstances. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of



the accounting estimates made by management, as well as evaluating the overall presentation of the financial statements

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

*Opinion*

In our opinion and to the best of our information and according to the explanations given to us, the consolidated financial statements give a true and fair view in conformity with the accounting principles generally accepted in India:

- (a) In the case of the Balance Sheet, of the state of affairs of the Trust as at March 31, 2013;
- (b) In the case of the Income & Expenditure Account, of the Surplus for the year ended on that date; and
- (c) In the case of the Receipts and Payments account, of the cash flows for the year ended on that date.

For Ramesh Ashwin & Karanth  
Chartered Accountants  
F.R No. 0106805

  
Prashanth Karanth  
Partner  
M No. 214235





**SELCO Foundation**  
**# 31, "Hongirana", Bikasipura, Bangalore 560078**

**BALANCE SHEET AS AT 31st March , 2013**

		Current Year	Previous Year
PARTICULARS	Schedule	31/3/2013	31/3/2012
<b><u>FUNDS AND LIABILITIES</u></b>			
<b>Trust Funds or Corpus</b>			
Contribution received during the year		-	-
<b>Secured Loans</b>		-	-
<b>Income and Exp. Account</b>			
Surplus carried from Income & Exp. A/c		4,197,795.68	605,632.16
<b>Total Liabilities</b>		<b>4,197,795.68</b>	<b>605,632.16</b>
<b><u>PROPERTY &amp; ASSETS</u></b>			
<b>Fixed Assets</b>	5	<b>306,602.50</b>	<b>33,000.00</b>
<b>Investments</b>		-	-
<b>Current Assets, Loans &amp; Advances</b>			
Cash and Bank Balance	2	4,048,495.34	461,116.66
Current Assets	3	522,911.84	416,479.97
<b>Less Current Liabilities &amp; Provisions</b>	1		
Outstanding Expenses	a)	680,214.00	304,964.47
Provisions	b)	-	
<b>Net Current Assets</b>		<b>3,891,193.18</b>	<b>572,632.16</b>
<b>Total Assets</b>		<b>4,197,795.68</b>	<b>605,632.16</b>

For SELCO FOUNDATION

Trustee

Trustee

Place : Bangalore  
Date : 15/05/2013

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As per Our report of even date  
For Ramesh Ashwin & Karanth  
Chartered Accountants,

Prashanth Karanth  
Partner  
M No. 214235  
F.R No. 010680S



**SELCO Foundation**  
**# 31, "Hongirana", Bikasipura, Bangalore 560078**

**INCOME & EXPENDITURE ACCOUNT FOR THE YEAR ENDED 31st March 2013**

PARTICULARS	Schedule	Current Year	Previous Year
		31/3/2013	31/3/2012
<b>INCOME</b>			
Donations - Foreign		9,131,200.00	-
Donations - Local		14,745,695.00	3,319,100.00
Service Income		21,529.00	2,010,000.00
Interest received		395,793.55	71,865.39
Other Income		23,331.50	
<b>Total Income</b>		<b>24,317,549.05</b>	<b>5,400,965.39</b>
<b>EXPENDITURE</b>			
Project Cost		18,569,523.00	2,547,171.00
Research & Development Costs		673,731.50	138,286.00
<b>Administration Costs</b>	4	1,351,961.03	2,066,371.47
<b>Depreciation</b>	5	130,170.00	49,500.00
<b>Total Expenditure</b>		<b>20,725,385.53</b>	<b>4,801,328.47</b>
Surplus		3,592,163.52	599,636.92
Provision for Taxation		-	-
Surplus (Carried to Balance Sheet)		3,592,163.52	599,636.92
Significant Accounting Policies & Notes to Accounts	6		

For SELCO FOUNDATION

Trustee

Trustee

Place : Bangalore

Date : 15/05/2013

As per Our report of even date

For Ramesh Ashwin & Karanth

Chartered Accountants,

Prashanth Karanth

Partner

M No. 214235

F.R No. 010680S





## Organization

### Advisory Board

B.R. Prabhakara  
Chief Executive,  
Gokula Education Foundation

K. Jairaj  
Additional Chief Secretary (Retd.)  
Government of Karnataka

Harish Hande  
Managing Director,  
**SELCO**-India

Patrick Maloney  
Principal,  
Occam Advisors.

Thomas Pullenkay  
Former Vice President  
**SELCO** Solar Light Pvt.

Adriana Halloran  
Founding Member  
Halloran Philanthropies

Alexander Nicholas  
Program Officer,  
Lemelson Foundation

### Team

Anand Narayan  
Program Manager

Ananth Aravamudan  
Associate Director

Sandeep Adyanthaya  
Field Coordinator

Huda Jaffer  
Lead Designer

Surabhi Rajagopal  
Principal Analyst

Sam Cocks  
Principal Mechanical Engineer

Santosh Shetty  
Technical Executive

Deepti R Bhat  
Community Solutions Engineer

Gayathri N.  
Assistant Manager, Finance

### Interns

Varun Aiyappa  
Kelly Chen  
Vachaspathy K V  
Komal Kooduvalli  
Preetham Gowda  
Nithin Kumar  
Sarnesh Kalundia  
Raghunandan  
Sushma  
Pierre Manus

Shruti  
Sreedevi  
Chinmayee L M  
Tenzig N Topchen  
Sahil Pratap Yadav  
Rohit Shrivastava  
Vishal Vijay  
Sebastian Burn  
Meera Kanhere  
Anantha Murthy

Vinay Sankiyan  
Vivek Shivade  
Emilia Smeds  
Denise Wilson  
Frithjof Wodarg  
Sameer Desai  
Vidyut Mohan  
Graeme English  
Jonathan Brown  
Siddharth Venkatesan



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