

6th Solar Cooking World Conference, Muni Seva Ashram in Goraj, Gujarat, India

How Solar Connect Association sustains the solar cooking business

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Summary

Purpose of this presentation: Show how we sustain the solar cooker business.

Results: 280 solar cookers, 110 hay baskets and 260 rocket stoves sold monthly on average. Business is self sustaining.

Actions implemented

- We practice what we preach.
- We make profits.
- We have several distribution partners.
- We have a Renewable Energy Centre in Mbarara.
- Selection of local marketers/instructors.
- Our staff are full time employees.
- We have team work (believe in solar cookers from head, heart and soul).
- Evaluated by external consultants.
- Marketing activities (group cooking, home visits, weekly markets, Awareness campaigns).
- Product improvement (Integrated Solar Cooking).
- Revolving Fund.
- Have good working relationship and stay in touch with international stakeholders.

Future plans. Expand solar cooking activities to the rest of Uganda.

Challenges. Rigid mindset and cooking behavior many people. Awareness campaigns require more funding

How to improve collectively household access to solar cookers. Solar Cooker promoters need to come nearer each other using the internet

The purpose of this presentation at the 6th World Conference on Solar Cooking is:-

- to show how Solar Connect Association(SCA) manages to run a solar cooker social business profitably,
- to share our 22 year experience and challenges on solar cookers,
- look for willing partners that can share with us their know-how on institutional solar cooking and industrial solar drying,
- learn from others what we can do collectively to accelerate the progress of solar cooker use to contribute to the UN Sustainable Development Goals (SDG) especially extreme poverty, health and gender balance.

Renewable energy for cooking is an innovation that is slowly changing the world for good and becoming a modern tool of choice for women. To sustain the social business, we incorporate a good margin on sales to

cover operating and overhead expenses and remain with a profit. One of the things we stopped doing is donating solar cookers. We persist and are not discouraged in cases of negative return on expenditure. Maintaining a good relationship with a network of stakeholders has helped us to make continuous improvement qualitatively and quantitatively. We strive to maintain sound financial management practices, good customer complaint handling practices and we retain staff for long periods.

Results

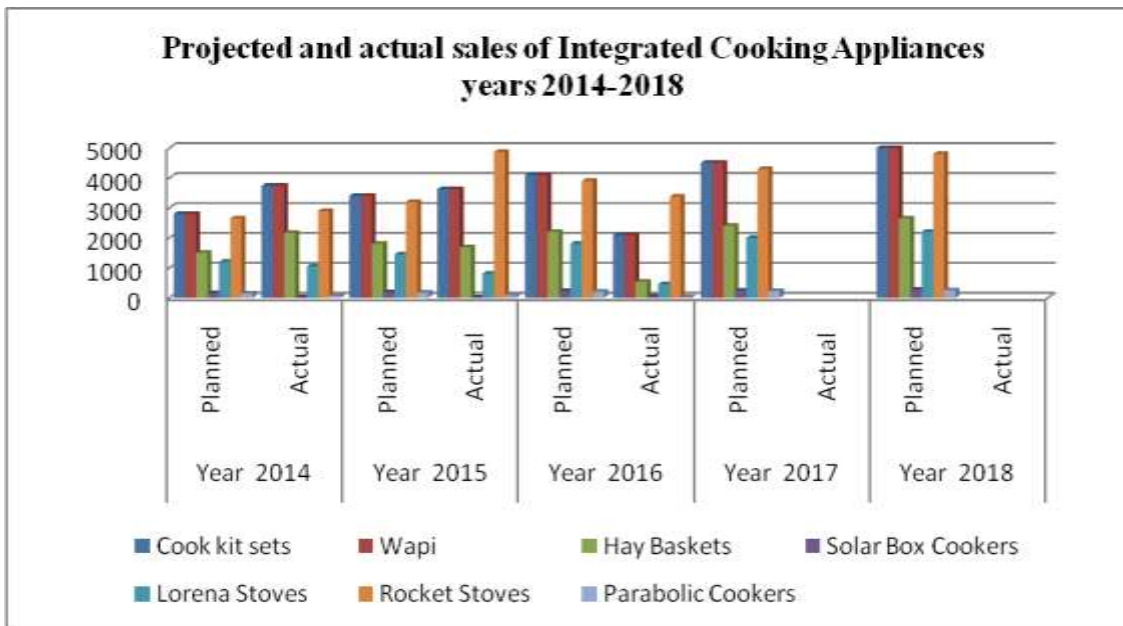
Initially we received from donors significant technical and financial support that was prudently used to build a firm foundation. Since 1994 to date, tens of thousands of solar cookers have been distributed in Eastern Africa (Southern Sudan, Uganda, Burundi, and Eastern Congo) by SCA. On average every month we sell 280 solar cookers, 260 improved charcoal stoves and 110 hay baskets. We have trained 145 trainers from East Africa, Ethiopia and Mali. We have shared our experiences through contribution to newsletters, radio and television discussions locally and internationally. We now employ a total of 42 people of whom 91% are female. In the past 5 years, we have been managing to break-even and make profits. We generate revenue from sales that cover all expenses and remain with some money that we put back to grow the business without donor funding. We also fabricate, Solar Box Cookers, hay baskets, and distribute rocket stoves and Lorena stoves. We also make WAPIS. With a subsidy from our partners, we constructed a permanent building we call Renewable Energy Centre that has a big production area, offices and a shop and fitted with solar electricity. All production and training, sales and demonstration activities take place in Mbarara. We also have a Distribution Centre in Kampala that serves all districts around the capital city. We have vehicles that are used for distribution of integrated cooking appliances.

Solar cooker activities are easy to promote in Uganda because of favorable weather conditions and increased environmental education. People's incomes are increasing and propensity to spend on integrated cooking appliances is high due to steep charcoal prices and increased environmental awareness. Below is data that quantify appliances we sold from 2014 to June 2016 as well as a projection of sales in the medium future.

Data on performance of Integrated Cooking Appliances(ISC) from 2014 to June 2016

ISC Appliances	Year 2014		Year 2015		Year 2016		Year 2017		Year 2018	
	Projected	Actual	Projected	Actual	Projected	Actual up to June	Projected	Act.	Projected	Actual
Solar Cook kit sets	2800	3737	3400	3625	4100	2094	4500		5000	
Wapi	2800	3737	3400	3625	4100	2094	4500		5000	
Hay Baskets	1500	2164	1800	1684	2200	533	2400		2650	
Solar Box Cookers	150	18	180	10	220	39	240		270	
Lorena Stoves	1200	1051	1450	803	1800	450	2000		2200	
Rocket Stoves	2650	2900	3200	4865	3900	3374	4300		4800	
Parabolic Cookers	140	64	170	82	200	21	220		250	

The above table shows that 9456 solar cook kits were sold from 2014 to June 2016.



Actions we implement that make solar cookers a viable and profitable business

- **We practice what we preach** - All our staff often use solar cookers in their homes for daily cooking.
- **We have several distribution partners** who display and sell our solar cookers in groceries/shops in rural areas.
- **We have a Renewable Energy Centre** in Mbarara. In the new building there is space for the following functions:- instruction/training, space for raw materials and finished products, administrative space, production space and a public show room and a shop. All marketing, training and promotion is done from here. The building is strategically located at a trading centre on a major high way opposite a Cultural Centre and Country Hotel that is frequented by many people.
- Every working day, we display and demonstrate solar cookers in the open at two shops one in Kampala and another in Mbarara. We solar cook every sunny day easy to cook foods like vegetables, cassava, goat meat, rice and boiled eggs.
 - **Promoting solar cooking activities in rural and urban areas:**
 1. We developed easy to read ISC promotion materials with mainly images and drawings;
 2. We use the media to publicise ISC activities;
 3. Home visits;
 4. Group cooking.
 5. Demonstrations on market days.
 - **Selection of local marketers/instructors and program development**
 1. Select on skills in writing, reading, group leadership.
 2. Fix conditions and remunerations.
 3. Organize ISC training programs for marketers/instructors.
 4. Start up educational / training programs for end users.
 5. Organize sales and distribution of ISC appliances.
 6. Develop ISC monitoring and acceptance evaluation formats /meetings.

7. Develop a four day ISC training programs for external applicants.
8. Develop ISC consulting activities
9. **Our staff are full time employees** and we also have volunteers and part timers. People working for SCA are its main asset. Most important of these are village women marketers. These village women marketers are recruited from the villages in which we intend to operate. Some of the attributes we look for in them is dynamism, self drive, leadership and ability to convince people to buy solar cookers. The women marketers reach to a lot of people and they are trusted in their communities. They sell door-to-door after working in their gardens. They also use solar cookers in their homes. They organize home visits. Home visits are solar cooking events organized in one home that attracts neighbors to see how solar cookers work. Home visits are done at least 2 times a month by every woman marketer in her area of operation. These create awareness and often results in sales.
10. **We have team work** with compelling direction that energizes, orients and engages employees. We have explicit goals that are challenging but not difficult. Our staff have a balance of skills, diversity in knowledge and views. The age and gender helps our team to be more creative. Team members have autonomy in managing work.
11. **Support to our employees is through** training, material resources required for the job as well as a modest reward system that reinforce performance.
12. **We have a shared mindset among team members.** Everyone at SCA is genuinely interested in promoting solar cookers. This fosters common identity and common understanding. Everyone feels valued for his/her contribution at SCA's goals. We all believe in solar cookers from head, heart and soul.
13. **We are sometimes evaluated by external consultants** to know if our efforts are working(on output, collaborative ability).
14. **ISC awareness and marketing activities**
 1. Organize and perform ISC public promotion programs;
 2. Organize promotion meetings with local authorities NGOs, cooperatives, etc.
 3. Prepare marketing program locally as well as at district and national level
 4. Pilot evaluation: ISC by end users.
 5. We do a follow-up of end users through our senior marketer and village women marketers.
 6. We increase customer satisfaction through good complaint handling practices resulting in more sales.
- 15 **We sell at a profit:** There is a margin on every item we sell.

- **Revolving Fund:** Clients can buy on credit and SCA uses the revolving fund to pay its self. The client refunds the debt to the revolving fund. Again here women marketers are critical because they offer surety on behalf of the client as they are often known to each other and live in same locations. In the past 5 years, we have had only 2 people defaulting on the solar cooker loan. We considered that a donation. In principle, we moved away from solar cooker donations because it is not sustainable in business terms. But subsidy works.
- **Group Cooking:** Once a month, SCA organizes a group cooking. Group cooking is the assembling of all solar cooker owners from several villages in one place mostly a public place like a community center and they solar cook using their solar cookers. The objectives are to share ideas, tricks on cooking different foods, solve problems in regard to solar cookers that may have been encountered, know each and celebrate. This event attracts community and sometimes district leaders and environmental activists

and increases exposure and awareness. It results into selling solar cookers to new people. Music and drinks are also often sponsored by local leaders who look forward to next political elections and are interested in environmental conservation.

- **Home visits:** Every two weeks, village women marketers visit a home of a new participant after an announcement on community public mer. Potential customers assemble in one home to witness how solar cookers work. Training on how to use solar cookers along with awareness on environmental conservation. Food is cooked on solar cookers in the presence of potential customers. Often this results in some solar cookers being sold.
- **Once a week market days:** We visit trading centers on once a week market days. We sell and do awareness campaigns.
- We fabricate and sell solar cookers and hay baskets. We also stock and sell efficient charcoal stoves from other producers. In that way, we diversify sources of income. Remuneration of fabricators is per piece and women marketers get a basic pay and a small commission per article sold.
- **Product improvement:** We have been improving the quality of solar cook kits for many years with technical and financial support from Solar Cooking Kozon Foundation. Cookkits are now produced in three different colors:- red, yellow and light green. We make quality WAPIS and hay baskets. We have diversified into energy saving cook stoves that use charcoal. We also make Lorena stoves. Our solar cookers cannot cook at night and in bad weather. That is why we also promote charcoal saving stoves. As can be seen from the above data, we sell many charcoal saving stoves and good money is made from them. We do not restrict our selves to only solar cookers.
- **We maintain good working relationship and stay in touch with international stakeholders.** Throughout the 22 years of promoting solar cooking, we have maintained good working relationship with partners abroad. These partners provided seed funds that have propelled SCA activities to greater horizons. The partners helped us a lot to improve business management by sponsoring our employees to do short courses in production, finance and marketing. They have assisted in technical advise and subsidized construction of a building that is now our new Renewable Energy Centre in Mbarara (see photo). They visit our projects from time to time to monitor and evaluate our performance against our goals. The result is improved product quality and market expansion.

Future Plans

Solar cookers have a beautiful future in Uganda for the following reasons:

- The weather is favorable for solar cooking.
- Awareness of climate change with effects on water supply, soil erosion, dwindling forest cover and high prices of firewood and charcoal is changing mindsets and behaviors of household leaders in favor of fuel saving alternatives.
- Fertility rate of Ugandan women could be one of the highest in the world at 3.1%. Women in Uganda produce many children (6 onwards).All these people need cooked food but firewood prices increase by the day.

We plan to expand solar cooking activities to the rest of Uganda starting in 2018. We are researching on how to use high powered parabolic solar cookers that are needed by factories to melt cow hoofs to make glue for industrial use. This venture will be sponsored by a cow slaughtering house in Kampala. We are also exploring ways on how to dry cow blood for animal feeds using solar dryers. A pilot project will be undertaken at a slaughter house in Kampala mid-June 2017. Women in Kampala markets are using more

parabolic solar cookers to boil drinking water that they sell. We plan to expand this activity more markets around Kampala. In a hospital near Kampala, women use solar cookers to boil water they later sell to hospitalized patients. We are going to entice other women entrepreneurs cooking food near other hospitals to acquire parabolic solar cookers to boil water they sell to patients and save money on charcoal. We want to diversify to solar panels now that rural people know about solar electricity. In that way our social enterprise will be fully integrated in terms of solar energy appliances. In that way, we can make more money that will help us enable more people to use solar cooking devices.

Challenges

- Expanding distribution channels to rural areas where solar cookers are needed the most requires more financial resources.
- In the case of Uganda, rigid mindset and behavior change of people with little education is still a challenge to solar cooker expansion. Awareness campaigns require more funding yet few funding institutions show interest in solar cooking.
- Recruiting and retaining the best minds is not easy because of average remuneration in this sector.
- Solar cooking business depends on weather conditions.
- We have so far failed to penetrate the carbon market because of the strong barriers in place.
- We lack know-how on institutional solar cookers and back-up on night cooking..
- The Ministry of Energy and other stake holders like Global Alliance for Clean Cook Stoves are in our view, more interested in charcoal stove promotion than solar cooker promotion when the opposite should be the norm.
- ,Some people are so poor that they cannot afford solar cookers without support.

What we can do collectively to improve household access to solar cookers

- More effort be exerted to achieve change of mind set and attitudes towards solar cooking.
- Research on cheap storage of solar cooking energy for night use needs to be enhanced.
- Lobbying for support to solar cooker promoters needs urgent action at UN and World Economic Forums. Our voice must be heard at national and international levels.
- Solar Cooker promoters need to come nearer each other using the internet to communicate and share experiences through contributing news to SCI newsletter and to one another.
- Resiliency and readjustment to periods of uncertainty are necessary to sustain solar cookers as a social business.
- We call on the Uganda government and world governments to formulate and implement environment policies that will enable the clean solar cooking sector to develop and grow.
- We should move away from pilot projects to long term business enterprise with affordability in mind.

Conclusion

There is money in solar cookers. SCA believes that solar cooking is among the best clean household cooking solutions that is saving and will save lives, improve livelihoods, empower women and protect the environment. Thank you for your attention.

Photo page



Renewable Energy Centre

SCA Staff in Biharwe



Children getting firewood from the bushes



Work in progress at workshop (cook kit and hay basket)



Distribution Centre –Kampala Lady serving husband solar cooked food



Lorena stove used by a girl



Daily demonstration at Energy Centre



Police woman learn before buying



Lady tests solar cooker before purchasing