

# Case: Solar Electric Light Co. India –Harish Hande

Dr. Jack M. Wilson, Distinguished Professor of Higher Education, Emerging Technologies, and Innovation



# The Problem

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- An estimated 1.2 billion people – 17% of the global population – did not have access to electricity in 2013, 84 million fewer than in the previous year.
  - Many more suffer from supply that is of poor quality.
  - More than 95% of those living without electricity are in countries in sub-Saharan Africa and developing Asia, and they are predominantly in rural areas (around 80% of the world total).
  - While still far from complete, progress in providing electrification in urban areas has outpaced that in rural areas two to one since 2000.
    - International Energy Agency
    - <http://www.worldenergyoutlook.org/resources/energydevelopment/energyaccessdatabase/>
- Of those about 400 million are in India alone.

# Harish Hande '98 '00

- UML MS '98 renewable energy engineering
- UML PhD '00 in mechanical engineering (energy)
- co-founded Solar Electric Light Co. India in 1995.
  - As SELCO's managing director, he has pioneered access to solar electricity for more than half a million people in India, where more than half the population does not have electricity, through customized home-lighting systems and innovative financing.
- Hande received the 2011 Magsaysay Award, widely considered Asia's equivalent of the Nobel Prize,
- One of 21 Young Leaders for India's 21st Century by Business Today
- Social Entrepreneur of the Year for 2007 by the Schwab Foundation for Social Entrepreneurship and the Nand and Jeep Khemkha Foundation.



# SELCO

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SELCO Solar Pvt. Ltd, a social enterprise established in 1995, provides sustainable energy solutions and services to under-served households and businesses. It was conceived in an effort to dispel three myths associated with sustainable technology and the rural sector as a target customer base:

- 1) Poor people cannot afford sustainable technologies;
- 2) Poor people cannot maintain sustainable technologies;
- 3) Social ventures cannot be run as commercial entities.

SELCO aims to empower its customer by providing a complete package of product, service and consumer financing through grameena banks, cooperative societies, commercial banks and micro-finance institutions.

SELCO's key features:

- Creating products based on end user needs: going beyond just being a technology supplier but customizing our products based on individual needs.
- Installation and after-sales service: dedicating regional energy service centers to ensure prompt maintenance and service.
- Standardized financing packages: creating channels for end users to afford systems based on their cash flow.

SELCO currently employs about 375 employees in in Karnataka, Gujarat, Maharashtra, Bihar and Tamil Nadu spread across 45 energy service centers. Since 1995, we have sold, serviced and financed over 2,00,000 solar systems to our customers.

[http://www.selco-india.com/about\\_us.html](http://www.selco-india.com/about_us.html)

## SELCO-2

*“Our team is uniquely qualified to operate and grow a company focused on providing **sustainable technologies** and energy services to rural markets in India and other developing countries. Our leadership has the skills demanded of their positions, significant experience working as a team together, and the blend of passion and commitment required for this business.”*

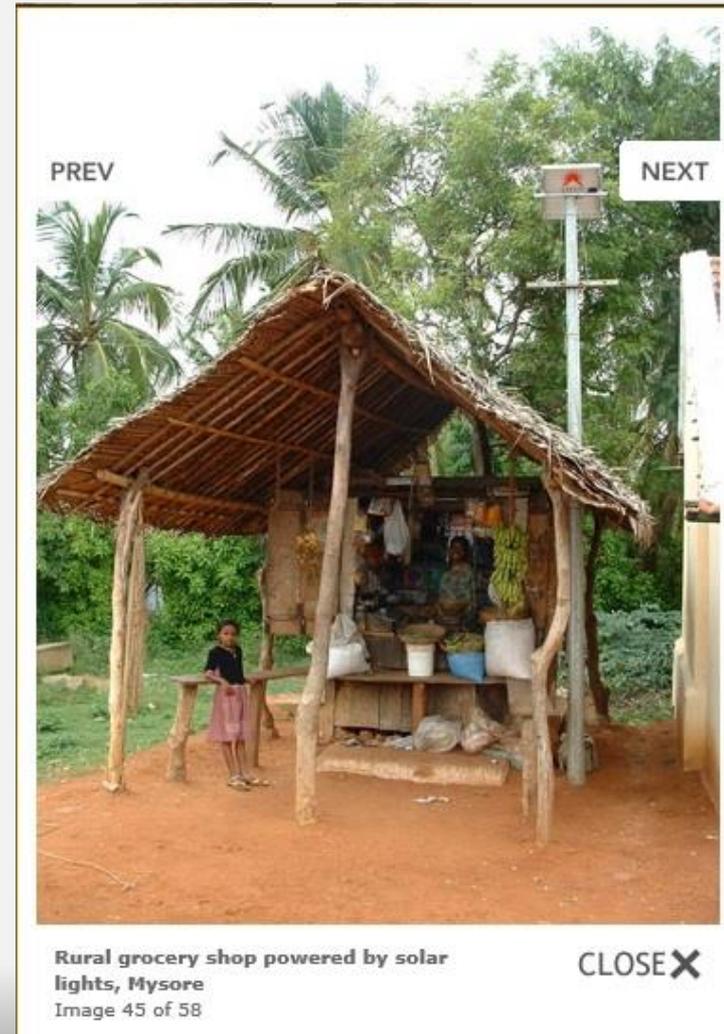


<http://www.selco-india.com/management.html>

## SELCO-3

*“Collectively, our management has over 44 years of grassroots experience in the field of providing sustainable energy services to the under-served. The team along with other staff has proven the fact that there are strong linkages between **poverty alleviation, sustainable energy, social business and micro-finance**: linkages that are not easily proven to be commercially viable.”*

- <http://www.selco-india.com/management.html>



## Fund need-based innovation to tackle climate change, says Harish Hande

E. Kumar Sharma    Last Updated: September 15, 2014 | 20:21 IST



Harish Hande, Managing Director of solar lighting solutions company SELCO-India and a Ramon Magsaysay Award winner.

*"There is need to invest in building human resources in rural areas in the field of sustainable energy. For instance, we need to have energy technicians in rural areas. Then, there has to be focus on end-user financing. To top it all, money is needed to fund need-based innovation as against a want-based innovation."*

*"Giving an example, he said: "We could, for instance, encourage innovations that look at the motors that run rice mills. Today, they use diesel. How can there be innovation to make motors that run efficiently on sustainable energy." "*

<http://www.businesstoday.in/current/economy-politics/innovation-climate-change-selco-india-narendra-modi/story/210359.html>

LiveMint: “Hande, 47, won the Ramon Magsaysay Award in 2011 because the ideas at Selco (Solar Electric Light Company—India), the solar energy equipment supplier company he co-founded in 1994, shine brighter than the lights it sells to the poor.”

“Take, for instance, Selco’s Light For Education project whose participants include around 30,000 children in Karnataka. Solar panels are installed on school premises and the battery, about the weight of a lunch box, is given to children. Children charge the batteries when they come to school. If they don’t come to school, there’s no light at home. “We stole the idea from the midday meals scheme,” says Hande. Stole and innovated.”

## Harish Hande | Here comes the sun

This innovator made the solar lamp a vehicle not just for electricity, but for education and independence

Priya Ramani



Harish Hande visits Rosamma Vergies in Vandse village, Karnataka. Her home is fitted with a two-light solar system. Photo: Gireesh GV

<http://www.livemint.com/Leisure/dLJtbPdbJeHgXmC6Qo2gWN/Harish-Hande--Here-comes-the-sun.html>

## How can this be financed?

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- *“Hande sees the poor as asset creators, and not as a bottom of the pyramid sales opportunity. “Don’t sell to the poor. That’s our fundamental rule. And if you’re selling to the poor, make sure that the value you’re giving to the poor is much more than the monetary value they give you back,” he says. “*
- *“So when Selco representatives found that 32 Sidi families in rural Karnataka spent more money annually on candles, kerosene and to charge their mobile phones than it would cost to set up a simple solar system, they had to fix this. No bank was willing to lend the money to these families, so Selco offered a 100% guarantee on their behalf. Six months later, the bank reduced this guarantee to 20% as the payments were regular. “The best response was from the Sidis,” says Hande. “They said, light is great but once the solar loan is done, I will take a loan for a sewing machine.” They had become bankable.”*

<http://www.livemint.com/Leisure/dLJtbPdbJeHgXmC6Qo2gWN/Harish-Hande--Here-comes-the-sun.html>

- In many ways Harish Hande adapted the Grameen Bank Model of the Nobel Prize winning Muhammad Yunus.
  - <http://www.jackmwilson.net/Entrepreneurship/Cases/Case-MuhammadYunas.pdf>

# References

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- [SELCO: Case Study Synopsis & Teaching Objectives: Design Observer](#)
  - The pros and cons of different social interventions in emerging markets;
  - Constructing a business model that serves the needs of customers at the bottom of the income pyramid;
  - Building a financial and governance structure to support a business with a social mission;
  - Customizing product and service design to provide energy to individuals with few resources;
  - Institutionalizing an ad hoc, yet vital design process in a single organizational unit. “The question of whether to structure a social enterprise as a business or as a nonprofit is an important one for many entrepreneurs with a humanitarian mission.”
  - <https://designobserver.com/feature/selco-case-study-synopsis--teaching-objectives/15128>
- [SELCO: A Business, Ongoing Case Study in Solar-Powered Social Impact – NextBillion](#)
  - Since its initial pilot initiatives, SELCO has had an easier time establishing collaborations with local banks for financing, and the banks, in turn, have devised innovative ways of working with their new customer base. Biswal adds that banks are leveraging technology to allow urban poor people to repay loans or save even when they relocate to other slums or if their slums are destroyed. The Unique Identification Program (UID) program, he says, will help strengthen a bank’s ability to know its borrowers better and to help organizations like SELCO provide services to the poor with unstable or unsettled homes.
  - SELCO’s strengths stem from its ability to look for unconventional solutions and focus on the final outcome. Says Biswal, “It is not about financing just solar power. When we convince banks who are perhaps happier to fund business loans as it is directly income generating, we talk to them of how solar energy empowers the urban poor to spend an additional couple of hours after dark in income generating activities such as beedi (cigarettes) or agarbatti (incense sticks) rolling.”
  - The SELCO model of delivering affordable products and services to the poor – and consciously multiplying social impact – is one that can easily be adopted by organizations who are seeking to achieve sustainability with social impact and financial inclusion. Dr. Harish Hande, SELCO’s Managing Director and this year’s Ramon Magsaysay Award winner, says that his company looks at scaling up differently. They are focused on replicating and incubating more SELCOs rather than building a huge geographical footprint. ‘SELCO people,’ as they are proud to be known as, have a different philosophy on responsibility: their job does not end with a sale – it is a long-term relationship they share with the underserved, which grows as they are empowered through financial inclusion, education and livelihoods.
    - <https://nextbillion.net/selco-a-case-study-in-solar-powered-social-impact/>

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- UPenn: Harish Hande of SELCO India: Shedding Light on India's Underserved Markets
    - <https://knowledge.wharton.upenn.edu/article/harish-hande-of-selco-india-shedding-light-on-indias-underserved-markets/>
  - Yale: SELCO – The Rural Energy Service Company
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  - Wikipedia: SELCO India
    - [https://en.wikipedia.org/wiki/SELCO\\_India](https://en.wikipedia.org/wiki/SELCO_India)
  - SELCO: Harnessing Sunlight to Create Livelihood
    - <https://hbsp.harvard.edu/product/IMB321-PDF-ENG>
  - Cambridge University Press: 6 - Selco: Inclusive Model for Energy Access
    - Published online by Cambridge University Press: 31 July 2021
    - <https://www.cambridge.org/core/books/abs/inclusive-business-models/selco-inclusive-model-for-energy-access/6D27C46C5E781909BD92F21F7016DCC5>

# Questions

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- What does SELCO see as their main purpose for existing, and specifically what do they focus on to implement that purpose?
- Do you see SELCO as an example of Social Entrepreneurship? Why or why not?
- Why do they keep referring to developing “sustainable technologies?” What is that?
- How does the fact that they are a commercial enterprise affect their ability to conduct their mission?