Ralph Nader The use of solar energy has not been opened up because the oil industry does not own the sun.

perspective

Almost $2bn was invested over the past 3 months in companies working on renewable energy & efficiency projects.

GIVING SOME SUNSHINE

Two examples — one from Karnataka and another from Bihar — show just how far a little help and innovation can go when there is community involvement, a well-thought-out strategy and a sound institutional framework

SUNNY SIDE: A solar light burns bright at a settlement of cricket bat makers in Vijayanagar, Bangalore

—Jaideep Hardikar.DNA

PRODUCTION BOOST: Sudha Devi has adopted a system of wheat intensification in Navadih village, Bihar

Bringing home the sun

Designing and selling solar light systems for rural and underserved homes, Selco has proved that it is possible to run a sustainable business while being committed to a social mission. **Shilpa CB** reports

Light after sundown is just a switch away for Nagarathnamma, a vegetable vendor in Malleswaram. She turns on the two solar lights she owns and goes about her business comfortably. She is one of the few in the old market who traded their cumbersome kerosene lamps for the convenient lights manufactured and introduced to them by Selco India. The kerosene lamps now sit in a line gathering dust somewhere at the back.

Selco's solutions for vendors like her who have no access to electricity have truly come as a blessing. "Kerosene costs Rs30 per litre. And every three days I would have to change the burner. That cost Rs10. None of those hassles for me now," says the entrepreneur who's spent most evenings of her 30-year-long career working in the light of kerosene lamps. Nagarathnamma pays Rs40 every day to the microfinance institution that financed her purchase worth about Rs14,000. Selco's sales team that won Nagarathnamma's trust and convinced the financial institutions to put their faith in her and a few others who enjoy clean, renewable energy. "I was impressed by the light that was installed in the market. I wanted two for myself immediately. I pursued and within 15 days I had got them even though I had delayed paying the fixed deposit," says Saraswathi V, a vegetable vendor in the same market.

Not too far away in Vijayanagar, eight families make cricket bats until sundown. A few pairs of hands continue working till dark under their solar lights. This 'illegal' settlement that is about 15-20 years old has just two of those. Unlike Saraswathi who could transform her working conditions with a few phone calls to Selco, these migrant workers from Gujarat have had to make do with poor lights lit by car batteries. "We pay Rs30 for charging these batteries that last us about 20 days. It's not bright enough to work in," says Sanjay Bhakthi Bhai Thori who's been earning a livelihood in the city for the last five years. The others plead with Selco's team to get them lights. "We will pay. There is no work in the villages. Where will we go," they say.

"Their work is seasonal. They go away during the rains. Summer is the busiest for them. In a year, they make enough to pay for solar lights only for about eight months. Finding a bank or a financial institution that would support them has been a challenge," says Ravikanth Rao, a senior sales manager with the company. That's been one of many challenges. Also, availing finance for the energy-deprived in remote villages is just another side of Selco's story, one of the company's innovations manager Prasanta Biswal calls this the "first ever micro-finance and renewable energy success story in the world." This is Biswal's first job and he's spent four years on it because "we are doing something good here".

The social enterprise has earned over a lakh customers in Karnataka alone and every single one is either deprived of electricity or has an unreliable connection. Selco defines its customer base with just one word — underserved. The mission is to provide sustainable energy while running a sustainable business and serving a social goal. Putting all those ideas on the same page and staying true to them was the hardest in Selco's initial years. "The government had installed solar lighting systems in villages which had fallen to neglect and eventually to disuse. It was firmly entrenched in people's minds that solar systems do not work beyond six months. Changing that mindset and getting them to invest in solar energy has taken us many years," Biswal says. Selco has won over the rural, uneducated populace with its quick, reliable service and redressal of complaints. "We do not supply to all areas. We sell our systems only in areas we can service. So, first we open a service centre, and only then install systems," says Biswal. This approach will help the company maintain its lead over competition despite its systems being the most expensive in the industry, he says.

Today, Selco has 24 branches that are scattered in a few states in the country. Going forward, the company does not have expansion on its mind. The thrust is on innovation, on a shift from being just a solar lighting provider to a complete energy provider. "To sustain our business, we have to look at increased revenue flow and increased sales. We can either expand to new areas or bring in more products. We're doing the second one," Biswal explains. Instead of establishing new markets and going through the cycle of forming new relationships, the company would rather capitalise on existing customer base. Selco is now looking to cater to people's growing energy needs. Its biomass cooking stove, compared to a conventional chulha, saves 40% energy and reduces 70% smoke. That's just the beginning. The scope for innovation, be it in processes or financing, is immense, Biswal says. Selco is also looking at developing entrepreneurs who will reach out to more customers while staying true to its mission. Again, this presents yet another challenge. "I got into the solar business very early. I was fortunate to befriend and work with people who had the passion, to learn, create, get their hands dirty. There is a paucity of such people today," says the co-founder and managing director Harish Hande. To illustrate, Hande gives an example: "All our summer internship positions which are based in rural areas are filled up by foreigners. They spend their time here working hard at finding solutions to the villagers' problems. Not many locals would go spend time in a village." Hande adds that every single employee of the company has spent time in the hinterlands of the country, interacting with its customers. "In the thousands of households we have gone into, Selco is not seen as a supplier but as a partner. In business, we have to make decisions from the heart, not the mind."

(LEFT) Saraswathi was impressed with Selco's solar light system the moment she saw one (RIGHT) Nagarathnamma traded her kerosene lamp for solar lights

Getting to the roots

Travelling around in Bodh Gaya district of Bihar, **Jaideep Hardikar** finds a slow revolution in the making. Self-help groups, innovative farming and microfinance are making a huge difference in the lives of villagers

Sanju Devi Jadhab has very little by way of material wealth: two petty bighas of land in one of the poorest districts of Bihar and the small money her husband brings in as a daily wage worker.

But over the last two years she has been earning what no money can buy: self-respect. "We now have an identity," she says, surveying her patch in Navadih village, her two-year-old daughter at her hip.

Overcoming her lower caste stigma, Sanju Devi is member of a self-help-group (SHG) and a village resource person (VRP) under Jeevika, the World Bank-aided Bihar Rural Livelihoods Project (BRLP). The project has been using community involvement, smart farming techniques and micro-financing to steer a slow but certain change in villages across eight impoverished districts of the state.

It'll be a while before the villages realise the full impact of the change. But by the time Sanju Debi's daughter grows up, Navadih's face would have changed. The marginal farmer's optimism in the face of distressing odds itself is a big change.

"The project is creating space for the poor. Jeevika is generating self-confidence among the women of these villages," says Budhabhatti Kartikeya, assistant collector of Gaya district.

Jeevika had by February this year formed 17,044 SHGs with 196,000 members across Muzaffarpur, Madhubani, Supaul, Madhepura, Purnia, Khagaria, Nalanda and Gaya. When it ends in two years, the project would have reached 600,000 of the poorest of poor families in 4000 villages through a range of livelihood interventions.

The Rs306-crore project, the first to be funded in Bihar by the World Bank after a gap of 20 years, will eventually be scaled up to 18 districts, say BRLP officials.

The 2009-12 strategy document of the Bank says it will devote more resources, mostly low-interest International Development Association (IDA) credits, for low-income states like Bihar.

SHEDDING POVERTY

Bihar's average annual per capita income is about Rs7,500, a fourth of the national average. A whopping 89 percent of its 83 million people live in rural areas where there is poor service delivery, a rigid caste hierarchy and limited economic opportunities. Of the 36 million poor marginal farming households, nearly 2.3 million have large debts.

Two years ago, Sanju Devi learnt about Jeevika being implemented in the neighbouring Sekhwara village, and decided to volunteer. "I sensed an opportunity," she says, "to come out of poverty." In a feudal and staunchly male-dominated society, she says, it wasn't easy to drop the veil and take a bold initiative.

More than 500 resource persons like Sanju Devi are today steering the project that aims on the one hand to augment farm productivity in this rain-fed area through a roots intensification system, and on the other create SHGs (or micro-enterprises) that get access to institutional finance.

Sanju Devi is both, user and expert trainer, a job that fetches her a monthly honorarium of Rs1000. "It's effective when villagers talk to other villagers about the project," says Mukesh Chandra Sharan, Jeevika state project manager (microfinance).

To start with, project officials faced a lot of sceptical questions, but now there's a groundswell of support.

"The project is about to take off now that the institutional structures are solid," says Vinay Kumar, the World Bank consultant on the project.

ENHANCING YIELD

Two years ago, Navadih adopted a system of rice and wheat intensification, and the marginal farmers of the village managed to get a higher yield despite the drought last year.

The roots intensification technique, used in a few Indian states and countries such as Madagascar and Mexico, focuses on better root growth. Farmers, according to Jeevika officials, have clocked an average yield of 7-10 tons per hectare over two years - that's roughly twice the yield before the introduction of this technology.

"If we take care of the roots, the roots take care of the plant," says Jeevika's Debaraj Behera.

This is not an input-intensive technique but it requires more labour than traditional methods. It needs farmers to rinse the seeds in warm water before it is treated with vermin-compost, cow urine and jaggery. The germinated seeds are then transplanted.

The technique is working wonders in small holdings but before it is scaled up its effectiveness will need to be assessed, says Biswajit Sen, Senior Rural Development Specialist at the World Bank.

COMMUNITY CLOUT

But Jeevika's soul lies in the women's groups. 'Bank Mitra' Rinki Kumar, 20, for instance, helps the villagers of Sahdeokhap do their banking. She fills out forms for the villagers and explains to them the various banking schemes that could benefit them.

"She's an important interface between the illiterate villagers and the bank," says Sunil Narain, the manager of the Sahdeokhap branch of the Bank of India. "People now have access to institutional finance which has broken the stranglehold of moneylenders," he says.

Kunti Devi of Sekhwara village, for instance, managed to pay the mortgage money to an upper-caste moneylender and free her one-acre land after coming into the formal credit net.

In fact, in the first two years, the finance provided to the villagers was used up in two primary areas: freeing mortgaged lands and paying medical bills.

Typically, private loans come at a monthly 10% interest, while the bank loans cost 9% per annum with no collateral. Narain says SHGs' repayments are timely. The SHGs are now using the money to buy livestock, agricultural inputs or to set up small shops, all of which are income-generating investments.

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Spreading the word

Jayjeet Kumar, a Class VIII student, speaks with clarity and pride. "I want our farmers to change," he says.

Son of a farmer, Jayjeet is the youngest village resource person in Jeevika and an expert on root intensification techniques. He has won a Bihar government award for "Enterprising Star". His expertise is now being sought in the dryland areas of Madhya Pradesh.

Jayjeet first saw it in fields near his school. "The fields had a very health crop," he says. "I was drawn to ask the farmer how he managed this when others were suffering a bad crop that year." Thus started Jayjeet's remarkable journey.

Finding a voice

Apart from financial wisdom, the self-help groups have given the villagers a voice and the kind of muscle only an integrated community can have.

Baijayanti Devi, a vocal resource person, and others burst into giggles when they recount how their unity forced a local muscleman-cum-contractor to build a village road as per the locals' instruction. This road had been "under construction" for seven years.