

## **From *Civil Society***

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# **Jute matches and a cycle for the floods**

A case study is being presented in the minimally designed, amphitheatre style Ravi Mathai Hall at the Indian Institute of Management (IIM), Ahmedabad, India's most sought after B-school. The presenter is Uttam Sambu Patil, a 76-year-old retired science teacher and his charged audience, many of them still in school, have collected here from all over the country. Patil's case study involves his rather unusual innovation - matchsticks made of jute!

Patil is talking at one of the sessions at the third annual function of the National Innovation Foundation (NIF). NIF recognises grassroots innovations and traditional knowledge. Every year, it honours innovators; this year, they numbered 98. Speakers at the function included NIF governing board members such as Ela Bhatt of women's cooperative SEWA, Lalite Gupte, joint managing director of ICICI Bank, and Dr RA Mashelkar, chairman of the government's Council for Scientific and Industrial Research (CSIR).

NIF started 10 years ago with the Honey Bee network, said Professor Anil Gupta, the man behind the NIF movement, in his speech. Honey Bee is a networking newsletter that publishes grassroots technology innovations and traditional knowledge from India. An entirely voluntary effort, the newsletter is published in Hindi, Gujarati, Kannada, Tamil, Bengali, Punjabi, Pahari, and Spanish. Till date, the network has collected 46,000 innovative entries from 360 districts in the country, several of which are for traditional medicine.

The Honey Bee network has scouts, people who voluntarily look out for innovators or people with traditional knowledge. The credit for discovering several ingenious innovators goes to the intricate scouting system, an integral part of which are Gupta's Shodhayatras (journeys of exploration). The Shodhayatras consist of 10-day trips to several villages and talking to the people there. During one such Shodhayatra in Nainital, Kanwaljeet, a scout, heard schoolchildren relate a story about Padmadatta Balutiya, a man who built a check dam after British engineers had tried and failed three times. Balutiya's dam survives to date, 109 years after it was built, without any repairs in the interim. After several enquiries, Kanwaljeet found a descendant of Balutiya in Haldwani and invited him to speak at the NIF function.

Says Gupta ruefully, "The dam is a curved structure, rather than a straight line. But no architecture school or civil engineering institute has studied the technology it employs."

The formidable Honey Bee network includes experts from several academic institutions and civil society organisations who help evaluate and brainstorm for the network. Gupta is trying to bring even the isolated Indian Institutes of Technology into the fold. This year, for example, he invited Kartik Kashinath, a second-year mechanical engineering student, to study the innovations presented at the function and check if he and his colleagues could come up with practical applications for the ideas.

Now the network is building itself. Balram Singh, 23, of Pasiyala in Haryana, who built a remote control for firecrackers, has part funded and bought into the network. So has Ashok Dhiman, 22, who has set up a tea-vending machine that uses conventional tea leaves and a filter.

The success of the Honey Bee network in raising consciousness about grassroots technological innovations is sparking a lively debate. The awards function has not only boosted the self-confidence of the innovators, it has also raised their hopes that they will be able to benefit monetarily from their inventions.

Gupta feels that some of the innovations have an international market. One of these is the bamboo cutter thought up by Usman Shekani, which some NGOs in the northeast have agreed to market. Another is Patil's matchstick technology, which Gupta feels can be licensed to large companies

worldwide and to several small entrepreneurs in India.

A slight note of dissent is struck here by David Martin, a supporter of the Honey Bee network and CEO of M-Cam Systems, a Washington-based international intellectual property company. Martin pointed out that patents for similar innovations were being filed in the rest of the world between 1880 and 1920.

"Showcasing these as what India is capable of now would present a wrong picture to the world. These are minds that would solve any problem presented to them. Show them problems that the world will face in the future like clean water or desalination of soil and India will be way ahead," he said. Martin also said that commerce works in weird ways. Current interests may be deeply entrenched and may not want a better technology, which is why an innovation may not always result in monetary benefit.

Kuldeep Mathur, an anthropologist who had taught at IIM Ahmedabad and is Gupta's mentor, pointed out some interesting facts. He had studied European agriculture during the last years of his career. He says he was surprised to find that most of the myths about India were wrong. For example, the population density in Europe was higher than in India. The farms there were smaller, too. The difference was that when their railroads were being built, for instance, local artisans were involved in building parts like the wheels. He said he was of the opinion that a society should concentrate on its innovators, not on the innovations themselves or building an enterprise around the innovators. After all, Edison was bankrolled by a financier who had faith in him.

Darshan Shankar, director, Foundation for the Revitalization of Local Health Tradition (FRLHT), felt that knowledge should be widely disseminated for use. He cites kaajal as an example. His mother made her own kaajal to use in her eyes - she could thread a needle at 85 years of age! If the medicinal properties of kaajal and other such traditional recipes were made freely available, it would enhance the health of the people in general. But the traditional healers in the country are languishing in poverty and their children do not want to learn their trade because it will not fetch them enough money.

CSIR's Mashelkar said, "We had one freedom movement. We need another - the innovation movement - to free us." He went on to call Gupta a modern-day Gandhi, referring to the 13 Shodhayatras the professor and his team have undertaken through various villages.

Ela Bhatt, chairperson of SEWA, could not resist taking a potshot at the system. "It is a matter of pride for IIM Ahmedabad that this function is taking place in its campus. IIM usually goes in its own direction. But I hope there will come a day when IIM professors, students, and our innovators can meet and cooperate. Ravi Mathai, the founder of this institution, thought along the same lines. The lessons learned from these exercises should get mainstreamed into education, policy, and banking," she said.

Gupta has put together a Rs 20 crore, micro-venture fund and hired IIM graduate Chintan Parikh to help commercialise some technologies under the aegis of an organisation called GIAN. A few licenses have been signed. To keep transaction costs low, some of these may be manufactured by self-help groups in NGOs and distributed through the same route. In some cases, the licence could be sold to small entrepreneurs. There will be a multi-media, multi-language interface that will allow access to these databases across the country.

Gupta acknowledges that expectations have to be managed. The relentless and charismatic leader has put together a network that includes many smart minds and large hearts across the globe. In the end, a robust model could emerge. Or, maybe, even other idea networks.