washingtonpost.com

Village Kiosks Bridge India's Digital Divide

By John Lancaster
Washington Post Foreign Service
Sunday, October 12, 2003; Page A01

ULAGUPITCHANPATTI, India -- Two years ago, after graduating from high school at the top of her class, Sukanya Sakkarai put aside her dreams of college and resigned herself to the fate of most young women in this farming village of trampled earth and mud-brick houses: marriage to a stranger in a match arranged by her parents.

Then the Information Age arrived on her doorstep. Life hasn't been the same for Sakkarai, or her village, since.

Scouts from a communications company approached the teenager last year, when she was working one day a month as an accountant for a village credit cooperative, and asked if she was interested in opening a computer-equipped "information kiosk" in the village, which at that point didn't even have a telephone.

Sakkarai was apprehensive. "I told them, 'I really don't know if I can do this,' " she recalled. "So they turned around and asked, 'Do you have faith in yourself?' I said yes. They said, 'Okay, then the rest we can do for you.' "

Today the 19-year-old runs a thriving small business, charging modest fees for services that range from Internet browsing and e-mail to daily computer classes to weekend screenings of Tamil-language films by means of her computer's CD-ROM drive. Perhaps most important, she acts as a kind of village ombudsman, brokering e-mail exchanges and even videoconferences -- again, for a fee -- between semiliterate villagers and the government bureaucrats who still control many aspects of their lives.

The question now is whether the agent of Sakkarai's emancipation could one day be that of rural India's.

Over the past decade, the Internet has been touted as a powerful engine that could raise living standards in poor and remote communities of the Third World by opening up new avenues for education, commerce and participatory democracy. But the reality is a growing digital divide that is preventing the poor from sharing in the benefits of the Information Age. The gap between digital haves and have-nots is especially wide in India, where a national survey last year revealed that fewer than 1 percent of adults had used the Internet in the preceding three months.

The new approach seeks to bridge this gap with a national network of owner-operated computer centers with Internet access -- part cybercafes, part digital town halls -- that earn income from a broad range of small transactions. It takes advantage of low-cost wireless technology that eliminates the need for telephone lines.

Backers predict there will be thousands of information kiosks across this nation of more than a billion people someday, providing poorly educated villagers -- who until now have reaped few benefits from the country's booming trade in information technology -- with direct access to government officials and records as well as to online services such as banking and medical consultations.

Like Sakkarai, the most successful kiosk operators perform multiple roles, blending altruism and entrepreneurship to promote their services among villagers.

"If it's entrepreneur-driven, people will pride themselves on making it successful," said Ashok Jhunjhunwala,

a professor at the Indian Institute of Technology in Madras who helped develop the wireless system that undergirds the slowly evolving network. "After all, they will lose money if they don't."

In many ways, India is the perfect laboratory for adapting the Internet to development needs, bringing together abundant technological expertise with an estimated 700 million people in 600,000 rural villages. Although telephone lines aren't necessary, electricity is, and unreliable power supplies leave many villages without electricity for all but a few hours each day. And some development experts say money used to equip villages with modems and computers could be better spent on primary schools or health clinics.

The approach pioneered by Jhunjhunwala and his colleagues here in the southern Indian state of Tamil Nadu aims to render that debate irrelevant by turning over the job of connecting rural India to the Internet to profit-minded entrepreneurs.

Central to the effort is Wireless Local Loop technology, which provides cheap, relatively fast Internet connections to fiber-optic cables as far as 18 miles away. Although many villages still lack phone service, India's fiber-optic network is sufficiently well developed to provide wireless coverage for up to 85 percent of the country, Jhunjhunwala said.

He and his colleagues created an independent company, n-Logue Communications, which identifies promising kiosk owners, trains them and provides equipment -- computer, printer, battery backup and wireless Internet antenna -- for about $1,000; n-Logue helps the owners arrange financing, which is then paid off with revenue from the kiosks. The company makes its money from hourly connection fees.

So far, n-Logue has set up more than 500 kiosks in Tamil Nadu and other states, with plans for 10,000 by next June.

While most kiosks are run for profit, one of the most well-established parts of the kiosk network is a demonstration project set up with help from Harvard University and the Massachusetts Institute of Technology, and financed in part by India's ICICI Bank. Situated in the tropical Madurai district of interior Tamil Nadu, the Sustainable Access in India, or SARI, project has so far set up 40 kiosks in rural villages such as this one.

The effort has not been without problems, most centering on the failure of kiosk operators to adequately explain and promote their services, according to Joseph Thomas, who manages the project out of a cluttered office at the Indian Institute of Technology campus.

"You have to do a huge amount of awareness generation, and some of these guys are just not into that -- they think it's like setting up a betel-nut shop or cigarette shop," Thomas said. "If it's to become a part of the community, it needs a person who empathizes with the community."

That appears to be the case here in Ulagupitchanpatti, a farming village of about 200 families. Sakkarai, the kiosk operator, had always been perceived as special. "The teachers used to tell us, 'Don't make her sit at home. She's so bright,' " her mother, Kanakasundari, recalled in an interview.

But her father, Aryanan, had other ideas. "We thought we'd just get her married off," he said. "If we sent her for higher studies, then we'd have to look for a groom who's even more highly educated. That would have been a big headache."

Because the village was part of the demonstration project, its sponsors covered the cost of most of the kiosk, though Sakkarai had to borrow about $65 from her father as a kind of down payment.

In the spring of 2002, Sakkarai underwent a week of training in a nearby town, learning her way around the Internet as well as Tamil-language versions of common software programs such as Microsoft Word. She

opened for business in a small building next to the eight-room tile-roofed house where she lives with her parents, older brother and 16 other relatives.

Things were slow at first. But then Sakkarai learned from a neighbor, Arumugam Gurusami, of a mysterious blight that was turning his okra crop a sickly yellow. She used her webcam to take a picture of one of the diseased plants, then e-mailed it to a scientist at a regional agricultural college. Later the same day, the scientist got back to her with a proposed remedy -- boron urea, a kind of fertilizer. Thrilled, Sakkarai printed out the response and hurried it over to Gurusami, charging him 10 rupees -- about 22 cents -- for the information.

"I didn't even know the word computer," recalled Gurusami, a grizzled man of 50. Now, he added, "I can sit at home and find answers to my problems."

As word of the okra cure spread, business began to pick up, and this summer Sakkarai crossed a critical threshold, bringing in gross monthly revenue of about $65 -- the threshold at which the kiosk business is deemed profitable.

Sakkarai gets the largest share of her income from teaching computer classes for village children -- and sometimes their teachers and parents. She earns money from villagers who stop by to browse the Internet or to chat online with relatives living abroad. And increasingly, she acts as a paid intermediary in Internet transactions between villagers and government bureaucrats.

Many are mundane requests for things such as birth certificates, which once would have required a bus ride and a long wait in a government office -- and perhaps a petty bribe -- but can now be handled by e-mail.

Some projects are more ambitious. Last month, for example, Sakkarai orchestrated a videoconference between a group of village women and the district collector, the all-powerful government official whose approval they needed to start a dairy cooperative. He approved it on the spot, according to Senthilarasi Suseendran, who led the effort.

Sakkarai's increasingly visible role in the community is a source of pride to her parents, although they do have one nagging worry. In light of her success, her father said ruefully, "We'll have to look for a more educated boy."