Book Review

Bridging the Digital Divide: Gyandoot—
The Model for Community Networks.
*By Rajesh Rajora. New Delhi: Tata McGraw-Hill.
2002. Pp. 319. US$15.95 (paper).*

Information and communications technologies (ICTs) have been thought of highly by people primarily because of the volume of change and empowerment they are capable of bringing. Unfortunately, like most of the technological developments, the fruits of the information revolution have been mostly limited to the urban elite class. It is clearly evident in developing countries with low teledensity and Internet access. There has also been a growing realization that it would take a long time before these technologies would successfully make a dent in the rural populace. The focus therefore shifted to providing universal service[1] rather than universal access.[2] A number of pilot projects in India made attempts toward achieving this goal. Notable among them were the Warana wired village experiment, Kolhapur (Maharashtra), TARAhaat in Bundelkhand, the MSSRF experiment at Pondicherry, and Gyandoot in Dhar (Madhya Pradesh). Among these projects, Gyandoot was probably the most interesting and successful. It has been widely acclaimed as a leading rural ICT project with awards and recognitions at the national and international levels. The objective of Gyandoot was to empower people by providing them with good governance and quality services at their doorsteps by using information technology (IT) as a tool. The project also brought about accountability and transparency in government functioning. The project was launched under the leadership of Rajesh Rajora in the tribal district of Dhar in 2000. Dhar is a district located in the southwest corner of the state of Madhya Pradesh in India. It brought about considerable social change and administrative reforms. The project offers extensive learning and research possibilities to achieve the bigger task of replication and scalability.

It is important, therefore, to document the road from idea to implementation of this project, and Rajora's book is a valuable effort in this direction. Interspersed with humorous yet pertinent cartoons, the book takes the reader through the whole process of the birth of the project to its becoming an important pilot project in a very informal and coherent style. The author cites his feelings as well as experiences in dealing with the various stakeholders of the network in 12 chapters. An important characteristic of the book is that there is a flow between the chapters, each of which keeps the reader engrossed. However, there are a few aspects that would have added value to the book.

One major problem with the network has been to find services that not only drive traffic to the kiosk but also help the kiosk manager make money. The key services provided by the network, as Rajora rightly mentions in Chapter 4, are land records, prices at agricultural produce marketing centers[3] (vernacularly known as *mandis*) located in the district, public complaints, and so on. However, it would have added value to the book if he had mentioned the way these prices had been decided and how it related to the earnings of the kiosk manager. For example, complaints could be made through the network at a cost of 10 rupees (about 20 cents), but the kiosk manager ended up spending money for four to six calls and for typing and sending the complaints, which are often a page long. Then, the kiosk manager had to check for the replies that had been received and take printouts for the applicant. This meant that the kiosk manager actually made little money on the transaction. There were other important issues related to introduction of services, which Rajora has missed in his book. At the time the complaint service was launched, it was intended that all types of complaints would be dealt with, but in practice, the list of grievances to be accepted was narrowed down to a select few. Then, although complaints of all kinds continued to be accepted, only those on the restricted list were dealt with within the set deadlines. This caused confusion for many customers, who found it difficult to understand why their complaints were not being attended to within the time limit.

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1. Universal access *requires establishing a certain level of telephone service to meet the needs of communities where the existing telephone penetration is low or nonexistent.*

2. Universal service *is a term used to refer to the policy of providing telephone service to all community members and is based on the North American concept of a telephone in every home.*

3. Agriculture produce marketing centers *are government-managed centers where farmers can auction their agricultural produce.*

There were even more serious issues. Provision of copies of land records can alone make the kiosk profitable and useful for the citizens, as has been aptly demonstrated by the Bhoomi project of the Karnataka government (indeed, a useful addition could be a comparative analysis of contemporary projects). Although the Gyandoot Society realized this and introduced the service, as mentioned on p. 86, it actually got implemented only in January 2002. At first the major problem was related to digitizing and uploading the data, which was a huge task and could only be done for some of the regions within the district. Then, there was the legal issue of whether the documents supplied through Gyandoot were acceptable to the courts. Although bankers initially had agreed to accept these documents for crop loan purposes, this too ran into problems because continued drought in the district meant that lands, which were formerly irrigated, might no longer be irrigated. This doubt resulted in the demand for the latest copy of the land record, which was only available through the village accountant. The problem was only compounded because the databases could not be kept fully updated. There were indeed cases when the village accountant deliberately sent farmers to kiosks in an attempt to shake their confidence in the service. The service finally got going last year, when updated copies were available in the subdivision offices and the process followed was a combination of online and off-line, similar to the delivery of certificates. But, in the process, a considerable amount of hard feelings had been generated and it required tremendous effort to get back the confidence of the citizens. Beginning this year, Gyandoot has started providing computer printouts of land records (details of ownership of land as well as the land use, locally known as *Khasra* and *B1,* respectively), which are updated periodically and given to the kiosk manager in the form of an off-line CD. Although the court does not validate it, the banks have agreed to accept the copy signed by the kiosk manager for the purpose of granting of loans.

It was also clear that because e-governance could only provide traffic to the kiosk and not much income, there was need for strong add-on services in the kiosks, which would help generate higher revenues. An attempt has been made in this direction by enhancing the portfolio of services and working toward finding services that would ensure a steady revenue flow. In fact, computer-training courses formed a major bulk of the income of the kiosk managers, as mentioned by the author, but there was a lack of standardization as well as certification for the students who were undergoing the course from the kiosks. An initiative was taken by the Gyandoot Society for standardizing the courses and conducting exams to ensure adequate market value of the certificates. A major issue with the network has been related to manpower. In the early stages a large number of entrepreneurs got selected to run Gyandoot kiosks for reasons other than their interest or competence. Changes had to be made, and these took place immediately after the consolidation phase started. It was also realized that the best way to expand and ensure better services was through having a privately owned kiosk rather than community-owned kiosks, and expansion through the community-owned kiosks, was discontinued.

The book contains a large number of illustrations, tables, and figures to justify the statements made by the author. It would have been helpful if the methodology used for data collection had been described in more detail. It would have made the book more informative if the author included the questionnaires and other instruments that were used for collecting information. A few aspects related to technology have been wrongly quoted, too, such as on p. 105, it is mentioned that all the kiosks of Gyandoot became equipped with STD-PCO[4] facilities and Internet access, which is not true. Also, the frequency range of CORDect WLL is 1.8 Ghz to 1.9 Ghz rather than 800 Mhz, as mentioned on p. 101. The wireless in local loop technology, as discussed in Chapter 5, has a limited range (it can cover only a radius of 10 kilometers without repeaters and 25 kilometers with repeaters), whereas the farthest kiosk of Dhar is more than 100 kilometers away. Indeed, kiosks in Gandhwani, Barmandal (names of villages located in Dhar), and so on continue to suffer with connectivity and bandwidth issues. Another problem with the technology has been its cost, although it does seem cheaper as discussed in Chapter 5: "WLL as we experienced, was

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4. *STD-PCO booths are small booths from which one can make long distance and short distance telephone calls. STD stands for subscriber trunk dialing and PCO stands for public call office.*

cheaper and quicker than copper wire connectivity." When it comes to a comparison with laying down for land lines, the problem is that the cost of laying down a land line is borne by the Department of Telecommunications, whereas with WLL, it is passed on to the subscriber.

An important aspect related to the network is replication and scalability. Other districts of the state have not been able to replicate the success attained by Gyandoot. It would have been very helpful if the book had covered in greater detail the factors that could lead to successful replication of the network in other districts. Indeed, it would be wonderful if the next version of the book covers the changes and learning the project has undergone since the first printed edition.

Overall, the book has largely achieved the objective of documenting the challenges involved in implementation of community networks like Gyandoot and is highly recommended reading for academicians as well as practitioners interested in working toward bridging the digital divide.

Naveen Prakash

Bridging the Digital Divide: Gyandoot—
The Model for Community Networks.
By Rajesh Rajora. New Delhi: Tata McGraw-Hill.
2002. Pp. 319. US$15.95 (paper).

Well-planned community networking can play a key role in bringing the benefits of information technology (IT) to rural societies, and the Gyandoot initiative in rural Madhya Pradesh, central India, is perhaps one of the best such exemplars.

Rajesh Rajora is an officer of the Indian Administrative Service in Dhar district, where as a civil servant with responsibilities in socioeconomic development he helped in conceptualizing, installing, managing, and assessing the Gyandoot community centers (*gyandoot* literally means purveyor of knowledge in Hindi). Leveraging access via the intranet and Internet, it represents a sustainable, self-supported model of interactive information services tailored to the local rural communities.

The Gyandoot government-to-citizen network (www.gyandoot.nic.in/) won the Stockholm Challenge Award in 2000 as well as the Computer Society of India's National Award.

The book is must reading for the development community, policy makers, social scientists, educators, activists, IT specialists, rural entrepreneurs, and all IT professionals with a sense of social responsibility. The material is divided into 12 chapters, covering theoretical models of community access, networking infrastructure, information needs assessment, user behavior, research findings, and recommendations for other similar projects.

The unfolding of events is presented in a step-by-step manner that will be very useful for social activists; the described journey is also fortified with a wealth of data in the form of charts, tables, and statistics capturing patterns of information access, demographic profiles, user attitudes, and diffusion of skill sets. The material is well written, full of anecdotes, and has touches of humor, quotes, and cartoons thrown in as well, thus making for an informative and enjoyable read.

An eight-page bibliography cites useful works such as *Reinventing Technology, Rediscovering Community* (Agre and Scheuler), *Democratising Communication* (Bailie and Winseck), *Ties That Bind* (Cisler), *Developing Community Teleservice Centres* (Graham), and *Growing Sustainable Communities* (Holley). Numerous online resources are also listed, such as www.col.org/telecentres, www. bytesforall.org, www.ctcnet.org, www.cks-b.org, www.govtech.net, www.grameen.org, www.tc.ca.

The book begins by focusing on the digital divide in India, a country with a strong IT sector but low levels of overall telecommunication and computer diffusion as well as inadequate focus on domestic applications.

Late in 1999, a group of administrative officials, headed by Rajora, decided to launch a rural community network initiative whose success could be guaranteed via public-private partnerships, assessment of appropriate information services in the local language, appropriate tariff structures to make it affordable yet self-sustaining, and suitable marketing messages.

Discussions, meetings, and focus groups were held in a number of villages with the help of voluntary organizations to find out what the village community would really seek from an interactive information resource service. The information needs varied across the constituent groups: rural elite, large and small farmers, nonfarming workers, below-poverty-line families, and backward castes.