

National Institute of Agriculture Extension Management (MANAGE), Hyderabad, Andhra Pradesh

Case study on Information centres for technology dissemination

Introduction

MANAGE, the National Institute of Agricultural Extension Management, is a premier post-graduate school offering two-year courses in agribusiness management in Hyderabad, Andhra Pradesh. Their role is also to provide policy and capacity building to the whole Indian agricultural extension system. Founded in 1987, they offer 30 places a year, for which they receive some 800 applications. Post-graduate students pay fees of 320,000 rupees (\$6,400) a year (including accommodation). After completing the course, they can expect to earn around 400,000 rupees a year (\$8,000) as marketing and general managers in large Indian and international agribusiness companies.

MANAGE is directly supported by grants of up to 60 million rupees (\$1.2 million) a year from the Ministry of Agriculture (MoA). In addition to their teaching duties, faculty members conduct consultancy work, training, research and pilot projects – such as the on-going ‘cyber extension’ programme described here, which provides information services to rural farmers in the so-called ‘last mile’ of connectivity.

MANAGE began their innovative ‘cyber extension’ programme in October 2000 to find out ‘*are people living in village communities willing to use the computer, and willing to access the information on the systems?*’, says Dr V. P. Sharma, Head of IT. ‘*And if so, what information are they looking for?*’

Computers were installed in 11 villages of Rangareddy District of Andhra Pradesh, some 50 to 70 km away from Hyderabad, where MANAGE is based. Each village information kiosk was equipped with a multimedia PC, a dot matrix printer, modem and UPS (uninterruptible power supply). Nine of the systems were located in the premises of MACTCS (Mutually Aided Co-operative Thrift and Credit Society Ltd); the other two in Gram Panchayat (village council) offices.

The MACTCS (Mutually Aided Co-operative Thrift and Credit Society Ltd) has grown out of a nationwide micro-finance programme, created by thousands of local self-help women’s groups, which have generated total capital and savings in India of over 4,000 million rupees (\$80 million). Village groups of 10-15 women start by saving one rupee (2 cents) a day: a not insignificant sum for many of the landless labourers in the groups, who typically earn 30 rupees (60 cents) a day. These women-only micro-credit groups have been so successful over the last ten years that groups have federated at Mandal level (a sub-district of 25-30 villages) to create their own local MACTCS banks. Each bank has their own Board of Directors, elected Chairperson, full-time manager, and book-keeper. MACTCS are now demanding more and more access to information on public sector schemes, information on market prices, information on weather and so on

In Ranga Reddy district, where MANAGE piloted their cyberextension programme of village information kiosks, the Shamirpet MACTCS has built their own premises for group meetings, banking activities, and to house nine of the eleven computer centres. These are primarily dedicated to supporting the work of the women’s micro-finance groups and societies – with public services (such as computer training; and printing out of exam results) providing some cost-recovery.

MANAGE created the basic information systems, and when villagers identified useful and usable information, they acted as a broker with other agricultural institutes who offered to provide the information. In some cases MANAGE provided equipment to help these other organisations digitise content.

‘Slowly, slowly we built up databases on health, nutrition, pickle-making, marketing and other areas. But we started from zero.’

SUSTAINABILITY FACTORS	Notes from Interviews
	Directly Involved (MANAGE) Dr. V.P. Sharma, Head (IT), MANAGE Dr. B. Renuka Rani, Field Coordinator, MANAGE Users Self Help Group (SHG) Women

	<p>Sumathi Kavali, Manager of Shamirpet MACTCS The IT Facilitator: A Hari Krishna The student: Bhavani Narsingh Rao (17) The village leader: Mr K. Ashok</p>
<p>Objectives</p>	<p>MANAGE objective:</p> <ul style="list-style-type: none"> Facilitating the Acquisition of Managerial and Technical skills by Extension Officers, Managers, Scientists and Administrators in all sectors of Agricultural economy to enable them to provide most effective support and services to Farmers and Fishermen for practicing Sustainable Agriculture. <p>MANAGE:</p> <ul style="list-style-type: none"> The task of facilitating the modernisation of India's agricultural extension system is far beyond the capabilities of a single institution. As an apex institution, therefore, MANAGE functions as a pace-setter, developing system designs and models of professional activities for other, state-level institutions to adopt. Sharing these experiences to enable other institutions, to adapt and adopt these innovations is one of their core concerns. <p>Case study Objective: Following are the objectives of the project:</p> <ul style="list-style-type: none"> To reach research and extension information to the farm women in fastest manner through ICT in order to meet their needs. To reduce the drudgery of account maintenance by providing banking software at MACTCS (mutually aided cooperative thrift and credit society) level. To communicate with MANAGE/District Rural Development Agency/Collectorate/ State level functionaries etc., through e-mail in the fastest manner. To get global information on various aspects (Agriculture, health, Nutrition, education, marketing, weather etc.) To empower the rural women through ICT
<p>Institutional arrangements</p>	<p>Organogram for ICT project</p> <p>MANAGE</p> <ul style="list-style-type: none"> Computers were installed in 11 villages in the Rangareddy district in the last week of September 2000. One system with one printer, one modem and a KVA UPS was provided to each village. The systems were placed in the premises of MACTCS in nine locations and at Gram Panchayat Office at two locations. In this project, the eleven village-booths cater not only to the eleven villages proper, but each of these villages caters to surrounding 25-30 villages, from where these MACTCS have group members. The Village Information-Kiosks have been established in the buildings of MACTCS, which are located in the vicinity of Mandal headquarters (a sub-district administrative structure in A.P). A district has on an average 45-50 Mandals, and each Mandal has around 25-30 villages). These places are well connected with major roads. Thus the total reach of the RR District project is around 250-300 villages. <p><u>Village Information-Kiosks</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Village Information-Kiosks are 11 village sites working as rural cybercafe-cum-cyberoffices. Each Village Information-Kiosk provides services to about 25-30 villages, i.e. around 20,000 to 30,000 people. The Village Information-Kiosks are located on the roadside and are central villages where people normally travel. Village Information-Kiosks have a telephone line connectivity to begin with. The hardware is procured and given to the Women Groups or Farmers' Groups under agreement with the President of the respective MACTCS. The MACTCS have an accountant (basically to maintain

	<p>MACTCS finances), and a Manager and 10-12 organisers at the Mandal Head quarters who manage the Village Information-Kiosks. Two of the MACTCS have constructed their own buildings and have provided adequate space for "Computer Room". They have also provided the telephone and electric connection as well as the furniture. These functionaries have been provided "Basic IT Training" by MANAGE IT Facilitator at the Village Information-Kiosks sites. MANAGE has provided the service of one IT Facilitator at each of the 11 Village Information-Kiosks for a period of 6 months to ensure proper training to all the farmers and their families (the women, boys and girls), and also to assess the information needs at the village level.</p> <ul style="list-style-type: none"> The IT Facilitators at these Village Information-Kiosks have already trained over 20 persons at each site on " MS Office", Internet and e-mail, browsing and using search engines. In some villages, the younger generation has already learnt MS-FrontPage and other web-designing software tools. These high-school level students have shown very keen interest in learning new technology. The language has not at all been found to be a barrier for these students. MANAGE has also taken care to provide the IT facilitator from local area, so that he/she can interact with them in local language. <p><u>Who actually owns the project now?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Initially MANAGE paid the honorarium to the IT facilitators for one year. After that for six months, it has been paying only 50% of the amount with some contribution by MACTCS and the remaining from the concerned IT facilitator who has to generate some amount from the kiosk. But presently MACTCS owns the project so they are the ones paying honorarium to IT facilitators fully. <p><u>What are the review / evaluation procedures?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Frequent visits are made by the MANAGE field coordinator, DRDA officials to the kiosks. Review meetings are held every month at MANAGE. The Board of Directors meeting of MACTCS and Sneha Sangha meetings at federation level are held on a fortnightly basis. Frequently village level meetings at the headquarters are organised by MANAGE field coordinator. <p><u>Sector/Theme:</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> The organisation is active in group concept, agriculture, education, health, livelihoods etc. <p><u>Number of clients / beneficiaries</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> The clients are the Extension Officers, Managers, Scientists and Administrators in all sectors of agricultural economy. Farmers and their families in Andhra Pradesh and other states are the beneficiaries.
<p>Target Groups</p>	<p><u>Definition of target group(s)</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Women and children of the Ranga Reddy district in the state of Andhra Pradesh. <p><u>What is the ICT capacity and awareness of target groups.</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> They are comfortable using the Internet for getting what they want. <p><u>How does the organisation communicate with target groups (channel, frequency, formal/ informal etc.)</u></p> <p>MANAGE</p>

	<ul style="list-style-type: none"> E-mail correspondence is regular within the target groups. Communication is through e-mails only, and this includes the sending and receiving of monthly and quarterly reports to DRDA., regular correspondence with the collector, PD etc. <p><u>Gender</u> MANAGE</p> <p>The pilot project was conducted in close collaboration with MACTCS, with beneficiaries limited to women and children. The kiosks have been primarily aimed at providing information to rural villagers via the well-established network of women's self-help groups. This has however excluded men from the computer centres.</p>
ICT Technology	<p><u>What ICTs do they have?</u> MANAGE</p> <ul style="list-style-type: none"> Computers were installed in 11 villages in the Rangareddy District in the last week of September 2000. One system with one printer, one modem and a 1 KVA UPS I leap soft ware was provided to each village. The systems were placed in the premises of MACTCS in nine locations and at Gram Panchayat Office at two locations. <p><u>What are they used for?</u> MANAGE</p> <ul style="list-style-type: none"> Getting information and using it for their benefit <p>Users MACTS Manager:</p> <ul style="list-style-type: none"> uses the computer for around two hours a day, mostly using MS Excel to update the trial balance records that show the payment history of group members. Reports are sent weekly and monthly by email (or on floppy disc) to the DRDA (District Rural Development Agency) in Hyderabad, some 50 km away. She makes limited use of the Internet to read local language newspapers, to check weather reports, and the occasional visit to specialist agricultural web sites. She estimates this browsing and searching takes her 10 or 15 minutes a day. <p>Student:</p> <ul style="list-style-type: none"> comes to a course at the computer centre at Shamirpet on 'introduction to computer skills' <p>Village Leader:</p> <ul style="list-style-type: none"> He cannot use the kiosk himself, because access is for women's group members only, but his wife has visited the centre. <p><u>What are common problems / failures?</u> Users Manager:</p> <ul style="list-style-type: none"> <i>'The Internet connection is very difficult. The connection will only last five or ten minutes. It can also be a problem for us paying the telephone bill, which is expensive.'</i> <i>'There is a lot of information on the Internet, but most of it is in English. There is not enough in our local language. Most of us speak Telagu, so we need information in that language to be useful.'</i>
Financing	<p><u>How is the project funded?</u> MANAGE:</p> <ul style="list-style-type: none"> MANAGE initially paid for 11 IT facilitators to run the computer centres, providing Internet access, email and training for MACTCS staff and group members. Basic computer training has been given to 150 female members through the 11 kiosks in the last two years: covering MS Office (Word and Excel), browsing and searching the Internet, and using email.

In addition some training of members' children has helped to recover some running costs of the centres.

- Since June 2002 MACTCS has taken over full financial responsibility for the eleven kiosks, including future replacement of the equipment.

Users

IT Facilitator:

- MACTCS pays him a part-salary of 1500 rupees (\$30) a month, which is supplemented by another 1500 rupees or so which he earns from additional training.

Details of budget?

MANAGE

- The unit cost of the equipment is roughly around Rs. 100,000. MANAGE provided one IT facilitator to each kiosk and frequently upgrading the equipment as and when required.
- The pilot project cost MANAGE 125,000 rupees (\$2,500) per computer centre for equipment; plus payment of 11 full-time IT facilitators who received a salary for the first year of 4,000 rupees/month (\$80), making a total project cost for the first year of 1.9 million rupees (\$38,000).
- The biggest running cost is telephone call charges, typically 250-300 rupees/month (\$5-\$6), representing an average of 10-15 minutes on-line access for email and Internet per day.

Detailed breakdown of income raised from different sources

MANAGE

- MANAGE took care of the ICT connectivity, training and co-ordination part of the project. They bought ten units with each unit costing nearly Rs. 125,000 and so approximately Rs.1100,000 were spent. Recently DRDA has given printers to all these units.
- The kiosk at Shamirpet, which was visited for this report, last year earned some 5,000 rupees (\$100) from printing exam results on demand. The Indian government Central Board of Secondary Education (CBSE) allows kiosk-printed exam certificates to be valid for admission to colleges, as long as these are certified by the student's school within seven days. This has saved students waiting up to two weeks to receive their results, and ensures that all 11 kiosks are seasonally inundated by students, who each pay 15 rupees (30 cents) for the print-out.

What cost recovery mechanisms are used - how much is raised?

MANAGE

- Revenue is generated through the kiosk, by providing training to the members children and operating as a cyber-café in addition to the society transactions.
- MANAGE estimate that the 11 kiosks generate revenue of between 1,000 and 3,000 rupees each a month (\$20 to \$60). However this is likely to be optimistic. The accounts of the Shamirpet MACTCS for 2002 showed a regular monthly income of 265 rupees (\$5) for IT income, plus a nominal income of 1,000 rupees (\$20) a month as payments from visiting self-help groups.

Users

IT Facilitator:

- trains the children of members: which provides extra income for him, of which MACTCS takes a 10 per cent contribution. The introduction to MS Office costs 500 rupees (\$10) and at the end of the course, each participant gets a certificate of completion from MANAGE.

Is provision made for training, maintenance, equipment upgrade and replacement?

MANAGE

	<ul style="list-style-type: none"> The village level federation bears the telephone and Internet costs. The Mutually Aided Cooperative Thrift Societies who own the project pay the IT facilitators and depreciation of equipment. Training of IT facilitators is done by MANAGE. <p><u>Sustainability of ICT project</u></p> <ul style="list-style-type: none"> Revenue-generation in these Information kiosks comes from the villagers. As already mentioned earlier, these kiosks are used as cyber cafes. Provision of information and services at the kiosk have a nominal charge. Each kiosk produces upto Rs. 3000 every month. Moreover these kiosks have financial support from village level federations and women SHGs.
The project process	<p>MANAGE</p> <ul style="list-style-type: none"> MANAGE and District Rural Development Authority came up with the idea. <p><u>Who is responsible for quality control?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> MANAGE and District Rural Development Authority (DRDA) <p><u>What is done to monitor performance and use of facilities?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Frequent monitoring of the project by the DRDA official and MANAGE field coordinator. Those who completed training are also being examined. SHG members and Board of Directors frequently visit the society. The SHGs are self-monitoring.
Key linkages	<p><u>Any formal links with government</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> MANAGE is an autonomous wing under the Ministry of Agriculture, Government of India. The SHG federations purely manage this ICT project and it is registered under Mutually Aided Cooperative Act. <p><u>What links does the organisation have with other organisations?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> NGOs and private sector (Nagarjuna Group of Companies). <p><u>Which are most useful linkages?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> MANAGE is providing continuous capacity-building support to all the presidents, board of directors, organisers, group members of MACTCS.
Intermediaries	<p>Intermediaries are people who handle requests and information from/to target groups and sources of information.</p> <p><u>What calibre of persons search for information required?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Actually the village people are trained to use the Internet. But when it comes to using English sites, they have a language problem. At such times, they come to the IT facilitators to get the information. <p><u>How are requests for information handled?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Villagers come to these facilitators with their doubts, queries and specifications. The IT facilitators use the Internet, search for the information and get back to the villagers. These facilitators also interpret information on the net which is in English, to Telugu because of the lack of the language knowledge.
Capacity	<p><u>Qualifications of staff and their training</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> The IT facilitator is a person who has completed the G-NIIT programme from NIIT (NIIT is a leading computer trainer in India). They themselves operate the system on browsing internet, sending and receiving e-mails,

	<p>operating society transactions through computer etc.</p> <ul style="list-style-type: none"> The staff who manage the kiosks are also given basic training in IT by the facilitators appointed by MANAGE. These people have passed their 10th or 12th grade. <p><u>How familiar are target groups with the ICTs used? What participatory approaches are used?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> Individual and group contacts with SHG members, organising frequent meetings, processions, exhibition on use of ICT in their daily life, mass meetings, Maha Sabha (large association) etc. In each kiosk nearly forty members can operate computers. Nearly Rs.1000 – 3000 are generated from each kiosk. People are very much satisfied. <p><u>What training is provided?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> MANAGE has provided the service of one IT Facilitator at each of the 11 Village Information-Kiosks for a period of 6 months to ensure proper training to all the farmers and their families (the women, boys and girls), and also to assess the information needs at the village level. <p>Users IT Trainer:</p> <ul style="list-style-type: none"> <i>'I have trained 20 members in MS Office and the Internet,' he says, 'and so they are comfortable sending and receiving emails. Now they are ready to do anything using computers. They are very thankful to MANAGE.'</i>
<p>Development benefits</p>	<p><u>What has the project accomplished in terms of content generation and sharing? In what ways are ICTs adding value to target groups (any quantitative data)? Are people satisfied/dissatisfied? Why? What is information used for?</u></p> <p>MANAGE</p> <ul style="list-style-type: none"> These programmes have evinced keen interest from the villagers, from the point of view of their utility and the participation of village community in the same. Recently when the Home Minister of the State inaugurated the second MACTCS building at Keesara Mandal, the village ladies asked a number of questions on implementation of various welfare schemes, particularly those for ladies. They also expressed their unhappiness about paucity of drinking water in their area. They also suggested the schemes under which the development works could be undertaken. Thus the information access at the village level has improved the information about the state programmes meant to support the village community and they are able to articulate their needs and demands much more clearly to the concerned officers. The information access at the village level is putting pressure on the middle and senior level state officers for delivering the programmes and schemes in time and to the needy. They are also under constant pressure as the transparency throughout the system has improved. The villagers know their eligibility for housing loans, crop loans and other schemes and they are able to inform the concerned officers about their demands with full supporting documents, very much in time, due to information availability through the websites. Besides normal websites, the rural community in these villages is using multimedia CD learning packages for making pickles, learning about maternity and child health, importance of child education, issues regarding child labour, nutritional aspects and also expert systems on crops. A number of families have taken up pickle preparation and are taking their produce to Rythu Bazars (a Hyderabad-based supermarket) regularly. The CD on pickle preparation (which is in the local language) is a big hit in all the 11 villages. The Telugu websites are very much popular at all these kiosks. The newspaper websites of Vaartha.com, eenadu.net and even Deccan.com (an English daily), are being accessed very regularly. Evaram.com, an international Telugu website is very informative and gives information on

	<p>virtually every issue right from the subjects like child health and nutrition to DVDs, films, matrimonial and medical services. These websites are creating tremendous awareness among the rural masses and also creating more hunger for education for the younger generation.</p> <ul style="list-style-type: none"> • All the MACTCS have their individual email IDs and they are regularly sending mails, feedbacks to the Project Director, DRDA, the District Collector, the Ministers and also at times to the Chief Minister. They are also keeping MANAGE informed on technical issues and information needs.
<p>Hindrances</p>	<p><u>What problems does the organisation face in accessing / utilising / maintaining ICTs?</u></p> <p>MANAGE/Users</p> <ul style="list-style-type: none"> • Establishing the telephone and Internet connectivity in the villages. There were no telephone lines in these villages and repeated follow-up had to be made to the Department of Telecommunications. • The biggest problems for the kiosks have been connectivity and suitable content. • When the kiosks were set up, most locations did not have telephone lines, and repeated follow-up had to be made to the Department of Telecommunications to have lines installed. • Problems with the low-quality of dial-up access by standard telephone line means that at the best times of day (early morning and evening) it takes 2-3 minutes to connect to the ISP (Internet Service Provider), with the line disconnecting after 5-10 minutes. This has been frustrating to users, who perceive that call charges of one rupee/minute make this an expensive and unreliable service. • To work round this, IT facilitators periodically download the most popular content, so it is available for viewing off-line. <p><u>What problems are encountered in local content creation and sharing?</u></p> <p>MANAGE</p> <p>Agriculture-related information is scarce on the Internet. Some of the problems related to information on agriculture is as follows :</p> <ul style="list-style-type: none"> • Whatever information is available on agriculture is not very exhaustive. • Localised Information is absent. In agriculture information has to relate to the local conditions and cannot be generic • The knowledge base on agriculture is with the farmers and they do not have access to input data into the system. This prevents others from getting access to the information already available in traditional formats • Organisations like Agricultural universities do not have an extensive network to reach out to the farmers. The research being conducted in these educational institutions do not reach the end user • Content wherever available is in English and not in the local language • To solve one part of the problem, MANAGE is thinking of using satellite and video conference methods. Agricultural experts would talk to farmers and give them information on what they want. Not many details were available on this new project since it is at a nascent stage. <p><u>What problems are encountered in mediating ICTs to target groups?</u></p> <p>In the beginning most of the women were hesitant to sit in front of the computer. After much encouragement, they are now running the kiosk and those who learnt computer created their own e-mail ID's and now they are sending and receiving e-mails independently.</p> <p>Another problem is that the information in Internet is in English, which necessitates the need for an IT facilitator to translate it. Agriculture-related information is very limited on the Internet.</p>
<p>Future</p>	<p>MANAGE</p> <p>MANAGE's Head of IT Dr V.P. Sharma believes that rural networks of village information kiosks will be financially self-sustaining in the near future: once a</p>

number of shortcomings have been addressed.

The most significant challenge is for reliable, cost-effective connectivity. 'Telephone-based Internet connectivity does not really work,' he says.

The village telecentre projects in India which have been the most successful to date have all moved away from using the telephone for Internet access, he says. Thus the EID Parry village network in Cuddalore, Tamil Nadu uses the corDECT Wireless in Local Loop (WiLL) technology to offer both voice and 28/64 kbps data on a single connection, offering users higher bandwidth and lower cost.

The award-winning Gyandoot village intranet in Dhar, Madhya Pradesh, while currently based on dial-up telephone access, is in the process of introducing the same WiLL technology, in collaboration with the Indian Institute of Technology (IIT) in Chennai (Madras). At the beginning of 2002 four of the 21 kiosks had migrated to WiLL to overcome the problem of extended downtime at the kiosks.

The Warna wired village project in Maharashtra uses a 64kbps VSAT connection to connect its central hub to the Internet, which is further linked to six IT centres equipped with DirecPC (receive-only VSATs). A further network of remote village booths connect to the IT centres by dial-up telephone access.

In line with this recent experience, MANAGE is now planning a new pilot project using WiLL to provide cheaper, higher-bandwidth access to a network of village kiosks in four districts. If this is successful, the scheme will be extended to 28 districts, representing some 5 per cent of the country.

The plan is to introduce kiosks, as small business centres run by local entrepreneurs, in much higher concentrations, within specific local areas (a strategy Dr Sharma refers to as 'carpet-bombing'). He sees this to be the key for financial sustainability.

'The moment you cross above 50 kiosks in a local area, it becomes sustainable,' he says. 'Then we will see the cost-benefit ratio, the break-even points and profitability, because content-creation will be boosted.'

'25 kiosks is the most any project has achieved to date. But 25 kiosks are not enough to provide sustainability. They are not able to generate enough finances to keep the staff salaried.'

Within a local WiLL network of kiosks, local telephony becomes a significant source of revenue, especially since calls within the local network will be virtually zero cost to the operator (once the initial investment in infrastructure has been made). 'Sustainability comes from telephony. Even a revenue of one rupee per call creates enough revenue to make the system sustainable.'

If the problem of connectivity has been overcome, he estimates that a Local Service Provider (LSP) could make a viable business operating a concentrated network of kiosks across a radius of 25km. This typically would include 500 villages, and 5,000 families.

'IT content creation is no problem in India. The only problem is how to get the revenue back.'

So far his analysis is that while many institutions and providers have created good local on-line services and content, the volume of sales in rural areas has been insufficient to cover costs, let alone to reach profitability. Initiatives that have continued have been largely cross subsidised by other activities. 'To make it sustainable, we need volume.'

Partly this is because the telecentres or kiosks have been too widely dispersed, with the disadvantage that each requires different location-specific content to be of actual use to users. Basic information such as database listings of doctors,

	<p>government agencies and officials, bus and train timetables, local market data, has to be created in each new location.</p> <p>‘But if the same information can be used in another adjoining local area, you don’t have to create the database again.’</p> <p>This is a particular factor for India, which has such great diversity of language, culture, geography and socio-economic groups. It means that content is highly location specific.</p> <p>Dr Sharma sees the increasing provision of national, district and local government services on-line as a being a major stimulus for the kiosk market. One success of the Gyandoot village intranet in Dhar is that villagers have been able to register official complaints by email, with the promise of a reply within 10 days. They have also been able to apply for a myriad of certificates and official documents by email, at a cost of 5-15 each, via kiosks, without having to chase after officials for anything up to three days at a time: losing up to three days’ wages in the process.</p> <p>‘There is a huge demand for government services at cost. People are willing to pay 100 per cent more, because they are already spending 500 per cent.’</p> <p>These so-called ‘e-governance’ services represent a significant revenue stream for kiosk entrepreneurs; and bring increased transparency and accountability to babudom (officialdom). ‘It means that people can get the forms and certificates they need from the system without being humiliated by government officials.’</p> <p>Once these factors are in place, Dr Sharma sees village-level kiosks as being ‘the next big thing’ for the IT industry in India.</p> <p>India currently has barely 32 million telephone connections and less than 3 million Internet connections for its 1,000 million people. Most of these connections are confined to around 100 large cities. The state telco Bharat Sanchar Nigam Ltd (BSNL) loses money beyond these 100 cities, and few private operators are so far venturing into smaller towns and rural areas. These areas represent a huge potential market in the future.</p> <p>‘After the call centre businesses in urban areas, the creation and selling of rural content and networking, will be the next most important jobs for the middle sector’.</p> <p>‘There will be a lot of training demand at local level. New jobs for graduates in content creation, supply, maintenance and marketing of rural information.’</p> <p>Expansion of the infrastructure will also create new demands for maintaining and repairing equipment; and for a host of new on-line and off-line services that will be created.</p> <p>‘When the supply (technological infrastructure) improves, it will also create further demand. This dynamic situation can emerge only when there is a basic critical mass of users.’</p> <p>‘The revolution is just waiting to take place.’</p>
Anecdotes	<p>Very recently, the Board of Secondary School Education, Andhra Pradesh declared its 10th class results, through their website at 11 AM on 30-04-2001. Since 11.10 AM on 30th April till May 2nd evening, the telephone numbers of all the 11 Village Information Kiosks were continuously engaged. All these kiosks were busy disseminating the results to the students, of course for a fee of Rs. 15/- per hit. The students are being given total marks list statement in printed form. The result has reached all the villages at the same time, along with the state headquarters for the first time in history! The access to internet has changed the way of life for all the people who have access to it.</p>

Experiential sharing by SHG women

- Maintenance of accounts is becoming easy.
- Without the knowledge of English, I am learning computer.
- Generating our income through programmes by watching CD Maa Nestham to learn pickle making, rolling of sarees etc.
- If websites were in Telugu, it would be very useful for us.
- Without English knowledge, I am learning to browse the Internet and send mails to the PD, DRDA, collector etc.,
- Being a farmwoman, weather report, news, market rates are very useful for me.
- After seeing the weather report, I harvested my tomatoes.
- Being a brick maker, I find the weather report very useful.