

Information villages: Connecting rural communities in India

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The Information Villages project was started in 1998 in Pondicherry, South India, by the M. S. Swaminathan Research Foundation. The project links 10 villages near Pondicherry into an information network connected to the Internet. The goal is to develop community ownership and collective action around the use of new technologies, in keeping with a “pro-poor, pro-nature, pro-women” approach to development.

M.S.Swaminathan, the chairman of the Foundation, is guided by an insight regarding technology dissemination that he puts in a nutshell, “From my long experience in agriculture, I find that whenever poor people derive some benefit from a technology, the rich also benefit. The opposite does not happen,” he says.

Pondicherry is a former French colonial area in southern India, on the Bay of Bengal. The main language of the rural people is Tamil. Almost a quarter of the families in this region earns less than a dollar a day. It is predominantly a paddy or sugarcane producing area.

Hub and Spokes model

The Information Villages project has established a rural information network along a hub and spokes model. Ten villages constitute the network. In each village is a small, community-owned and operated Village Knowledge Centre, staffed by trained volunteers and equipped with several computers, printer, telephones, and Internet access. The centres provide supervised free access to those who wish to find information, learn about computers, search the Internet, communicate by phone or email, or use other services such as word processing, printing, and fax.

At the centre of the wheel is the project headquarters in the town of Villianur, where staff scour local sources and the Internet for information that is relevant and useful to the rural people of the region: information on agriculture, health, government policies, educational opportunities, the weather, and more. This information is put into a format that makes it more accessible to rural communities with a low level of literacy, translated into Tamil, and transmitted to the info shops electronically, via the network.

Technical infrastructure

With the help of committed volunteers, the villages around Pondicherry, beginning with Veerampattinam, were brought online starting in 1998. The near absence of a modern electrical and telephone infrastructure in the region led to some creative solutions: solar panels for electricity and wireless transmission systems where communication lines didn't reach. Costs were minimised. The emphasis on low budget technologies undoubtedly enabled more villages to be connected, and freed up funds for a greater emphasis on training and evaluation aspects, which are often neglected in technology projects.

Building the network

Site selection was accomplished after a process of participatory rural appraisal in 13 villages. Villianur, a market centre and administrative node, well connected by roads, was chosen as the headquarters of the project and the hub of the information network. The Villianur hub is equipped with a computer, modem, telephone, a small telephone exchange, and wireless equipment. It is here that the project staff produce, translate, and update information that is fed into the network.

The “spokes” or sub-centres in nearby villages were chosen with care. In each village, participatory rural appraisal was



Women have not been excluded from ICTs.
Photo: M.S. Swaminathan Foundation

carried out in order to identify an accessible rent-free building, electricity and volunteers. At each centre, the Foundation entered into a written agreement delineating the responsibilities of the Foundation to provide equipment, expertise and training, and the community to maintain and staff the site with volunteers, pay the telephone bills, and ensure prejudice-free access to all members of the community.

Each village is unique, and the project has experienced the closing of some centres and the opening of new ones. Some knowledge centres established in private homes were closed when they did not allow socially underprivileged people to visit, and when the managers exhibited reluctance to share knowledge freely. These experiences made the project team realise how critical community ownership is to the success of each knowledge centre. The community as a whole must endorse the project so that it does not become associated with one group or caste.

Staffing and training

Staffing is by village volunteers identified by the community members. At least half of the volunteers must be women, under the terms of the agreement with the Swaminathan Foundation. The Foundation provides training in Windows 95/98, MS Office, web site construction, voice recording, file compression and wireless data transmission. The volunteers also learn to send and receive email and fax messages, and some receive training in desktop publishing, computer programming and design, which enables them to produce letterheads, posters, visiting cards and wedding invitation cards. The provision of such services is seen as one way in which the centres can generate an income.

Working with newspaper reporters, the Foundation is also providing journalism skills training to the volunteer knowledge centre employees in writing and presenting information clearly and crisply.

Mapping the rural information landscape

When the project began in 1998 there was almost no modern telephone infrastructure and a three-to five-year wait for standard telephone lines. A survey of 11 villages targeted by the project revealed two reading rooms, six post offices, 12 public telephones and 27 private telephones for 22,000 people. There were also 1,129 television sets, of which 424 were connected to cable TV broadcasting in Tamil.

Television and radio were generally regarded as sources of entertainment, not practical information. For useful information farmers turned to other farming families, local shopkeepers, and suppliers of farm inputs. They expressed a low opinion of local government functionaries.

There is high demand for agricultural information: the costs and availability of agricultural inputs, including seeds, fertiliser and pesticides, and grain prices in different markets throughout the Pondicherry area. 121 farmers interviewed in 2000 reported that grain prices are the most important piece of information they receive. *“Now that [villagers] have access to market rates, middlemen are not able to exploit the farmers or fishermen,”* says Raja Mohan, the head of the information technology hub in Pondicherry.

The knowledge centres provide detailed weather forecasts downloaded from the Internet in audio format and broadcast over a speaker system outside the knowledge centres. The knowledge centre in Veerampattinam downloads wave height predictions from the US Navy web site, which provides 12-hour predictions for wave heights in the Bay of Bengal. The centre prints out detailed maps from the site that are posted outside the centre, and broadcasts the information over a speaker system for the benefit of fishers who cannot read. The fisher families of Veerampattinam, most of whom use non-motorised catamarans, consider this information life saving.

Value Addition: local content is the key

Along with access, a key component of the project is “value addition” – collecting, creating and disseminating locally relevant information in Tamil. This activity mainly takes place in Villianur, the network hub. Recognition of the need for “intelligent intermediaries” based in the communities to interpret and package information for local use is seen to be one of the major success factors of the project.

Information compiled by community volunteers and provided in the village knowledge centres is locale specific. It relates to prices of agricultural inputs (such as seeds, fertilisers, pesticides) and outputs (rice, vegetables), market (potential for export), entitlement (the multitude of schemes of the central and state governments and banks) health care (availability of doctors and paramedics in nearby hospitals, women’s diseases), cattle diseases, transport (road conditions, bus and train schedules, cancellations), weather (appropriate time for sowing, areas of abundant fish catch, wave heights).

There is growing evidence that farmers are using the information. For example, 14 farmers who had had their sugar cane crops devastated by “red rot” disease in two consecutive years were able to contact an entomologist through the knowledge centre. The preventive measures prescribed by him helped them save the sugarcane crop in 2001.

Farmers’ Diary

Staff at Villianur have recently initiated a daily news item sent to the knowledge centres called “Farmers’ Diary.” The bulletin provides information on technologies and techniques relevant to agriculture and animal husbandry, with an emphasis on sustainable approaches such as Integrated Pest Management, Integrated Crop Management, and Integrated Nutrient Management Practices relevant to the main crops grown in the region: paddy, sugarcane, cotton, pulses, cereals and horticulture crops. The information comes from the agricultural university,

magazines, individuals, research stations, and indigenous farming practices shared by the farmers in magazines. The diary for animal husbandry aims to give information on animal health practices suggested by Tamil Nadu Veterinary University, research stations and farmers’ indigenous animal health practices. Project staff have so far developed 135 items related to agriculture and 59 animal husbandry health practices.

Linking with Extension

Greater cooperation with the Department of Agriculture is being discussed, and a partnership is taking shape. The Department wants to link their farm clinics to the Villianur hub so that extension staff can communicate more quickly with Departmental headquarters. Farm clinics in three villages will begin sharing agricultural information via the knowledge centre located in their assigned village. The Foundation is also developing a web site which will bring together all the relevant agricultural information in the region, including

- the schedules of Agricultural Officers and the training programmes they plan to conduct
- IPM methods developed in consultation with agricultural extension officers, university professors and people with indigenous knowledge



Village knowledge centres are run by community volunteers.

Photo: M.S. Swaminathan Foundation

- Information on vermiculture, biopesticides, biofertilisers and bioremediation agents
- Crop and livestock integrated farming systems
- Conservation, sustainable use, and equitable sharing of water and the establishment of community water banks
- Government entitlements related to farmers.

Once the website is in place, it will provide a rich source of information to extension workers, other Department staff, members of the communities in which knowledge centres operate, and many others who have an interest or need for such information, in the Pondicherry region and elsewhere in the world.

Power and gender impacts

The Swaminathan Foundation and the project’s funder, the International Development Research Centre, took great pains to ensure that the technology was not appropriated by the powerful to further exclude women, the Dalit caste, and the poor.

Unlocking information that was previously inaccessible to the rural poor can be threatening to those for whom knowledge is the key to exercise their power. Local bureaucrats are often reluctant to give up their monopoly on information, which can be a source of power.

Before setting up the knowledge centres, the Foundation required participating villages to agree to certain criteria. Each centre had to guarantee access to members of the Dalit population (formerly known as 'untouchables'), and ensure that at least half of the trained volunteer operators are women.

The key to success has been the integration of gender analysis and awareness at the earliest stages of project design, and making it a part of ongoing training, evaluation and monitoring. The knowledge centres track the number of men and women visitors to the centres on an ongoing basis, providing a changing picture of how rural women are using ICTs. Statistics kept by each shop indicate that between 34% and 50% of users are women, depending on the village.

The terms of the agreement with the Foundation that at least half of the volunteers must be women, helps ensure that women feel at home in the centres and continue to visit. The experience of handling and maintaining computer equipment and answering men's questions gives women new confidence and status in the community and helps ensure that technology is not thought of as "man's domain."



Photo: M.S. Swaminathan Foundation

Women primarily visit the knowledge centres to obtain information about family income supplements and public welfare schemes, low-cost insurance, and health issues, especially child bearing and rearing. Some women have also explored ways to start up new family enterprises. Grain price information is of interest to women agricultural workers who receive part of their wages in grain.

Lessons learned

Several constraints have been noted by project staff: lack of local language content on the World Wide Web, the weakness of both telecommunications and electrical infrastructure in the region and especially in rural zones, and the reluctance of local bureaucrats to give up their monopoly on information on government services and programmes.

In an earlier phase, project leaders Balaji and Arunachalam summed up the lessons thus: *"ICTs can make a positive contribution to improving the quality of life in ultra poor families in rural areas. It is essential that community ownership of ICT devices and training is established in the initial phase to prevent influential sections from appropriating all the benefits. Special efforts are needed to identify knowledge and information needs both of men and women. Local level "intelligent intermediaries" are an essential component in any such project. There is a need to maintain a continuous dialogue with the actual users to assess changing needs vis-à-vis the network derived information. A wide variety of access technologies are available now, and the emphasis*

should be on what is operable locally without cumbersome licenses or power requirements."

Balaji and Arunachalam note, however, that direct economic benefits from this type of enterprise are difficult to quantify, although they certainly exist. They see potential for ICT to support micro credit and community banking. Empowerment of local communities can be seen in the increased level of awareness that rural families have about their rights and entitlements under publicly funded schemes, and the improvement in their bargaining power in the marketplace.

Sustainability through partnership

Sustainability of the network in a context where most users are below the poverty line is one of the most difficult hurdles to overcome. Most of the knowledge centres are partially self-sustaining, thanks to the efforts of volunteers. A key to sustainability is the fact that the centres are valued community assets. When repairs are needed, they are made, not always with external financial assistance.

The tangible social benefits of the project are compelling to the Indian government. The Department of Science and Technology wants to see the experiment replicated in most of the villages in Pondicherry, and is covering the cost of connecting five more villages through wireless technology. Other avenues to sustainability that are being explored are the sale of services such as desktop publishing and online banking, and partnerships with the departments of Education, Agriculture, Statistics, and the District Rural Development Agency.

The positive media attention the project has received since 1999 has helped to bolster the Information Villages Research Project. Internationally, the project received coverage in the Human Development Report 1999, the New York Times (May 2000) and in 2001 won the Stockholm Challenge, an award for pioneering ICT projects that benefit people and society.

Going Global?

The emphasis that the Information Villages Research Project places on community ownership and local content is reflected in an ambitious international initiative being undertaken under the auspices of the G8. The Open Knowledge Network seeks to build on the Pondicherry approach in order to create a global network of locally-based knowledge centres together with sectoral hubs, engaged in production and exchange of practical information for development. Oneworld International, a UK-based media organisation, is leading this experiment, which is currently at the stage of technical pilot. If successful, the Pondicherry approach will be the basis for expanding the reach of ICTs to rural communities in many parts of the world. ■

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