

GYANDOOT Samiti, Madyha Pradesh

A network for empowerment of rural people through self-sustainable use of information and communications technology.

Introduction

Started in January 2000, Gyandoot (translated as 'Messenger of Information') is a Madhya Pradesh Government initiated project aimed at setting up an intranet system that connects rural cyber kiosks throughout Dhar district. There are three entities involved in Gyandoot: Gyandoot Samiti (NGO), the Government and the Kiosk Managers.

Funding for the project is through village committees (Panchayats) and community or private entrepreneurs. Gyandoot (which means 'purveyor of knowledge') aims to empower local people in Dhar District by giving them access to a village-level intranet (computer network). Initiated in January 2000, the network has grown to include a total of 82 information kiosks, which are either privately run by small entrepreneurs, or located in local schools.

The project has been well-publicised, and is considered one of the leading examples of community-based telecentres in India. Like comparable projects, it has had its fair share of technical difficulties, especially in the first 12-18 months, but is now beginning to make some significant impact in local villages.

The project is run by the Gyandoot Samiti (a local registered society), with support from the Dhar District Rural Development Agency (DRDA) – which has provided office space for the network server and project team, free of charge. The project also receives the endorsement of the local MP Gajendra Singh, who secured government funding for the 32 school-based telecentres (e-clubs).

SUSTAINABILITY FACTORS	<p>Notes from Interviews</p> <p>Directly Involved (Gyandoot) Naveen Prakesh, Project Manager Mahesh Muakti, Sardarpur kiosk manager Irfan Khan, Indian Cyber Café, Dhar Deepak Sharma, Tirla Kiosk</p> <p>Users Prakash Rathore, Tea shop Owner Ramji Lal, farmer from Udeli Village Umesh Tiwari, post graduate student, Tirla Trapti Jain, High School student/ member of school e-club, Dhar Akash Jamra, High School Student/ member of school e- club, Dhar</p>
Objectives	<p>The long-term objective of the project has been to use innovative e-governance, e-commerce and e-education techniques as a tool of social change and development through the wired villages in the district.</p> <ul style="list-style-type: none"> • To help the citizens in getting better and improved services from the government. • To improve the efficiency of the government functioning by making them accountable, transparent and above all work in deadlines. • To bridge the technology divide. • To increase partnership of citizens in decision-making. • To make use of latest technology as an effective education & communication tool for social re-engineering, and improvement in government functioning. • To enhance the livelihoods of people by providing them with better access to information and other resources.
Policy environment	<p>Gyandoot is registered as NGO under Societies Registration act-1860.</p>
Institutional arrangements	<p><u>Organisation roles / responsibilities/ Constraints.</u> SOOCHAK (Manager/owner of the kiosk)</p> <ul style="list-style-type: none"> • The person operating the Soochanalaya is a local matriculate operator and is

	<p>called Soochak. A soochak is not an employee but an entrepreneur. Soochak only needs maintenance and numeric data entry skills. He needs very limited typing skills since most of the Intranet software is menu-driven.</p> <ul style="list-style-type: none"> • In the Gyandoot™ scheme of things, each of the 35 centres, where Soochanalayas have been established, caters to surrounding 25-30 villages. Soochanalayas have been established in the buildings of such Gram Panchayats that are located either at block headquarters or at prominent haat bazaar (weekly marketplace in tribal areas) or are prominent villages on major roads (e.g. bus stand points). Thus, each Soochanalaya caters to approximately 15 Gram Panchayats and about 25 to 30 villages. The services of the network cover wide-ranging information needs of the villagers. Kiosks are typically at least 10 km apart, although those in Dhar town, serving the urban population, are much closer. • In January 2000, 35 information kiosks were opened throughout the district. 20 were opened by the <i>Gram Panchayat</i> (village council), and 15 were privately owned. The <i>Gram Panchayat</i> provided the building, telephone, electricity connection and furniture for the kiosks they opened. Each kiosk connects to the Pentium 3 Remote Access Server (RAS) which is housed in the computer room of the <i>Zila Panchayat</i> (District Council). The district authorities provide this space free of charge, as well as office space for the Gyandoot project manager and support staff of four.
<p>Target Groups</p>	<p>The main target group are the villagers who require the information for their day to day use. The majority (87 per cent) of people in Dhar District depend on agriculture, with cotton, wheat and soyabean being the principal crops. It is estimated that 60 per cent of the district population live below the poverty line.</p> <p><u>How have they been involved in project design?</u> Their participation was all very planned with users being involved in the design. The services/facilities on Gyandoot have been chosen through a participatory process involving the community, government officials and the gyandoot team.</p> <p><u>Format</u> The information is provided in the local language – hindi. Thus increasing accessibility to the local population.</p> <p><u>Gender</u> 84 per cent of users are men (average). Higher % men in rural areas; the urban Cyber Cafe served more women than men (70-30). They are trying to address this.</p>
<p>ICT Technology</p>	<p>A number of technical approaches to providing the basic network were initially evaluated. Gyandoot rejected both LAN (Local Area Network) and VSAT approaches as being too costly, opting for a simpler dial-up network using modems over existing telephone lines (POTS or Plain Old Telephone System).</p> <p>Initially the <i>soochanalayas</i> (information kiosks) only provided access to the local Gyandoot network, with email being limited to other local users. However the entrepreneurs (<i>soochaks</i>) over time have demanded full Internet access, which has been progressively rolled out using Wireless in Local Loop (WiLL). In the first phase, telephone connectivity was found to be unreliable, with many kiosks suffering considerable problems of connecting to the intranet server. However WiLL, which has been installed in 8 kiosks, with a further 10 being added by December 2002, offers higher bandwidth, always-on connectivity, plus opportunity for the managing entrepreneurs to generate revenue by offering local telephone services.</p> <p><u>Gyandoot Equipment</u></p> <ul style="list-style-type: none"> • This Intranet system has been named as Gyandoot (Purveyor of knowledge). • The server: Configuration P-III, 128 Mb RAM, 18 Gb HDD, Serial port card • Programming languages used HTML, ASP, JAVA • Four computer operators under District Information Officer of National Informatics Center of Dhar District

	<p><u>Kiosk Equipment</u></p> <ul style="list-style-type: none"> • A computer with multimedia facilities, modem, UPS with 4 hour back up, printer and a telephone <p><u>Where are ICTs obtained?</u></p> <ul style="list-style-type: none"> • Dial up connectivity through OFC/ Wireless in Local loop developed by IIT Chennai. <p><u>Technical Support/ Repairs</u></p> <ul style="list-style-type: none"> • Via 4 computer operators within the National Information Centre. <p><u>Common cause of failure</u></p> <ul style="list-style-type: none"> • Limitations of connectivity, bandwidth, load shedding etc - the kiosks have suffered significant problems with unreliable power supplies. Fluctuating levels of voltage and planned outages have made it difficult to use the installed UPS (uninterruptible power supply), which could offer a few hours stand-by power at best. For example, Deepak Sharma, manager of the kiosk at Tirla (10km from Dhar), estimates that power shortages force him to close the kiosk for up to half of its normal opening hours. • Gyandoot is currently evaluating a solar power pack at two kiosks, used alongside the national grid, which is likely to cost some \$2,000 per installation. <p><u>User criteria/ Constraints</u></p> <ul style="list-style-type: none"> • Low purchasing power (40% population below the poverty line): Continued drought for three years has further reduced the disposable income • High percentage of reluctant tribal population. <p><u>Most popular services/technology</u></p> <ul style="list-style-type: none"> • As the he project was initially conceived as a village intranet, the kiosks initially provided access only to the local Gyandoot network. The central Gyandoot intranet site provides a variety of local data, including information about the district, up to date market (<i>mandi</i>) prices of crops and livestock (available for a charge of five rupees), weather reports, and a village newspaper (<i>Gaon ka Akhbar</i>). • Gyandoot's leading innovation has been in introducing a broad range of e-government services, aimed at the rural poor. These include providing access to a host of local government services at fixed cost, including driving licence applications, registration of births and deaths, application for income, caste and domicile certificates, and public complaints (eg about drinking water, functioning of local schools and village committees etc). These services cost from ten rupees each, with the local authorities promising a reply to the kiosk within seven days. • Driving licenses has become the most sought service since it began. More than two thousands applications have been received and processed in last two months. • Gyandoot visit each kiosk once a month. After the initial installation, choice of technology and services is with the entrepreneur manager. Effectively self-selection. 										
<p>Financing</p>	<p><u>Budget</u></p> <ul style="list-style-type: none"> • The network has been set up at a total initial cost of Rs. 25 lakhs (\$ 50,000) with additional investment from private parties for expansion of the project. • The average cost incurred by the village committee and the community in establishing a single kiosk was Rs. 75,000 (\$ 1,500). <table border="1" data-bbox="432 1854 1433 2067"> <thead> <tr> <th>Item</th> <th>Cost (rupees)</th> </tr> </thead> <tbody> <tr> <td>Multimedia PC (Pentium 3)</td> <td>32,000</td> </tr> <tr> <td>Modem</td> <td>3,500</td> </tr> <tr> <td>UPS</td> <td>9,500</td> </tr> <tr> <td>Printer</td> <td>10,000</td> </tr> </tbody> </table>	Item	Cost (rupees)	Multimedia PC (Pentium 3)	32,000	Modem	3,500	UPS	9,500	Printer	10,000
Item	Cost (rupees)										
Multimedia PC (Pentium 3)	32,000										
Modem	3,500										
UPS	9,500										
Printer	10,000										

	Total set up costs	57,000	
	Electricity	6,000 pa	
	Stationery	4,000 pa	
	Contingency	2,000 pa	
	Estimated annual running costs	12,000 pa	
	Estimated income pa		
	Gyandoot revenues	12,000 pa	
	Publishing work (eg PC desktop)	15,000 pa	
	Training in PC skills (ten students @ 200rs/month)	24,000 pa	
	Estimated total income pa	51,000 pa	
	Annual income (without loan repayment)	39,000 pa (3250/month)	
	Annual income (with loan repayment of 1500/month for five years to repay set up costs and Year 1 running costs = 69,000 rupees)	21,000 pa (1750/month)	
	<p><u>Cost Recovery</u></p> <ul style="list-style-type: none"> The 11 centres started as private enterprise, the Soochak is the owner of the establishment who pays Rs. 5,000 as a license fee for one year to district council. Each Soochak is expected to earn a net income of at least Rs. 36,000 per annum at conservative projections. The Soochanalayas provide user-charge-based services to the rural people. The services carry a charge based on the principle of opportunity cost. Some of the services are: On-line Registration of Applications (Rs. 10), On-line Public Grievance Redressal (Rs. 10): The Soochanalaya is run on commercial lines. The Soochak has an initial one-year agreement with the village committee. S/he does not receive any salary. At present the Soochanalayas are running as economically viable units with all the Soochaks comfortably earning their livelihood. All the commercial banks in the district are eager to finance new Soochanalaya units. Three new Soochanalaya units are sanctioned by the commercial banks for financing units. <p><u>Are there clear cost sharing mechanisms in place?</u></p> <ul style="list-style-type: none"> The entire expenditure for the Gyandoot network has been borne by Panchayats (village committees) and the community or private entrepreneurs. <p><u>How are recurrent costs covered e.g. maintenance, consumables?</u></p> <ul style="list-style-type: none"> The Soochak bears the cost of stationery, maintenance and electric and telephone bills. S/he pays 10% of income as commission to the Zila Panchayat (District Council) for maintaining the intranet <p><u>Training/Upgrading and replacing</u></p> <p>Gyandoot is currently evaluating a solar power pack at two kiosks, used alongside the national grid, which is likely to cost some \$2,000 per installation.</p>		
The project process	<ul style="list-style-type: none"> During the formation of the project proposal, a detailed RRA/PRA exercise was taken up involving the villagers and the community. An exercise involving the community, government officials and the gyandoot team. Through this exercise it was learnt that due to lack of information regarding the current and prevailing mandi (agriculture produce auction centres) rates, the farmers were unable to get the best price for their agricultural produce. Villagers also informed that copies of land records were difficult to obtain. The villager who requires a copy of the land record had to go out in search of the patwari (village functionary who maintains all land records) who may or 		

may not be available on that particular day at his headquarters. For small complaints or for giving applications, people had to go to district headquarter which resulted in waste of time, money and potential livelihood earnings. Thus, the selection of the services was a result of this interactive exercise and was based upon the advice and the felt needs of the villagers.

Current Intranet Services include:

E-Governance:

- Registration of Applications (Rs. 10): The villagers can file applications for land records, driving licenses, caste/income/domicile certificates or for getting demarcation done etc. through the kiosk. They also get intimation when the certificate is ready for collection. The service leads to time and money saving for citizens. It also helps in lowering of corruption, as everyone has to work in deadlines, and there is a minimum interaction between the customer and the department official
- Public Grievance Redressal (Rs. 10): Complaints ensure a pro-active and super-efficient department.
- Information regarding government Programmes
- E-mail facility on social issues, eg. Child marriage and child labour
- Opinion polls on development administration and services
- Application and processing of pension schemes

E-commerce

- Auction prices of agricultural commodities
- Online Village Market – anyone can post or search for information on items for sale
- Anyone can send and receive mails in local language.
- Yellow pages facility where you can post information of shops, hospitals etc. on the network
- Purchase of vermi-compost
- Dating Agency where customers can posting and surf for data on eligible bachelors.

E-education

- *Sawaliram se puchiye* – Career Advise service
- Access to exam paper example
- Personality tests
- General Awareness Questionnaires
- Computer training courses

E-agriculture

- Information on good cultivation practices of important crops grown in the district
- Information for making vermi-compost and practices of organic farming
- Information for judging the quality of seeds and rates of certified seeds of various crops.
- Consultancy available for any problem related to agriculture.

Other services

- Bus and railway time tables Information on time tables of nearby railway and bus station
- Telephone directory Telephone nos. of important people in the district.
- Information on ambulance service Information on availability of ambulances and its rate.
- Training and Education facilities information
- Job Vacancies

Key linkages

How does the project link with target groups?

- Through mass media campaigns using posters/pamphlets, TV cable network, newspapers, playing of audiocassettes etc

	<p><u>What links does the project have with local organisations (government, non-government, private sector)?</u></p> <ol style="list-style-type: none"> 1. Gyandoot does have links to ngos, but kiosks do not offer other community development services (ie gov authorities/agencies are not making use of Kiosks to any great extent); and Gyandoot realise they need ngos and agencies to promote Gyandoot to rural poor. 2. Gyandoot has affected political decision-making in resource allocation with the Member of Parliament allocating Rs 25,00,000 to set up information kiosks in 3432 schools for e-education. 3. The state IT policy has been re-oriented after the impact of the project to provide fruits of the IT to the rural masses through similar project model. Gyandoot project finds mention in the State IT policy.
Intermediaries	<p><u>Where does editorial control lie when packaging / disseminating information?</u></p> <ul style="list-style-type: none"> • Not applicable to their project. Information is not controlled or edited at any point.
Capacity	<p><u>Users:</u></p> <ul style="list-style-type: none"> • The majority of men and women in Dhar District are not literate. In rural areas only 16 per cent of women and 42 per cent of men are literate, with these figures rising to 54 and 79 per cent respectively for urban areas. <p><u>Staff Equipment Training</u></p> <ul style="list-style-type: none"> • Village committees and the local community selected the Soochaks for the initial 20 centres. The community selected three panels of members to receive training, at their own cost, at the District Council. At the end of the training, the best trainees were selected out of a panel of three as Soochaks. • The Soochak (The Information provider) is a local person who is 10th pass trained by Gyandoot Samiti to run the computer as well by advanced training of their own. <p><u>User Training</u></p> <ul style="list-style-type: none"> • Student of classes 9-12 are taken to the nearest Soochanalaya for a study tour and demonstration of the Gyandoot system and its facilities
Development benefits	<ul style="list-style-type: none"> • Gyandoot describes a number of examples where farmers have been able to secure better prices for their crops by taking their goods to a local market offering the highest prices, and by cutting out local middlemen. Farmers in Bagadi village, for example, were getting a rate of 300 rupees (\$6) per quintal from local traders for their potato crop. On getting the rate slip from their local Gyandoot information kiosk, they could not believe that the current rate in Indore market was 400 rupees (\$8) per quintal. So they hired a truck to take their produce to Indore – one hour away (50km). • There has been increased awareness about computers and IT in rural areas, which resulted into opening of new private computer training institutions and the enrolment in such institution has increased by 60%. The effect has opened a totally new horizon of employment avenues for the rural youth. Demand for computer training has increased significantly. • Results have been impressive: introducing transparency and accountability into the inner working of local government. The efficiency level in the functioning of the government departments has increased many fold producing better and prompt services to people. • Self Help Groups in the rural areas are getting more organised and empowered due to transparency brought about in the government services and rural economy e.g. Farmers' Association in village Kod are demanding a new kiosk in the village. • The lower government functionaries have become computer-savvy. This is apparent from increased number of applications for computer loans from Employees Provident Fund and increased number of officials who have joined computer-training classes. • Computer literacy has increased in the rural areas. This is evident from the fact

	<p>that around 120 rural youths are getting trained in the Soochanalayas in the remote areas.</p> <ul style="list-style-type: none"> • Gyandoot project is being replicated in all the districts of the state. • The results have been yielding in spite of limitations of: <ul style="list-style-type: none"> * Limitations of connectivity, bandwidth, load shedding etc. * High percentage of reluctant tribal population. * Low purchasing power (40% population below the poverty line): continued drought for three years has further reduced the disposable income.
Anecdotes	<p>In the village Bagdi, the people no longer feel the need of complaining about the hand pump. A complaint was made through the kiosk about the malfunctioning of the hand pump of the village, which was corrected within 3 days. Another complaint was made of the hand pump of a nearby village, which too got corrected in a week. The administration reprimanded the department with the result that the mechanic himself keeps monitoring & inquiring about the status of hand pumps. In the past complaints had to be made by the villager in person to the district headquarters. The villager was never sure that on reaching the district office that they would be able to meet with a district office. Thereby wasting a lot of time and money.</p>

Comments from a variety of stakeholders:

The Soochaks (kiosk managers)

Mahesh Mukati has managed the kiosk at Sardarpur, 40km from Dhar, since January 2000. It is one of the first generation of kiosks, opened by the *Gram Panchayat* (village council), connecting to the Gyandoot server in Dhar by dial-up connection over the telephone.

'Villagers come here to make various complaints related to hand pumps, the functioning of government etc. They also come here to get the prices of oxen, and agricultural crops like soyabean. At the same time they can get copies of land records, and various other services.'

'I earn roughly 4,500 rupees (\$90) every month from this. The earnings come from land records: there is a charge for this service. Besides that there are people who come asking for information relating to BPL (Below Poverty Level) list and other things. Then again, I earn from complaints that people file. I also have a photocopying machine which also helps me in my earnings.'

'Right now, *mandi* (market) rates are the most used service because the soyabean harvest has come up. During harvesting season *mandi* rates are the most used.'

'I spend around 700 to 800 rupees a month on telephone bills, another 800 rupees on electricity; and 1800 rupees on stationery and other bills. I earn a net income of 4,500 rupees a month.'

'There is a need for more publicity in villages – such as playing audio cassettes at prominent bus stands. Or even displaying posters and pamphlets in villages and government buildings etc.'

'Another way for publicity could be at the village meetings which take place regularly at village councils. That should be a place where we could explain about Gyandoot services.'

Irfan Khan, Indian Cyber Café, Dhar

The Indian Cyber Café is one of the more advanced Gyandoot kiosks run by a private entrepreneur. Under manager Irfan Khan, it provides Internet access and email, videoconferencing via web cam, audio chat and PC to phone services. Irfan invested 200,000 rupees (\$4,000) in May 2001 to buy 6 PCs and peripherals: including a scanner and laser printer for customers.

He takes advantage of a special Internet connection telephone rate of 18 rupees (36 cents) an hour. He estimates running costs for the Cyber Café as follows:

Telephone charges:	3,000 rupees/month
Electricity	2,000 rupees/month
Photocopying	2,000 rupees/month
PC maintenance	1,000 rupees/month
Photocopy assistant	1,000 rupees/month

Total expenses 9,000 rupees/month

He estimates his gross income as being 15,000-16,000 rupees/month; which after expenses leaves him with an estimated monthly income of 6,000-7,000 rupees (\$120-140).

However hidden costs include office space (which he owns); and depreciation/replacement of computer equipment, which is not reflected in the above calculations. He also pays Gyandoot an annual licence fee of 5,000 rupees.

The Cyber Café is frequented by urban professionals. Irfan estimates it serves up to 25 users a day, with women outnumbering men two to one. 'Women especially like using email,' he says.

'I am thinking about Wireless in Local Loop, but the initial investment is so high. I think it is 15,000 rupees (\$300). I am not able to invest 15,000 rupees at a time, so I am using dial-up. We have not had any problems with the dial up connection.'

'I would like to start a computer education centre, but the problem is manpower. I am the only person in the cyber café.'

Deepak Sharma

Deepak Sharma is manager of Tirla kiosk (10km from Dhar). He has 25-30 visitors a day, of whom 95 per cent are men. He estimates he earns 3,000 rupees a month from photocopying; 1,500 rupees from training and jobs such as desk top publishing, and 3,000 rupees from photocopying. He estimates his expenses amount to 3,500 rupees a month (2,500 rupees as payment for the photocopier; 1,000 rupees in telephone and electricity bills).

'The most important problem I am facing is the electricity supply. Out of 24 hours there is hardly four to five hours of electricity supply. That means that there is no supply at all for 18-20 hours. That is the most important problem I face.'

'The UPS has not really been helpful because it gives me frequent problems. It has been malfunctioning almost every month. Another problem is low power supply, so the batteries are not getting charged enough. The voltage fluctuates a lot. A lot of money is going into maintenance. It's not useful.'

Users

Prakash Rathore

Tea shop owner in Fulgawdi village (3km away from the kiosk at Sardarpur)

'I came to the kiosk to report malfunctioning of a hand pump, and it got connected within seven days.'

'I have been coming here to get the market rates for soyabeans, wheat and maize. Basically we procure and sell these crops. I have also come here to get my loan application prepared for one lakh rupees.'

Ramji Lal, farmer from Undeli village, near Sardarpur

'I grow a number of crops: soyabeans, wheat and maize. I haven't seen much change in the harvest from last year. Some portions of my harvest has been good, some bad.'

'I have heard about Gyandoot. I have also visited there for various kinds of information- and to get a copy of my land record.'

'I got the copy within two days. I could file the application in the bank, and get the loan to buy seeds and fertilisers.'

'I came to know from a friend that copies of land records are available from Gyandoot. Normally, if I had gone to the sub-district office, I would have been made to pay 50 rupees to the clerks. I would have been hassled like anything, and I would have got the copy of the land record only after eight days. Whereas from Gyandoot I got the copy for 20 rupees within two days.'

Umesh Tiwari

Post-graduate student who uses the kiosk at Tirla. On this day he had come to the kiosk to get an application form to apply for a job with the Army Education Corps.

'There are a number of good facilities at the kiosk. It has been quite helpful for the people who live in and around Tirla.'

'Deepak Sharma, the kiosk manager, is a very co-operative person. He has helped us in getting a number of our problems solved. The kiosk is a very good utility for us, and is very, very useful.'

'There are some problems [with the kiosk]. The most important problem is electricity. I have been waiting for the electricity supply to come all morning.'

Trapti Jain, 14

Around 75 students at Bhoj Kanya Higher Secondary School (girls), Dhar, pay 5-15 rupees (10-30 cents) a month to join the school e-club, where they can access the Internet and email, and PC software, during designated periods and after school.

32 e-clubs joined the Gyandoot network in 2001, after local MP Gajendra Singh secured funding for them as part of a Local Area Development Scheme.

'I am a member of Gyandoot e-club and I am using the computer to learn about MS Word, games, the Internet and Gyandoot.'

'A computer is a very good thing. I enjoy working with the computer. Sometimes there is an issue that your eyes can be affected if you work for too long.'

'I can see my exam results on the Gyandoot network.'

Akash Jamra, 15

Pupil at the co-educational School of Excellence, Dhar

'I am a member of the e-club. When I use the computer I like to look at sports news. It's a very useful thing, if you want to get any information about sports. It can be helpful in improving your general knowledge.'

The Project Manager

Naveen Prakash

'Gyandoot came with the view of empowering people, by providing better governance by using information technology.'

'We started making land records available to everyone; then we added *mandi* (market) rates for cereals and vegetables. Information is power, so the more information people have, the better they can get money and facilities from the various sources.'

'There have been many learning experiences in implementing the project. For example, we have learned that we should not try to change the system altogether. We should modify the system, so Gyandoot is basically an interface.'

'We have also learned that it is not just the e-governance facilities which help the kiosk manager become financially and economically viable. There have to be a number of other services, like photocopying, desk top publishing, training, computer education etc.'

'We need to have better technologies in place, because dial-up connectivity does not always work. So we are trying to use Wireless in Local Loop (WiLL). Power has become a major problem, so we are trying out solar cells, and so on.'

'In the future we would like to see this project reaching out to other districts in the whole country.'