

## Challenges of rural connectivity in Zambia

by: Wyson Sinkondyobwe

Rural connectivity - a key benefit to many internet users - is spreading at a fast rate especially in developed countries but its potential is yet to be tapped in developing countries such as Zambia.

As many people who have been to rural areas of Zambia would tell you that it is too remote, poverty levels are too high, people have no tap water, and roads are bad and impassable during the rain season.

Most people are subsistence farmers and earn meagre income, which is only enough for their basic needs. It is really a matter of survival that matters to them more than spending their scarce time on knowing what rural connectivity can bring to improve their immediate needs.

The comforting part is that the rural parts of Zambia are a society of people who are hungry for knowledge and eager to improve their daily lives.

Rural connectivity is a rare service in most rural parts of Zambia; the situation is worsened by lack of infrastructure, electricity supply, the high cost of internet charges, illiteracy, and lack of awareness. The country's telecommunication company is still using analogy for telephone service in some rural townships, making it extremely difficult to hook the communities to the internet.

Despite the gloomy picture of rural connectivity, Macha, a rural place in Southern Province of Zambia, is set to improve the provision of internet service to the community. The project which started in 2004 is run by the Macha Mission Hospital and the Malaria Institute at Macha (MIAM) has added a new life to many people around the area.

In the initial stage it began with the involvement of the Bishops of the church, chief Macha, the community members, and the government officials. The project coordinator Gertjan Stam says local people were trained and empowered in Information and Communication Technologies (ICTs); a process that took one year to be completed. Local communities were trained in the basic use of the computers and website designing. The study and testing of solutions took two years to be completed Stam said.

Connectivity in Macha is now operational as there are two VSAT connections, diverse routing, LAN and distributed WLAN with 75 users. The project has 100 computers and is growing rapidly, with two network servers, content filtering (spam), proxy, firewall, virus scanning, FTP, file sharing, network printing, web server (10 websites and growing), content management (Blogging), network and system management, traffic prioritisation, and a SQL database.

To most people in this area, connectivity is not a strange word as they also have a community centre, computer workshop, trained IT experts in hardware, network maintenance, web design, and application programming.

Mr. Stam says most young people completing their High School education in the community are the ones that are trained and they work in the computer workshop. They are now able to earn a living through the provision of the skills that open opportunities for themselves with the outside world.

## Connectivity in Macha

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The connectivity has enabled the hospital to applying e-health which is trickling down to the rural community in accessing good health care. It is now easier for the mission hospital to communicate with other hospitals throughout the world for data collection, information exchange, and network management.

The connectivity has provided further support for ICT implementations in other rural areas such as the Kaleni Mission Hospital and Mukinge Mission Hospital in North-western province of Zambia.

## Macha experience

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The success of rural connectivity in Macha is the centre of admiration for other rural areas around Zambia and other developing countries to learn from.

The project in Macha involved all the stakeholders in an initiative which is cardinal for any such venture, because without the consent of the intended target group the project can be a failure.

Training of local people to build, to operate, and to maintain the local system has made it possible to maintain the operation of the project. The involvement and training of the local people has kept travel and other costs down, enabling the limited resources to be used on improving the project Mr. Stam said.

“Rural connectivity in Macha has added value to ICT in Zambia, the key is do it with local people,” Stam noted.

## Applicability

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The project uses plain old communications services, telecentres, interactive services, dedicated services and follows the laid down legal framework, though, Mr Stam disclosed that it involves travelling a lot to get information.

## Constraints

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Despite the benefits of rural connectivity in Macha its communication system is far from being proud of, as there is no mobile network and the e-mail link via HF-radio (300 b/s) is unreliable. As a rural setting, there are bad roads which make it preferable to fly than to travel by road. The project is also faced with the challenge of limited funding (equivalent less than one Toyota) and there are few people with ICT knowledge and expertise.

## Added value to Zambia

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Zambia has high levels of unemployment; most of the job opportunities are found in urban areas, a situation which has made many young people to migrate

to urban areas. But the Macha project is a blessing to the local people, as it has created jobs.

Now the youths can see light at the end of the tunnel, a rare chance which was just a dream to them has come true, today young people in Macha area are local experts in ICT.

The digital divide in the small community of Macha area is being bridged, the local economy is growing, there is holistic development, and people have the chance to interact and participate in the development of their community.

### Some fruits experienced in Macha

Mr Stam, who is the key implementer of the project, says that there are many benefits that Macha people have acquired from it such as:

- Quality medical research (access to medical and research information, connectivity in all research houses).
- (Medical) experts are attracted to this rural area.
- Community communicates with family and friends everywhere.
- Schools build international relationships and participation.
- Hospital communicates with experts, betters the service to its patients.
- Potential to grow quality, training, access and exchange of information through effective communications
- Hope, aspirations, developments abound in the rural community of Macha.

Macha, is one of the few rural areas currently enjoying the internet connectivity as most areas in the country the gap is still to be bridged.

The most hindering part is that most rural areas have no phone lines and for some parts of the country this is the only year that they are able to receive television signal from the State-owned Zambia National Broadcasting Service (ZNBC).

To connect to the internet organisations with money depend on digital wireless local loop which is beyond the means of local people who have to decide between having internet and putting food on their table.

Despite the difficulties involved, rural connectivity potential in the country looks bright as the country's state owned Internet Service Provider (ISP) Zambia Telecommunication (ZAMTEL) is in the process of laying out an optic fibre network to replace the copper wire network.

The national survey has already been done and the optic network will connect to the East African Submarine Cable System (EASSy) to provide affordable and reliable connectivity in the country.

ZAMTEL Public Relations Manager Mr Charles Kachikoti told the iConnect series that the major optic fibre cable that is being laid under the Indian Ocean from Sudan to Cape Town in South Africa involves more than 30 African countries.

The optic fibre network connectivity would also benefit youths in rural areas to conduct their studies online Mr Kachikoti said. Africonnect an ISP is another organisation that has done much in rural connectivity solutions and has done that across Africa.

“Right now we are doing it in Zambia, though our main concentration in Zambia is our wireless product, says Africonnect Sales Officer Mwiche Simwinga.

The Sales officer says his organisations is covering Lusaka province, Copperbelt province, Kabwe in Central province, Solwezi in NorthWestern province, and Livingstone in Southern Province.

Right now VISATs are the best solution for rural connectivity set up, but in rural areas there is a high cost of setting it up. With VISAT you need an organisation with some financial muscle to set it up, but with high poverty levels among the people in rural areas this will remain a dream. The Africonnect Sales Officer says at present about six to seven thousand dollars is required to set up a VISAT.

Connectivity is an important tool for development in rural areas it is ,therefore, an aspect that require tact and proper management from stakeholders involved in its implementation.

The, Macha project, in Southern Province of Zambia is an interesting issue that should encourage the policy makers, civil society, and other stakeholders, that even in rural areas despite its many challenges, hope can be restored to people once they are hooked to the internet.

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