

Macha

My experiences in Macha

My name is Adrian Pais and I am presently in Macha, Zambia. Gertjan van Stam has asked me to provide you with more information about Macha. A very brief introduction of myself: This is only my ninth day in Macha. Over here, I am volunteering for LinkNet, the organization that has the vision of bringing the Internet to the whole of rural Zambia. Specifically, in the two months that I am here, I am looking into how e-learning can be implemented for the benefit of the Macha community.

I was born to Indian parents in Chingola, a town in the copper mining region of Zambia, but have spent most of my life overseas and am presently based in New Zealand. I am a telecommunications engineer by profession and a few months ago submitted my doctoral thesis in New Zealand. So, the perspective you will get below is from someone who has been an observer for just nine days and who has a technical background.

Prior to coming to Macha, I thought I knew a lot about the digital divide (the socio-economic difference between those who have access to computers and Internet and those who don't). In fact, I had read so much about it and written papers relating to the topic, which I have presented at various places worldwide. But reflecting on my first few days in Macha, I have realized how *little* I knew about the digital divide before coming here, and what an eye opener this has been. No matter how much reading I could do when at my desk in New Zealand or how much talking I could do at conferences, I would never have appreciated the realities of the digital divide unless I came here, where I could put my feet on the 'ground' and understand the real issues. This experience has challenged me in almost every way possible.

In Macha, I have seen 'hope' among the people – something that is so often lacking in the villages of Africa, where people feel powerless and oppressed by poverty, disease and poor infrastructure. I believe that with the developments that have occurred here in the last two or three years, including the provision of the Internet, a restaurant, community centre, school, airstrip, radio station and malaria research institute, the people of Macha are truly becoming empowered to develop their community themselves. Donor funding has helped this to happen, but more importantly the local people have been involved and foreigners have made efforts to immerse themselves into the 'relationships-based' culture that exists in Zambia.

The nearest town to Macha is Choma, which is about 80 km by dirt road – a good 2 hour, bumpy drive away. There is electricity here provided by ZESCO, Zambia's government owned electricity supply company, but there have been many outages (sometimes several within a day) in my time here. When there are outages, some parts of Macha (e.g. the hospital and malaria research institute) receive electricity via a generator. Running water is obtained from boreholes and is usually available when you need it (e.g. mornings and evenings).

Macha

Macha is located in the Southern province of Zambia, 80 km from the nearest town of Choma and 300-380 km by road from the capital city of Lusaka. The topography of the area is somewhat undulating, primarily open savanna woodland averaging 1100 meters above sea level. The climate is tropical with a rainy season that runs approximately November to June.

The Macha area is populated by traditional villagers, primarily members of the Batonga tribe, living in small scattered homesteads which usually consist of one extended family. There are no commercial farmers or industries in this area. The primary livelihood is subsistence farming with maize being the main crop. The staple diet is cooked maize meal supplemented with peanuts, sweet potatoes and leafy green vegetables. While much of the population is stable, younger adults tend to move to and from the urban areas of the country.

There is an estimated population of 128,000 (c. 2000) within an approximately 35 km radius of Macha. Macha Hospital serves as a referral hospital for a number of smaller hospitals and rural health centers, bringing patients in from an 80 km radius.

Overall population density in this area is 25 per square kilometer and 50% of the population is under 12 years of age. Other specific data for the local population are not reliable, but country-wide the crude birth rate is 49.5 per 1,000 population with an infant mortality of 107 per 1,000 live births. Average life expectancy at birth is 39 years.

Macha Hospital was established in 1957 as a mission hospital under the Brethren in Christ Church of North America, and has functioned within the program of the Ministry of Health of the Zambian government since that time. Now a 208-bed facility, it is considered a district-level hospital by the Zambian government.

The hospital is a 208-bed inpatient facility with an affiliated nursing school. The hospital consists of five main wards and a large pharmacy building. The latter includes a small scale intravenous fluid production plant as well as equipment for preparation of basic ointments and eye drops, including a laminar flow hood. The outpatient section of the hospital consists of a large clinic building, as well as a maternal and child healthcare building where routine antenatal and preventative services for children are carried out.

The pediatric ward is a 45-bed unit made up of seven separate care units, although the census often reaches 75 during peak malaria season. A pediatric ICU, as such, does not exist. However, severely ill patients are cared for in a 13-bed room with more direct observation by the nursing staff.

Malaria research has been conducted at the hospital since 1989. The Malaria Institute at Macha (MIAM) is a research field station and training center established in 2003. MIAM has good infrastructure available to host visiting scientists and students at Macha. MIAM opened officially in January, 2005. While priority is given to malaria research, MIAM also is available to host investigations in other (poverty related) diseases, e.g. TB, and HIV/AIDS. Uniquely, Macha has good Internet access, through a non-funded project called LinkNet (see www.link.net.zm).

LinkNet

LinkNet is an organisation based in Macha, which has the vision of improving the future of rural areas through Zambia by providing telecommunications via the Internet. The rollout of telecommunication services offers rural Zambians the chance to communicate outside their own villages, creating new employment possibilities for them and supporting a variety of institutions within the villages with their communication needs, e.g. schools, hospitals and churches.

In February 2006, the “LinkNet Master Plan” was released, with the objective of conveying to potential funders that an investment of 1.5 million Euros will enable the roll-out of the Internet at 25 rural sites over a period of 3 to 5 years, creating the foundation for a nationwide roll-out in 200+ rural sites. This Master Plan can be downloaded at LinkNet’s website <http://www.link.net.zm>.

LinkNet, established in 2004, has already rolled out a ‘proof-of-concept’ in the rural settlement of Macha village, in the Southern Province of Zambia. This ‘proof-of-concept’ deployed key telecommunications infrastructure and basic information technology services (e.g. e-mail, web browsing and Internet voice calling) for the people of Macha.

The key elements in the successful deployment of services in Macha were:

1. A holistic community approach involving health institutions, schools and community members;
2. Training of local people for daily operations and on-site support;
3. Packaging of technology in a ‘LinkNet Resource Container’;
4. Central training and implementation at the LinkNet Centre of Experience at Macha.

In just two years, the following results have been achieved in Macha: There are 100+ computers connected to the Internet, 200 local people have been trained in basic computer literacy and seven locals have been trained as IT technicians. The IT technicians are not only using their skills within Macha but also contracting their services to companies in urban areas, bringing revenue to the village community. Additionally, data entry services are being provided to a company in the developed world. Applications specific to the various village institutions (e.g. schools, hospitals and churches) are being developed.

Prior to 2004, the only communication that Macha had to the outside world was a slow (300 symbols per second) high frequency radio link to Choma, the nearest town about 65 km away. Improvements in the past were hampered by constraints that typify a rural settlement: lack of funding and poor infrastructure.

The technology used in Macha was customised to the needs of the people and the rural conditions. In summary, it was packaged in a ‘LinkNet Resource Container’ which is basically a shipping container that hosts: a VSAT for satellite connection to the Internet, an uninterrupted power supply (UPS), wireless area network connection for user-PCs, a network server and communications tools/PCs for training and community purposes.

At present, a ‘proof-of-reproduction’ is being implemented in Mukinge Mission, near Kasempa in the North-Western Province of Zambia. This implementation draws on the

experience gained in Macha, with necessary modifications to improve the deployment within the context of the local environment at Mukinge Mission.

The LinkNet Centre of Experience has been established with the objective of maintaining both organisational and technical experience for rural communications. It is envisaged that the progressive building of capacity and experience, coupled with total involvement from local communities and other stakeholders (e.g. government and donor organisations), will ultimately lead to the deployment of rural telecommunications throughout Zambia.

Vision Community Centre

This exciting development of Vision Community Centre embodies the holistic development of a rural community. The Community Centre houses a variety of interdependent units, like an Internet Café, Computer Workshop, Sports Department, a Care Corner, a Restaurant, a Craft Shop, Library, and Radio Station. Also part of the Community Centre is a Community Hall for educational and recreational activities, and a Community Garden providing the ingredients for healthy diets. Deteriorating existing storage buildings were made available by Macha Mission Hospital for the Community Centre, on the condition that compensating storage elsewhere would be created. Partly this has been done by reconditioning of a small storage building. The communities of Macha and surroundings embrace development of a Community Centre with appreciation and support from all people.

From my perspective, the Vision Community Centre is a hive of activity, a place where local people are able to interact, learn from each other, and ultimately develop themselves and their community. The development of the Vision Community Centre provides a great motivation and inspiration for those within Macha to 'do more'.



Vision Community Center Macha

Profiles of two people I've met

Fred Mweetwa and Grogory Mweemba are two of the young leaders in Macha. I have spent much time with them and have felt inspired by their positivity. To me it is remarkable how they have overcome many difficulties, including the lack of basic needs, to lead lives full of purpose.

Fred Mweetwa



Fred is 25 years old and comes from one of the poorest families in Macha. He did not have shoes on his feet till grade 10, and no blanket with which to sleep. But now he is Station Manager of Vision Community Radio Macha, and a (young) leader in the community. He is at very good standing with the chiefs, was the host of Zambia's Vice President when he opened his radio station last year, and he is part of Vision Community Center with over 10 innovative and active units, providing infrastructure for the community to develop.

'My parents have a small family, two daughters and two sons. The youngest of the family is me. My father did some farming to supply food for the family. My mother was working around the house. We were very poor, for instance my parents couldn't pay for my school uniform when I got to school. Also my pens, books and even the school fee were too expensive for them. I had to go to high school with a scholarship. Even without the finances I got the scholarship for high school. To be a lawyer was always what I wanted to be, but what I see now is that this land needs good politicians. People who care for the people! I am working hard to reach that goal one day. With the salary I earn now I can even support my family and pay to reach that goal! What I do as radio manager, is to make sure the radio programs run smoothly. To make everything possible to transmit, from financial to technical things. Macha is of help to development in the rural area through running of projects.'

Fred Mweetwa, 2006.

Gregory Mweemba



Gregory is from Pemba, a town located near Macha, but is 'home grown' in Macha and is now leading LinkNet, the organization which has the vision of establishing the Internet throughout rural Zambia.

'I have three brothers and three sisters, my dad passed away in 2001. He was a mechanic, but in his time there was not much work, so we were living a poor life. When I was young I always wanted to be a doctor or something like that. But I was taught that one shouldn't dream, "because there are no resources to make it anyway. You just should not think of the future and live the problems of today. When the Van Stam – family came to Macha things started to change. I already had an interest in electronics. So it was an opportunity for me to go to him, when I heard he thought about opening an Internet Café. Since then I developed into an ICT- Specialist and Web Designer. I am now looking into the future optimistically. I hope that one day I can do the big sites out there. For me Macha Mission is a good place to learn. And is also a nice place to be!'

Gregory Mweemba, 2006