

## Remote Wireless Access - El Chaco

How Wireless changed a remote Community in the Ecuadorian Amazon

### THE REMOTE COMMUNITY - EL CHACO, ECUADOR

El Chaco is a small town about 2 ½ hours east of Quito on the edge of the Ecuadorian Amazon rainforest. Its 6000 inhabitants, who have not left to seek their fortune in Quito or in other countries, earn a living mostly from agriculture or small businesses. El Chaco is neither rich nor poor. Nobody is starving and nobody has riches. The people of El Chaco have learned to make do with the basics. The same can be said for the town's infrastructure. The community has schools but they are in a bad state. They have a health station but no hospital and a doctor is often hard to find. Residents have access to the phone but the lines are rare and calls expensive, and of its roads, some are good, mostly bad, sometimes impassable.

The unique features that El Chaco has to offer, (besides the outstanding natural beauty that is so often found in Ecuador), is an oil pipeline running straight through it. The river nearby is a paradise for all kinds of water sports like rafting and kayaking, ranking as one of the best in the world.

Still, despite all this beauty and resources, the community of El Chaco soon came to realize that if it was going to succeed on a global scale, something had to be done. Fundacion ChasquiNet is a small NGO based in Quito Ecuador. The work ChasquiNet does can be simply described as supporting the strategic use of the available information and communication technologies in the social sector. It works on a national and international basis with Telecenter, schools, hospitals and other NGO's.

Over the years, ChasquiNet has established an "open door" policy, meaning that ChasquiNet will not go into the communities and establish its own projects but waits until the communities come to ChasquiNet and ask for support. In this way it is ensured that the work ChasquiNet is doing is based on the real needs of the communities and not the needs perceived by ChasquiNet for a community. ChasquiNet enters a partnership with the communities with the goal of community development. The community of El Chaco was compelled to seek help from ChasquiNet.

### A CALL FOR HELP

*The community of El Chaco recognized that they needed help with their connectivity problems, and to make ICTs work for the social and economic development of the whole community.*

In 2003 the Canadian International Development Research Center (IDRC) and the Institute for Connectivity in the Americas (ICA) contacted ChasquiNet asking if they would be willing and able to pilot Wi-Fi equipment in Ecuador. EION, a Canadian company, was chosen to provide the equipment, which consisted of three Wi-Fi sets with surround coverage of 5 km and one set having an additional 25 km point-to-point extension.

At the same time the community of El Chaco contacted ChasquiNet asking ChasquiNet not only to help with their connectivity problem, but also to help to make this ICT (Information Communications Technology) work for the social and economic development of the whole community.



El Chaco had previous experience with the Internet, consisting of a single computer at a restaurant. The connection was expensive and slow but it had already convinced many residents of El Chaco of the potential of the new ICT's. There were several fundamental questions and the first question the community was looking to answer was: How can we connect EL Chaco to the Internet in a cost efficient way?

What better place then to test the Wi-Fi Equipment then El Chaco, but installing the equipment is just a small part of a successful project. The most important question that needed answering was: Connectivity for What?



#### FOOD FOR THOUGHT

*Social transformation can only come through personal transformation.*

A series of community meetings were called for and it soon became clear that there were several more questions that needed to be answered, including:

*How can the Internet help us in our schools, in our local government, in the small and medium enterprises, in the ecology, health services and tourism?*

*How can we make it sustainable not only in a financial but also in a technical, social, cultural and political sense?*



**Figure 1: Healing Touch Workshop**

In order to find the answers develop a strategic plan for the implementation of the new information and communication technologies, ChasquiNet undertook a number of training and planning workshops in El Chaco. The training did not just concentrate on the technical aspects of using computers, but more importantly on the strategic use of these technologies, and the impact they will have on social and economic development within the community.

Social transformation can only come through personal transformation, so in addition to the technology-centric workshops a "Healing Touch" workshop was organized for the community. Healing Touch is a medical technique that combines traditional indigenous healing traditions from North and South America. This process proved to be a vital step in the sustainable community development of El Chaco, as it responded to deeply rooted medical and cultural needs of the community.

After six month of training and consultations the community came up with their plan how to implement the Internet in El Chaco. The highlights of the plan were:

- **Creation of a Community Telecenter at a town center managed by a local group.**
- **In the first phase, the Telecenter, the local Government and the Health Center would be connected via Wi-Fi to the Internet.**
- **The Telecenter would not only provide connectivity services to the community but will also offer training - particularly to teachers and pupils, local government officials and local businesses.**
- **In the second phase, other locations such as schools, hotels, businesses, and police station will be connected to the Wi-Fi network, pending training of all users.**

#### MAKE IT WORK

The plan was immediately put into action. The Telecenter was created and the workshops started and soon the Telecenter was a focal point of the community. But there was still one problem; it was a Telecenter without the "Tele", without Internet connection. Even if the Wi-Fi could be installed now, it needed to be connected to the Internet. Dial-up and/or any cable-based solution were out of the question due the high costs. A technical investigation was undertaken with the result that a combination between VSAT and Wi-Fi would be the best and most cost effective solution.

The installation of the EION Wi-Fi equipment turned out easier then first thought. Everybody involved was nervous to see if this new technology would do what it promised, but after just a day and a half, the Wi-Fi was up and running. Throughout the installation local technicians from the telecenter took part in

order to learn how the system worked, to enable it, to maintain it in the future, and to act as "experts" for further installations. El Chaco was now part of the global Internet, and even with only just three initial connection points the impact could be felt immediately.

- **For the first time teachers and pupils had access to quality teaching materials.**
- **For the first time families could communicate at a low cost with their loved ones working abroad.**
- **For the first time the major and his staff could access relevant governmental resources.**
- **For the first time the nurse could get advice from doctors in Quito.**
- **For the first time traders could offer their goods outside the local market.**

Just a few examples from many. As one local women expressed it: "I feel like El Chaco is for the first time on the map".

#### SUMMARY

Many remote and underserved communities around the world have the desire and drive to advance both socially and economically in the global arena. Though this need is eminent, basic access to resources, financing and expertise are preventing development in such regions.

Through partnerships with government agencies, social development organizations and local groups, many communities like El Chaco are being given the opportunity to excel in the digital revolution.

This case study is a perfect example how a relatively simple and economic project can have such an immense impact on a community.

Though Wi-Fi, in combination with VSAT technology, can be a cost effective way to connect rural communities, the provision of such technologies will only have an impact if the system is implemented by the respective community and used by them according to their needs. Training, strategic use, and community involvement are more important than the technology itself.



**Figure 2: local technicians installing equipment**

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EION Wireless, a division of EION Inc., is a global provider of Broadband Wireless Access products that enable effective, economic and secure wireless high-speed communications solutions. EION is a Principal Member of the WiMAX Forum and was named one of the fastest fifty growing wireless companies in North America by Deloitte and Touche. With over ten thousand broadband wireless installations worldwide, the company's licensed and unlicensed frequency products are used by wireless ISPs, private network operators, and remote rural networks and in voice and data backhaul applications to solve last mile challenges. EION Wireless works with more than 165 worldwide channel partners to support its diverse global customer base.