BOSCO UGANDA

Students using the Internet for research at the Pagak Peace and Information Centre.

HISTORY

In April 2007, BOSCO Uganda was launched as a solar powered, long-range wireless computer network covering locations in former Internally Displaced Persons (IDP) camps across Gulu and Amuru districts in northern Uganda. Low power PCs and VoIP phones were installed in schools, health centers and parish offices, bringing Internet, phone and Intranet connectivity to remote areas.

VISION

To provide innovative ICT (Information and Communication Technology) solutions using a collaborative and web-based approach to foster socio-economic development and peace building in rural communities in Northern Uganda.

MAIN PROGRAMS

• **Web 2.0 Training:** BOSCO Uganda trains ICT through innovative Web 2.0 training. Collaborating from the start with local and international partners, these user groups document their stories, articulate their needs, and propose local solutions. In the process, they learn and improve on their ICT skills. All this is done using collaborative tools like Wikispace, VoIP telephones and the Google suite. Following the Trainers of Trainer (ToT) model, each trained volunteer is responsible for training other users. This ensures that information is shared effectively throughout the community.

• **Digital Ethnography:** Documenting local stories in northern Uganda is the first step towards creating a collaborative environment where users restore attention to war-scourged cultural elements, enable greater cultural sensitivity from remote partners, and safeguard against the loss of cultural diversity. User groups are trained to produce photo essays and to use Picasa and Flickr to store their pictures. Sharing their story with the world has been a form of therapy in itself helping users recover from the trauma of war.

• **Connecting community sites:** BOSCO Uganda has established a collaborative network through an internal (Intranet) content management site, a VoIP telephony system and a collaborative Wikispace page (www.bosco-uganda.wikispaces.com). This has enabled projects like the BOSCO Uganda classroom to classroom project, which has linked schools in the US to rural schools in northern Uganda. Students and teachers map and test water sites and share results through intelligent mapping on the Wikispace.

• **Income Generating Activities:** Rural site users have been trained to type, scan and photocopy documents. Community members are then charged a small fee for these services. This has enabled user groups to contribute and support their Internet site. Each site team is trained on basic finance practices like cash book management to support their work and ensure accountability.

BOSCOUganda
BATTERY OPERATED SYSTEMS
FOR COMMUNITY OUTREACH

LOW POWER, SOLAR & WIRELESS

BOSCO Uganda uses technology designed for the specific circumstances and challenges of rural areas. This technology is based on the following six pillars:

1. Sustainable power solutions with minimum running costs (solar power):

As most of BOSCO Uganda's project areas do not have access to the Ugandan power grid, BOSCO Uganda's system is designed to run on solar power and battery backup.

2. Low-Power (10-20W max.) computing equipment to reduce power costs.

3. Point-to-Point Wireless Internet Connection:

All internet sites are linked together through long-distance/point-to-point wireless technology (currently linking up to 40km) using the license-free WiFi 802.11a/b/g/n protocol.
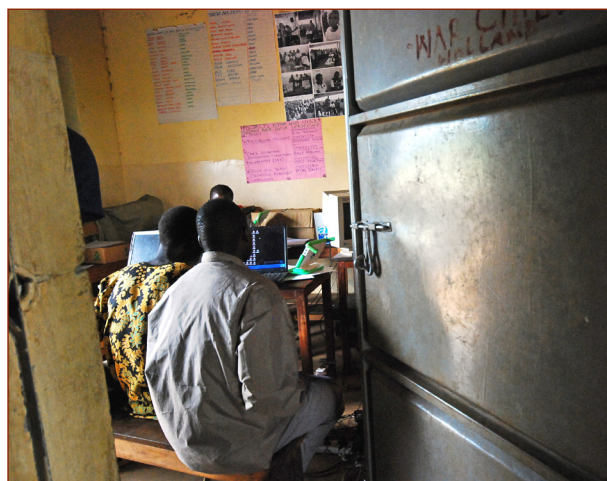
4. Internal network system:

The whole internal network is connected to a central hub station and through that station to the internet. The project is using a server/client structure, where computers in rural areas function like clients connected to a central server station. In conjunction with the above wireless network, the server/client structure provides high-speed technical possibilities for training and educational materials (including training videos, e-books, chat rooms, forums, etc.).

5. VoIP (Voice over IP) Telephony:

All locations are equipped with a free Voice-over-IP telephone which enables calls to VoIP phones within the internal network.

6. Linux / Free Open Source Software:

Using Linux makes the BOSCO Uganda system much less vulnerable to viruses, which is currently a major problem in Uganda.

Top to Bottom: Pagak Peace and Information Centre's antenna connecting to the BOSCO network; a training at the Pagak Centre; a computer room in the Pagak Centre.

Pagak Peace and Information Centre

BOSCO Uganda first provided a wireless Internet connection to the Pagak Peace and Information Centre in 2006. Located on the Pagak Primary 7 campus, the centre started as a single computer station in a church, but has since expanded, with the assistance of War Child Holland, into a private building equipped with 8 laptops.

Chris Okeny and Simon Peter Okello have been working at the centre since its foundation. Both have a passion for information and communication technology (ICT) and are eager to share their skills.

Okeny, who is currently the site manager, was one of the first community members trained in BOSCO Uganda's unique Web 2.0 ICT teaching approach. Originally educated as a counsellor, he had learned basic computer skills in school. However, he comments, "I did not see the benefit of ICT until now." Training through Web 2.0 has shown him how to create and share information, collaborate on proposals, and meet new people around the world.

Okello, an ICT trainer, agrees. Web 2.0 training, he says, allows a user to immediately participate in the creative process behind the Internet. Students learn how to post stories and attach photos, which, Okello comments, "tell us a lot about their personal feelings ... [it] makes the expression of problems very easy."

Okeny and Okello also highlight how Internet access is helping economic development. Under Okeny's direction, the centre developed a proposal for farming tools and seeds which they posted on the BOSCO Uganda Wikispace. While it has not yet been funded, it has empowered users to conduct their own fundraising instead of waiting for assistance. *Photo: Okeny (left) and Okello (right).*

Latifa Okello: bringing Web 2.0 training to former refugees

Latifa Okello, 24, is site manager at the Coope internet station. Located in a former internally displaced persons (IDP) camp, the site hosts a solar-powered computer in a dusty one-room building.

While a modest setting, Latifa believes even one computer offering internet access is making a big difference in her community. "You post an article on the Wikispace about your life and the process of being a returnee and you can receive feedback and feel less alone," she explains.
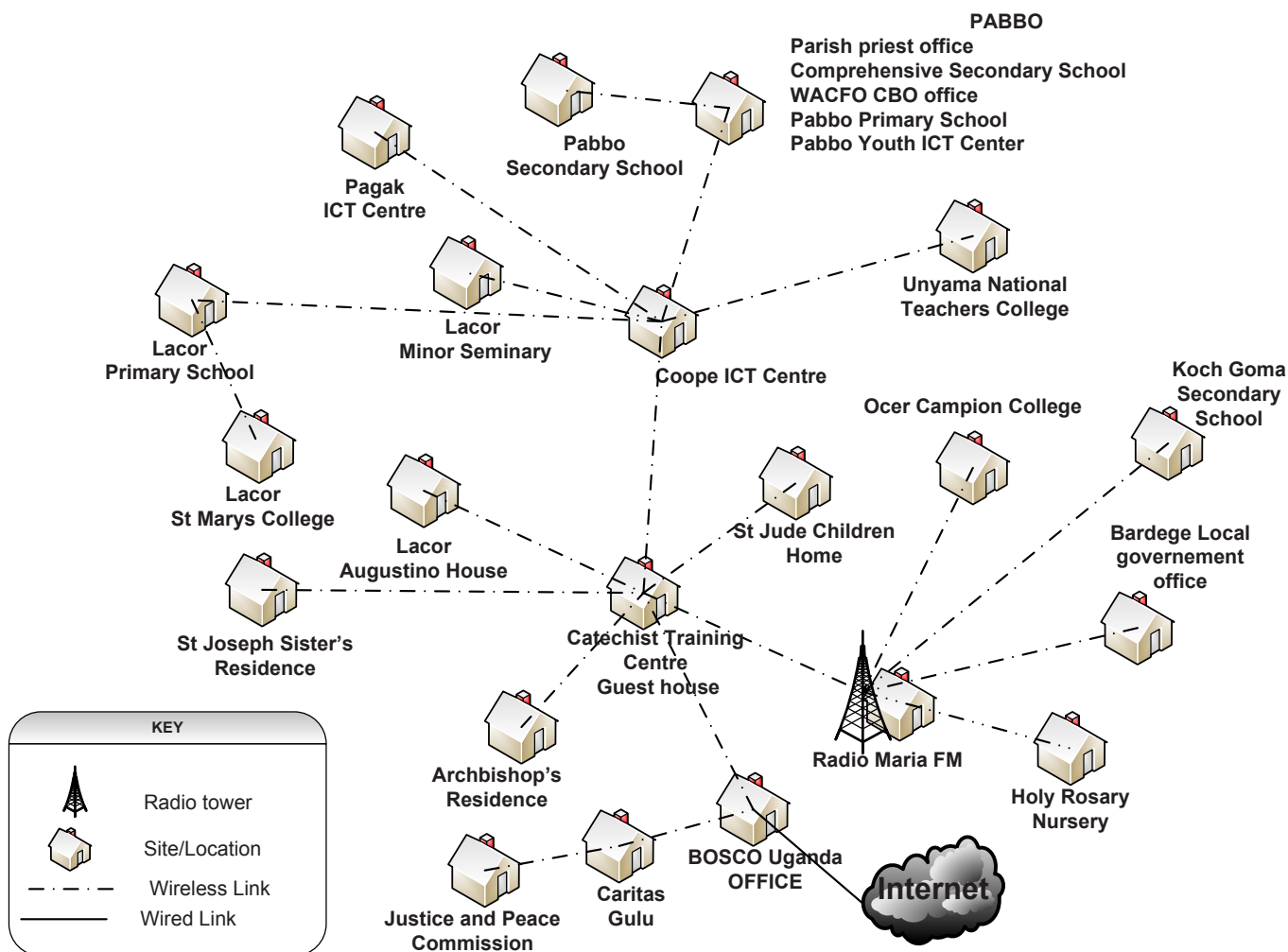
Latifa teaches Web 2.0 tools such as Wikispace, Facebook, the Google Suite and Flickr, among others. When she was elected site manager in 2008, she suggested training people for free.

"It is a way of helping my community. People have interests here, but they have no money." Over the past two years, she has trained over 50 people, including students, student drop-outs and professionals like teachers and nurses.

Latifa says running the Internet site is a big challenge. Because she is a woman, she says, she often faces resistance from men in her community. She also notes that the community perceives the site as wealthy and expects a lot despite their limited resources.

No matter the obstacles, Latifa finds strength in the new skills she gives her peers. "I advise students I train to not give up. What I have is little for them, but they should continue their studies and progress." She dreams that the small Internet site will become a youth center equipped with more computers and better facilities helping youth in Coope connect with people around the world. *Photo: Latifa.*

BOSCO NETWORK

Network diagram labels:

PABBO
Parish priest office
Comprehensive Secondary School
WACFO CBO office
Pabbo Primary School
Pabbo Youth ICT Center

Pabbo Secondary School
Pagak ICT Centre
Unyama National Teachers College
Lacor Primary School
Lacor Minor Seminary
Coope ICT Centre
Ocer Campion College
Koch Goma Secondary School
Lacor St Marys College
Lacor Augustino House
St Jude Children Home
Bardege Local governement office
St Joseph Sister's Residence
Catechist Training Centre Guest house
Archbishop's Residence
Radio Maria FM
Holy Rosary Nursery
BOSCO Uganda OFFICE
Internet
Caritas Gulu
Justice and Peace Commission

KEY
Radio tower
Site/Location
Wireless Link
Wired Link

BOSCO UGANDA NETWORK

The BOSCO Uganda network connects 25 Internet sites deployed among the following types of organizations:

• 2 primary schools
• 6 secondary schools
• 3 rural ICT centres
• 1 National Teachers' College
• 12 local organizations
• 1 local government institution

PARTNERS

BOSCO Uganda works in closer partnership with Horizont3000, UNICEF, War Child Holland, H&S Italia, the Gulu Archdiocese and the University of Notre Dame (USA).

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