

GLOBAL INFORMATION SOCIETY WATCH 2018

Community Networks



Global Information Society Watch

2018



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International Development Research Centre
Centre de recherches pour le développement international

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This work was carried out with the aid of a grant from the International Development Research Centre (IDRC), Ottawa, Canada, as part of the APC project “Community access networks: How to connect the next billion to the Internet”. More information at: <https://www.apc.org/en/project/local-access-networks-can-unconnected-connect-themselves>
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Centre de recherches pour le développement international

Financial support provided by



This edition of GISWatch came into being alongside a brand new baby boy. Welcome to the world, Ronan Diga!

Published by APC
2018

Printed in USA

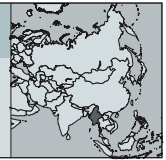
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Global Information Society Watch 2018 web and e-book
ISBN 978-92-95113-06-0
APC-201810-CIPP-R-EN-DIGITAL-296

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MYANMAR

THE COMMUNITY NETWORK AS A CONNECTIVITY STRATEGY FOR RURAL AND REMOTE MYANMAR



Alternative Solutions for Rural Communities (ASORCOM)

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Introduction

Alternative Solutions for Rural Communities (ASORCOM), a community wireless network, was built in the Siyin Valley for 20 villages with around 8,500 people living there. The Siyin Valley is a mountainous region in Chin state in the northwest of Myanmar, with peaks reaching up to over 2,100 metres. The network operated between April 2013 and 2017, before the arrival of mobile services in the area forced the project to evolve to meet new community needs.

The network was set up by the Siyin-Chin Youth Network Organisation (SCYNO)¹ and the Siyin Project.² These two organisations were eager to help and develop the communities where many of their members had grown up, and whose needs they were familiar with. They wanted to change the community and build a better, more sustainable society.

The communities involved in the community network were made up of vegetable farmers mostly dependent on shifting cultivation. Their seasonal produce was sold in the nearest town called Kale, almost 100 kilometres away.

This report describes the impact of the network on the communities in the valley.

Technical implementation

When the project first started in 2013, they used the cheapest wireless devices available in town: a TP-Link brand long-range wireless access point. One of the team members, Thomas Khaipi, who studied and lived in Germany, bought two Village Telco³ devices and tested them as a communication solution for communities in the Siyin Valley. However, they were not useful as a long-range wireless network solution because they only worked well when they

were set up close to each other. The project also faced other challenges: for example, the Myanmar government (a military dictatorship) had taken away some devices and warned not to set up private networks without their permission, which had to be passed by the union ministry from Naypyidaw. At that time internet censorship was taking place and building private networks was not encouraged.

Later on, the team got the opportunity to buy and install Ubiquiti⁴ devices. They changed the network topology and redesigned the network, using 5 GHz for the backhaul connection and for the main connection between the villages, while 2.4 GHz devices were used for the connection inside the villages. The old TP-Link devices were also used for wireless access point connectivity inside the buildings. They were gradually replaced with Ubiquiti devices which supported mesh firmware. For some areas, such as school compounds, Commotion⁵ mesh firmware with Ubiquiti devices was used.

Community engagement and impact

The community members supported the initial pilot project from the beginning. Many times they had discussed and shared alternative ways to solve their communication difficulties, their poverty, lack of skills and knowledge, and educational challenges. Many joined the team and shared their physical energy to cut down tall trees in the jungle and bring them to the villages to use as masts for the Wi-Fi antennas. Some shared their houses for accommodation while we set up the networks, and prepared food for a series of community meetings in the different villages. Some shops donated tea, coffee, cold drinks and cake for lunches when there were activities. Other shops discounted the cost of petrol and diesel used for the project.

As part of the project, we sold some used computers and mobile phones with credit and instalment plans to the communities. We organised some basic computer and mobile training workshops on how to use the internet and social media. When they had their own devices they could play and learn much more effectively. They built their

1 SCYNO was formed by Siyin youth with the aim of doing social work for communities in Myanmar.

2 The Siyin Project was also formed by Siyin youth to raise funds outside of Myanmar to support SCYNO and other activities.

3 <https://villagetelco.org>

4 <https://www.ubnt.com>

5 <https://commotionwireless.net>

confidence in using information and communications technology (ICT) devices and software tools. They could communicate with their family members and their relatives who live in other places in Myanmar and abroad.

As their main income related to cultivation, they learned techniques and methods for agriculture and food production by doing online research. They also learned how to check the weather forecast. They could communicate with buyers from cities and negotiate the vegetable prices before sending their produce to the town markets. School teachers shared what they learned about the internet with their students. Students also had the opportunity to use the internet, and to read, see and learn many new things.

As the women's population was bigger than the men's in the Siyin Valley, most of the hard physical work was done by the men, but the tasks of organising and communicating with other communities in the other villages were mostly done by women. Financial and administrative work, such as bookkeeping and playing the role of treasurer and secretary for meetings and discussions, was in the hands of women. As the shop owners were women, donation and discounting decisions were made by them as well.

Given that the project planned to collect a small amount of money as a contribution from users to pay for the shared internet bill and other expenditures, women in the community led the collection process and the management of the income every month. Some young women and men even met partners online, and ended up getting married. Some women learned textile design and techniques for making clothes, and made them for themselves and sometimes sold them to other community members.

As the project had its own local server, it could download and host Khan Academy⁶ and World Possible⁷ content for educational purposes. Entertainment videos were also hosted on our local server, so that network users did not need to buy DVDs and use the internet for entertainment anymore. Instead, they could enjoy their selected entertainment "channel" on their smartphone or laptop from their home.

One unique story from our project involves a teacher who was a young woman and who worked at a high school in Thuklai village in the Siyin Valley. She had come from a city called Monywa, which is more than 800 kilometers away. This was the first time she had travelled to Chin state, and she

felt alone and scared. She said that she used to cry every day in the beginning, but because of the ASORCOM wireless internet she could now connect with her family and friends who were far away. She also said that she was now very happy in Thuklai village. Her friends, who are also teachers in the other villages in other parts of Chin state, wanted to transfer to Thuklai because of the easy access to the internet and the support from the local community.

Lessons learned

Freedom is not the same as getting things for free. Sometimes people do not value services that they do not have to pay for. To empower people to have responsible behaviour when using the community networks and maintaining them in a sustainable way, we asked for contributions, not only of money, but also their time, whether through physical labour or other forms of volunteer engagement.

Sometimes users would fight amongst themselves. Some users downloaded videos and games that affected connectivity for everyone. Sometimes people wanted to charge their neighbours for connecting to their router. We have had to offer counselling to resolve these disputes. We have also had to install software to monitor and control the system to limit heavy downloads and access to "adult" content, and to restrict some users during school hours.

Some reported that community users only spent time using social media, which they felt was not improving their lives in significant ways. In order to change this and encourage users to read more widely, we set up a system where users first had to complete a quiz with general knowledge questions before being granted a week's internet access. If they did not know the answers they would have to go do some research in the local library folder on the network.

Sometimes parents complained that teachers used social media during school hours instead of focusing on school lessons and teaching. The team met with the communities and teachers and agreed on limiting the use of social media and internet access during school hours, which, as mentioned, was configured on the system.

There was no national electrical grid in the project area, so the project had to depend on hydropower⁸ and solar power. During the rainy seasons, hydropower stations were washed away by flash floods, and solar power was made ineffective by heavy cloud cover. The network did have a

6 <https://www.khanacademy.org>

7 <https://worldpossible.org>

8 Private hydropower stations were built by individual households in Chin state to get electricity.

backup generator, but the diesel needed to run it led to extra costs for the communities. This meant that the use of the network was limited in the rainy seasons.

Changing needs

The ASORCOM community Wi-Fi network was active until the end of 2017. In mid-2017 the area received mobile telephone coverage by the MPT GSM network. Later Ooredoo 3G and Telenor 3G also offered their services to the area. Because of this, the network needed to develop new plans, which included upgrading the network so that it could be used for local community media including audio podcasts, video streaming and IPTV. A data server was set up to assist with local administration.

At present, the team is working on supporting community radio stations in Myanmar. It is setting up a community FM radio station in the area and has been engaged in conducting surveys, meeting with communities, offering radio journalism training and workshops, and drafting constitutions and bylaws for community radio stations which will contribute towards reforming the national broadcasting law. The team has also been forming a development committee for the communities in the valley and building a music recording studio.

Action steps: The need to create a community wireless cooperative

In the absence of strong business cases for traditional network expansion, community wireless mesh networks have been successfully

implemented in other industrialised and developing nations to address major barriers to internet adoption and universal connectivity. But deployments of community-owned networks often require outside support, including capital grants or technical assistance. Rather than relying on external mechanisms for assistance, a cooperative seeding organisation formed in-country could continuously provide the necessary support for multiple community networks, and act as an intermediary between the communities and high-level stakeholders such as wholesale internet service providers (ISPs), equipment vendors and the government.

In order to create such a cooperative, ASORCOM has proposed the formation of the Community Wireless Cooperative (CWC) with the aim of promoting a sustainable, low-cost approach to expanding internet connectivity to rural, remote and underserved areas of Myanmar.

At the moment there is only one community network in Myanmar and ASORCOM encourages and supports setting up many others. When there are many autonomous community networks in the country, they will effectively form a new digitally linked constituency of alternative network operators that provide ICT services to their communities and catalyse new social and economic development opportunities.

The new “information constituencies” will also be in a position to represent the interests of Myanmar’s digitally underserved communities and contribute to policy recommendations for the design and implementation of Myanmar’s ICT infrastructure and proposed universal service fund.⁹

⁹ To build community networks in Myanmar, financial support from such a fund is necessary.

Community Networks

THE 43 COUNTRY REPORTS included in this year's Global Information Society Watch (GISWatch) capture the different experiences and approaches in setting up community networks across the globe. They show that key ideas, such as participatory governance systems, community ownership and skills transfer, as well as the "do-it-yourself" spirit that drives community networks in many different contexts, are characteristics that lend them a shared purpose and approach.

The country reports are framed by eight thematic reports that deal with critical issues such as the regulatory framework necessary to support community networks, sustainability, local content, feminist infrastructure and community networks, and the importance of being aware of "community stories" and the power structures embedded in those stories.

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