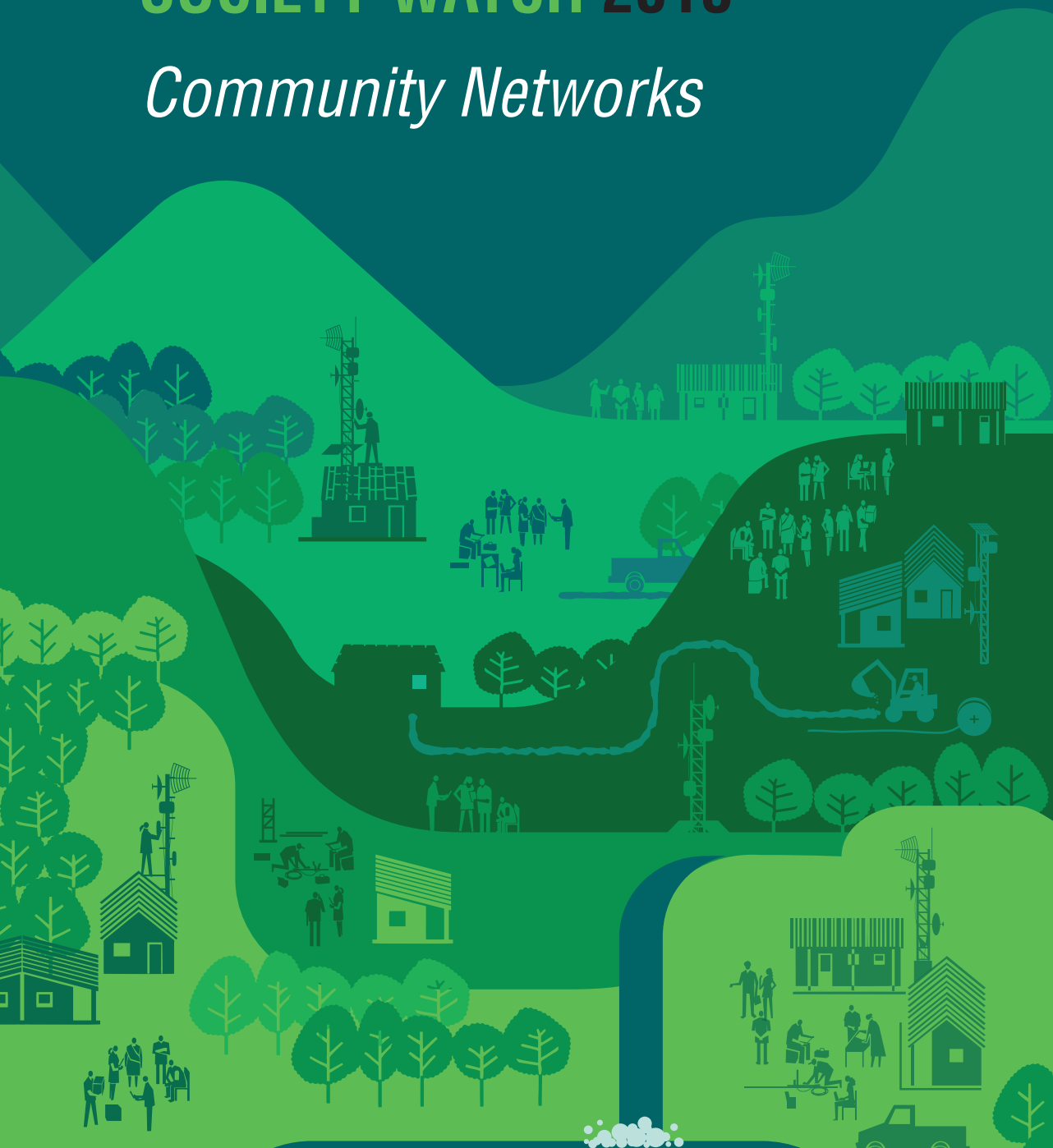
GLOBAL INFORMATION SOCIETY WATCH 2018

Community Networks



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Operational team
Roxana Bassi (APC)
Valeria Betancourt (APC)
Kathleen Diga (APC)
Alan Finlay (APC)
Michael Jensen (APC)
Carlos Rey-Moreno (APC)

APC project coordination team
Namita Aavriti (APC)
Roxana Bassi (APC)
Valeria Betancourt (APC)
Kathleen Diga (APC)
Anriette Esterhuysen (APC)
Flavia Fascendini (APC)
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Michael Jensen (APC)
Carlos Rey-Moreno (APC)

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Project coordinator
Kathleen Diga / Roxana Bassi (APC)

Editor
Alan Finlay

Assistant editor and proofreading
Lori Nordstrom (APC)

Publication production support
Cathy Chen

Graphic design
Monocromo
info@monocromo.com.uy
Phone: +598 2400 1685

Cover illustration
Matías Bervejillo

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

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ZAMBIA

COMMUNITY ENGAGEMENT IN COMMUNITY NETWORKS IN RURAL ZAMBIA: THE CASE OF MACHA WORKS

Macha Works
Fred Mweetwa and Gertjan Van Stam
www.machaworks.org

Introduction

Macha is a typical village in the rural areas of Zambia's Southern Province. Some 135,000 villagers live in homesteads scattered over a 35-km radius. Its economy depends on seasonal agriculture and trade. The average income per villager is USD 1 a day, with subsistence farming of maize the main livelihood activity. The nearest town is Choma, some 70 km away. Macha has a community radio, and a mission station run by the Brethren in Christ church, which also operates a hospital, schools, and medical research institute. Its focus is on providing medical and educational services to Macha and four other neighbouring chiefdoms. Chief Macha, who is resident in the village, is the outspoken chief presiding over the Macha chiefdom.

Catalysed by the needs of the medical research institute, the Macha community has been experimenting with various technologies since 2003 in order to solve the challenge of communicating with the rest of the world. Apart from a VHF two-way radio connection with Choma city, the internet was the only way to communicate with the outside world until the arrival of the mobile network in late 2006.

After setting up a VSAT satellite link to the internet and building a local Wi-Fi network in 2004, a non-profit cooperative called Macha Works was established so that the community could take ownership of the network themselves and oversee its operations, maintenance and expansion. This report discusses the evolution of Macha Works: from a single satellite connection in a village shipping container, to a project that has resulted in community networks being launched in nearly all the provinces of the country.[1]

Inspiring local communities

Macha Works' vision is to inspire people in rural areas to reach their collective and individual potential. Towards that goal, Macha Works has activities in many areas, among which are education (schools, vocational training in health and ICTs), financial services, energy, transport, and research and development. It operates inclusively, encouraging the participation of community members in its various initiatives on an equal basis. What we call "local talent" actively engage with Macha Works and push its projects forward. Macha Works also reaches out to other, equally remote communities. Those communities delegate their "local talent" to spend considerable time at Macha to learn "the tricks of the trade". When they go back to their villages, they set up community networks. In this way, nine successful community networks have been set up in total: in Macha, Kalene, Mukinge, Minga, Chitokoloki, Chilonga, Minga, Chikanta and Lusaka West, covering almost all provinces in Zambia.

The Macha Works model is anchored in the universal African principle of Ubuntu. Ubuntu emphasises communal love and the sharing of one's resources: the better-off share with the less-well-off. When resources are shared, costs are reduced and operations become more efficient, making services affordable for communities.

Working with the community the African way

The Macha Works experience shows that connecting rural communities in Africa is quite a challenge. Villages lack basic infrastructure, including electricity. Connecting through satellite links is extremely expensive. The erection of mobile towers means that mobile internet is proving to be an alternative. However, telecoms services do not allow communities to become empowered through setting up inclusive governance structures, and lack the collective vision offered by community networks.

The African experiences in rural areas are highly diverse. Each of the nine community networks has its own story to tell. Each has found a focus; but whether it is education (Macha) or helping the local citrus business (Kalene), all focus on the preservation of African culture and lifting the community "to

1 Macha Works is part of a network – Worksgroup – with separate local organisations in different countries. For instance, in Zambia there are, among others, Mukinge Works and Kalene Works, and in Zimbabwe there is Murambinda Works. Each organisation has its own governance structure and is in various stages of development.

the next level" by providing internet connectivity, among other services.

In the process, many social and technical hurdles are encountered. The community recognises that most challenges they face, such as poverty and a sense of not valuing their local cultures, are rooted in colonialism, and involve narratives drawn from imperialism and orientalism. Because of this, technical and social challenges have to be mediated in a way that takes a long-term view of change, requires stamina, and a constant rehearsal of local African values and practices. As mentioned, these practices are embedded in Ubuntu or "communal love". They also involve specific concepts that have been developed as a result of the project in Macha: *oratio*[2] or communicating embodied knowledge; *relatio* or "relational resource allocation"; *animatio*, the continuous present moment; and *domino*, the strive for maturity.

New models of communication for change

Academic literature – when accessible from Macha using the internet – did not provide useful guidance on how to go about building and maintaining the kind of community-led networks we wanted to. Because of this, Macha Works approached national universities and other academic partners to understand issues and potential ways of mediating better. In the process, we found that the ICT-for-development models applicable elsewhere in the world bore little relevance to the utterly complex socio-technical contexts and lived experiences in communities like Macha. Therefore, after acquiring authoritative guidance in collaboration with Chief Chikanta, in his former role as the Vice Chairman of the House of Chiefs, and after the reporting on the practical experiences we encountered in the Zambian House of Chiefs, we developed a methodology that involved community members in a way that was meaningful to them. As a result of this process, we have written numerous peer-reviewed and publicly accessible papers[3] about our approach and work and presented them in various academic settings.

Phases in the roll-out of the Macha Works community network model

Macha Works recognises three distinct phases in its community intervention and three distinct phases in the roll-out of its network.

Three phases of community intervention

In the process of responding to local needs, and in order to encourage local agency, Macha Works draws on the specific communication skills and ways of problem solving, mediation, and collaboration embedded in the community. This is important to ensure the long-term sustainability of the intervention. In particular, it identified three social processes in this regard: 1) community engagement, 2) workforce development, and 3) local thought leadership.

In the process of engaging the community, the organisation exercises sensitivity to local contextual frameworks and understandings, for instance, regarding time and space, affecting both the practice of human interaction and the assessment of realities. Social improvisation integrates the interests of stakeholders through observation and conversations in reiterative processes of interaction. Interactions follow local cultural behaviour patterns and involve consultation with the entire community. This process dissuades individualistic action, mediates any power imbalances experienced in relation to local structures, and engenders an environment with shared values, a common purpose, and sufficient levels of skill sharing to be able to integrate technologies in a way that is relevant to the community. This form of community engagement recognises the importance of human agency and sets up safety nets for the inevitable change in life conditions that the introduction of technologies brings.

By being practical and following the principle of "seeing-is-believing", local engineers working on the networks can implement appropriate technological solutions, overcoming challenges in a way that supports the sustainable progress of the community at large.

Developing a workforce conversant in ICTs and local meaning-making creates the agency for interventions. This needs to be an expression aligned with the local context and culture. It involves a revolution in education, aligning the capacity building in both content and format with local needs and learning processes.

Access to ICTs plays a crucial part in developing a workforce in the community and allows the community to access and share knowledge. The internet fuels local people with drive and vision, nurtures leadership and builds the community's technical know-how.

Lastly, thought leadership is a cross-cutting concern and involves a holistic progression through five phases, namely:

- Careful positioning, attaining the explicit right to influence others.

2 See, for example: Mawere, M., & van Stam, G. (2017). Oratio: A Framing of Knowledge in the Context of Technology and Academia. In M. Mawere & T. R. Mubaya (Eds.), *African Studies in the Academy: The Cornucopia of Theory, Praxis and Transformation in Africa?* Bamenda: Langaa RPCIG.

3 See: www.vanstam.net/gertjan-van-stam

- Expressed permission, grounded in lasting relationships.
- Tangible outcomes, with sustainable achievements through commendable actions.
- Capacity development, building abilities in individuals and organisations.
- Honourable representation, through recognition of wholesome and embodied knowledge.

The aim of thought leadership is to "give voice" to the local narrative: from the community, on activities in the community, on behalf of the community. These are the narratives of how ICTs, through the community network, have amplified the local, human intent.

Three phases in the network roll-out

Macha Works has also identified three phases in the implementation of community networks. These phases are: 1) sensitisation, 2) development and 3) fragmentation.

First, the sensitisation phase. This is when the community is not yet aware of the potential of the internet and has little experience accessing it. In these cases, LinkNet – the name that was given to the unit that oversees the technical operations and expansion of the network – would set up a work-station hub with connectivity to the internet in a modified shipping container. The set-up of each container is designed and tweaked according to the local realities. For example, solar power is used if the village is off the national electricity grid. The container is fitted with a satellite dish for internet connectivity. The container – which has been called the LinkNet Resource Container – acts as a socio-technical hub, a social business and a network operations centre. Its business model operates according to *relatio*, where the costs are shared by users and the community at large.

The container has been particularly successful in engaging the community right from the start, offering a secure, dedicated environment for "local talent" to meet. It also serves as a venue for ICT training. The value of this first phase has been recognised by the Zambian ICT regulator, which has financed the production and deployment of LinkNet Resource Containers in various rural communities.

In the second phase, from its base in the LinkNet Resource Container, a local/wide area network is developed. A multitude of set-ups, whether using mesh or point-to-point networks, have been implemented, all depending on the local context and the local expertise of the "local talent". At this stage, the community network has typically incorporated other community activities – whether offering training courses, business management support for local business, or even facilitating air transport to remote locations. Typically, after some years, the LinkNet Resource Container becomes too small to accommodate the various activities and the hub needs to be relocated. In Macha, Macha Works signed a 30-year lease and built extensive infrastructure for its activities, including training institutes.

In the third phase, commercial service providers start showing an interest in the community. As the demand for connectivity increases in the community, commercial service providers can start roaming the market. In some instances, there may be sufficient demand to justify laying a terrestrial broadband connection. In Macha, for instance, this has been done by Africonnect, a national internet service provider that was active in Choma.

At this point the market tends to fragment, with individual institutions in-sourcing their internet again, depending on individual donor involvement and the availability of well-skilled IT personnel in the community. At this time, the activities of Macha Works shift, with the LinkNet Resource Container becoming obsolete (it can be relocated to other communities). While Macha Works might continue facilitating training and capacity building on a number of topics, it now becomes involved in the broader issues faced by rural communities.

Conclusion

It is an indisputable fact that internet connectivity is a powerful tool to empower local communities and to guide their development. The internet can also help to preserve and share African cultural heritage, and, through the internet, rural Africa can become part of and enrich the global community.

But the mediation of tensions and conflict that are inevitable in the resource-deprived rural African environment needs committed leadership. The development of local skills is also essential. Socio-technical sustainability is dependent on the long-term engagement of local talent; local, national and international collaboration and alliances to withstand the tides and flows of super-colonial behaviour; community sensitisation on the benefit of accessing the internet; and a commitment to embodied knowledge, transparency and community ownership.

Macha Works has received the endorsement and support of many and various organisations and authorities in Zambia and abroad. They have recognised the uniqueness of the organisation's bottom-up approach, where the local community is responsible for its own development.

Action steps

The following steps are recommended to support community networks in Zambia:

- Enable connectivity and access through policy: Network constraints and access barriers suppress local voices, knowledge and inclusion.
- Involve trans-disciplinary engagement: Multiple and complementary understandings of society and technologies are necessary to reconcile an abstract international discourse – regimes of non-locally derived "truth" – with the challenging African realities and access constraints.
- Value the local: Many avenues are said to have been tried, but most appear to not take into account the local context, vocabulary, access and agency.
- Think local: Activating local meaning and relevance and the production of local systems and content are critical.
- Involve local: Iterative programmes involving local end-users and local talent engender embedded solutions and applications.
- Open development: Holistic, culturally aligned development involves the sharing of resources.
- Scaling is hard: Whether or not you can scale up depends on the local-level context and resource opportunities.

GLOBAL INFORMATION SOCIETY WATCH 2018

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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