Connecting the Unconnected: A4AI Webinar on Community Networks

A global coalition working to make broadband affordable for all

A4AI

February 7, 2019

a4ai.org
@a4a_internet

Today's Speakers

- Luca Belli, Professor of Internet Governance and Regulation, Fundação Getulio Vargas (FGV) Law School
- Osama Manzar, Founder/Director, Digital Empowerment Foundation
- Dudu Mkhwanazi, CEO, Project Isizwe
- Jane Coffin, Senior Advisor to CEO, Connectivity & Infrastructure, Internet Society
- Dhanaraj Thakur, Research Director, A4AI/Web Foundation (Moderator)

Community Networks:
Alternative Solutions for Affordable Connectivity

7 February 2019

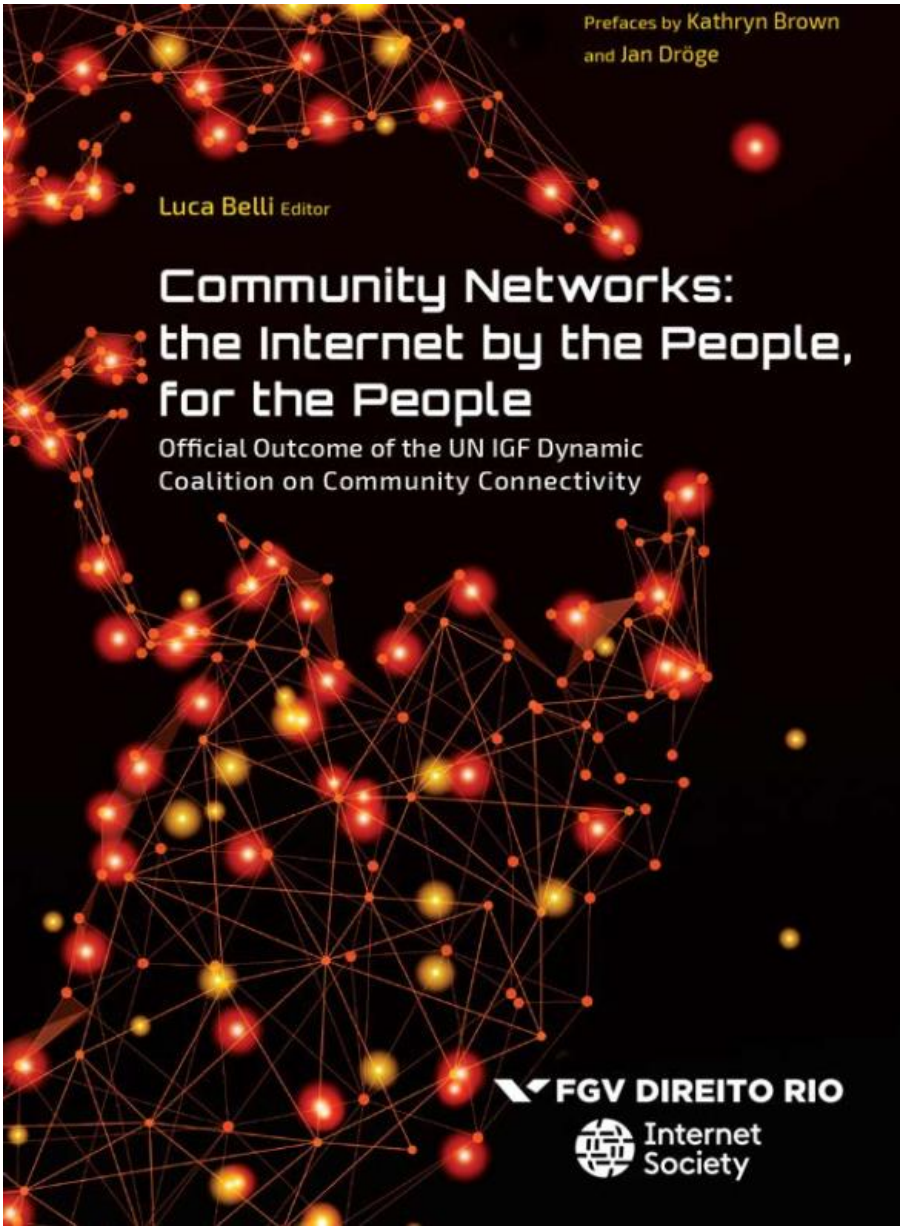
A4AI Webinar

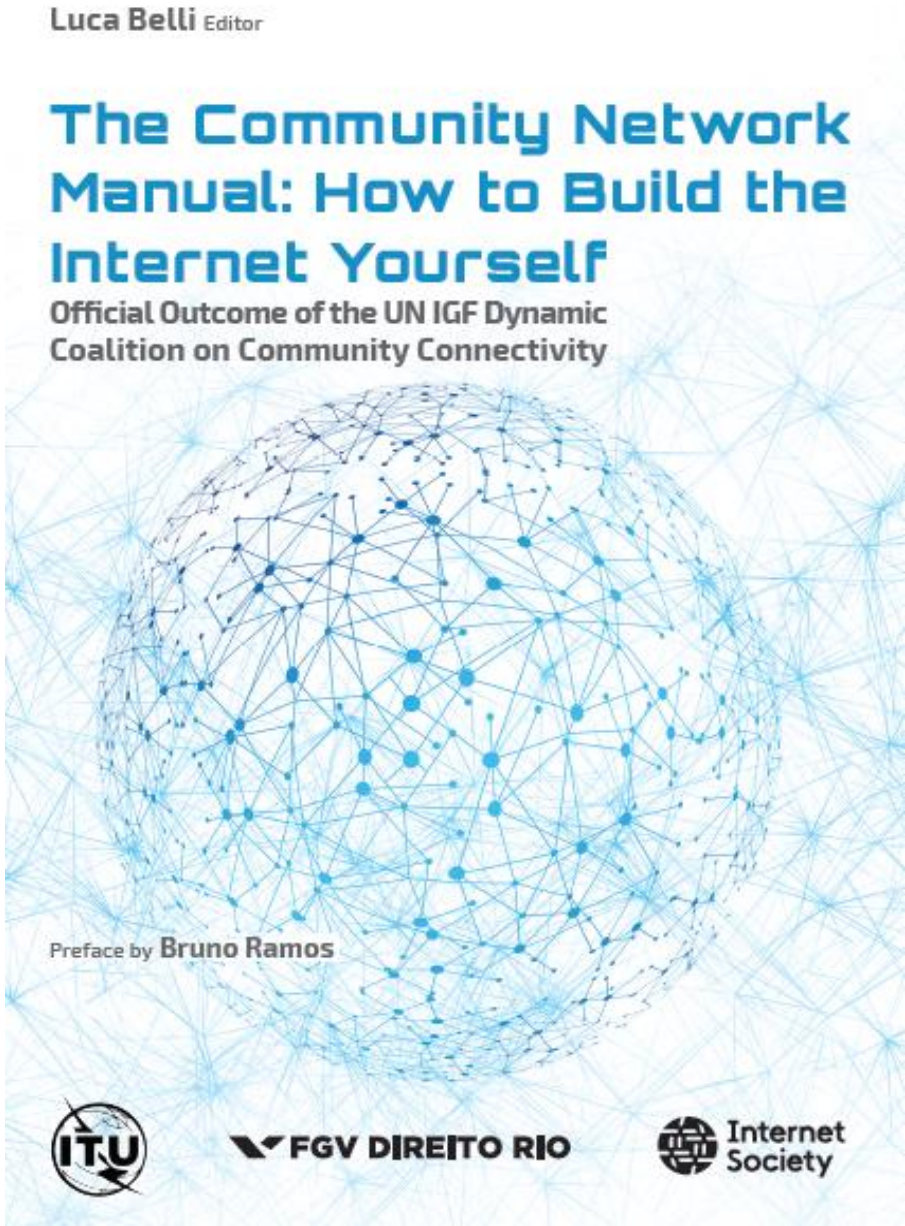
Luca Belli, PhD
Professor of Internet Governance and Regulation
FGV Law School
luca.belli@fgv.br
@1lucabelli

- **what** are **C**ommunity **N**etworks?
- **why** are they relevant?
- **how** can public and private stakeholders facilitate them?

communityconnectivity.xyz

bit.ly/CNmanual





Internet Society

Community Networks 11 December 2018

EN ES

Community Networks in Latin America

Challenges, Regulations and Solutions

Community Networks in Latin America: Challenges, Regulations and Solutions

Download

Authors: Carlos Baca, Luca Belli, Erick Huerta & Karla Velasco

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1. what are Community Networks?

Crowd-sourced distributed networks

built, **u**tilised and **m**anaged in a **bottom-up** fashion by the local **c**ommunity as **commons**

they rely on the **participation** of **l**ocal **c**ommunities

in the **d**esign, **d**evelopment, **d**eployment, and **m**anagement of **shared infrastructure**

managed democratically by group of individuals and entities such as NGOs, local businesses, and/or public administrations

Dynamic Coalition on Community Connectivity

DECLARATION ON COMMUNITY CONNECTIVITY

Community Networks

We embrace the potential of community networks as a vehicle for transformation that increases the agency of all community members, including by fostering gender-balance. Community networks are structured to be open, free, and to respect network neutrality. Such networks rely on the active participation of local communities in the design, development, deployment, and management of shared infrastructure as a common resource, owned by the community, and operated in a democratic fashion. Community networks can be operationalised, wholly or partly, through individuals and local stakeholders, NGO's, private sector entities, and/or public administrations. Community networks are recognised by:

a Collective ownership: the network infrastructure is managed as a common resource by the community where it is deployed;

Hence, the world is not flat. It has a lot of mountains. And it makes very complicated. But culture can bring these barriers down. We need to think how they are going to explain these people, what are the benefits of getting connected? And then worried about what engineering can
igf 2016
INTERNET GOVERNANCE FORUM
JALISCO MÉXICO
IGF Day 0 Monday 5 December 2016
Workshop 5
ISOC-APC-FGV-Comunity Networks: How to Build Connectivity?

- usually based on **wireless technology**
- use **low-cost Wi-Fi** equipment and exploit **(un)licensed spectrum bands**
- can also be based on **fibre infrastructure**

guifi·net

Red de telecomunicaciones abierta, libre y neutral

freifunk.net

RHIZOMATICA

ALTER MUNDI

DEF
DIGITAL EMPOWERMENT *foundation*

broadband B4RN for the rural north

CNs differ from mainstream networks

“mainstream networks” (RFC 7962)

- usually **large networks** spanning wide areas
- managed in a **top-down** fashion by the operator
- require a **substantial investment**
- **no user participation** in the network governance (design, deployment, operation)

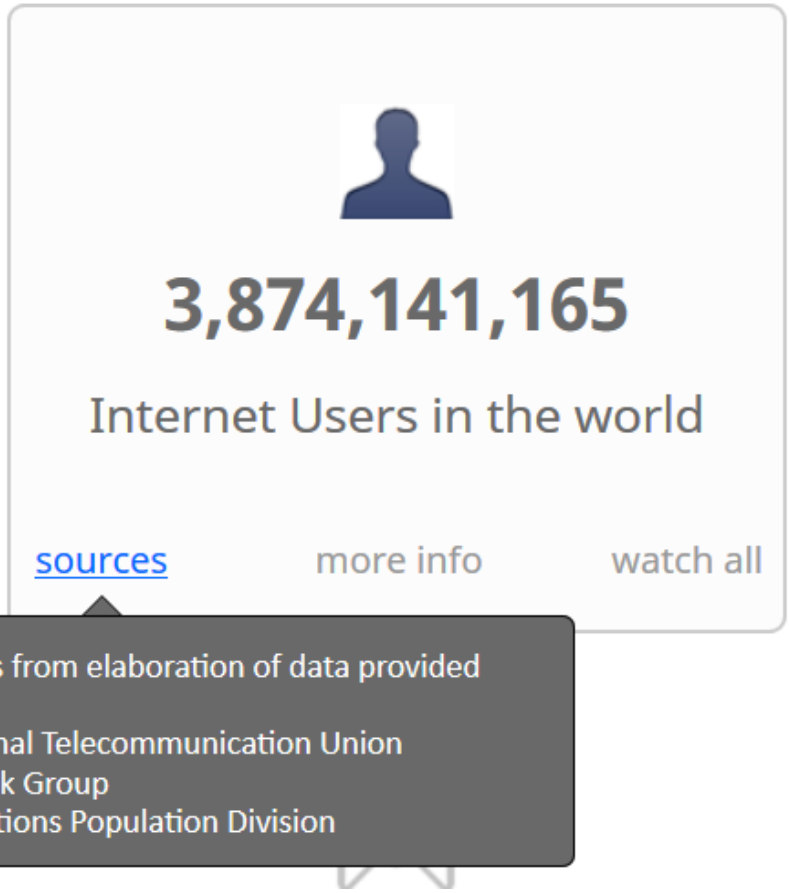
CNs are not synonym of

2. why are CNs relevant?

Current World Population

7,682,203,719

view all people on 1 page >



Solutions adopted so far have limits

mainstream networks are efficient in high-income and urban areas

MNs fail to address the challenges of (rural/peripheral) areas where return on investment is scarce

CNs are **feasible** alternative solutions triggering several **p**ositive **e**xternalities

Positive externalities of CNs:

- Freedom of expression
- Capacity building
- Permissionless innovation
- More "interesting" Internet
- Decentralisation

virtuous circle of

knowledge and **innovation**

new content and services
by the community for the community

- maps
- instant messaging apps
- VoIP services
- local e-commerce platforms
- e-health apps, etc.

The local community self-determine itself

Network **S**elf-**d**etermination

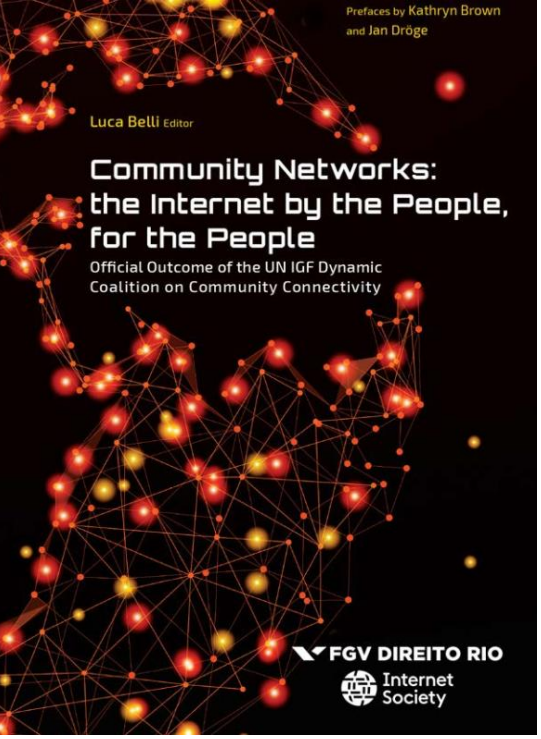
Right to free development of network infrastructure

A concept solidly grounded on

Human Rights Law and on

empirical evidence

*"the right to freely **associate** to define, in a **democratic** fashion, the **design**, **development** and **management** of **network** **infrastructure** as a **common** **good**, in order to freely **seek**, **impart** and **receive** **information** and **innovation**"*



2 Network Self-Determination and the Positive Externalities of Community Networks 35
Luca Belli

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1 Community Networks: Bridging Digital Divides through the Enjoyment of Network Self-determination 23
Luca Belli

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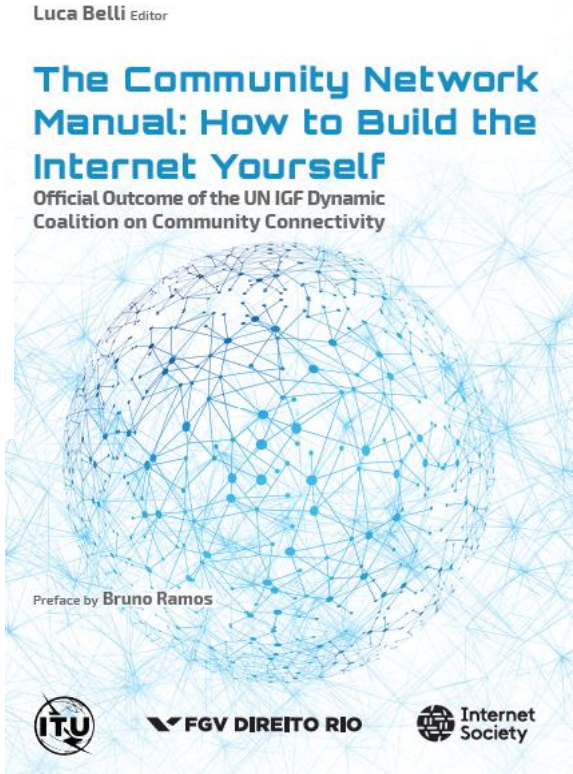

3. what can be done to facilitate CNs?

- simplify licensing/authorisation
- simplify equipment approval
- legal definition of CNs
- spectrum sharing
- tax exemptions

any best practices?

Resolução 614/2013

License waiver for small (less than 5% of market share) Multimedia Communication Providers

https://www.enacom.gob.ar/multimedia/normativas/2018/res4958.pdf

Pesquisar

Página: 1 de 3 140%

República Argentina - Poder Ejecutivo Nacional
2018 - Año del Centenario de la Reforma Universitaria

Resolución

Número: RESOL-2018-4958-APN-ENACOM#MM

CIUDAD DE BUENOS AIRES
Miércoles 15 de Agosto de 2018

Referencia: EX-2018-15739323-APN-SDYME#ENACOM - ACTA 36

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Mobile Operators could sponsor CNs in remote areas as part of their CSI:

- more convenient than building infrastructure
- CNs create demand for mobile Internet

to conclude...

CNs are not a silver bullet

BUT

there is nothing to lose from allowing people to build the Internet themselves

Thank you for your attention!

Luca Belli, PhD
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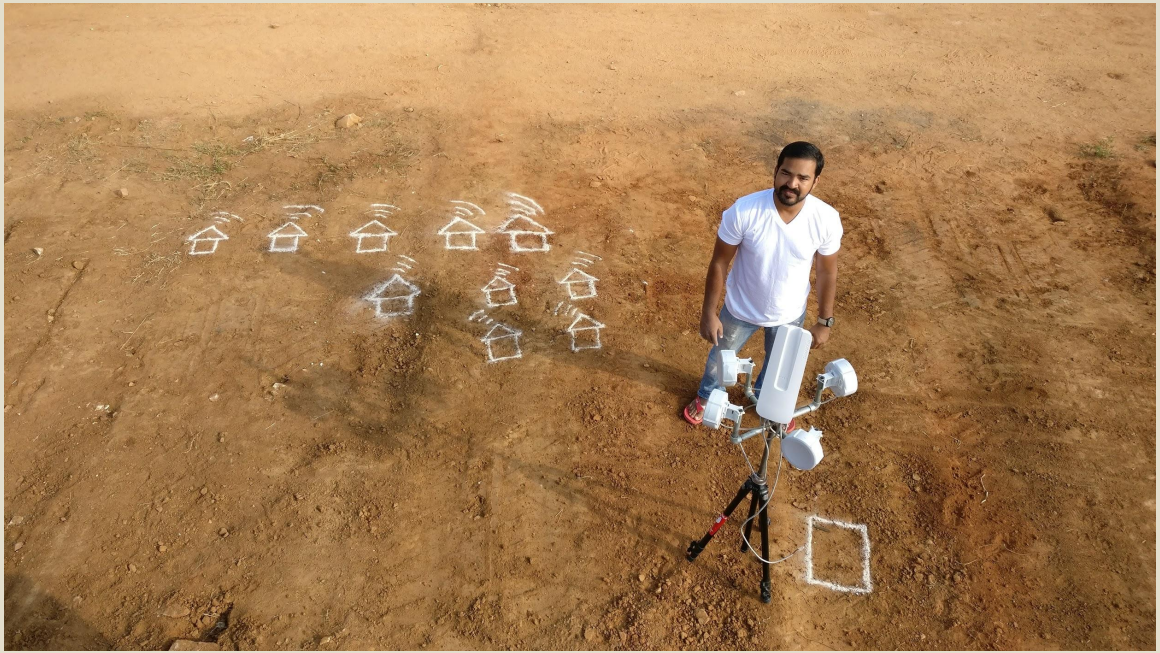
@1lucabelli

Osama Manzar

Digital Empowerment Foundation



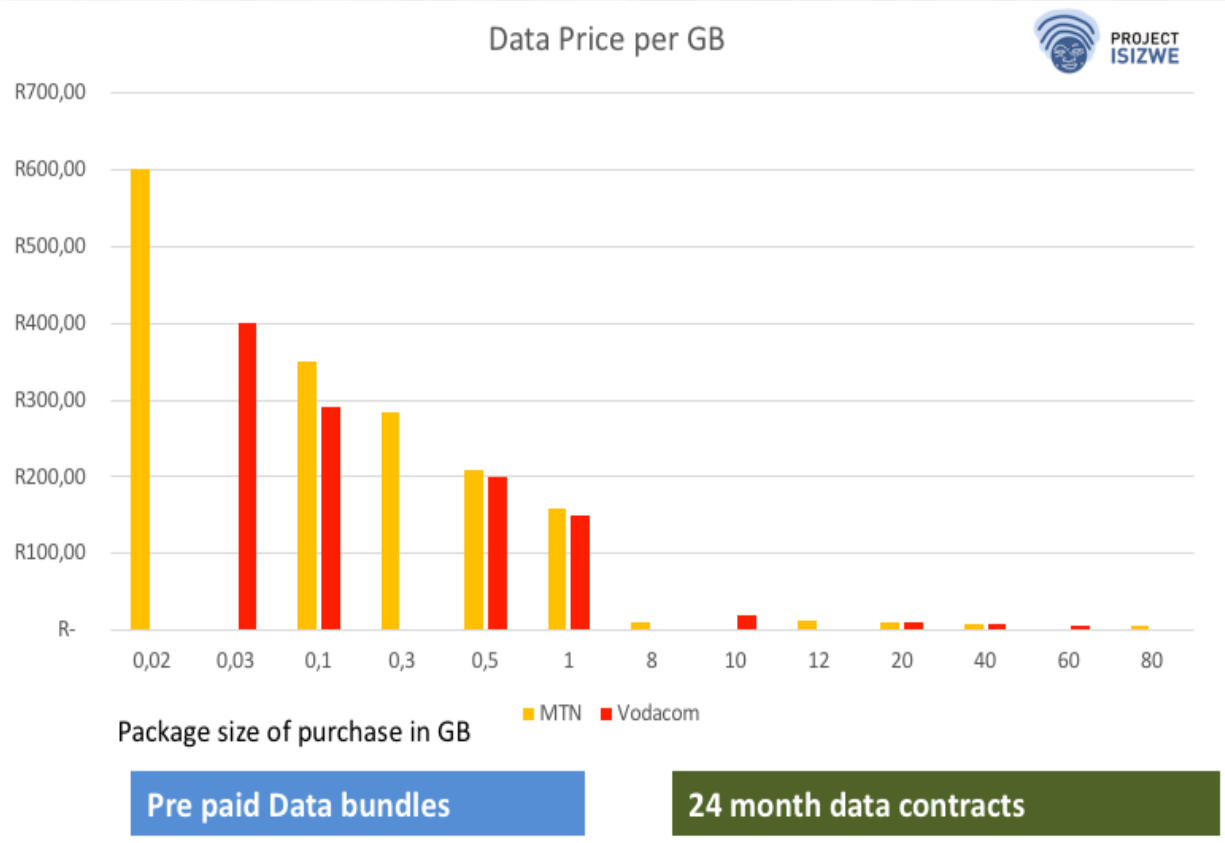
PROJECT ISIZWE

Free WiFi for Africa

More then 4.5 million unique users connected since 2013. Footprint in 5 Provinces across South Africa

Follow @ProjectIsizwe | Like Follow fb.com/ProjectIsizwe

Price per GB of Data



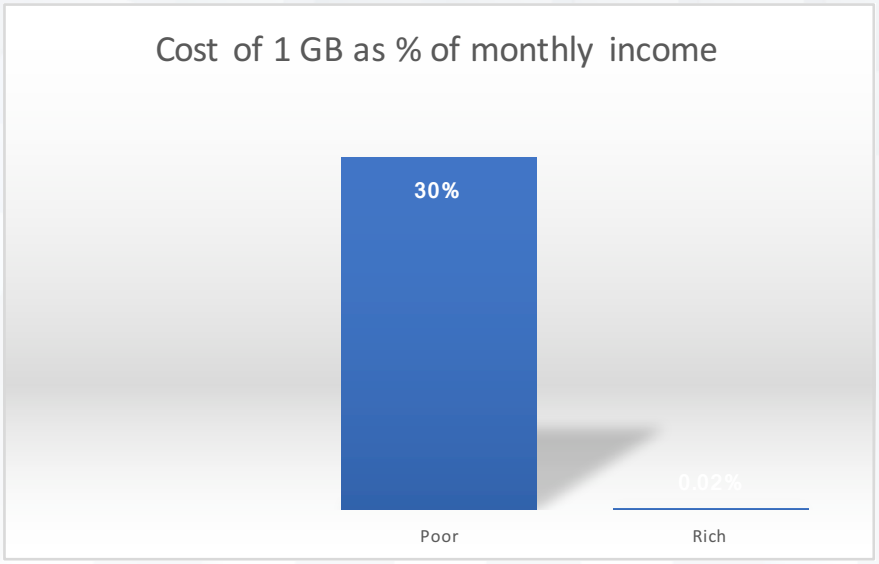
Pre paid Data bundles

24 month data contracts

AFFLUENT AREA
R6,26

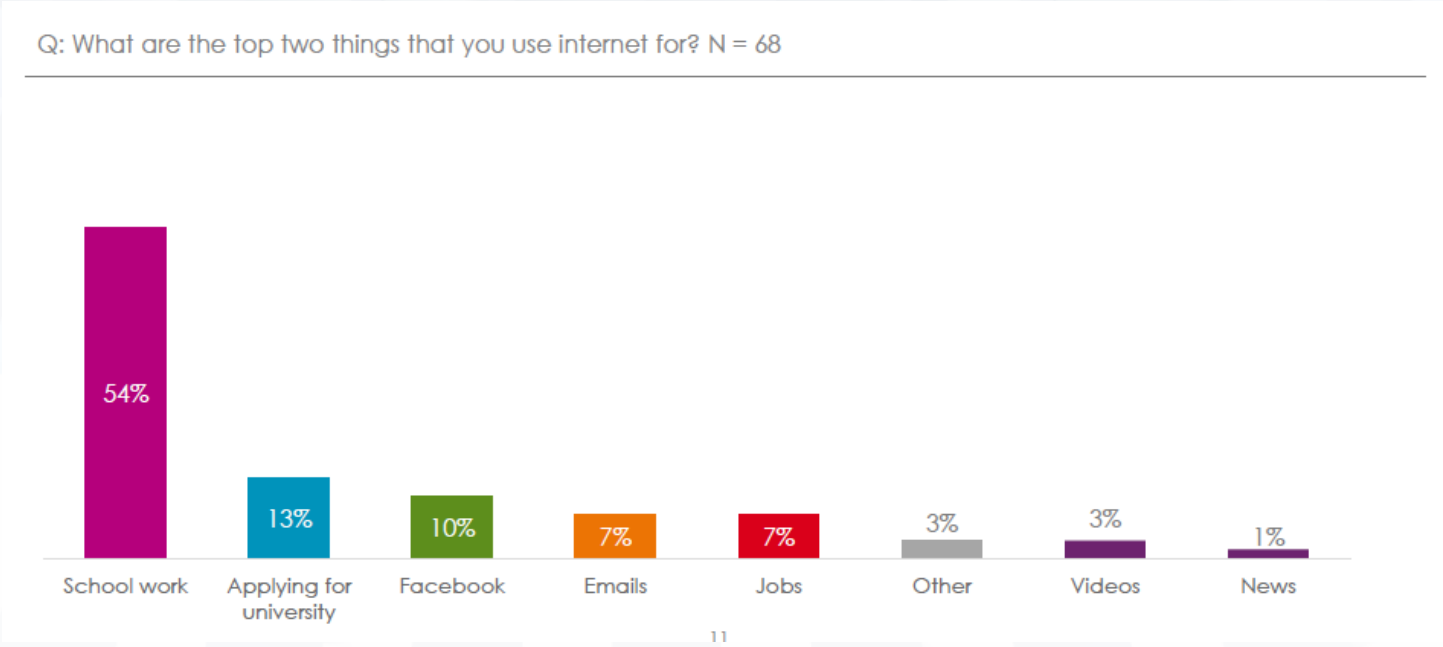
LOW-INCOME
R500

Price per GB of Data as % of Income



The price to the poor as a % of income for 1 GB is **1500 times** more than the price to the rich

Why is data so important?



Data has become the raw material for developing people

PROJECT
ISIZWE
FREE
WIFI FOR SA
Within walking distance

1050
SITES
OR FREE INTERNET ZONES

130+
THOUSAND
USERS EVERY DAY

3,5
MILLION
DEVICES SINCE 2013

600+
THOUSAND
UNIQUE USERS PER MONTH

R150
MILLION
DATA SAVING EACH MONTH

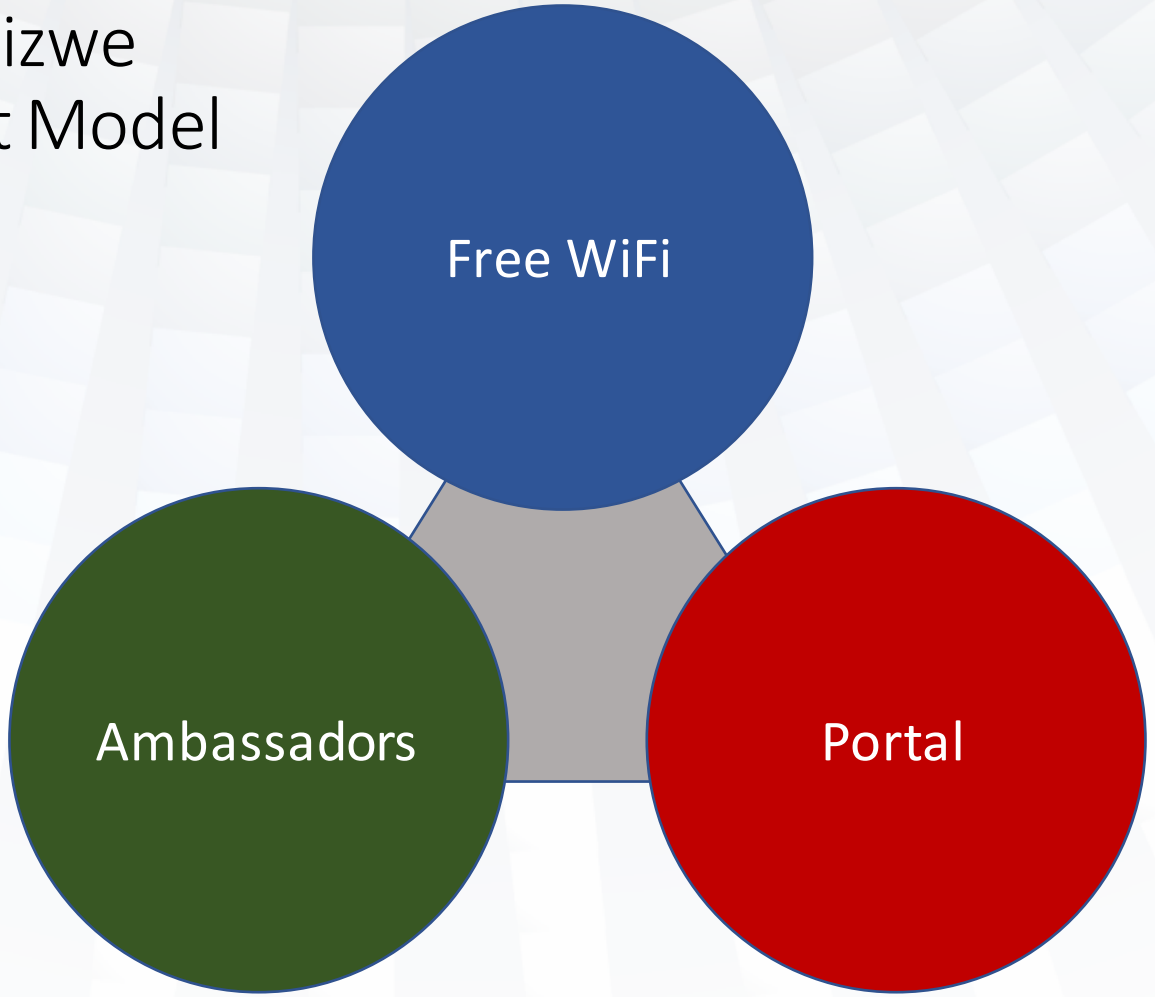
Wi-Fi NOW AWARD 2016

AfricaCom AWARDS

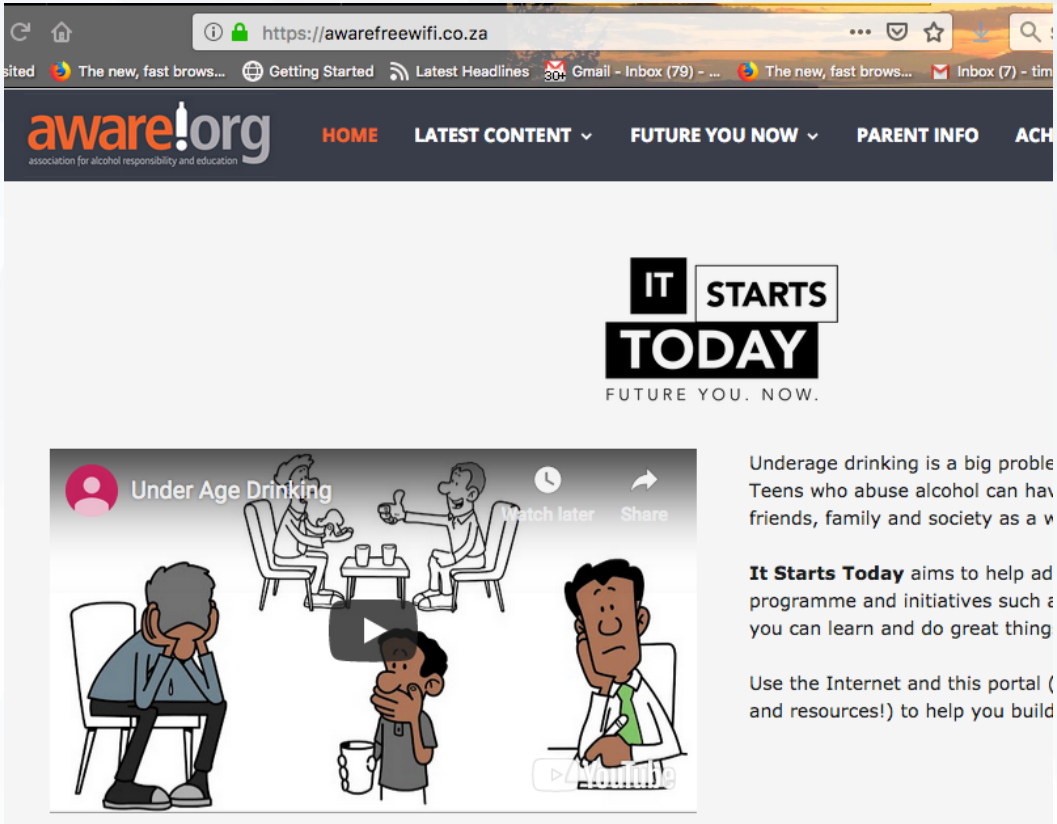
WORLD™ Wi-Fi Day

FIRE

Project Isizwe Deployment Model

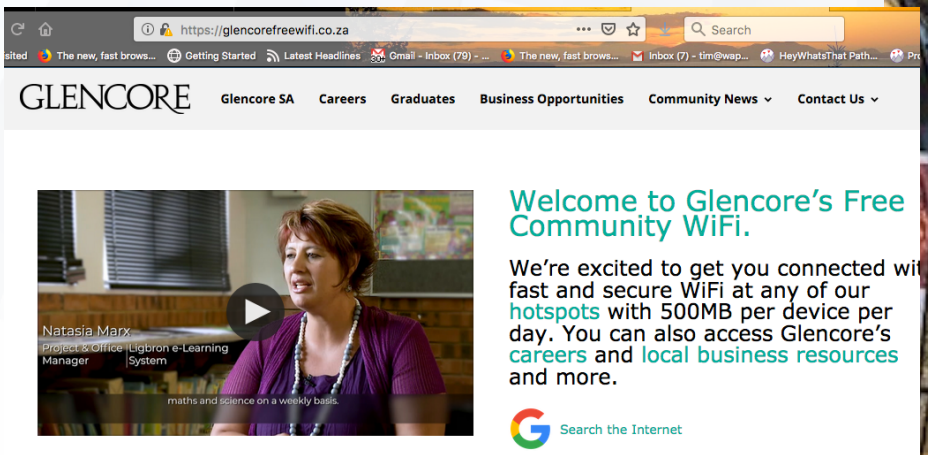


1.1 Project Sponsors - Aware



1.2 Project Sponsors - Glencore

PROJECT ISIZWE
Free WiFi for South Africa



2.1 Sustainability – Wi-Fi Vouchers

PROJECT ISIZWE
Free WiFi for South Africa

35 MB free per day
Voucher for more

Available at FLASH shops

Available in your community

FLASH

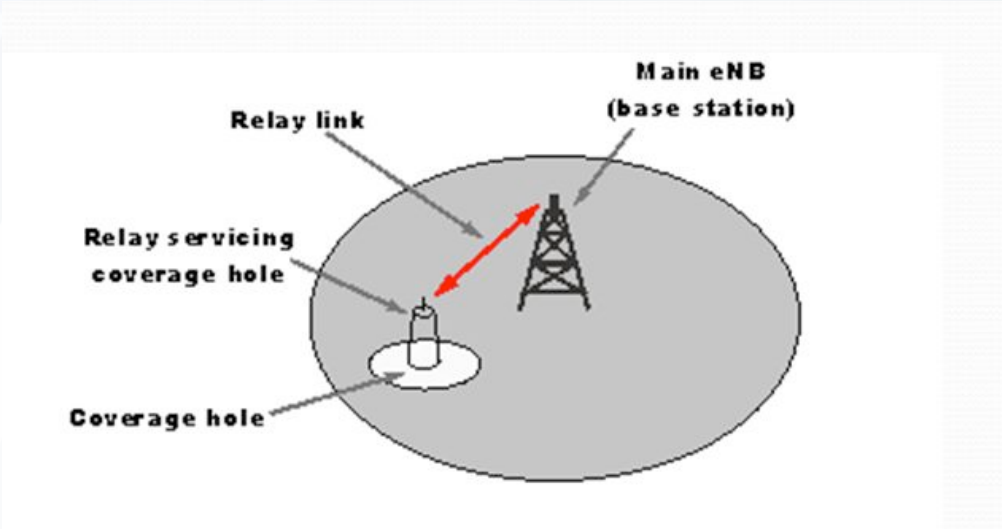
2.2 Sustainability – Advertising

Challenges
Filling the inventory
Managing the advertising space

2.3 Sustainability Way Leaves

PROJECT ISIZWE
Free WiFi for South Africa

LTE relay stations



Aerial Fibre

PROJECT
ISIZWE
Free WiFi for Africa

PROJECT
ISIZWE
Free WiFi for
South Africa

February 2019

Community Networks
Switch It On

Internet Society

Alliance for an Affordable Internet (A4AI) Webinar on Community Networks

Jane Coffin, Senior Advisor to the CEO, Connectivity & Infrastructure
coffin@isoc.org

Why are we engaged? Vision, Mission, Community
49% of the world is still not connected

The lack of affordable access to the Internet and the disparity in levels of access across the world remains a key challenge.

This creates competitive, social, and economic disadvantages.

A vehicle crossing the landscape near Koklata in Tusheti, a beautiful but very remote region of the Greater Caucasus Mountains in the Republic of Georgia. ©Nyani Quarmyne

We know we must act now!

It’s time to:

- **Change** policies to connect the unconnected
- **Deploy** networks with partners
- **Build** communities
- Focus on **training**/capacity development
- Create more **partnerships** to fund and scale CNs

India – the Infrastructure often starts out as simple local community developed and can become more sophisticated as we bring on partners to scale and sustain the project.

Connecting communities

One solution for connecting rural, remote, and under-served communities is community networks.

Small, do-it-yourself networks are already connecting people in remote parts of the globe, from the Amazon Rainforest to the Himalayas, to the fly-in communities of Canada's north.

Community networks are making connectivity affordable to more and more people around the world.

Moses "Chiif Kadiff" Otieno (right) hanging out in Kibera, a slum in Nairobi, Kenya which is reputed to be the largest in Africa.

Otieno hopes to benefit from a community wifi network being established by the Tunapanda Institute, which aims to provide access to a range of educational content, paired with IT outreach training. ©Nyani Quarmyne

What & Why Community Networks?

- Built and operated by local citizens who want to connect their village, city, or town
- Put technology in the hands of the people who use it
- Bring new ideas, new ways of thinking and new solutions
- Provide a complementary solution for accessible and affordable connectivity in underserved areas.

They inspire us to think differently and to solve problems together.

Community networks develop, scale & lead to...

- Partnerships (Govt, local community, businesses, libraries, Development Agencies)
- Workshops & Training opportunities for local community and capacity development
- Economic development – incubating networks to connect with other networks & SME opportunities
- Education – wiring schools to provide access for children and the communities
- Changes to policies/regulations that impact CNs
- Increase in local technical capabilities

Barriers for community networks

In addition to the challenges of accessing remote locations, there are many barriers to deploying community networks in rural, remote & urban areas:

- Lack of creative solutions (backhaul, shared infrastructure)
- Registration, authorizations/licensing and permits
- Taxes, customs, and import fees
- Access to financing/funding
- Access to/allocation of spectrum – access for smaller networks to use, share, or utilize spectrum

©Nyani Quarmyne

Partnerships around the world

2019 Partners – working on that now!

2018 Partners Countries & Advocates:

- Argentina
- Kyrgyzstan
- Zimbabwe
- Brazil
- Colombia – Colnodo (with Rhizo/Redes)
- Georgia – Tusheti+
- Greece – Sarantaporo.gr
- India - DEF
- Kenya – Tunapanda
- Mexico - Rhizomatica
- Pakistan - COMSATS
- South Africa - Zenzeleni

- IGF - Fellowships to connect CN experts

2019 – Planning and Partners

4 Strategic Pillars

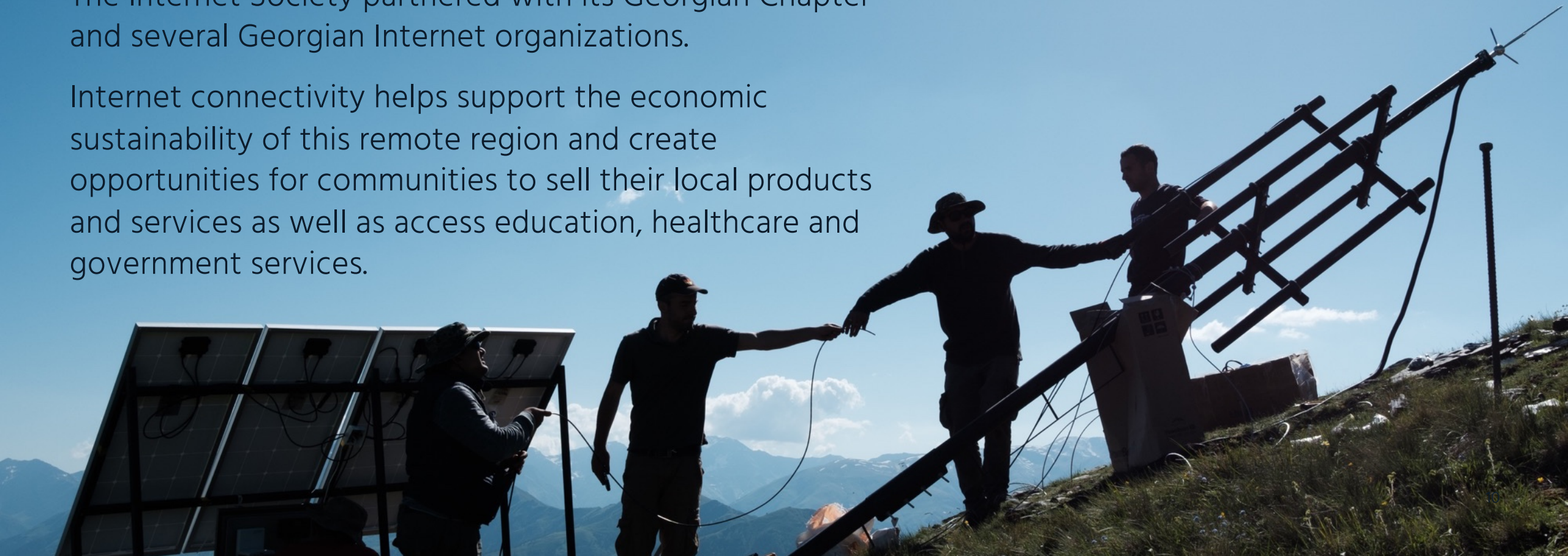
- Support CNs by working with International Development/Research organizations and Governments to **secure their commitment** to support CNs
- Work with Policy-makers & Regulators to **change** policies, processes & programmes to allow for the deployment of CNs
- Work with International Financial Institutions to **support** CNs and train partners
- Hold a series of Regional Preparatory Summits & a Global Summit on CNs with partners **to prepare roadmaps and scale efforts**

Snapshot – Tusheti, Georgia

Tusheti is in northeast Georgia on the northern slopes of the Greater Caucasus Mountains and bordered by the Russian republics of Chechnya and Dagestan.

The Internet Society partnered with its Georgian Chapter and several Georgian Internet organizations.

Internet connectivity helps support the economic sustainability of this remote region and create opportunities for communities to sell their local products and services as well as access education, healthcare and government services.



Lasha Tunauri (left) and his packhorses wait while Konstantin Stalinsky, Giorgi Kirvalidze and Amirani Giorganashvili complete construction of a tower on Kheki, a mountain peak in Tusheti, a beautiful but very remote region of the Greater Caucasus Mountains in the Republic of Georgia, ©Nyani Quarmyne

3rd African Community Network Summit – Lubanzi, South Africa, 2-7 September 2018

Community Network Workshop – Bishkek, Kyrgyzstan, 11 September 2018

To make this happen, grow/strengthen communities with and through our partners

- Join with a global network of partners –A4AI, APC, FGV, DEF, CNs, ITU-D, policymakers, businesses, regulators, governments, and other influencers to raise awareness about community networks and the alternative they offer to connect the most remote regions.
- Work with partners to align and avoid duplication of efforts & to scale impact
- Work with our ISOC Organizational Members, partners, and chapters
- Train more people to build more networks & advocate for them

Thank you!

Get involved.

There are many ways to support the Internet. Find out today how you can make #shapetomorrow

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Questions & Open Discussion