



Department of Technology Systems
University of Oslo

Tanzania Digital Community Meeting, 23Feb2021

Non-Discriminating Access for Digital Inclusion

**Connect the Unconnected, #Internet4All,
#DigitalInclusion, #SocietalEmpowerment**



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Affordable Energy & Internet Lite for All

the catalysts for the goals

Showcase
“*Non discriminating access*”
project

- funded by RCN and Mfa/Norad (14.9 MNOK for 2017-2020)
- Tanzania: digital health
- Mali: energy



Energy & Internet Lite for All
Target 7.1&7.2 Target 9.C Target 16.10

Reality of the Digital Divide

→ “Boys have the toys”

- digital divide in both devices
 - ▶ Example Smartphone ownership: 33% male, 16% female (Bangladesh)
- mobile broadband access

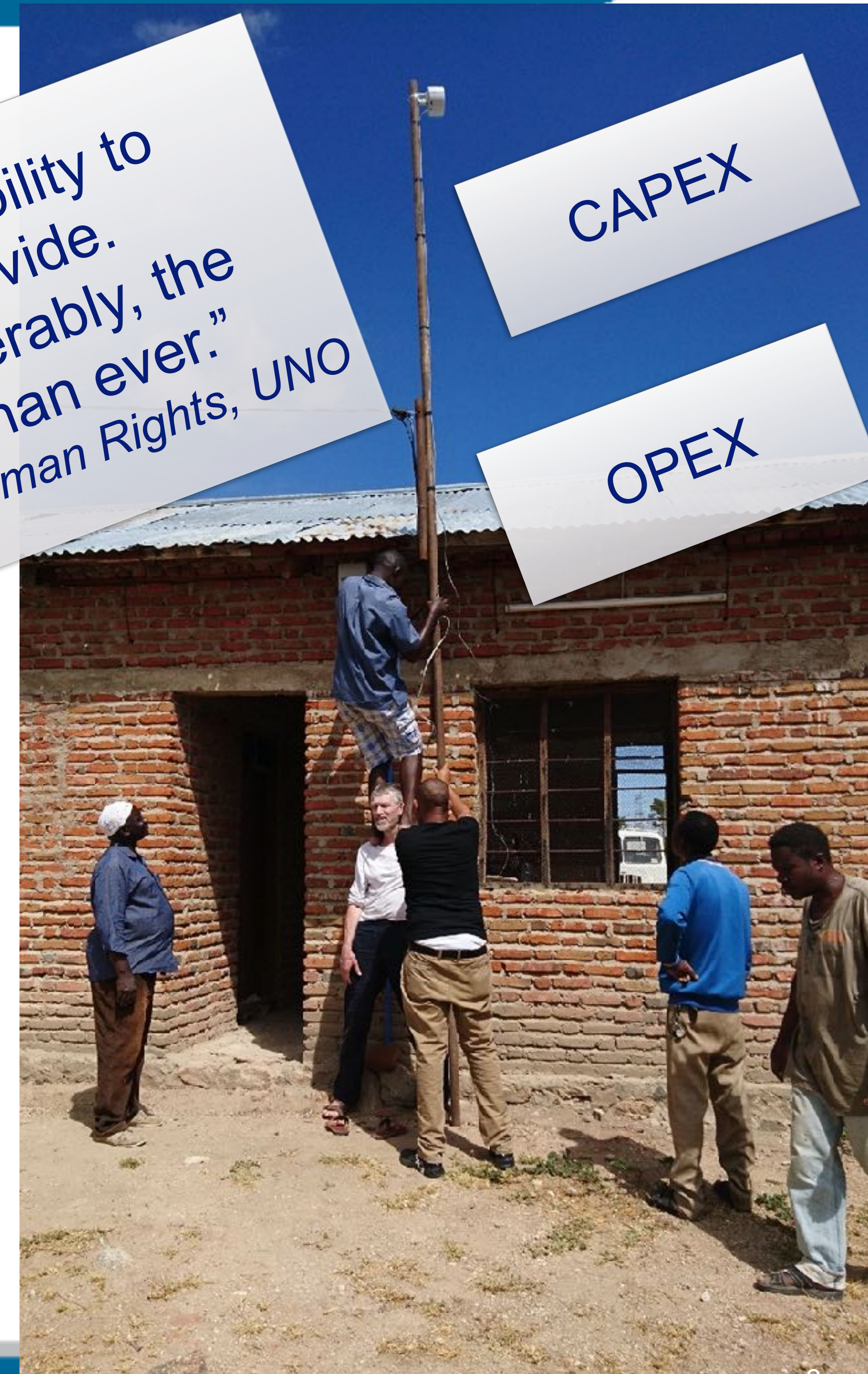
→ Costs of Access

- School connectivity (SDG indicator 4.A.1)
 - ▶ TZ: ~3% of schools are connected to Internet
- Digital Health for primary health facilities
 - ▶ <1% of primary health facilities have Internet (TZ)
- Community involvement/digital transformation

“Internet had the ability to dismantle the divide. Internet failed miserably, the divide is bigger than ever.”
Kate Gilmore, Human Rights, UNO

CAPEX

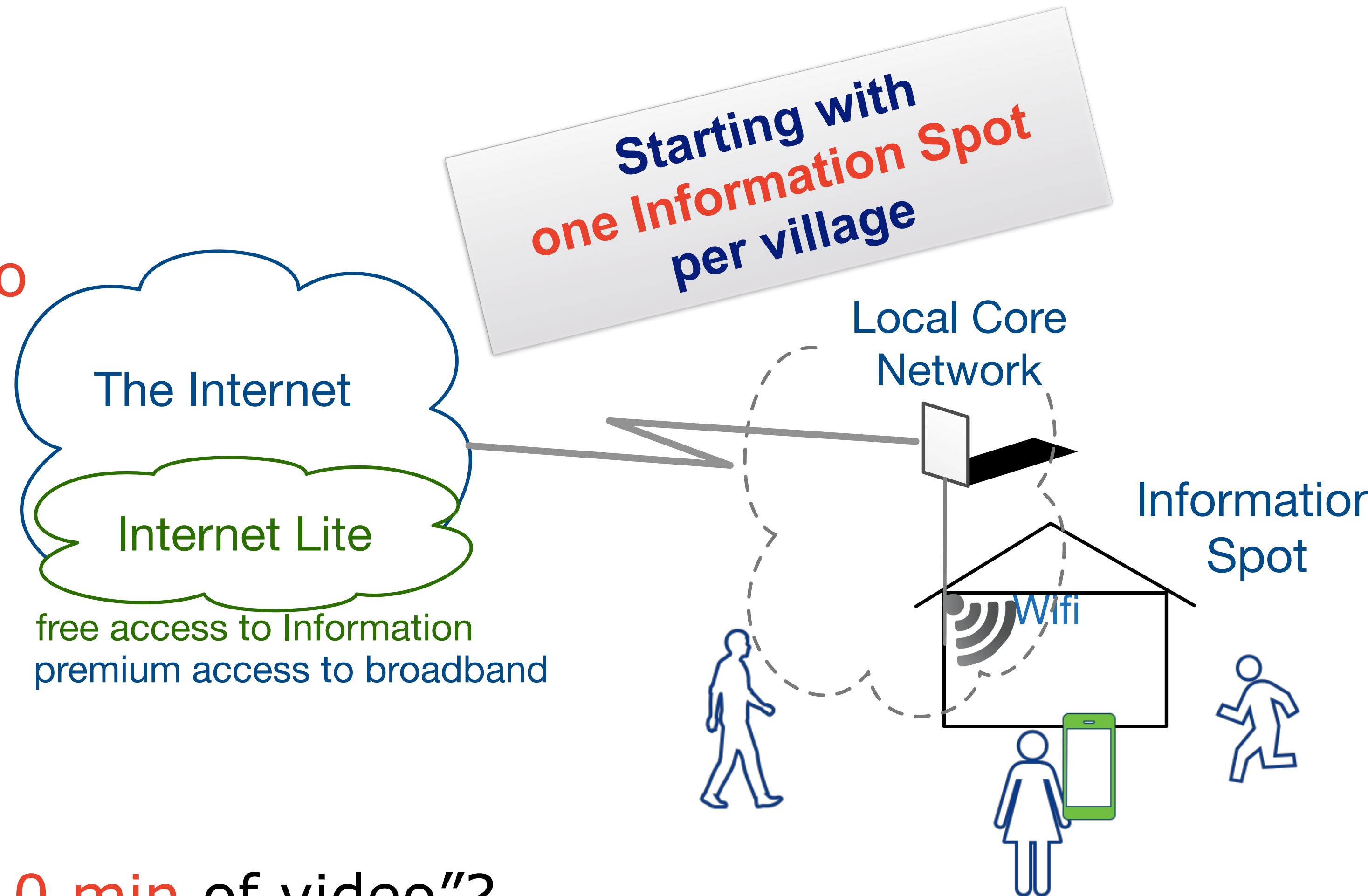
OPEX



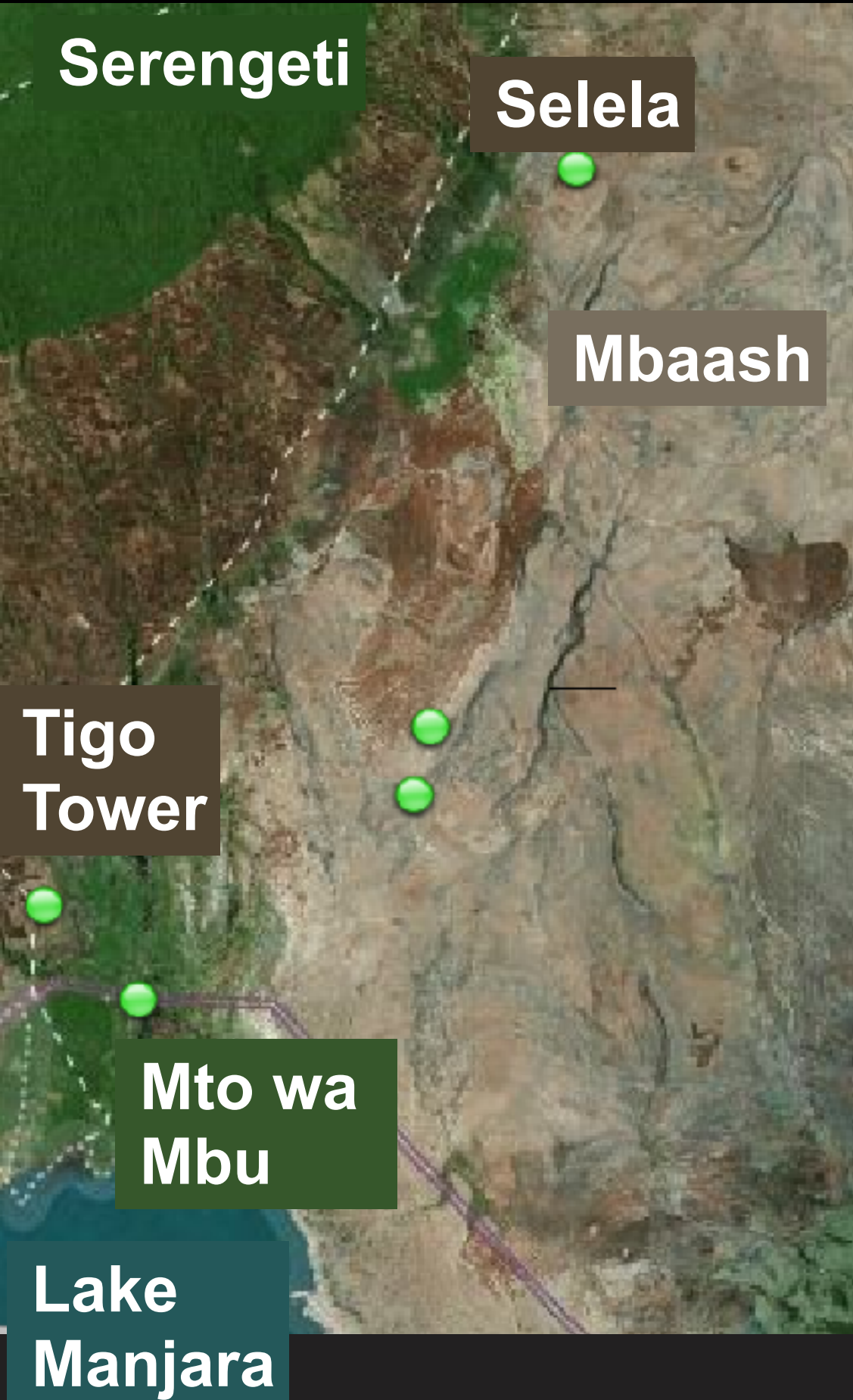
“Internet Lite for All”

the walk on the Internet

- ➔ **Freemium** model for access
 - Free: text, pictures & local video
 - Premium: broadband services
- ➔ Ensure **Network Neutrality**
 - Content type filtering
- ➔ **1 premium** pays for **300 free**
 - “**10 months** of Information, or **10 min** of video”?



“Connect the Unconnected” Selela Market Place



- Antenna in 6 m height
- Reaches Tigo tower > 20 km away

“Connect the Unconnected”

#Digital Inclusion
#Societal Empowerment
#Digital Health
#Women and Girls

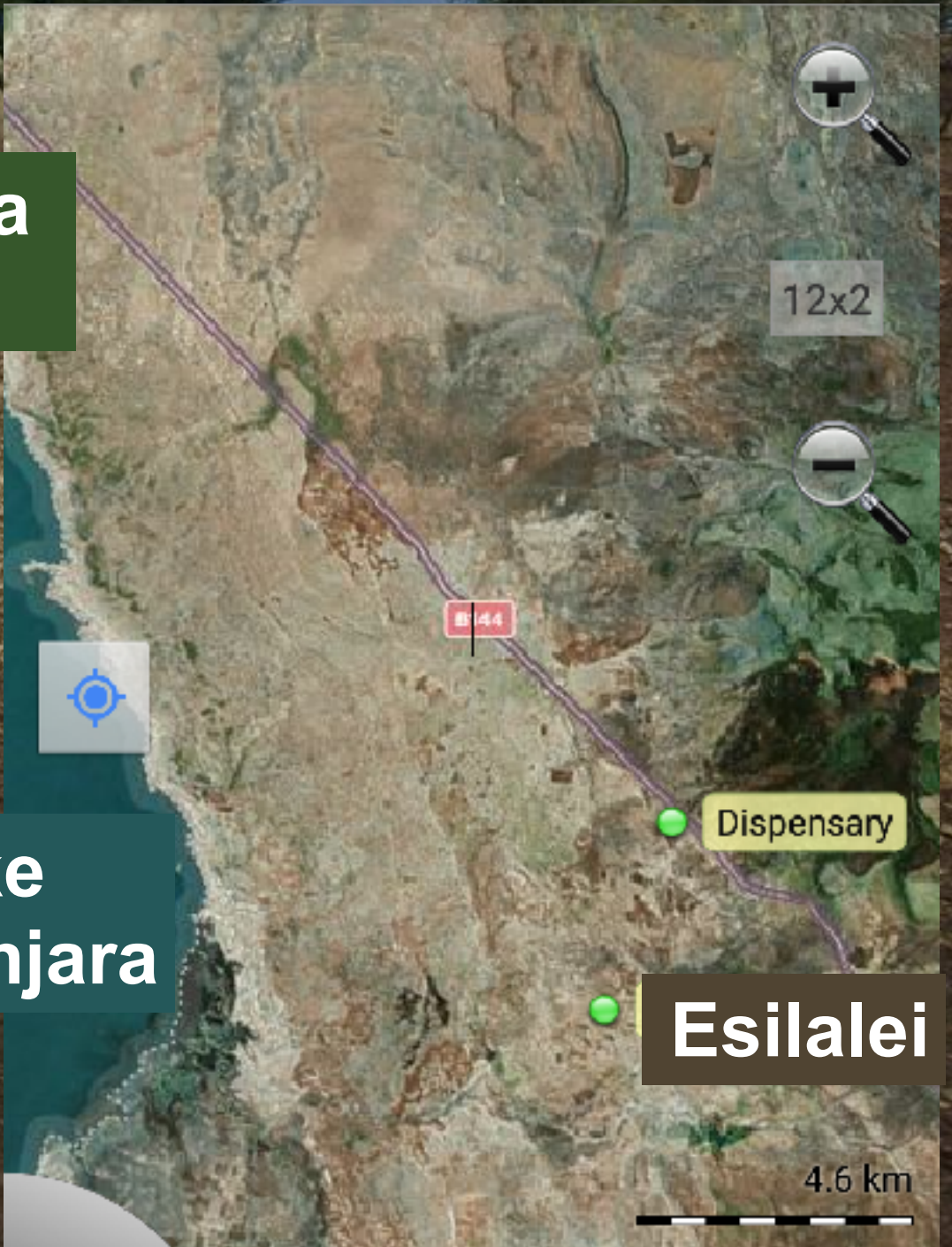


Mto wa Mbu

Lake Manjara

Esilalei

Connecting Esilalei, Apr2019



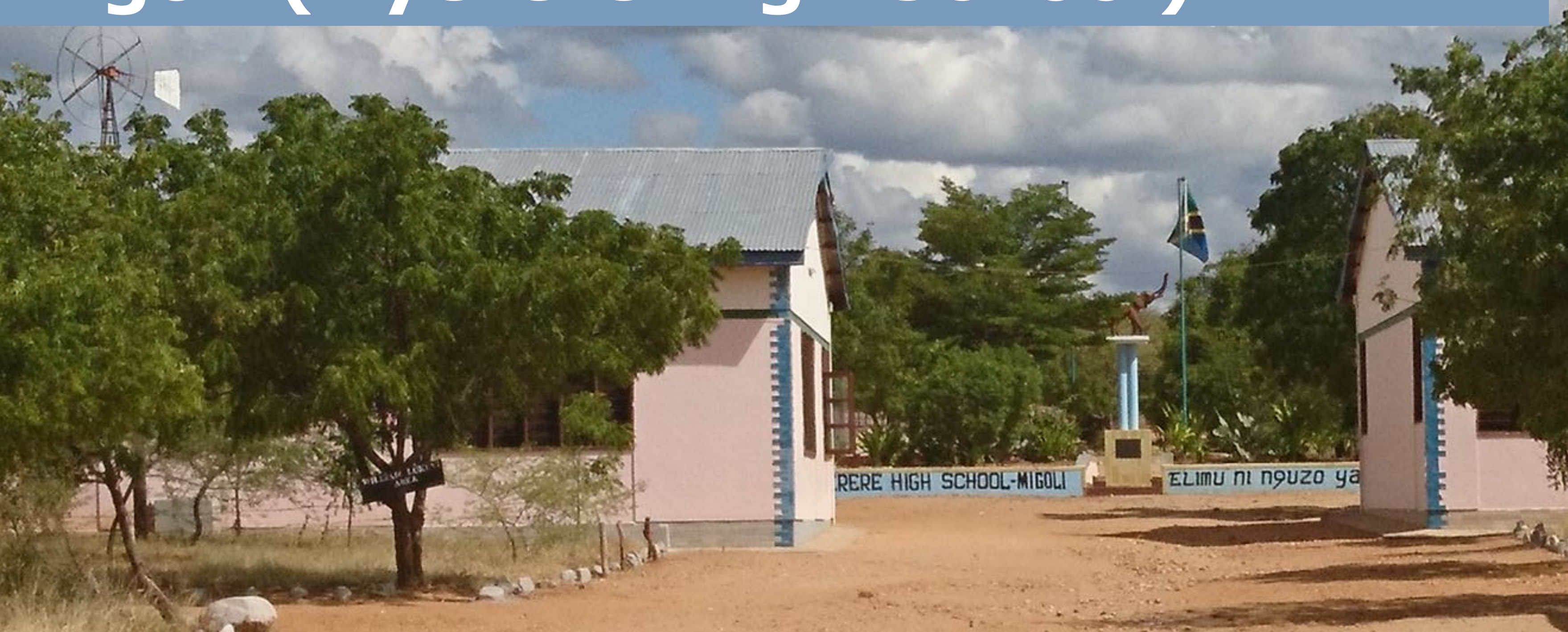
“Connect the Unconnected” Izazi



Installation time: 90 min
catching the signal from the Vodacom
tower in Migoli (~10km away)

Connecting Izazi, Apr2019

“Connecting the Unconnected” Migoli (Nyerere High School)

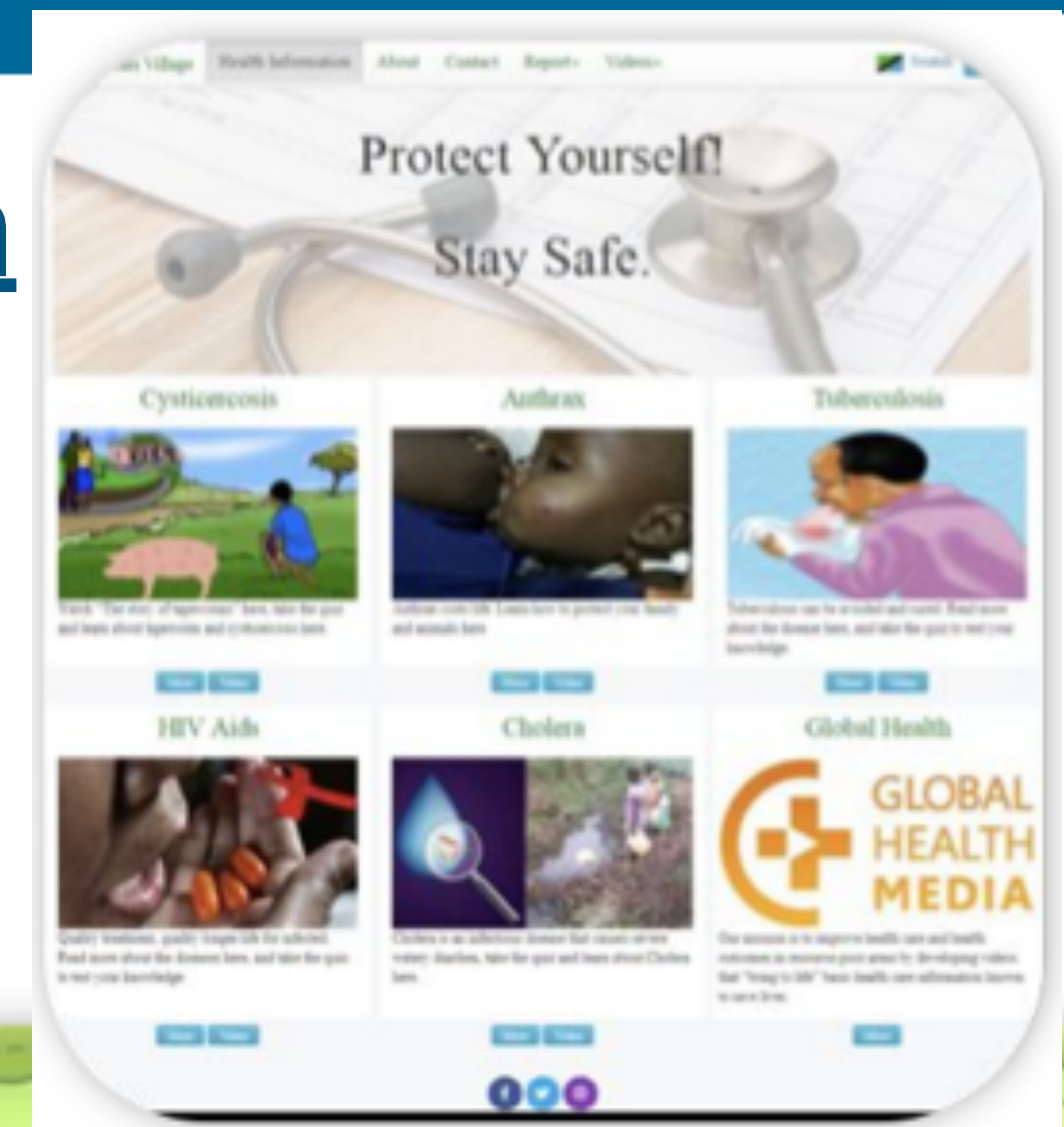


1271 pupils, 34 full-time teachers
9 m pole (above trees) base to connect
- Migoli health station
- Migoli village office



Village Platform yeboo.com

- Everyone has free access to the village platform yeboo.com
- Health Messages
- Reporting/Feedback
 - digital Key Performance Indicators
- Sustainable Business - Freemium
 - Digital Inclusion (free access)
- Can be expanded to
 - Education, Agriculture, Entrepreneurship...

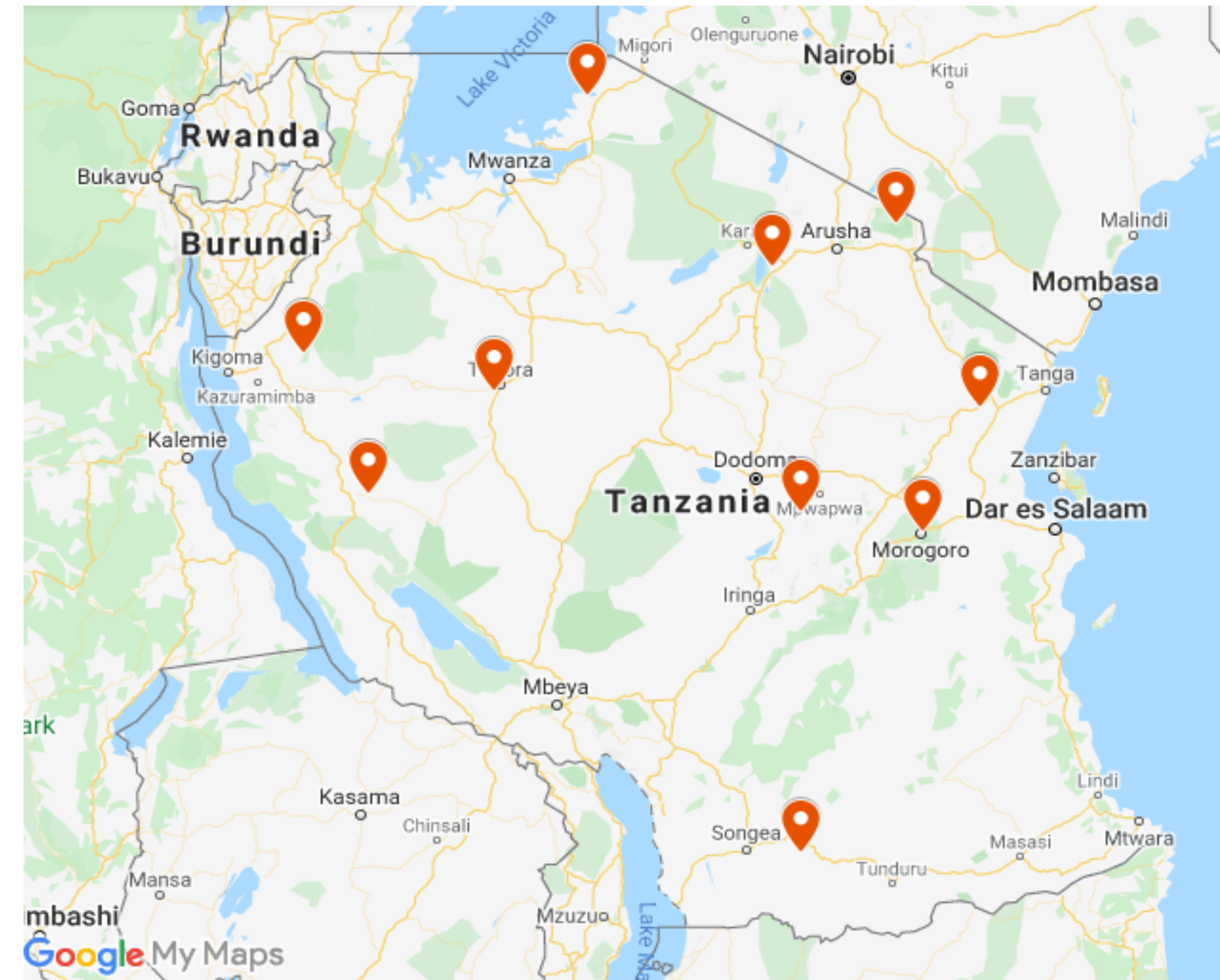


Activities 2021-2022

School Connectivity

Goal: **Feasibility** of **OPEX < TZS 35.000/month**

- Musoma Tech Secondary School – **Musoma**
- Morogoro Secondary School – **Morogoro**
- TPC Secondary School – **Kilimanjaro**
- Chamwino Secondary School – **Dodoma**
- Emboret Secondary School – **Manyara**
- Cheyo Secondary School - **Tabora**
- Kigoma grand High School - **Kigoma**
- Mbamba bay Secondary School – **Nyasa**
- Mizengo Pinda Secondary School – **Katavi**
- Kiomoni Secondary school - **Tanga**



Project Partners undertaking the First Phase in School Connectivity

- ➔ Basic Internet Foundation
- ➔ UCSAF
- ➔ tiGo Tanzania
- ➔ Vodacom Foundation
- ➔ TTCL
- ➔ UNICEF
- ➔ Shule Direct
- ➔ African Child Projects

Partnership for connecting all schools, and empower the societies around

Sustainability and Scalability of School Connectivity

- Establish local community network cooperative societies for the technical sustainability
- Expand the school connectivity to communities around schools who will pay for Internet access after school hours
- Leverage the ujamaa concept where one person can pay for the Internet access to benefit the large community including schools
- Encourage the establishment of economic generating activities for the established cooperative to later fund the connection.

Target: operational costs of less than TZS 30.000/month for each of the pilot schools

Nation-wide roll-out: 4885 schools * TZS 10.000/month = TZS 48 850 000/month

World-wide University Collaboration

<http://UniversityCollaboration.BasicInternet.org>

University Collaboration for Digital Inclusion









Managing trusted information and free access to this information are the core components of the University Collaboration for Digital Inclusion.

The representatives from the participating Universities commit to

- (i) address digital inclusion as part of their academic work,
- (ii) have their research focus on contributions to the SDGs
- (iii) contribute with trusted and peer-reviewed information, addressing e.g. education, health, agriculture
- (iv) establish workshops and conferences on digital inclusion and become thought leaders,
- (v) contribute with knowledge and information to the public decision making,
- (vi) form a global alliance on digital inclusion, and
- (vii) contribute to developing global standards to meet the SDG goals.

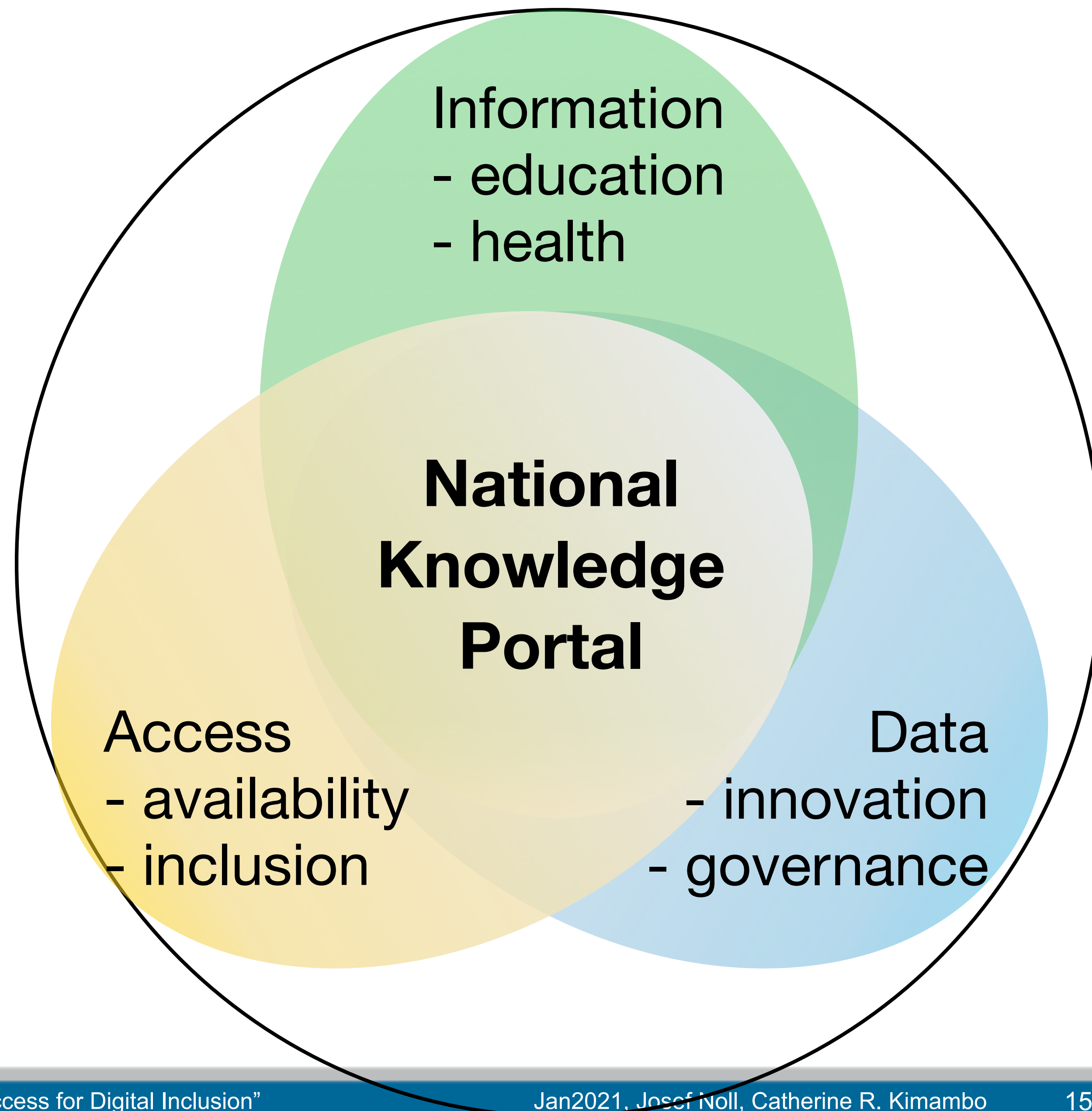
Research Topics on Digital Inclusion

1. Create a meaningful value for every single human being through the Internet
2. Contribute to digital inclusion, digital literacy and key performance indicators (KPIs) as drivers for resilient communities, decent work, and local/national goals aligned with the SDGs
3. Create trustable knowledge on education, health, governmental information, financial inclusion as well as digital public goods that target the SDGs
4. Inclusive access, allowing everyone to get free access to trustable knowledge. As an example, an InfoSpot in a village may hold courses to acquire digital skills, and handle certificates for the educational sector. As an example, building low-cost backhaul solutions, innovative distributed network architectures, knowledge portals at the edge of the network, and simplified user authentication and security solutions
5. Capacity building in education and research for digital empowerment as the main objective and for every single human being to use the Internet in daily lives
6. Data governance and innovation on data is the core for value creation within the society and the country. By combining the innovations from the private sector, and the governmental data, one can create the innovation ecosystem for the Private-Public-Partnership (PPP).
7. Regulatory issues and business models as the drivers for industrial take-up

			
University of Ljubljana			
		UNIVERSITIES IN TANZANIA (TZ)	
		Felix Sukums Lecturer at the Directorate of Information and Communication Technology, Muhimbili University of Health and Applied Sciences (MUHAS) Dar es Salaam	Digital health, digital inclusion, digital literacy, data governance
		Helena Ngowi, Associate Prof. at the Department of Veterinary Medicine and Public Health Sokoine University of Agriculture	Veterinary Public Health, One Health, Zoonoses
		Universities in South Africa (ZA)	
		Amit K Mishra	Radar, radio system design: TV

Free Access to National Knowledge Portal

- ➔ National Knowledge Portal
 - Repository for Health Data,
 - **Trustworthy** Health Information
 - Digital Health Promotion (DHP)
 - Education
 - Digital Public Goods (DPGs)
- ➔ **Job creation** and innovation
 - Governmental **data** sharing
 - Public-private partnership
- ➔ **Regulatory** Framework
 - **Free access** to Knowledge Portal



Conclusion



- “Internet Lite for All”
 - Freemium model for access
 - at Home, in the Mobile Network, World-Wide
- Framework for Sustainable Development
 - Convergence: Energy & Health & Digital
 - #ReturnOnSDGs instead of #ROI
- Information Spot(s) in each village
 - basis: free access to information for everyone
 - add-on: Health, Education, Decent Work Financial Inclusion, ...

“Providing Internet to the basic of the pyramid isn't a question of affordability, but rather a question of sustainability”
Internet Governance Forum, Panel

Starting with
one Information Spot
per village

