Invitation to collaboration

School Connectivity in Africa
-
"we help connecting the children of our world"

Josef Noll[1,2], Catherine R. Kimambo[2,3], Sudhir Dixit[2],
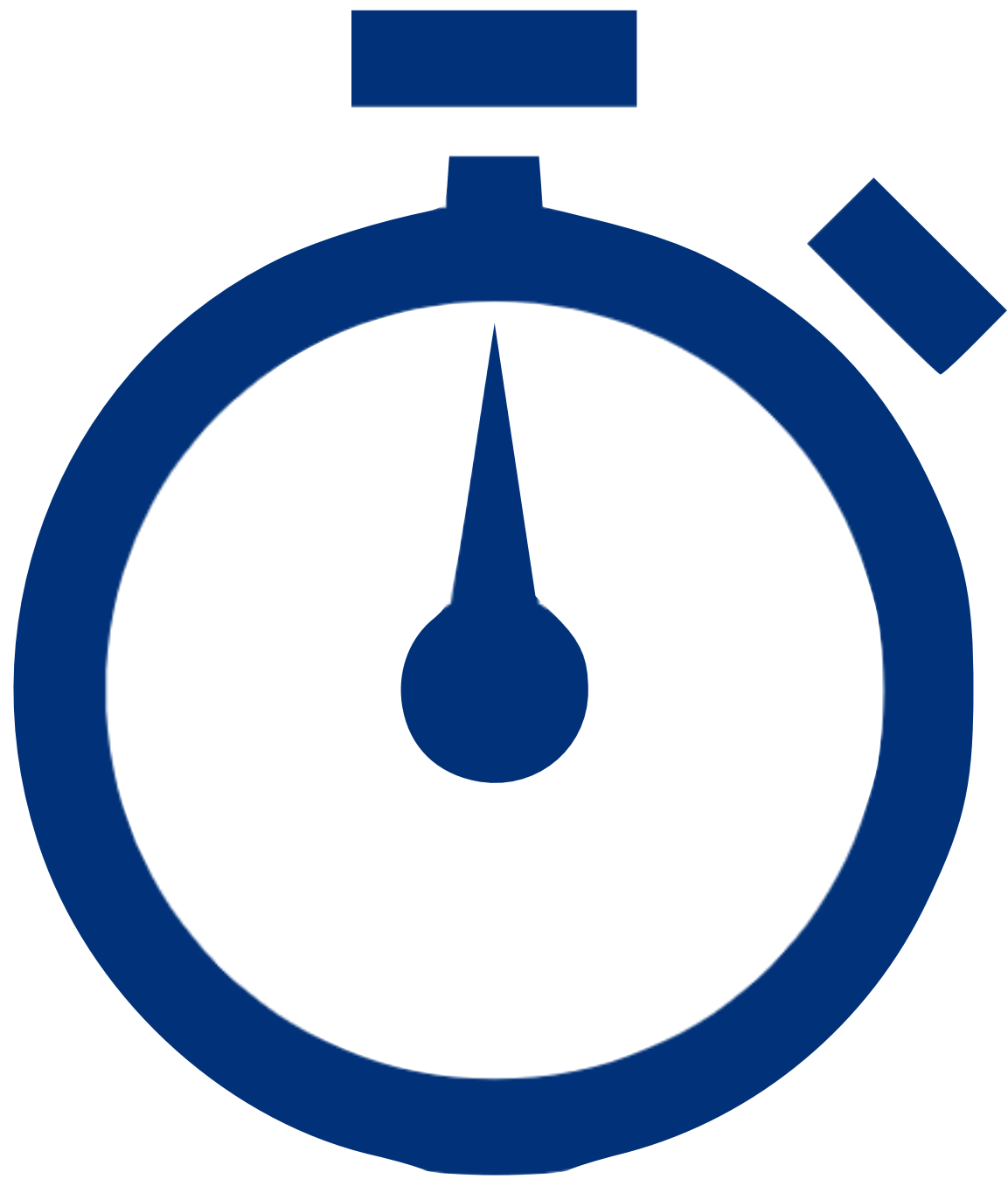Wisam A. Mansour[2], Jonathan Muringani[1,2]

[1]University of Oslo, Department of Technology Systems

[2]Basic Internet Foundation, [3]African Child Projects

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Our Priority: Short Time to Value

We want to get as many users connected as soon as possible

Affordable & Meaningful Access

Access - Skills - Regulations - Inclusion

10 GB/month to Broadband - Scalability

School Connectivity - we must invest into the future

Mission

Framework Conditions

Partnerships

"Our mission is
to improve the life of **every human**
through **access to basic information** on the
Internet…."

"This mission is carrying us forward every single day.
We **solved** the **challenge of access**, and are focusing now the
local Knowledge Portal to **empower** individuals, societies and
nations. Through **free access** to the portal we address **access,
skills, regulations and inclusion**"

The Game Changer

105 schools

(Q2.2022)

77 632 students

(Q2.2022)

Participation in the Internet Society

Changing the lives of many

USD 1800 per school

ready installed

Mission

Framework Conditions

Partnerships

School Connectivity
Examples of Activities

➡ **Tanzania** - feasibility of affordable OPEX

- 10 schools (Mar2021) → 50 (Q2.2022) → 150 (Q1.2023) → 1500 (2024)
- UCSAF, MCIT, Vodacom Foundation, Shuledirect

➡ **Kenya** - private sector collaboration

- 45 schools Oct2021 → National Framework & GIGAconnect
- harmonisation with UNICEF and national strategy

➡ **Ethiopia** - support of MoE initiative

- pilot 1 school → incorporated by Safaricom in the new 4G network

➡ **Rwanda** - harmonisation with UNICEF RW

- Focus on affordability, reduce from 225 USD/month

➡ **Ghana** - with GUIFI Africa & EU SESA project

- 2 schools → 30 (Q4.2022)

➡ **Morocco, South Africa, Malawi, Namibia, Rwanda, Nigeria,**

- pilot implementations with SESA energy & information project

Histories

"My mobile is more important than a weapon"

Head of Mbaash, TZ

Catherine R Kimambo connecting her first village

https://vimeo.com/368147538 - 2020

Mount Kenya - our cultural heritage

Usingo Secondary School, KE

Scalable connectivity
for meaningful access
tailored towards the needs & capabilities

Self-actualisation
Entertainment

Empowerment, Work
Digital Transformation

Explore, Affection
Opportunities

Value creation
Trust & confidence

Mobile Broadband
20 USD/month/person

Community network
50-100 Mbps
200-500 USD/month

Narrowband
~5 Mbps
58 USD/month

InfoSpot
10 GB/month
<20 USD/month

Our Goal

2 000 schools
1 820 000
students
Q4.2024

1100 USD/installation
0.6 $/student

105 schools
77 632 students
Q4.2022

1800 USD/installation

55 schools
37 632 students
Q4.2021

2500 USD/installation
4 $/student

10 schools
10 131 students
Q1.2021

3 000 USD/installation
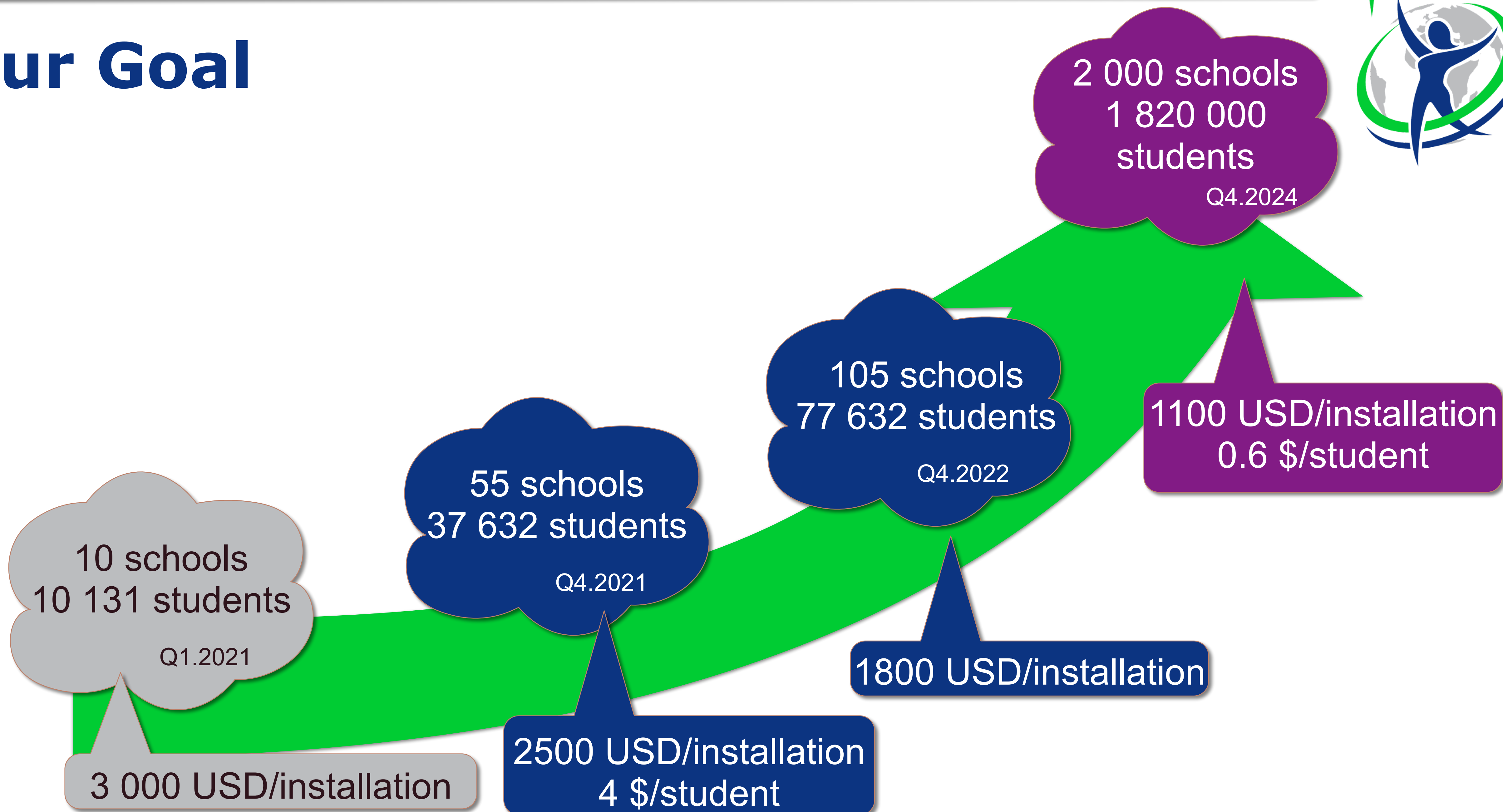
"Basic Internet introduced me to a novel way to connect the unconnected and empower people in Tanzania."
Catherine R. Kimambo (Director, African Child)

Catherine

"Our Community Support Services turned from analogue to digital, thanks to the DENT/Basic Internet collaboration in connecting 45 schools with us. Josef and his team fostered our commitment to the digital transformation in Western Africa."
Robert Owino (Director, CISSkisumu)

Robert

"We built AHERINet as a Social Enterprise operating a community wireless ISP network, thanks to the trigger by Prof. Noll and the pilots in connecting schools."
Barrack Otieno (Director & Founder, AHERI.net)

Barrack

Framework Conditions
- the Integrated Approach

Access	Skills	Regulations	Inclusion

Access
- Wireless information spot
- Rural areas

Skills
- Decentralised Internet
- Local School Server
- Trusted information

Regulations
- Authority contacts
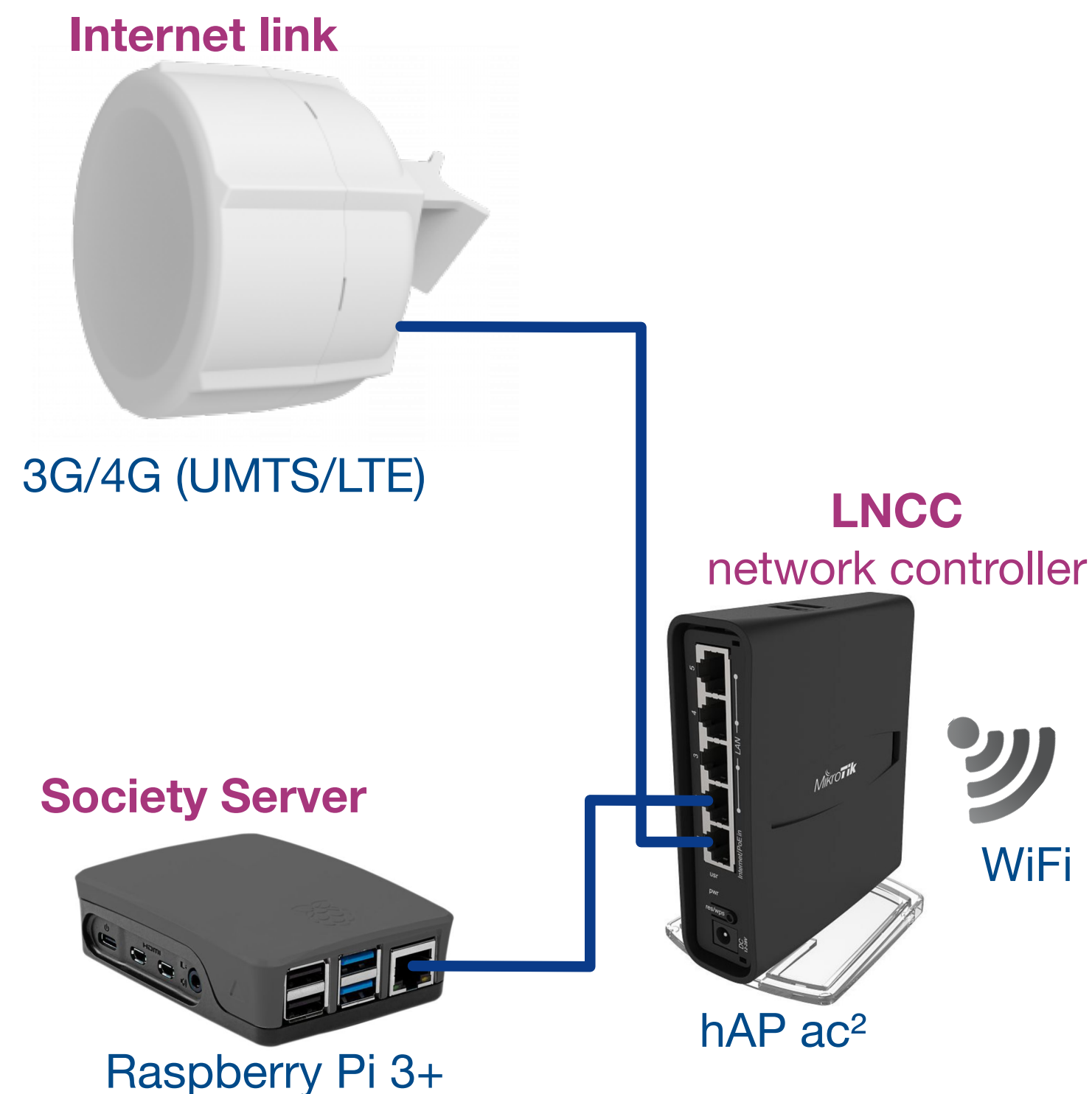- Internet Lite
- Freemium (free + premium) model

Inclusion
- Girls & women
- Special Needs

Solving the Access

➡ wireless information spot (InfoSpot)

➡ Reaching out >20 km to mobile network

➡ Affordable solution: OPEX <20 USD/month

Internet link

3G/4G (UMTS/LTE)

LNCC
network controller

Society Server

WiFi

Raspberry Pi 3+

hAP ac²

School server: yeboo.com
Example: Health package

School server with locally stored information on health care etc.

Health Information — https://migoli.yeboo.com/health_information_dashboard.php

Migoli Home | Health Information | Video | About | Contact Us | Report | Swahili | Login

Cysticercosis
Watch "The story of tapeworms" here, take the quiz and learn about tapeworm and cysticercosis here.
More | Video

Anthrax
Anthrax costs life. Learn how to protect your family and animals here.
More | Video

Tuberculosis
Tuberculosis can be avoided and cured. Read more about the disease here, and take the quiz to test your knowledge.
More | Video

HIV Aids

Cholera
Cholera is an infectious disease that causes severe watery diarrhea, take the quiz and learn about Cholera here.

Global Health
GLOBAL HEALTH MEDIA
Our mission is to improve health care and health outcomes in resource-poor areas by developing videos that bring to life basic health care information known to save lives.
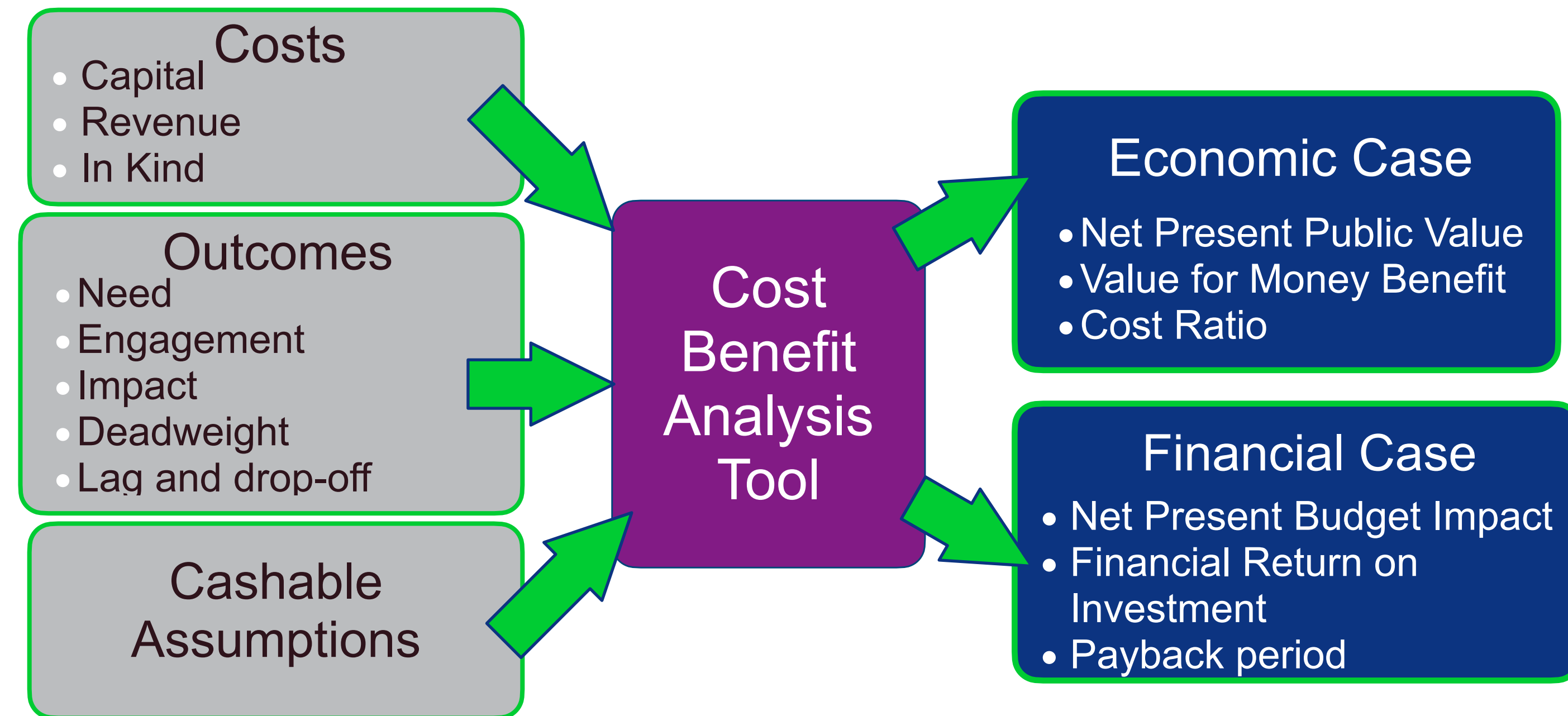
Results in TZ: **Knowledge increase**
Cysticercosis (TSCT)   **60%**
Tuberculosis   **30%**
HIV/AIDS   13%
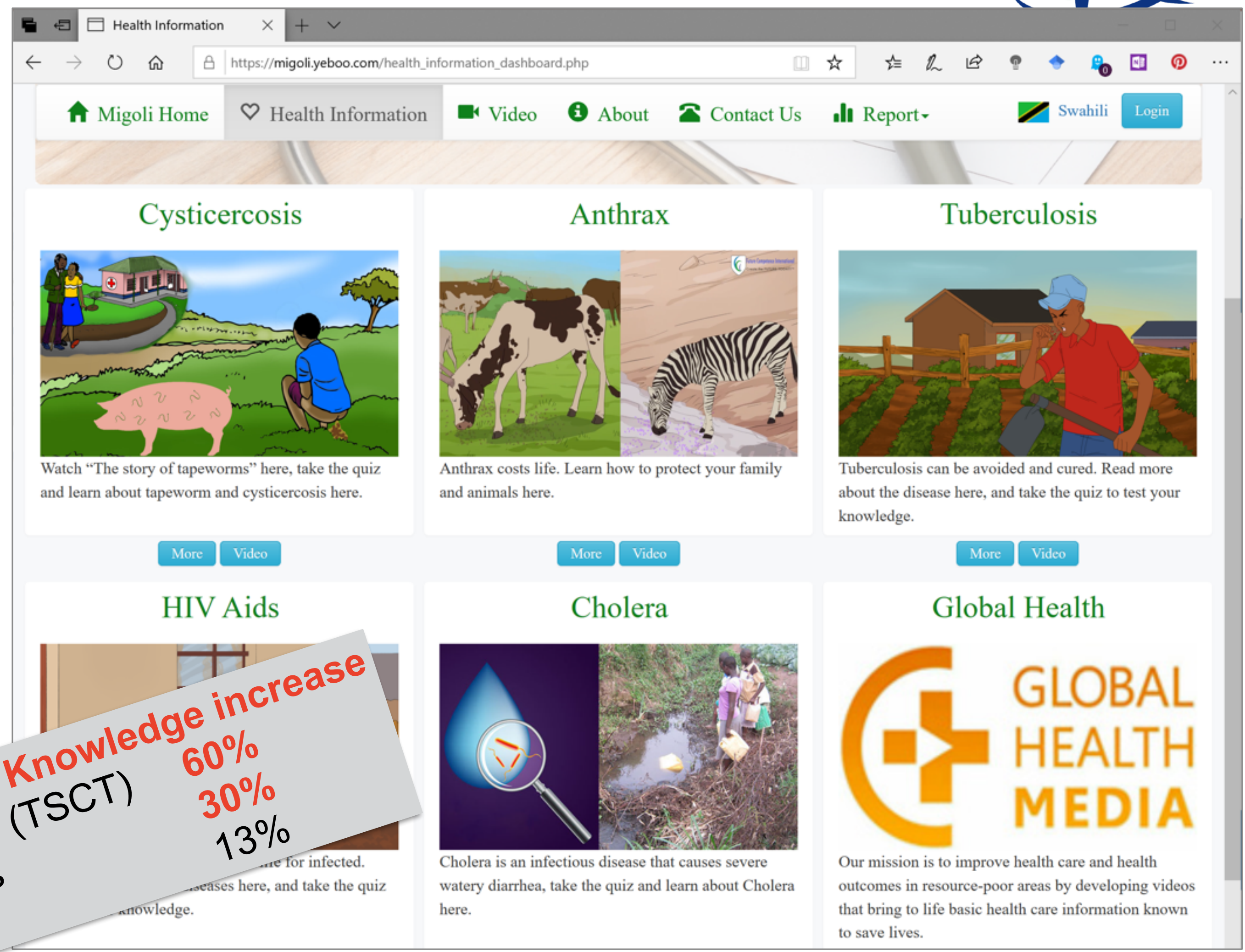
Cost Benefit Analysis (CBA)

➡ CBA by the Greater Manchester Combined Authority (2021)

➡ Intervention:

▪ InfoSpot CAPEX 1800 USD, OPEX 20 USD

➡ ROI

▪ Education

▪ Health

Costs
- Capital
- Revenue
- In Kind

Outcomes
- Need
- Engagement
- Impact
- Deadweight
- Lag and drop-off

Cashable Assumptions

Cost Benefit Analysis Tool

Economic Case
- Net Present Public Value
- Value for Money Benefit
- Cost Ratio

Financial Case
- Net Present Budget Impact
- Financial Return on Investment
- Payback period

Cost Benefit Analysis, GMCA 2021, https://www.greatermanchester-ca.gov.uk/what-we-do/research/research-cost-benefit-analysis/

Mission

Framework Conditions

Partnerships

Partnerships
for value creation and sustainability

Companies

- Visibility
- Value creation
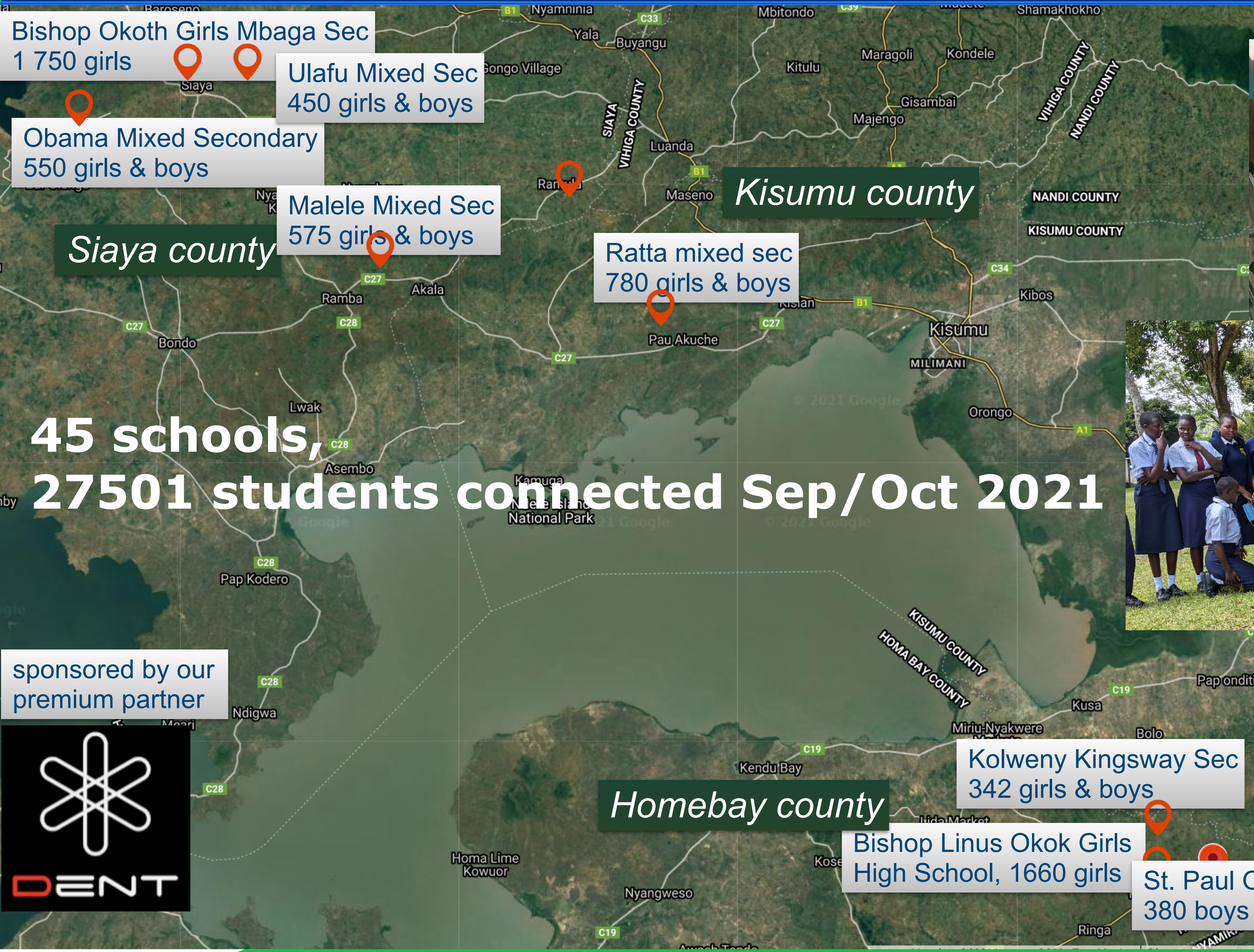- Doing good
- Employee program
- Reputation

NGOs

- Digital Transformation, Radio & ICT experts
- Network
- Co-funding

Authorities

- Independent consulting
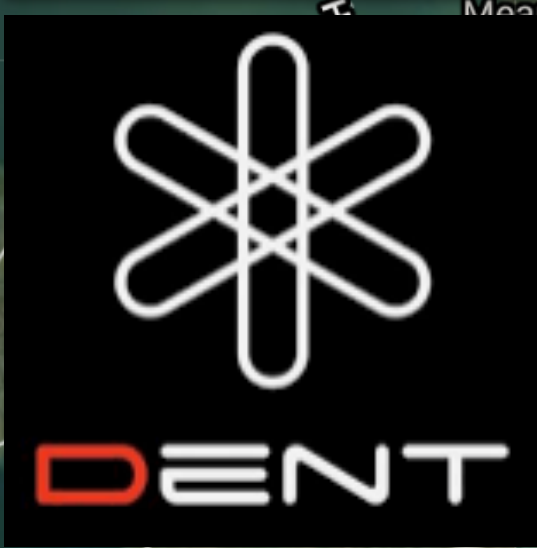- Evaluations
- Digital Transformation

Academia

- Research that matters
- SDGs in praxis
- Projects

Bishop Okoth Girls Mbaga Sec
1 750 girls

Ulafu Mixed Sec
450 girls & boys

Obama Mixed Secondary
550 girls & boys

Kisumu county

Malele Mixed Sec
575 girls & boys

Siaya county

Ratta mixed sec
780 girls & boys

Ratta mixed sec
780 girls & boys

**45 schools,
27501 students connected Sep/Oct 2021**

sponsored by our
premium partner

DENT

Kolweny Kingsway Sec
342 girls & boys

Homebay county

Bishop Linus Okok Girls
High School, 1660 girls

St. Paul Oriang
380 boys & girls

Basic Internet Foundation

School locations AHERI-CISS-D

#	name	location
1	ST. PAUL ORIANG MIXED SCHOOL	http://pl
2	ORANDO MIXED SEC SCHOOL	http://pl
3	MALELE MIXED SEC SHOOL	http://pala
4	ULAFU MIXED SEC SCHOOL	http://pl
5	BISHOP OKOTH GIRLS MBAGA SEC SC	http://pl
6	PALA MIXED SEC SCHOOL	http://pl
7	KOLWENY KINGSWAY SEC SCHOOL	http://pl
8	KIT MIKAYI MIXED SEC SCHOOL	http://pl
9	NDURU MIXED SEC SCHOOL	http://pl
10	DANIS OBARA SEC SCHOOL	http://pl
11	ATELA MIXED SEC SCHOOL	http://pl
12	WANG'APALA BOYS HIGH SCHOOL	http://pl
13	APUOYO MIXED SEC SCHOOL	http://pl
14	AGORO OYOMBE SEC SCHOOL	http://pl
15	RINGA GIRLS HIGH SCHOOL	http://pl
16	ORERA MIXED SEC SCHOOL	http://pl
17	DUDI GIRLS SEC SCHOL	http://pl
18	BORO MIXED SEC SCHOOL	http://pl
19	ST BARNABAS SEC SCHOOL	http://pl
20	SINAGA GIRLS SEC SCHOOL	http://pl
21	DIENYA SEC SCHOOL	http://pl
22	RAMULA MIXED SEC SCHOOL	http://pl
23	DHENE MIXED SEC SCHOOL	http://pl
24	ST WILIAMS GENDRO SEC SCHOOL	http://pl
25	ST PATRICK'S SENGERE SEC SCHOOL	http://pl
26	ST MAR'YS YALA SCHOOL	http://pl
27	NGIYA MIXED SEC SCHOOL	http://pl
28	OBAMBO MIXED SEC SCHOOL	http://pl
29	SENATOR OBAMA SEC SCHOOL	http://pl
	ST MATHEW NYASIDHO MIXED SCHO	http://pl
35	ST	http://pl
36	AL	http://ngano
37	ST	OL http://pand
38	AL	http://pl
39	MA	http://pl
40	RI	http://pl
41	NG	http://pl
42	ST	http://pl
43	BIS	CH http://pl
44	AK	http://pl

sponsored by our premium partner

45 schools, 27501 students connected Sep/Oct 2021

Siaya county

Kisumu county

Homa Bay county

Safaricom

- parallel to GIGIconnect first phase
- **5 Mbit/s over LTE** (dedicated SIM cards)
- 58 USD/month
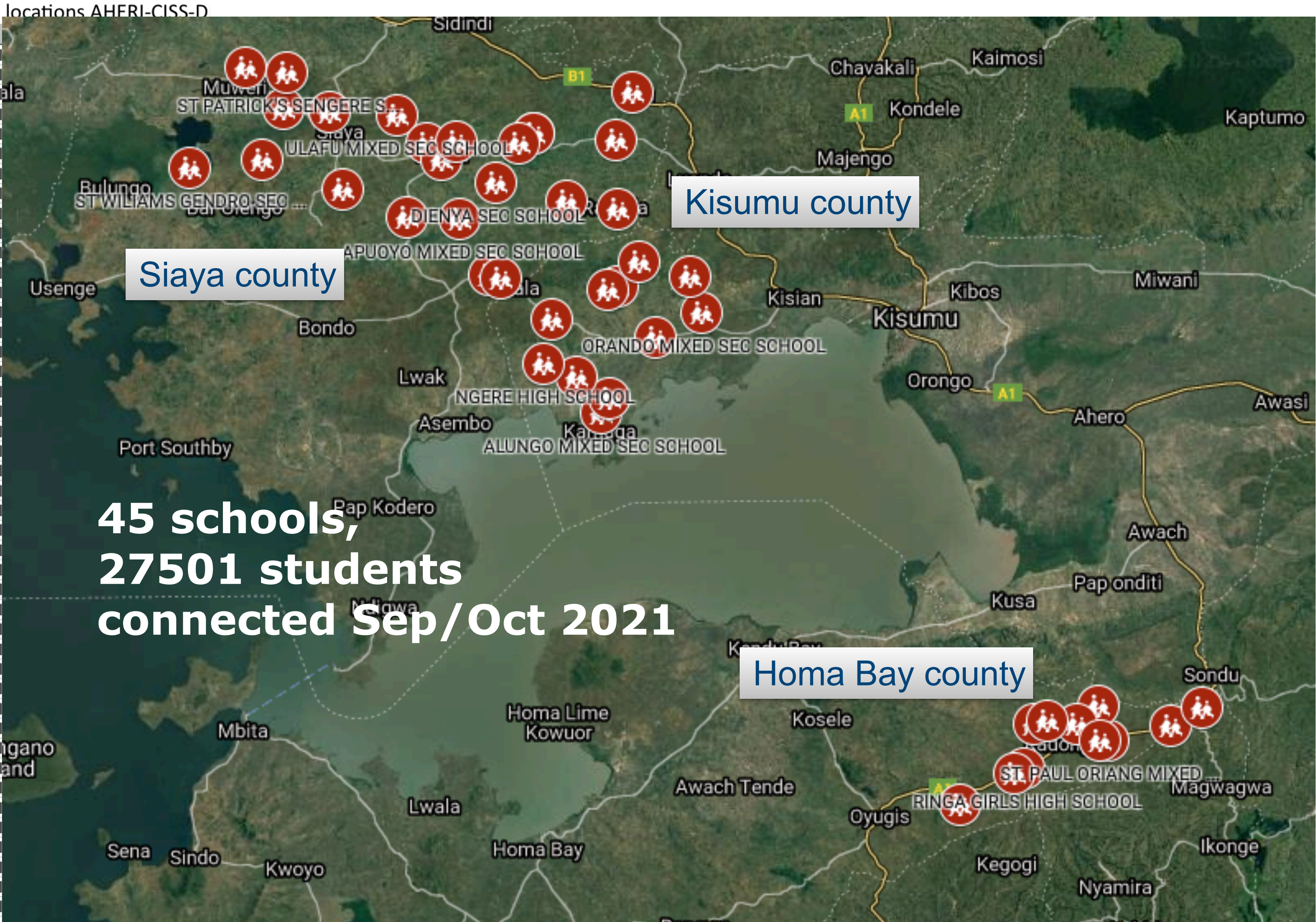
Scale-up Tanzania
Catherine connects schools

10 schools in Mar2021
10.131 students connected
427 teachers connected
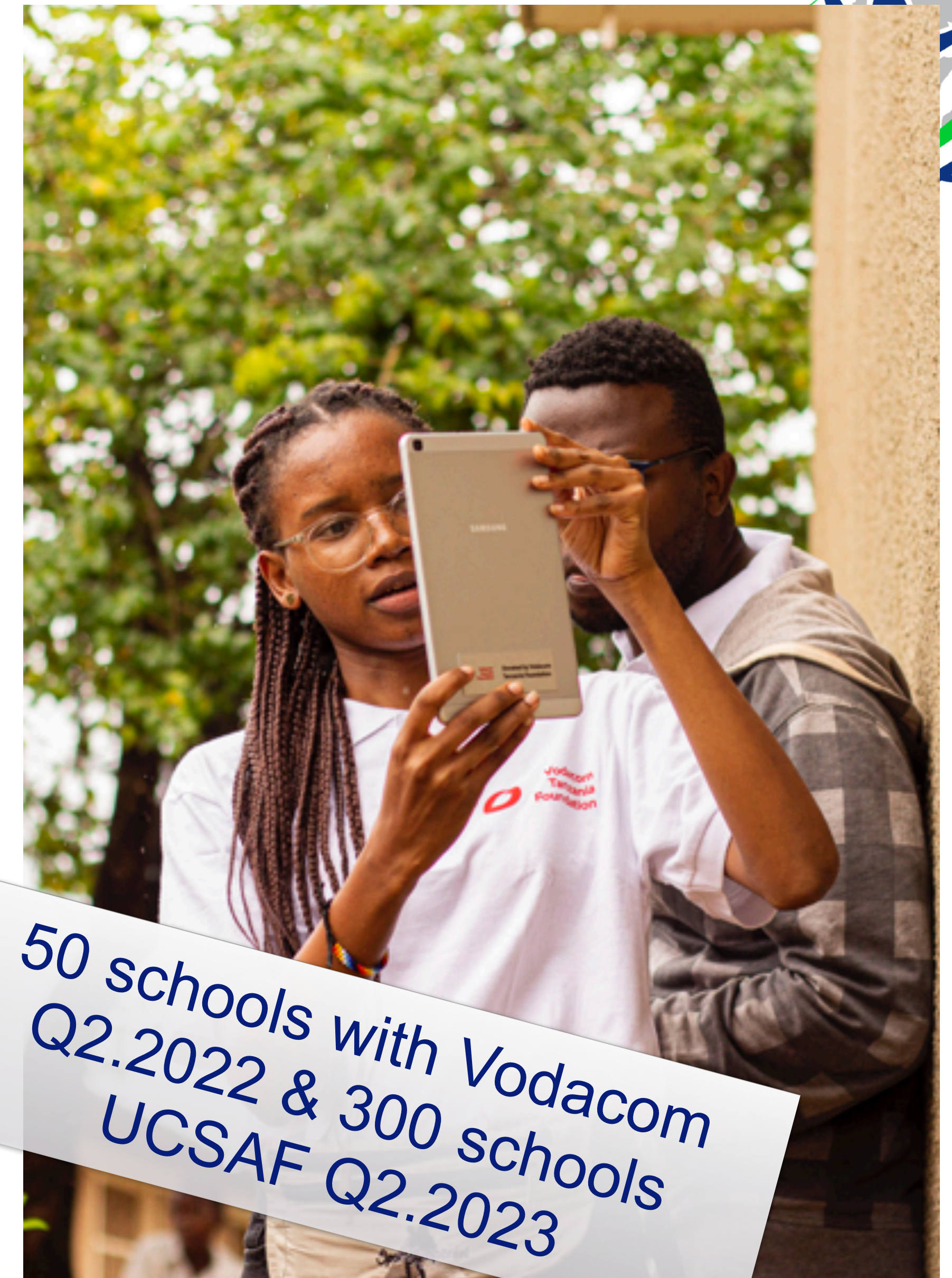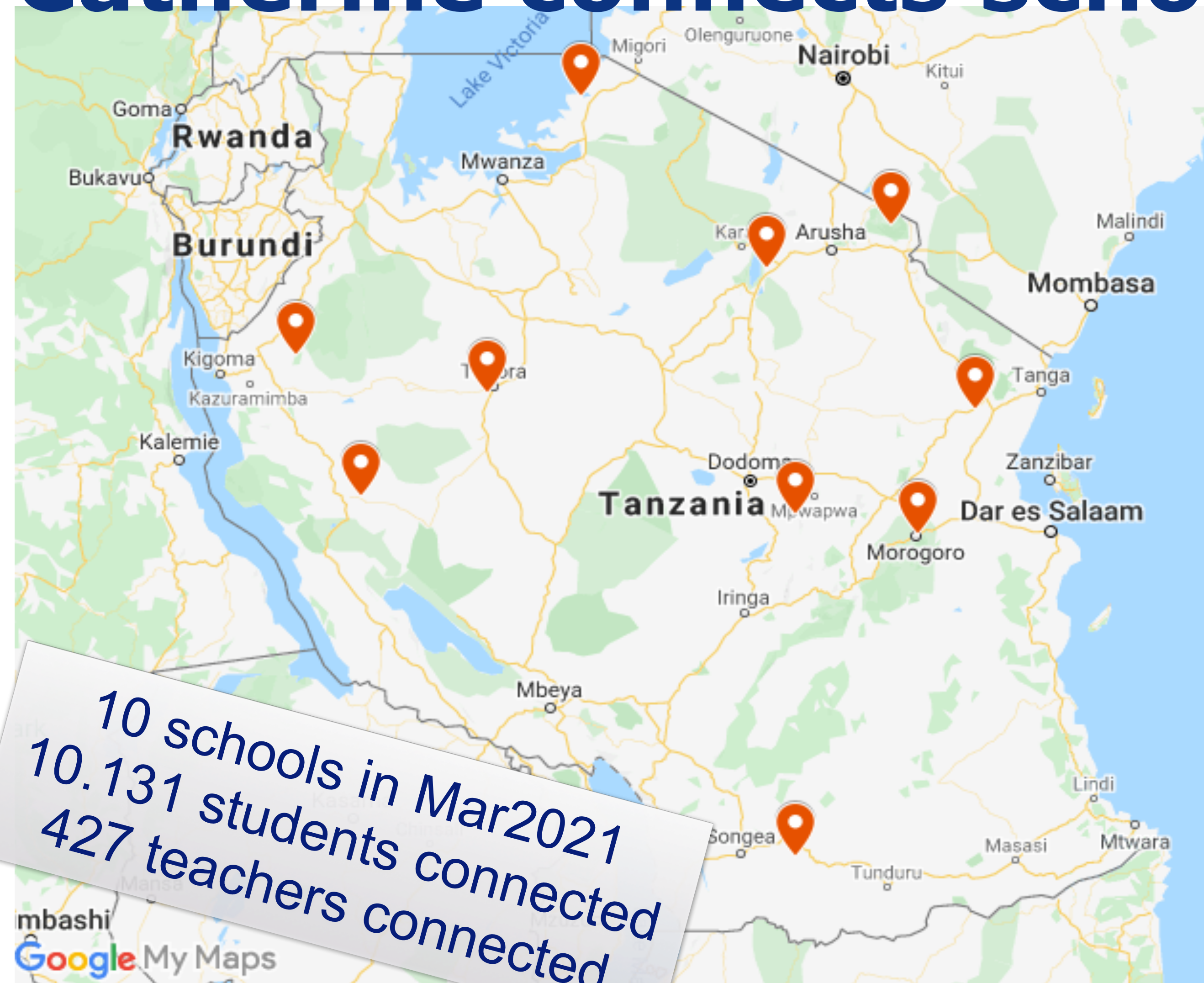
50 schools with Vodacom
Q2.2022 & 300 schools
UCSAF Q2.2023

13 countries in Africa

Ethiopia:
Koye Secondary School

Tanzania:
scale up to
360 schools

Join our collaboration on School Connectivity

- Create visibility
  - DENT Wireless: 27.501 students connected
- Acquire future customers
  - Vodacom TZ: 3-year contract to connect 200+ schools
  - Orange: Project partner for "connecting the unconnected"
- Doing good
  - support your SDG, CSR and Value programs
- Bring value to you employee program
  - Meaningful work, contributing
  - Join us on field trips to Africa
- Lift your reputation
- Get involved, Become a Partner

"You should check your e-mails more often. I fired you over three weeks ago."