



UNIVERSITY OF OSLO

Public Lecture, Jimma University, 20Feb2025

Digital Health Promotion and Education - the Entry for Societal Empowerment

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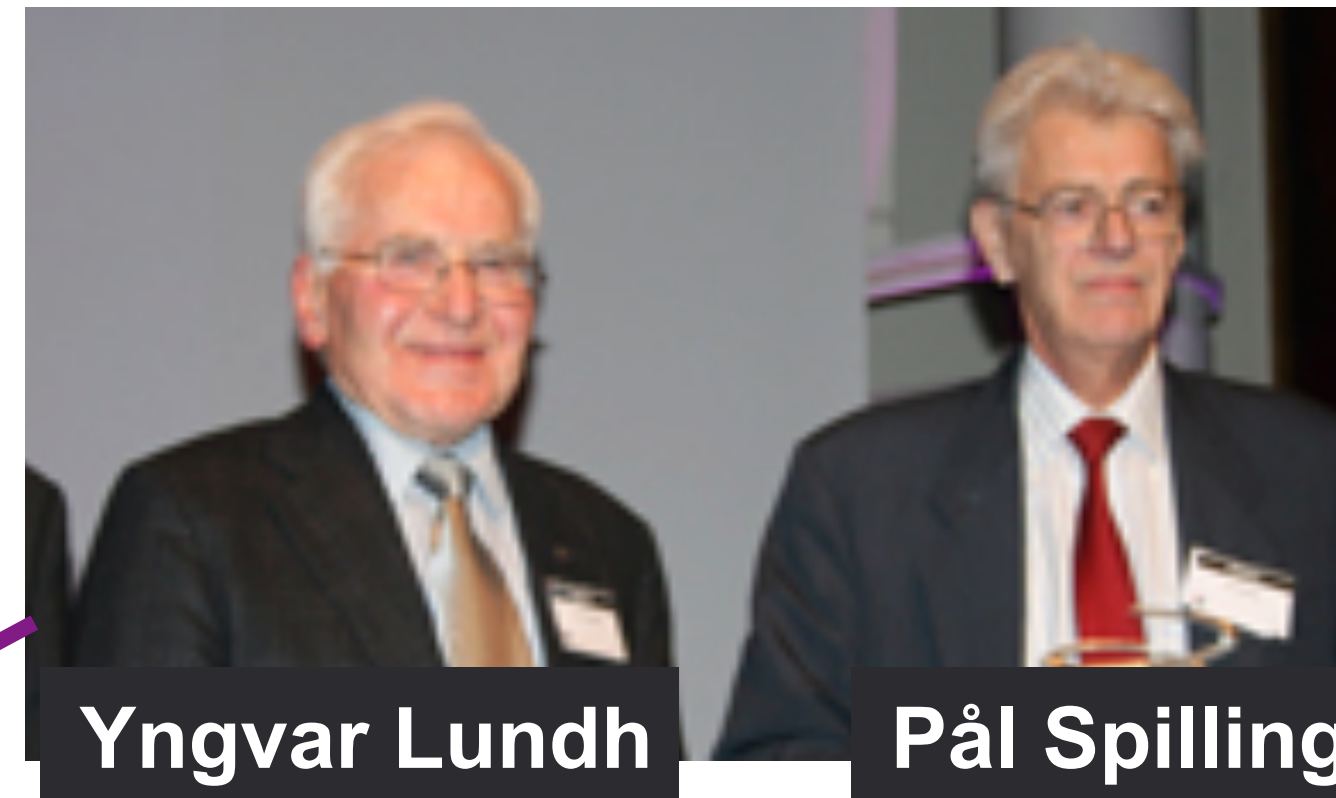
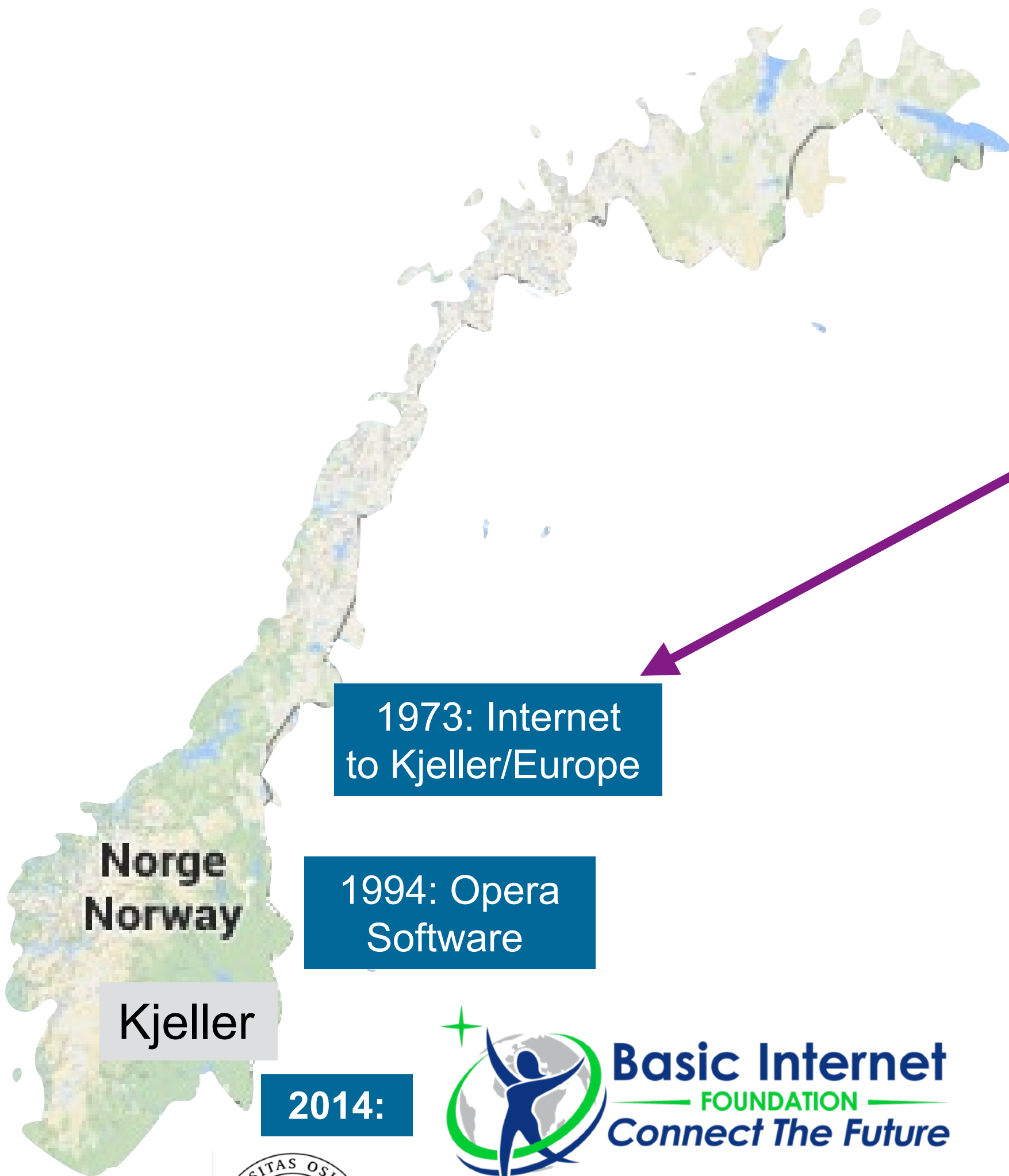
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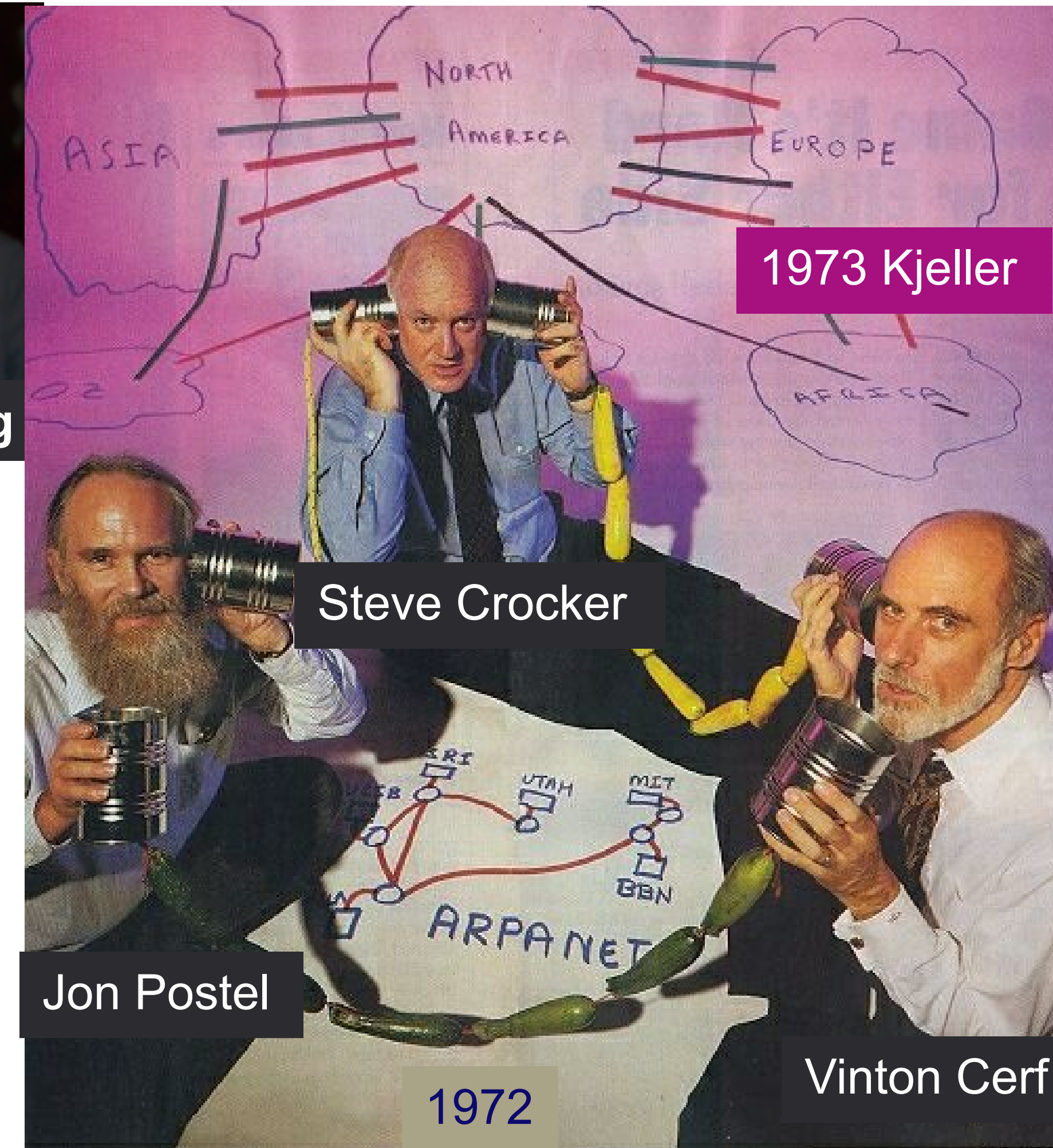
Usingo Secondary School, Kenya



Norway, the Nordics and the Internet



- Nordics & Baltics (N8)
- php, OpenSource, Linux, Skype, Spotify
 - Opera Software, FAST search
 - Nokia, Ericsson
 - GSM
 - GovStack.global, X-Roads



Source: <http://www.michaelkaul.de/History/history.htm>



1. Is access to digital health information a universal human right?

2. How can we enable access, especially for people and groups left behind by traditional business models?



Sustainable Empowerment - catalysts for the SDGs and health empowerment



SDG 1.4 Equal access to basic services

SDG 4.A Education facilities for effective learning for all

SDG 5.B Use of enabling technologies

SDG 9.C universal and affordable access

SDG 16.10 ensure public access to information

SDG 17 Partnerships for the Goals

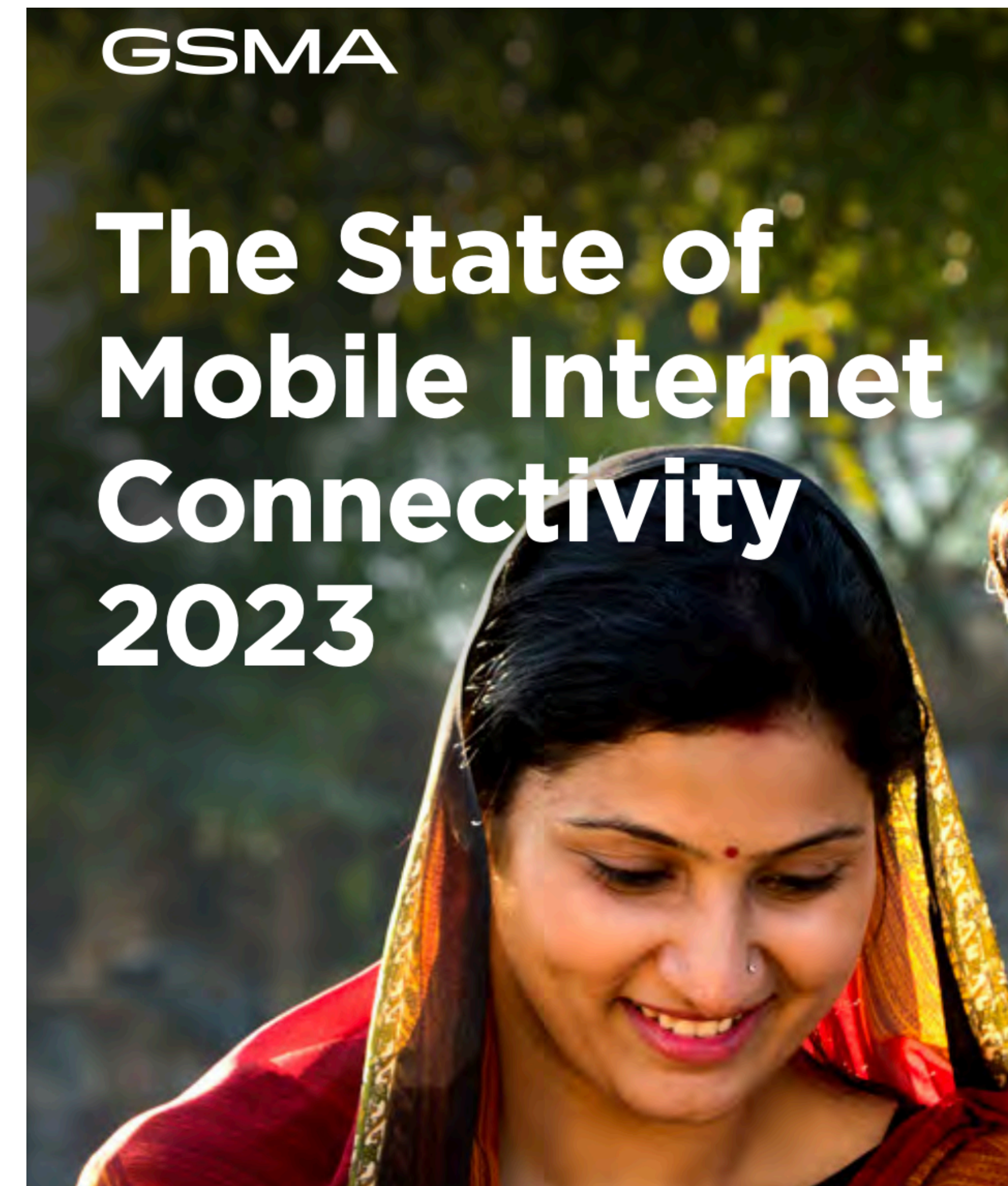


9.c

Significantly **increase access to information** and communications technology and strive to **provide universal and affordable access** to the **Internet** in least developed countries **by 2020**



- **57%** of the global population (4.6 billion people) using mobile internet
 - 30% decline in new mobile broadband (200 million new users in 2023)
 - **95% of unconnected** people in LDCs
- Adults in **rural 29% less likely** to use mobile Internet (compared to urban)
- Gender Gap: **Women 19%** less likely
- 41% South Asia, 36% in SSA



Digital Inclusion?

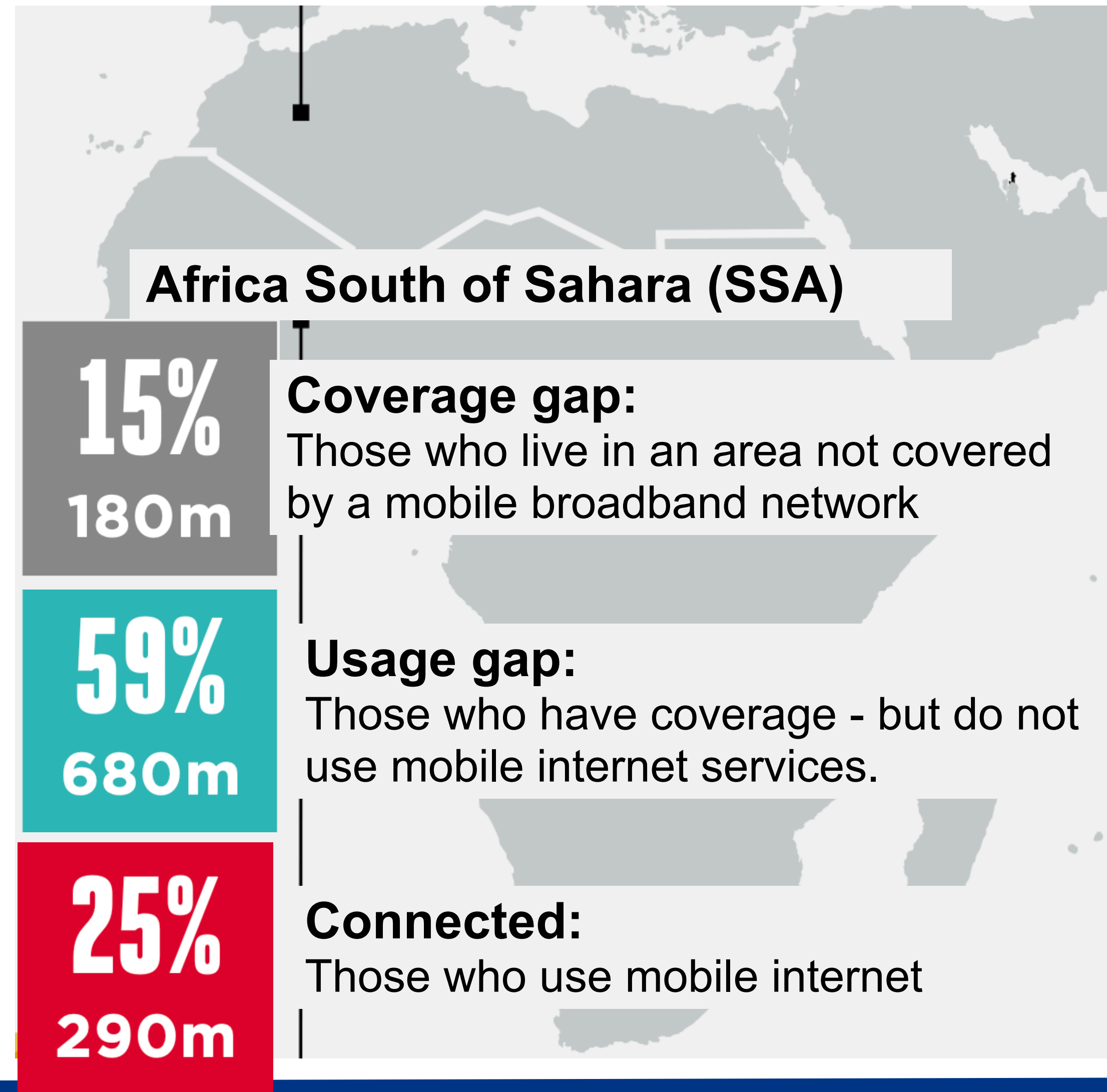


SSA:
75% not using mobile internet

SSA:
49% rural / urban gap

People in rural are more likely to have **reduced** their mobile **internet use**

Women
900 million don't use **mobile internet** (2/3 living in SSA or South Asia)



South Asia

4%
80m

52%
990m

44%
840m

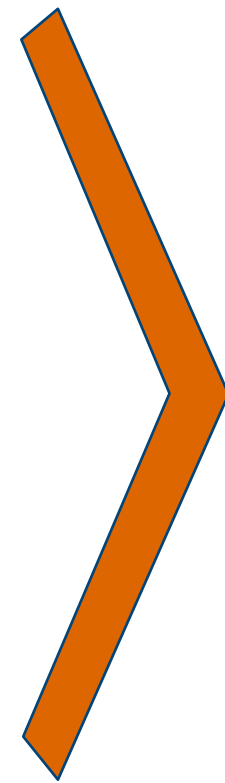
[Source: GSMA 2024]



Evidence Gap Map (EGM) on Mobile Internet Uptake

Study by Basic Internet Foundation and GSMA M4D, Aug-Dec2024

What are the **drivers and barriers** for mobile internet uptake?



Once people have **access** to the internet, what do they **use it for**?



What are the **impacts** of this use?

Focus on gender and country (SSA and SA), then age and urban-rural

EGM Mobile Internet - services



Evidence Gap Map Mobile Internet: Drivers & Barriers and Services		#	1 - Access to services				2 - Civic engagement				3 - Fun & entertainment				4 - Financial services				5- Community cohesion			6 - Connection to family and friends				7-Access to information			
			Health care	Utilities	Emergency services	Governmental services	Political engagement and action	Civic action	Legal awareness	Human rights	Gaming	Sports	Social Media	Sex & Pornography	Mobile Money	Banking	Remittances	Income generation	Community safety	Community building	Income generation	Remittances	Mobile Money	Income generation	Connection to family and friends	e-Learning	Search	News	Income generation
		#	9	58	0	9	3	3	1	1	6	0	9	5	20	21	9	35	0	17	8	9	14	4	20	18	7	0	11
Digital skills		20		10		1					2		1		1	2	1	9		4	1	1	1	2	3	3	1		1
User profiles	Gender	39	1	15		2	1	2	1	1	1		6	4	5	4	3	13		6	6	3	2	2	10	2	6		7
	Youth	26	2	10			1	1			1		7	4	6	4	1	7		7	3	1	1	1	8	3	5		4
	Education level	43	4	19		2	1	1			2		1	1	5	7	4	12		7	3	4	4		9	8	3	2	3
	Adolescent	5		2									1	1	1			2		1	1				1	1		1	1
	Rural	12	1	4		2							1		3	1	1	1		2		1	2		3	1	2		
	Urban	23	1	7							3		3	1	5	2	1	8		5	3	1	2	2	5	1	5		5
Policy - regulatory		9		4		2	1									1		4						1					1
Handset affordability and service costs	Lack of access to data and internet	41	3	17		1	1	1			3		7	4	8	1	1	11		7	2	1	3	1	9	10	5	1	3
	Access to electricity	9		3										1	2			4		1					2	2	3		1
Cultural /social norms		41	2	15		3		1	1	1	3		6	3	6	5	1	11		7	1	1	2	1	11	8	6	1	4
Fear and lack of trust	Lack of trust in pricing	15	2	12		2	1	2	1	1			1	1	2	3	4	5		1		4	2		3	1	1		
	Mis- and Disinformation	0																											
	Device theft and security	19	3	13		1					1		1		4	5	2	3		4	1	2	3		5		1		3
Access to information		37	4	21		2	1						2		10	8	5	13		7	5	5	8	3	5	3	2		6
Network coverage	Mobile network	13	1	8		2	1						1		2	1	1	5			2	1	1	1					3
	Access to electricity	10		4										1	2			5		1	1				2	2	3		2

Digital Health for Everyone: Theory of the Problem

Hypothesis: Strengthened digital health systems with community involvement fosters sustainable development (SDG 3, SDG 4 & SDG 5)

Perpetuated by ...

- “Digital as business”, not as societal task to establish Digital Public Infrastructure (DPI)
- Lack of access to health education
- Relative unimportance of preventive health information
- Insufficient knowledge on digital
- Low societal priority girl’s & women’s health
- Political priorities for health
- Lack of policies and adequately funded strategies/plans
- Societies defined gender roles
- Insufficient institutional priority and resource allocation related to women’s issues
- Racism, Sexism, Stigmatisation

Resulting in ...

Digital divide intersection with gender, age, disability, socioeconomic position

System deficiencies that uphold the problem ...

- Supportive Policy**
 - Lack of strategic and coordinated policy framework for digital health information and DPI
 - Lack of fiscal prioritisation of strategic initiatives to improve access to digital health information
- Assessment, Monitoring and Evaluation**
 - Lack of efforts and plans for assessment, monitoring and evaluation of cross-cutting digital health education through DPI
- Access to Digital Health Information**
 - Lack of digital infrastructure, including access and devices
 - “Costs of access” compete with basic everyday needs
 - Lack of understanding of benefits from digital information
 - Diffuse responsibilities, lack of regulations, priority and investments
- Health Information and Promotion**
 - Lack of culture for & knowledge of digital health information
 - Lack of information and accessibility of the information
 - Priorities dominated by short-term duties
 - Lack of coordination and cross-sectorial benefits
- Community Involvement**
 - Lack of strategic and coordinated use of existing community networks
 - Upstream priority & top down models within the health care system
 - Lack of mobilisation for & low status of community health
 - Lack of local involvement (digital friends) & training of communities
- Disparities**
 - Digital exclusion of girls, women, and people with special needs
 - Lacking acknowledgement of privileges to digital access
 - Insufficient attention to systematic disadvantages (“boys have the toys”)

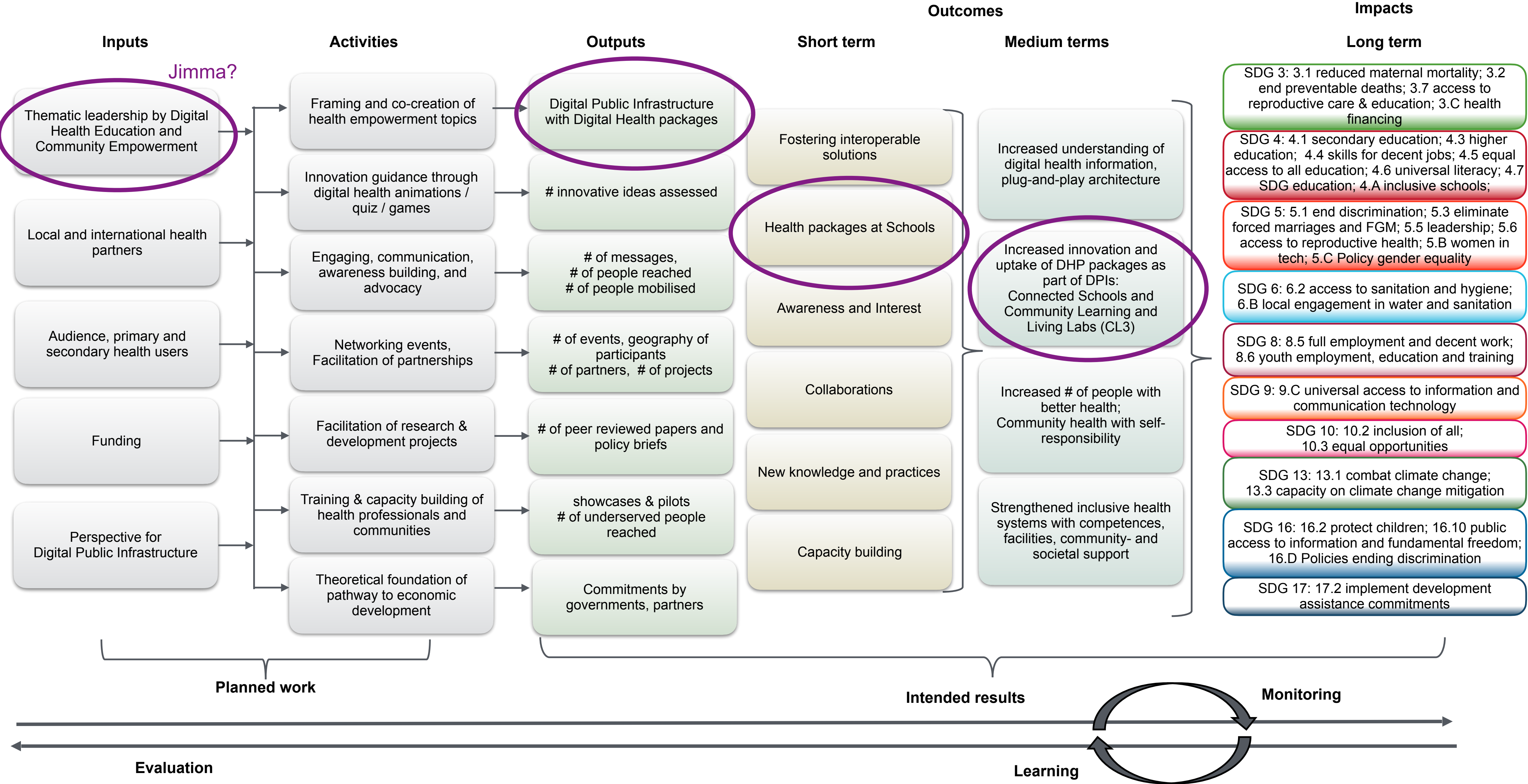
Compounded by ...

- Underserved health people (SDG3)
- Low health literacy rates
 - Low health-specific self-efficacy
 - Competing sources of health (mis)information
 - Lack of control over health outcomes, including access to prevention and adherence of preventive behaviours
 - Limited social mobility and social exclusion
 - Poor infrastructure and structural deprivations
 - Lack of control over their own health
 - Low socio-economic status
 - Lack of (digital) economic advances

Yielding ...

- continued poor health status and elevated risk factors for physical and mental health
- perpetuation of inequalities and harmful norms
- perpetuation of small-scale digital projects and "pilotitis"
- lack of harmonised health system and systematic digital take-up
- lack of community-led health initiatives and ownership of those

Theory of change for
Digital Health Empowerment at Schools and Community Learning and Living Labs (CL3)



Health Information as part of the DPI



[Source: Christine Holst, UiO]

UiO : Global Health
DigitalGlobalHealth.no



Health information through animations

Snapshots from platform, HIV and Cysticercosis animations

[Mwanzo](#)
[Afya](#)
[Kuhusu](#)
[Wasiliana nasi](#)
[Repoti](#)
[Videos](#)

 English
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Kisababishi ya Tegu



Mnyoo bapa aitwae *Taenia solium*, husababisha binadamu kuugua vibaya sana. Binadamu hupata minyoo hao kwa kula nyama ya nguruwe mbichi au isiyoiva vizuri, yenye malengenge ya minyoo (cysts). Ndani ya utumbo wa binadamu, malengenge hayo hutoka katika nyama na kujishikiza kwenye ukuta wa utumbo na kufanyika minyoo ambao hukua na kutaga mayai.

Dodoso ya Tegu

Tafadhali jaza utafiti kuhusu Tegu

Jinsia yako ni ipi?

☐ A) Me

☐ B) Ke

Je, umewahi kusikia kuhusu minyoo aina ya tegu?

☐ A) Ndio

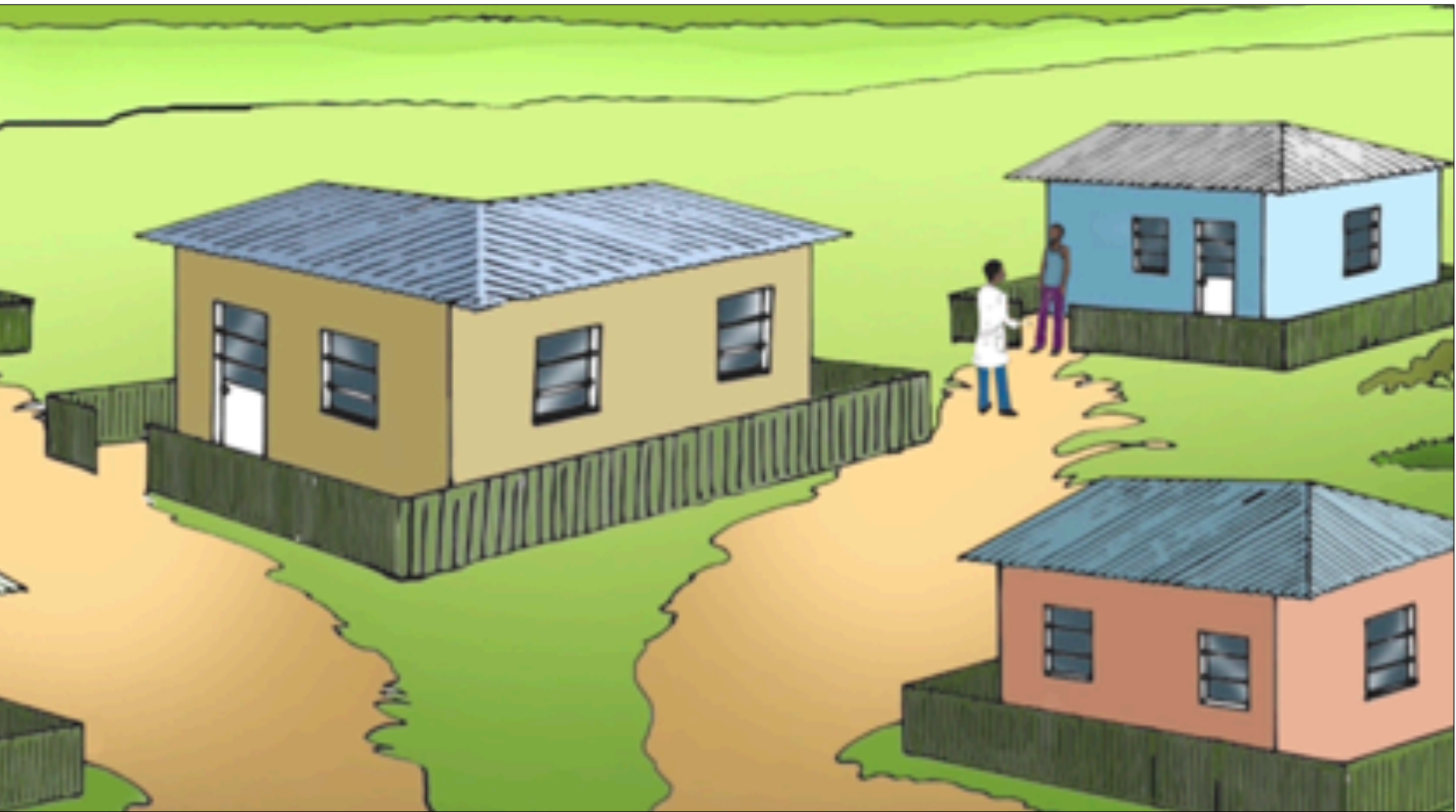
☐ B) Hapana

☐ C) Sijui

Je! Umewahi kusikia kuhusu minyoo ya tegu kwenye wanyama aina ya nguruwe?

☐ A) Ndiyo

☐ B) Hapana



Results: **Knowledge increase** in

Condition	Knowledge Increase
Cysticercosis (TSCT)	60%
Tuberculosis	30%
HIV/AIDS	13%

[Source: Christine Holst, UiO (Nov2019)]



Recommendations for Researchers and Practitioners

Researchers *under-researched aspects*

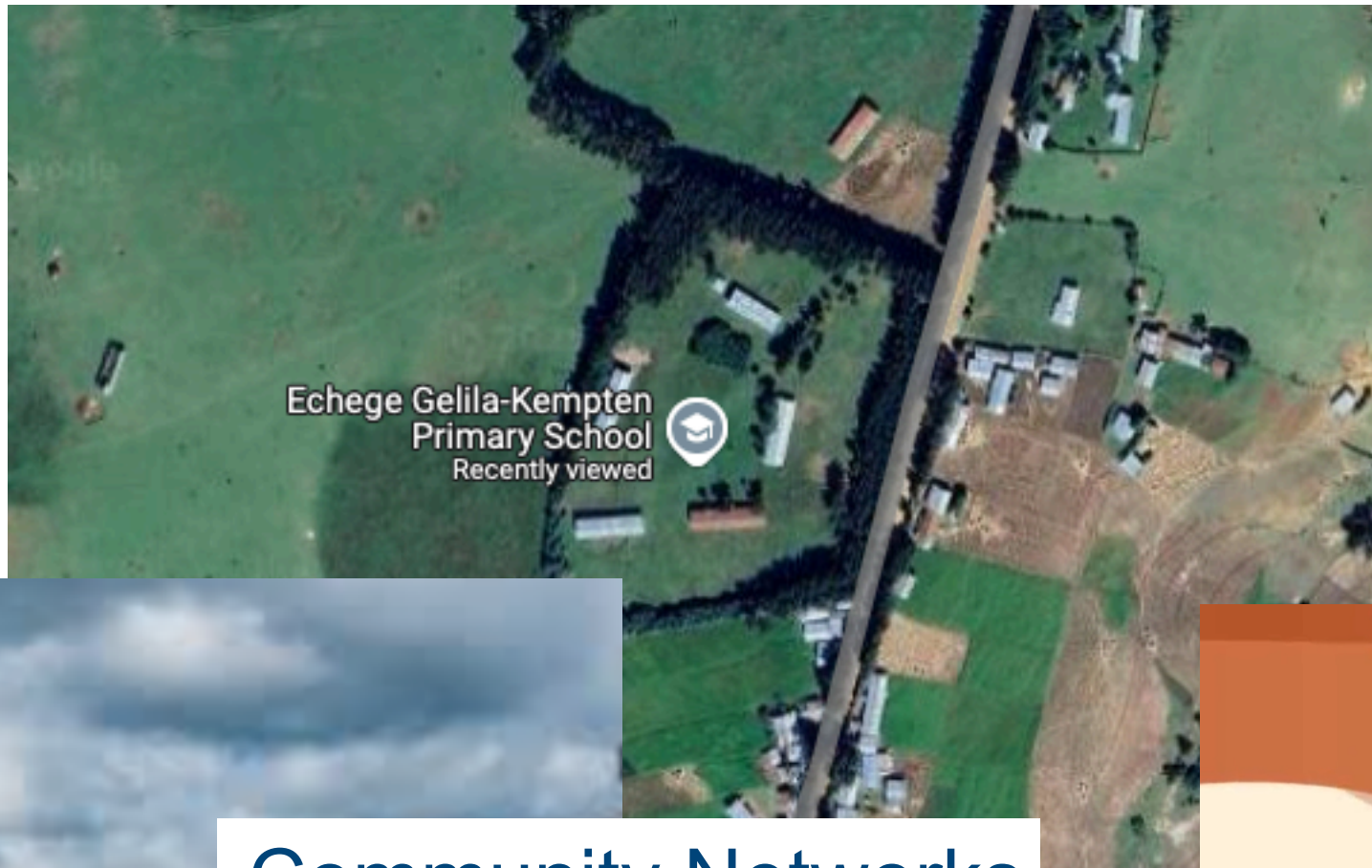
- Policies and regulations
- Digital literacy
- Role of service providers
- Negative uses and consequences

Practitioners

- Nuances of digital literacy and user profiles - **meet user needs**
- Innovation: inclusive business models, governance processes to address **cost**, **cultural** and **societal norms** hampering women



University students connect schools



Community Networks



[Source: Final Report, EGM Mobile Internet, https://its-wiki.iio/images/b/be/D4-D5-EGM-ExecSum_FinalReports.pdf]

Establish Digital Public Infrastructure (DPI) *and apply the model of the road*

Step 1:



Step 2:

0 1 0 1
1 0 0 1
0 1 0 0



**Free access to information
for all**

[Source: <https://www.gatesfoundation.org/ideas/digital-public-infrastructure>]



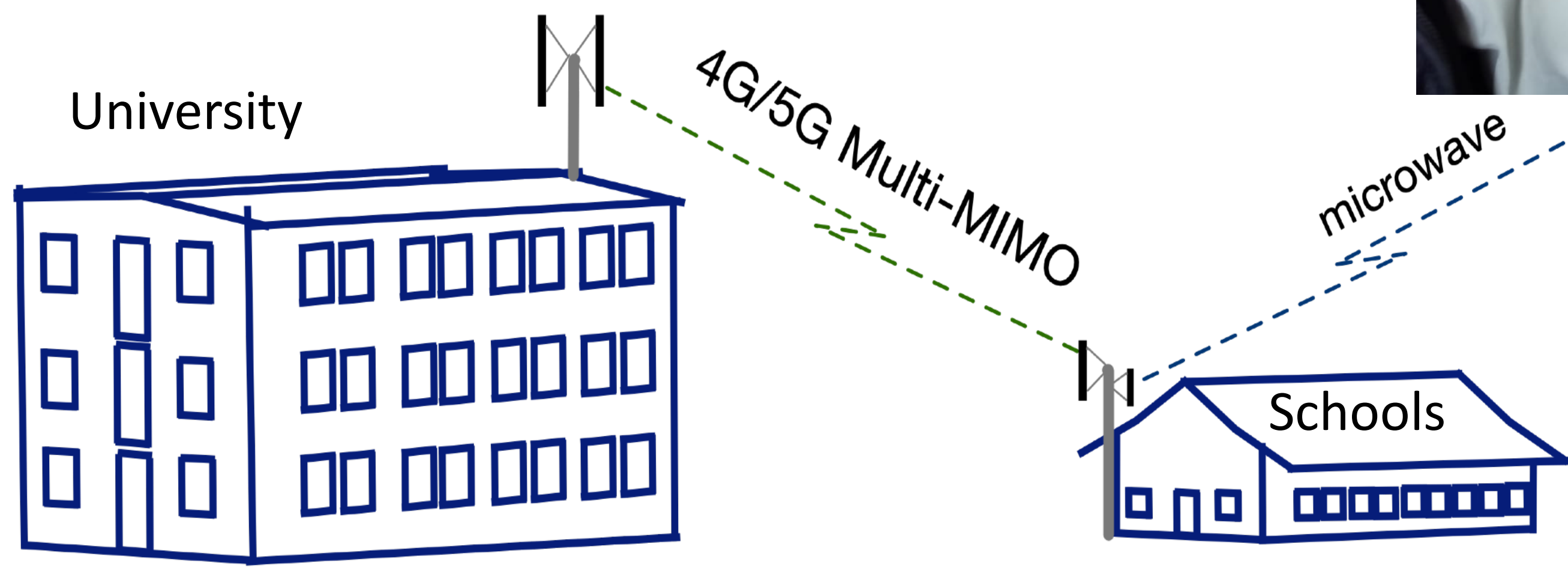
Recommendations for Policy Makers

Policy makers

- Targeted policies and regulations to address the **cost of access** and the negative consequences, e.g. digital divide
- Instantiate the Digital Public Infrastructure (DPI) to ensure an inclusive access to mobile Internet
- Support efforts to increase digital literacy and the use of mobile internet for **women's empowerment**.



National Research & Education Network (NREN)



Community Learning & Living Labs (CL3)



Invitation - let's cooperate for Health Information for All



DallE - "African Girl enjoying trusted Internet on her mobile"

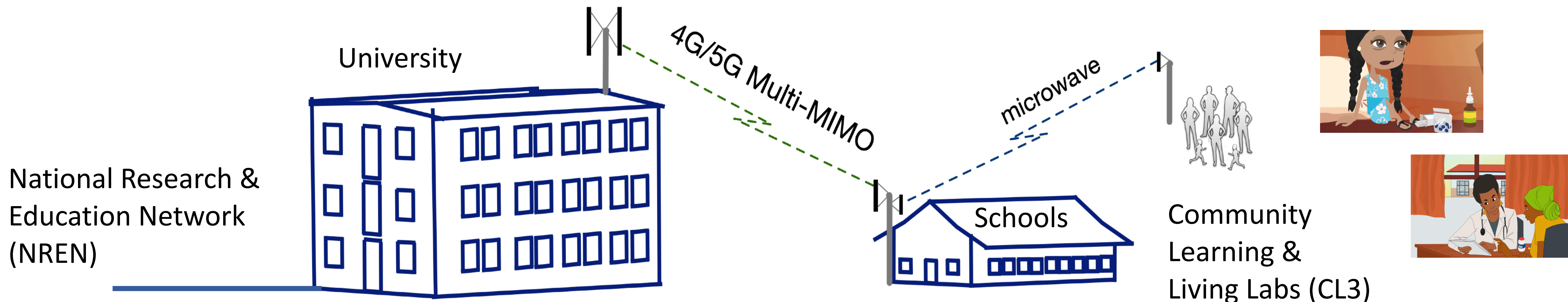
Instantiation of the Digital Public Infrastructure (DPI)

Instantiation of Digital Public Infrastructure

collaboration by

- University to build Regional Competence Centres (RCCs) and connect via NREN and 4G/5G
- Mobile Operators to share infrastructure

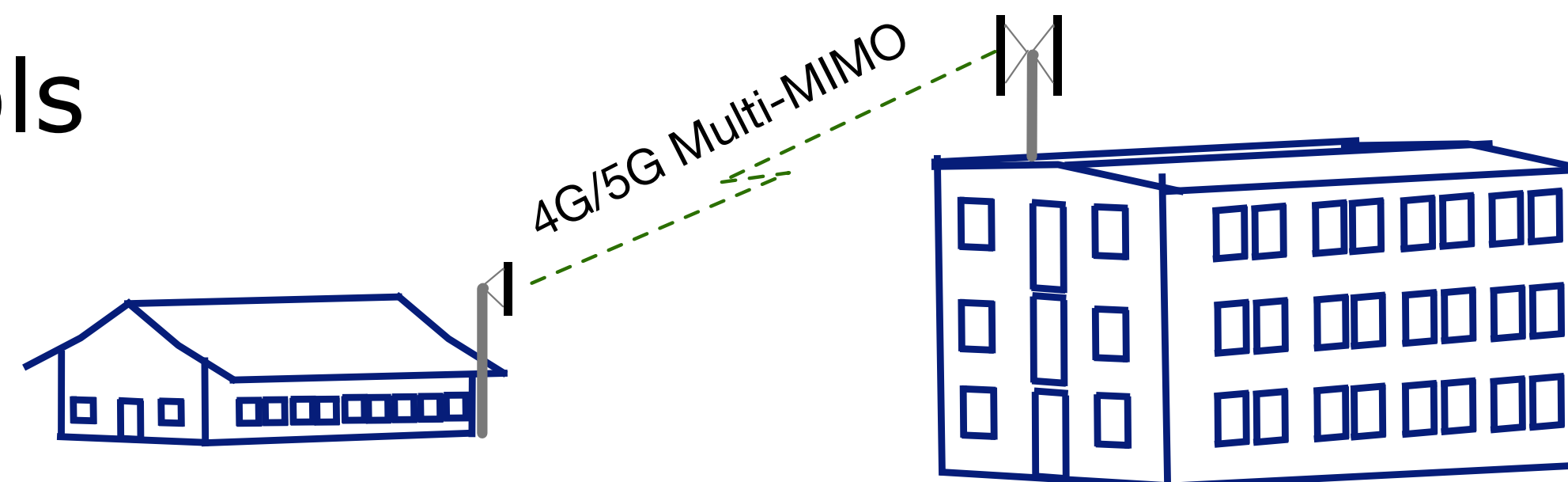
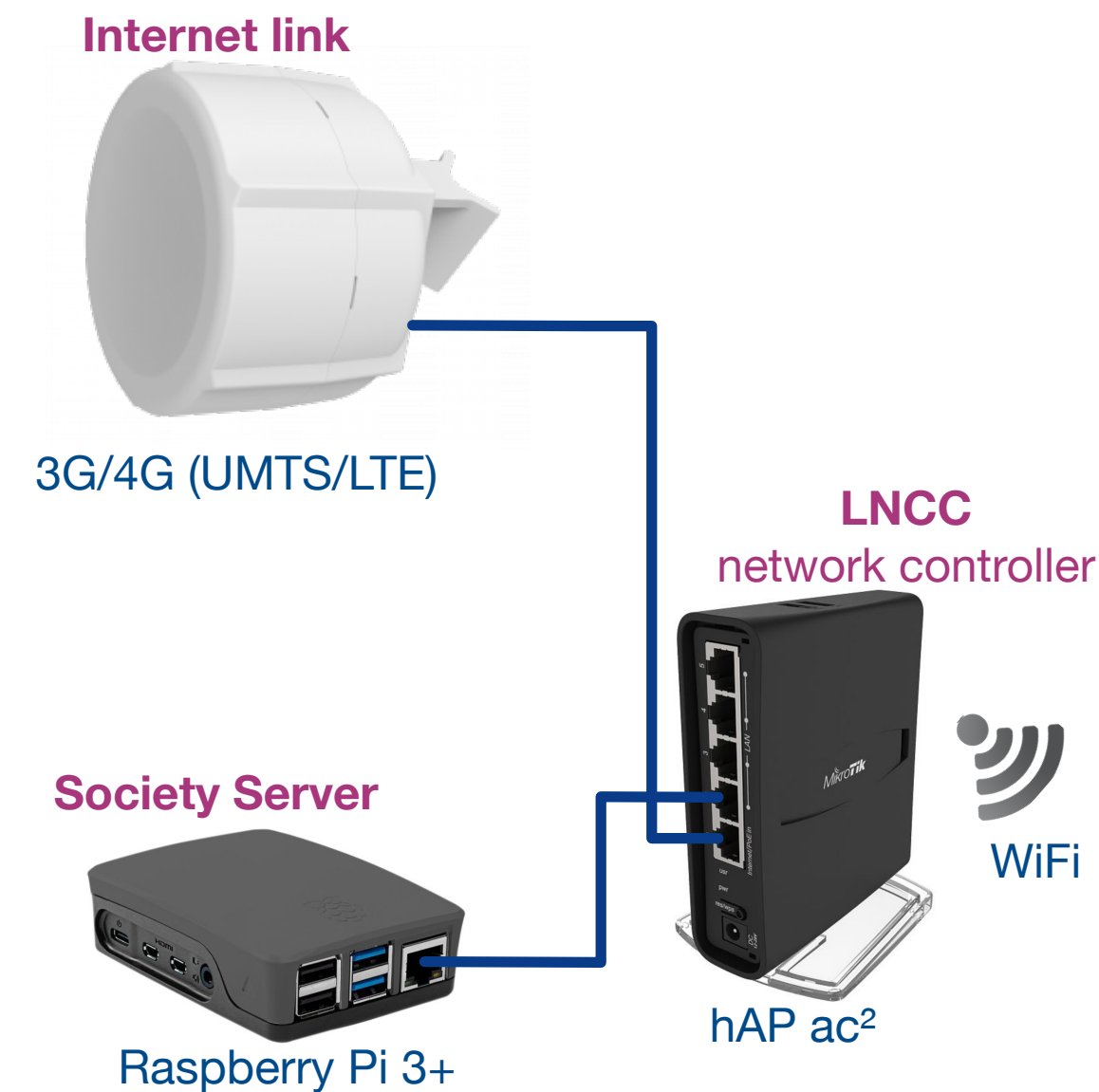
- Government to support School Connectivity & CL3
- NGOs to establish digital friends and empower the community



Solving the Challenge of Access

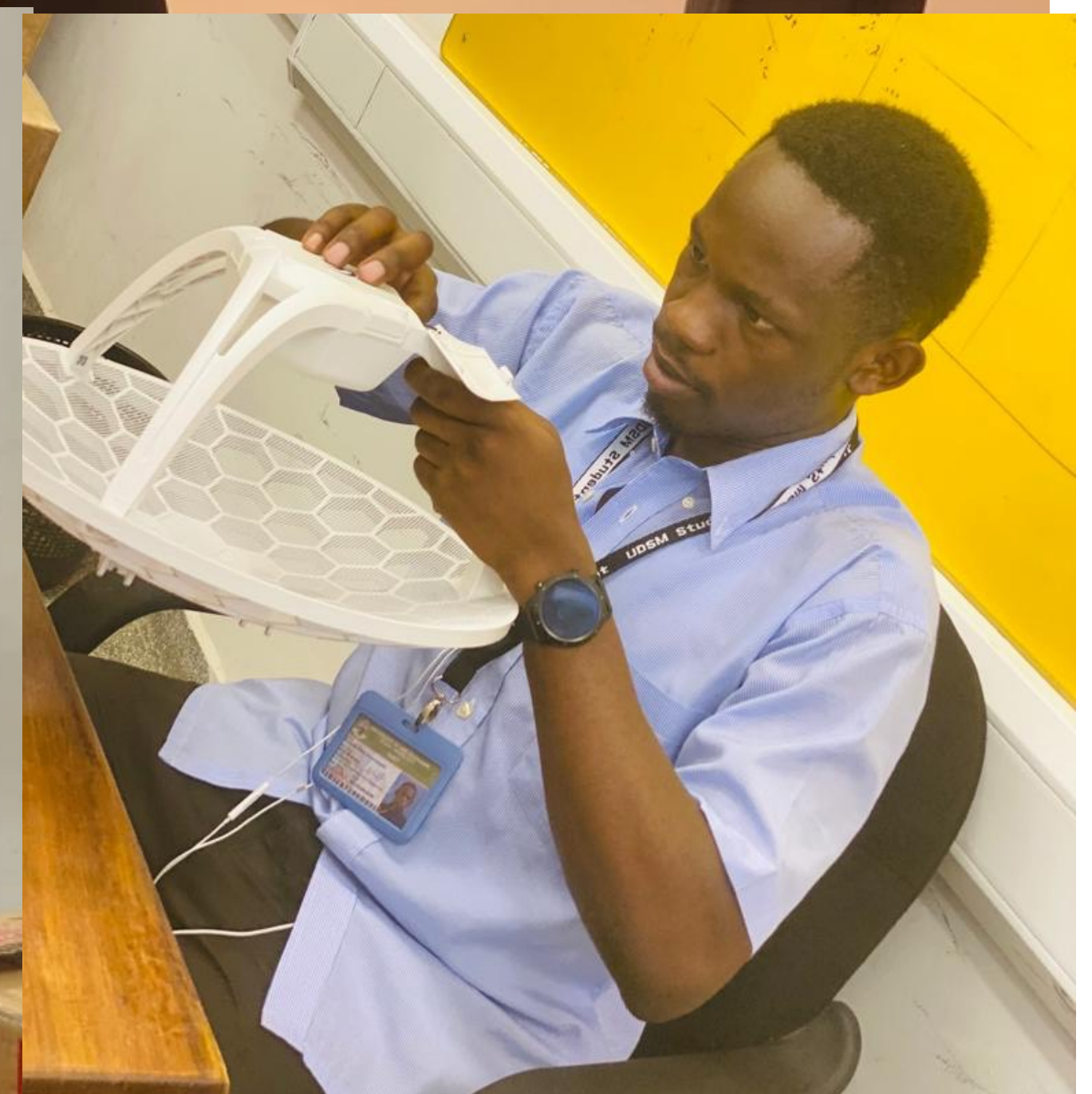
- ➔ Wireless information spot (InfoSpot)
 - Reaching out >20 km to 3G/4G network
 - Affordable solution: OPEX <20 USD/month

- ➔ Next: 5G access
 - University to schools



Regional Competence Centre (RCC)

- Competence, Configure
- Install at schools/communities

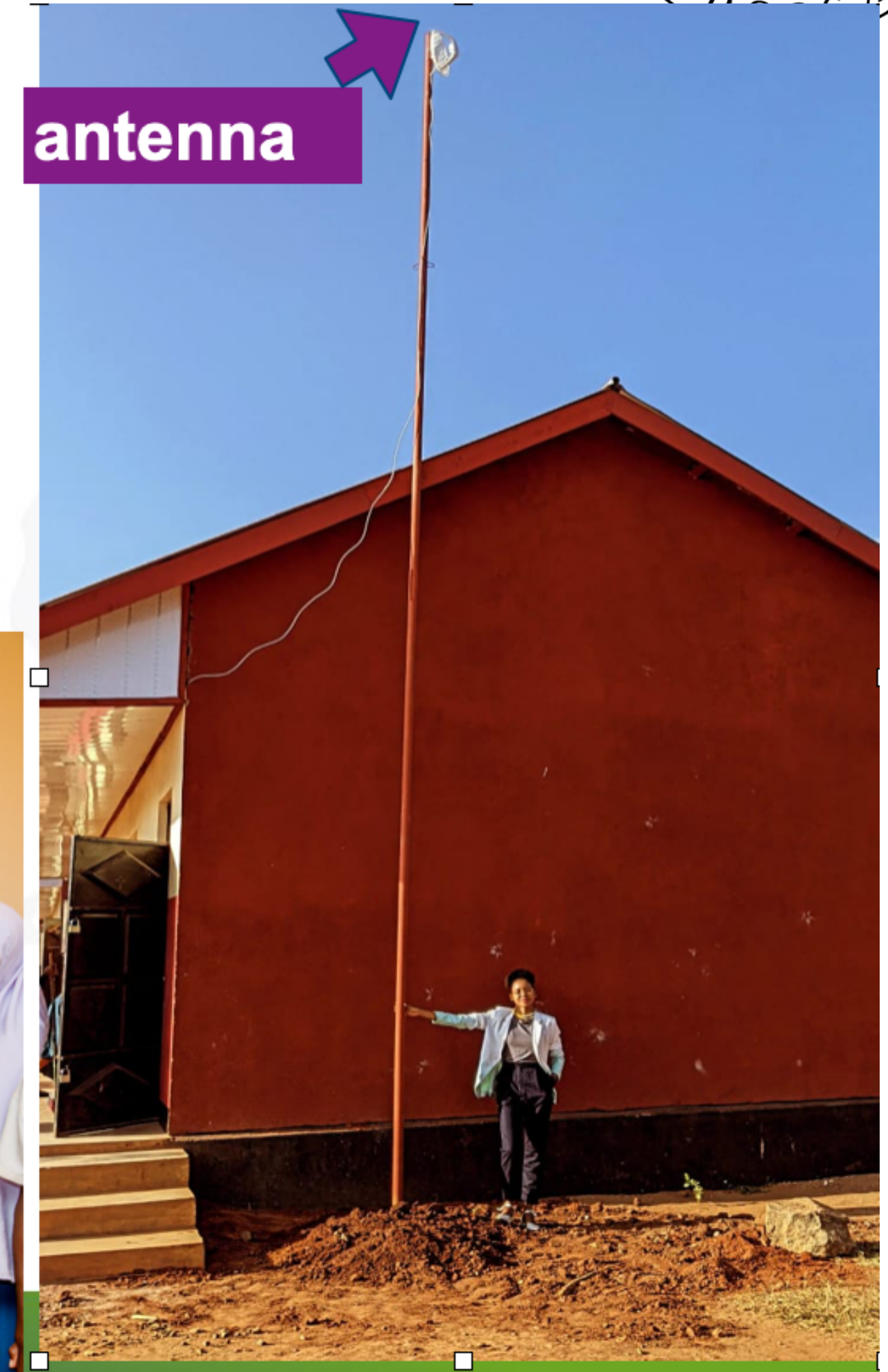




Schools/Communities



- Connect the schools
- Create content
 - Health
 - Education, Energy
 - Gov. Services



“Connect The Future” - Selela Market Place

antenna



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



“Connect The Future ” Izazi



Antenna

Village office

Installation time: 1,5 h
catching the signal from the Vodacom
tower in Migoli (~10km away)

Community Learning & Living Labs

- ➔ Trustworthy Access to Information
 - **Health**, Energy, Education
 - Agriculture, Entrepreneurship
- ➔ Inclusive & free access
 - for everyone
- ➔ Innovation
 - Adopt the model of the road
 - Free access to digital pedestrians and cyclists

