



**Final DigI meeting 18-19May2020**

# **Digital Empowerment through the National Knowledge Portal**

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# Tremendous success by the Digl project

- Exciting team - so much knowledge
- Reflection in the Norwegian government, Meld. St. 11 (2019-2020)
  - ➔ Focus: Access, Skills, Regulations, Inclusion
  - ➔ other publications
- Invitation to connect 500 schools in Ethiopia
  - ➔ (request for funding to NO gov.)
- Requests from KE, RW, TZ, ET,...
  - ➔ Internet Society
  - ➔ 10 schools pilot with UCSAF (confirmed)
  - ➔ no other projects
- Strategy for Sustainability
  - ➔ Free access to National Knowledge Platform

## 1 Digl Villages

- 1.1 Tanzania: Connected Villages and Schools
- 1.2 Kenya: Connected Villages and Schools
- 1.3 Ethiopia
- 1.4 Rwanda with Iris Hub
- 1.5 Myanmar with Zabai
- 1.6 Ghana with HOPin Academy
- 1.7 Uganda, Mali, India, ...
- 1.8 Lessons learned

## 2 Connect your village/school/health facility/community centre?

- 2.1 Achievements, Lessons learned and Recommendations
  - 2.1.1 Digl Achievements
  - 2.1.2 Recommendations and Future Work





# Addressing the Priorities by

- Report to Parliament 11 (2019-2020),  
**Priorities**
  - ➔ Access, skills, regulations, inclusion
- “Boys have the toys”
  - ➔ digital divide in both **devices**
  - ➔ and **mobile broadband** access
- **Costs** of Access
  - ➔ School connectivity (SDG indicator 4.A.1)
  - ➔ Digital Health for primary health facilities
  - ➔ Community involvement/digital transformation



Norwegian Ministry  
of Foreign Affairs

Summary



Access

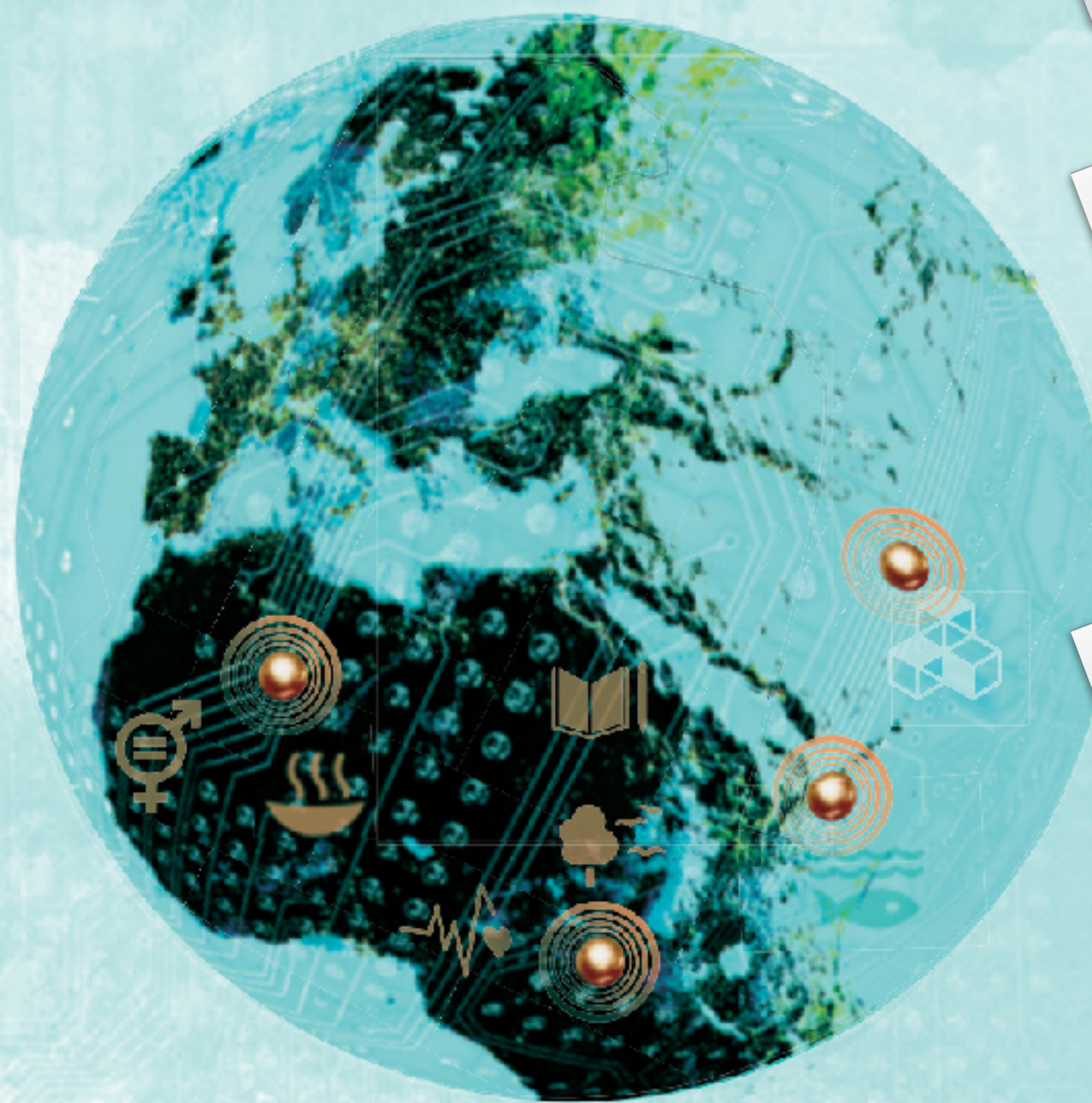
Skills

Regulations

Inclusion

Meld. St. 11 (2019–2020) Report to the Storting (white paper)

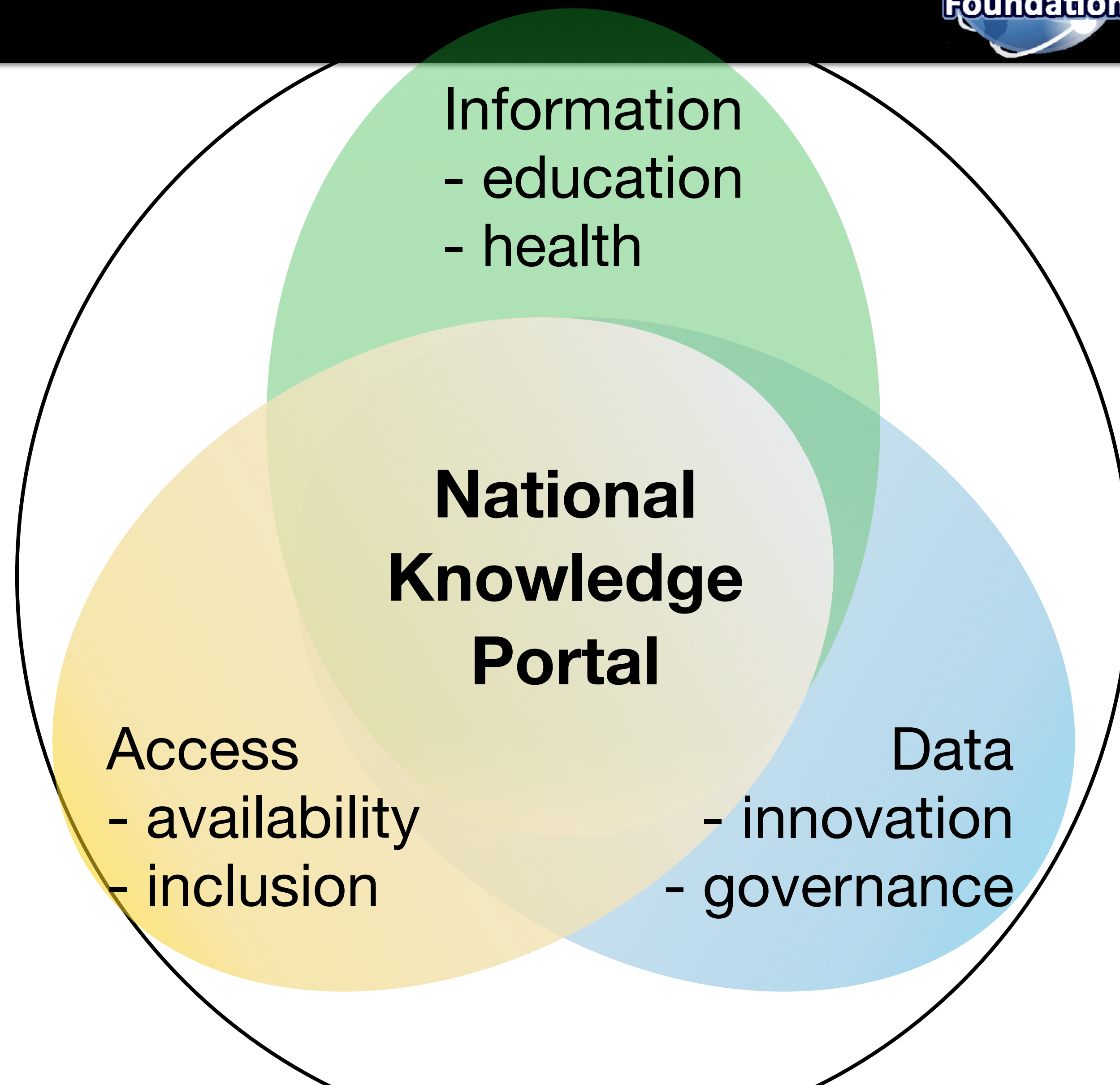
## Digital transformation and development policy





# 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





# Ghana has launched the Ghana.GOV.gh portal

https://www.ghana.gov.gh/ Search Ecosia



ABOUT

FIND A SERVICE

CHECK APPLICATION STATUS

LOG IN

SIGN UP

## Welcome to Ghana's Digital Services and Payments Platform

INDIVIDUAL

BUSINESS

Search in Gov't Agencies

What are you looking for?



### FEATURED SERVICES

VIEW MORE

Passport Office

Ghana Immigration Service

Ghana Revenue Authority



# Free access to information - in Ethiopia

- Government Ethiopia - Agreement
  - ➔ “free access to health & education”
  - ➔ Ministry of Health
  - ➔ Ministry of Education
- Ethio Telecom offers “zero rating”
  - ➔ Health (MoH): MoH.gov.et
  - ➔ Ephi.gov.et & Covid19.et
  - ➔ Education: National Digital Library NDL.ethernet.edu.et
- follow-up from discussions after African Innovation Week (AIW2019)



ግንቦት 24 ቀን 2012 ዓ.ም

ኢትዮ ቴሌኮም የከፍተኛ ትምህርት ተቋማት ተማሪዎች እና መምህራን ትምህርታዊ መረጃዎችን ከ <http://ndl.ethernet.edu.et/> በነፃ ማግኘት እንዲችሉ አደረገ

በአገራችን የኮሮና ቫይረስ (COVID-19) ወረርሽኝን ለመከላከል በመንግሥት በኩል በርካታ እርምጃዎች እየተወሰዱ ሲሆን ከእነዚህም መካከል የገፅ ለገፅ ትምህርት በማቋረጥ ተማሪዎች ቤታቸው እንዲቆዩ መደረጉ ይታወቃል።

ከዚሁ ጋር በተያያዘ ኩባንያችን ከግንቦት 21 ቀን 2012 ዓ.ም ጀምሮ የከፍተኛ ትምህርት ተቋማት መምህራን እና ተማሪዎች ከትምህርት ጋር ተያያዥነት ያላቸውን አጋዥ መረጃዎች ከ <http://ndl.ethernet.edu.et/> በነፃ ማግኘት እንዲችሉ በማድረግ የመማር ማስተማሩ ሂደት እንዲቀጥል የበኩሉን አስተዋፅኦ ማድረጉን በደስታ ይገልፃል።

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# Addressing the need

- School connectivity in Ethiopia
  - ➔ Total Project: connect all schools
  - ➔ Phase 1: 3.500 secondary schools
    - 6 months time frame, 35 Million USD
  - ➔ Phase 2: all secondary schools
    - time frame 2020-2022
- Norway's share
  - ➔ Connect 500 secondary schools
  - ➔ 45.950 NOK, 1 year project
- Collaboration & Innovation
  - ➔ Competence building
  - ➔ Local deployment (Univ. & IBA Ethiopia & local ground)
  - ➔ Community empowerment (re-using)



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የትምህርት ሚኒስቴር  
Ministry of Education  
Federal Democratic Republic of Ethiopia



ቀን/Date: 20/8/2012  
ቁጥር / Ref: 1/2-4344/23296/35

**Innovation Norway**  
**Oslo, Norway**

**Subject: Financial Support for Digital Interconnection of Ethiopian Secondary Schools**

Currently more than 26 Million students are in School in Ethiopia in more than 46 thousand Schools in the pre-Primary, Primary and Secondary level classes. Among these large number of Schools, Schools connected to a bear 2Mbps Internet connectivity is less than 500 in number. It implies that these young generation is being brought up in non-digital Schools in a Digital Age.

The Ministry of Education has now decided to change this through implementation of two Phases. Phase one is provision of 300Mbps Internet connectivity to the 3500 Secondary Schools within a time period of 6 months at an estimated Budget amount of 35 Million USD. The Second Phase is to be implemented over two years and is set to interconnect all the remaining Primary and Pre-Primary Schools at a minimum of 50Mbps speed. The Budget requirement for the Second phase is yet to be worked out.

The Educational Network Connectivity is going to be exclusively used for Educational and governmental Services and once installed will provide free internet services to the 3500 Secondary Schools and other government offices.

This is, therefore, to kindly request your good office to financially support the first phase of this Project and be part of the digital transformation in the Ethiopian General Education Sector.

My Best Regards

*Dr. Ing. Getahun Mekuria*  
**Minister**



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[BasicInternet.org](http://BasicInternet.org)

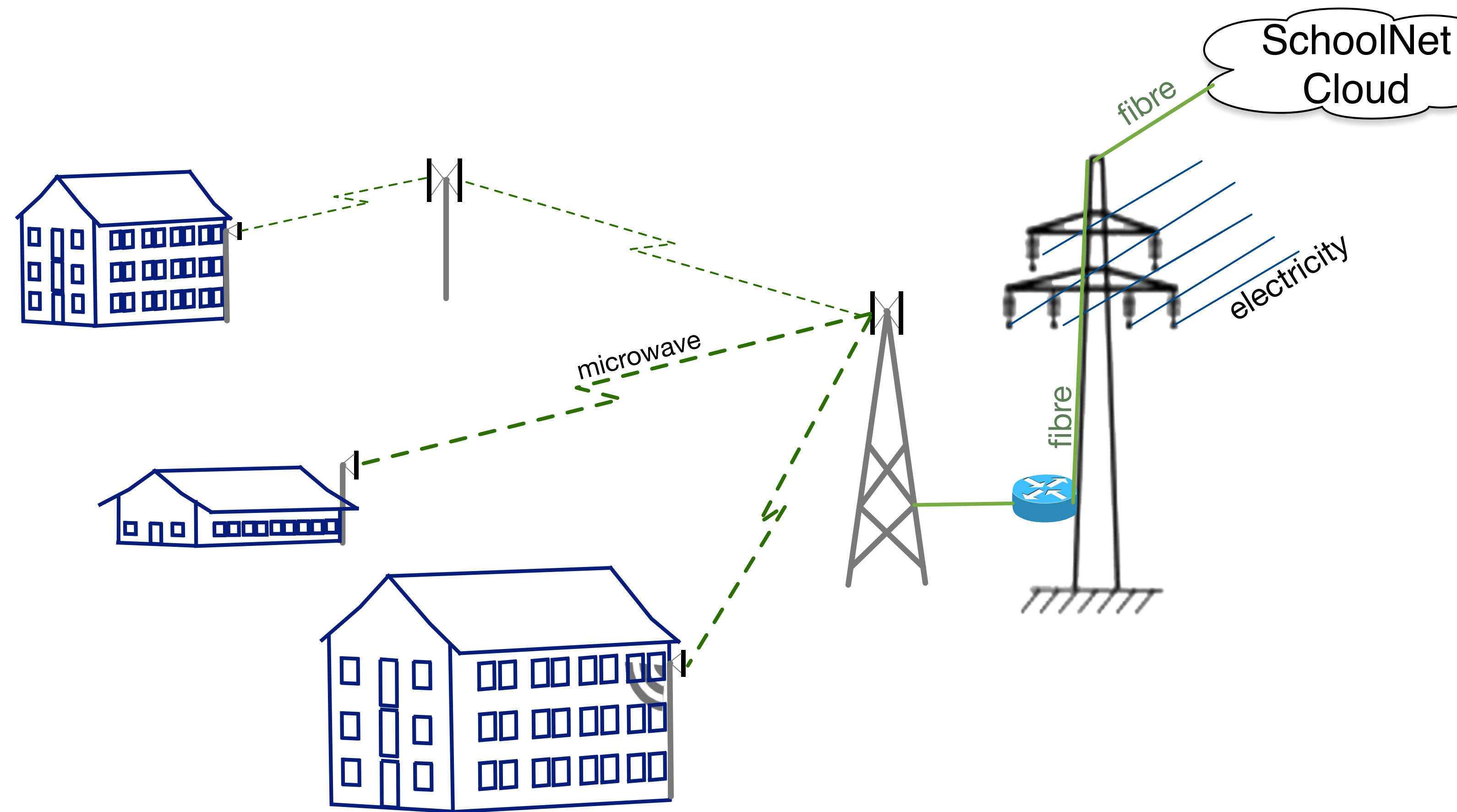


[@Basic4all](https://twitter.com/Basic4all)

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# Realisation

- SchoolNet distribution
  - ➔ educational network by Ministry of Education (MoE)
  - ➔ national fibre on high-voltage lines
  - ➔ fibre to microwave
- Microwave distribution
  - ➔ 0-5 km: point to multipoint
  - ➔ 5-15 km: point to point (mast)
  - ➔ >15 km: microwave relay mast
- Local school
  - ➔ receive microwave antenna
  - ➔ local Wifi distribution: local network controller & school server





# Suggest plan for Ethiopia

- Connecting 500 secondary schools is an excellent contribution
  - ➔ Demand by Ministry of Education, who also provides fibre (high-voltage line)
  - ➔ Fibre end-point with microwave radio, connectivity to schools
- Answers directly to Norway's priorities Meld. St. 11 (2019-2020):
  - ➔ Access - to schools and communities
  - ➔ Skills - through knowledge portal SchoolNet
  - ➔ Regulations - equal access
  - ➔ Inclusion - community connectivity
- Continues existing cooperation
  - ➔ follow-up African Innovation Week
  - ➔ Centre of Excellence with Jimma & Ambo Univ.





# Success in Tanzania

- Agreed on connecting 10 schools
  - ➔ UCSAF finances CAPEX costs
  - ➔ Tigo joining, Vodacom requested
- 80 units ordered (16May2020)
  - ➔ Brenda coordinates
  - ➔ Kenya, Tanzania, Rwanda

Connectivity provided by **BOACSE**

- **Chiwanda Secondary School** is at Chiwanda village in Nkangamo Ward, Tunduma Township Authority - in collaboration with **BOACSE** <https://plus.codes/RH79+CP> (Rashid)
- **Chikanamlilo Secondary School** in Halmashauri, Momba - in collaboration with **BOACSE**



Connectivity provided by **African Child**

- **Mkuranga District**, in the North-East of Tanzania - in collaboration with **African Child** at Kiparang'anda: <https://plus.codes/R5VG+RC>
- **Mwanambaya**: <https://plus.codes/6G4XX62R+82>

Connectivity provided by **UDES** Usevya Development Society

- **Youth Centre Mpanda - Katavi**, connected by the Usevya Development Society (**UDES**) in Nov <https://plus.codes/V6RP+MC>
- **Usevya village and plans for other 5 sites**, Secondary School, Youth Center and Health Center

Collaboration with Tanzania Community Networks (**Matogoro Jabera**)

- Kasulu, Nyasa, Dodoma, Kondoa and Tarime

Table 1  
CONNECTIVITY REQUESTS FROM THE COMMUNITY PARTNERS

Location/Center (Codes/Maps)	Network Operator	Number of boxes needed	Contact person
	sum	79	
RASHID ALLY (PQ35+FQ)	TIGO	1	Rashid-Boasce
Momba District Council Office	TIGO	1	Rashid-Boasce
Tunduma secondary school (6G2JPP9X+VW)	TIGO	1	Rashid-Boasce
Mpemba Secondary School (6G2JPRJV+VM )	TIGO	1	Rashid-Boasce
JK Nyerere Secondary School (6G2JPPFR+39)	TIGO	1	Rashid-Boasce
Momba Secondary School (6G3J47XH+G5)	TIGO	1	Rashid-Boasce
DIT Myunga Campus (6G2J5788+RM)	TTCL	1	Rashid-Boasce
JM Kikwete Secondary School (6G2JMQQP+9C)	TIGO	1	Rashid-Boasce
Mpakani Secondary School (6G2JPQ3Q+JH)	TIGO	1	Rashid-Boasce
10 communities - African Child		10	African Child, Catherine
10 schools around Tanzania project with UCSAF	VODACOM and TIGO	10	
10 communities			
Katavi-Mpimbwe District Council Tz	Vodacom, Halotel and Tigo	16	Eden Wayimba
Iris Hub (24CP+FH)-Kigali Rwanda	TIGO or 4G LTE, Mango Telecom   KTRN	1	Benjamin Manirafasha
Tanzania Community Networks Alliance	Halotel, tiGo, Airtel or Vodacom	20	Jabhera Matogoro
Community Initiative Support Services Kabondo Centre (1HW3C+WJ Kodhoch East)	Safaricom 4G, Airtel	1	Robert Owino / Barrack Otieno
Oriang Mission Hospital and Community centre Kabondo (1HW3C+WJ Kodhoch East)	Safaricom 4G, Airtel	1	Robert Owino / Barrack Otieno
Kisumu Social Hall (VQX6+HX KISUMU)	Safaricom 4G, Airtel, Telkom	1	Robert Owino / Barrack Otieno
St Marys School Yala	Safaricom 4 G , Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Nyaguda Secondary School Bondo (Q6MH+93 Nyaguda)	Safaricom 4 G , Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Umala Polytechnic Siaya	Safaricom 4G , Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Nyakhobi Secondary School Funyula Busia County	Safaricom 4G, Airtel , Telkom Kenya	1	Robert Owino / Barrack Otieno
Nakhwana Primary and Secondary School Bungoma County Partnership with the Kenya ICT Action Network	Safaricom 4G, Airtel , Telkom Kenya	1	Robert Owino / Barrack Otieno
Seme Technical Training Institute Kisumu County (VHH4+6C Kisumu)	Safaricom 4G , Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Kabondo Deputy County Commissioners Office	Safaricom 4G, Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Nyakach Technical Training Institute	Safaricom 4G, Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Kilifi Community Network (In partnership with Kenya ICT Action Network)	Safaricom 4 G , Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno
Mamboleo Chiefs Camp Kisumu	Safaricom 4G, Airtel, Telkom Kenya	1	Robert Owino / Barrack Otieno

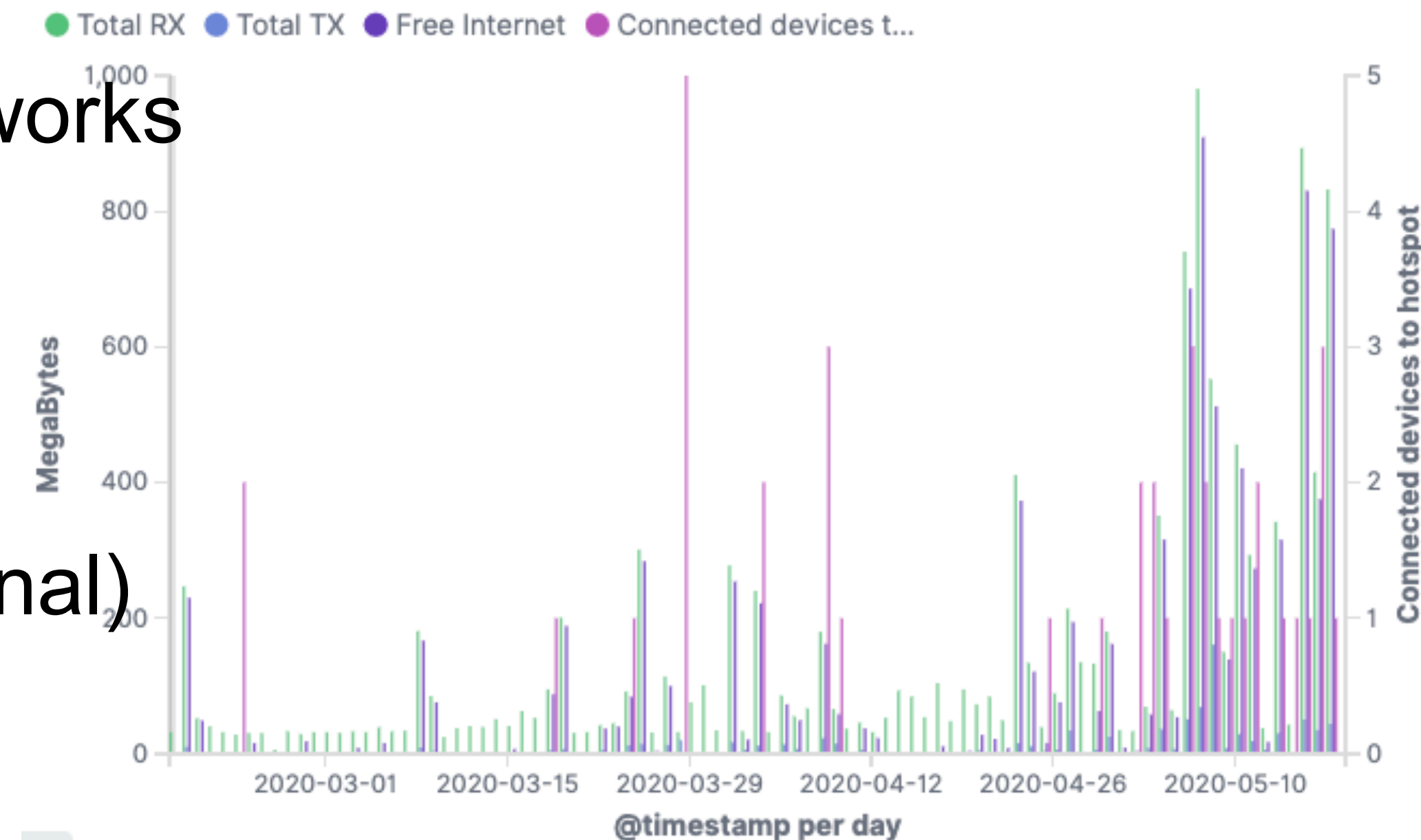


# Open issues

- Connectivity:
  - ➔ last remaining villages
  - ➔ voucher update (software issue)
  - ➔ reporting back from usage (monitoring)
- MoH study in Esilalei and Selela (Elibariki)
- Sustainability
  - ➔ Digl results taken as first step for community networks
  - ➔ Proven “own support” by BOACSE, UDESCO, African Child, tzCNA
- Impact on disease prevalence
  - ➔ reporting for HIV and TBc (district, regional, national)



Mikrotik\_Traffic





# Example: Corona/COVID-19 video for African countries



**YouTube:**  
<https://www.youtube.com/watch?v=Bc3ojifPRlc>

**Download (16:9)**  
<https://owncloud.basicinternet.org/index.php/s/4gB1Zdux6Clx1yR>

**Download (social media)**  
<https://owncloud.basicinternet.org/index.php/s/jERKYmObsGcePBH>





# Invitation to collaborate

- **Free access to National Knowledge Portal**
  - ➔ 1) Access - **Information Spot** per village
  - ➔ 2) Skills - Health, Edu on Knowledge Portal
  - ➔ 3) Regulations - Freemium model
  - ➔ 4) Inclusion - Free access for all  
#LeaveNoOneBehind
- Internet Lite & **Freemium** model for access
  - ➔ free access to National Knowledge Portal for all
  - ➔ premium access to broadband
  - ➔ sustainable solution
- **New proposals** (working hard)...

+18 dB  
>20 km

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

At least  
**one Information Spot**  
per village





# No magic, exist today.... Lightweight Protocols, e.g. AMP



<https://basicinternet.org/internet-lite-to-the-migoli-high-school/>

<https://basicinternet.org/internet-lite-to-the-migoli-high-school/?amp>



**Full Web experience**

MISSION PROJECTS ABOUT PARTNERS MEDIA

## INTERNET LITE TO THE MIGOLI HIGH SCHOOL

By josef | 4 May 2019 | Uncategorized

The Migoli High School has 1271 pupils (Apr2019) and 35 full-time teachers. The high school is located about 3 km outside of Migoli in the Iringa district in Tanzania.



**Internet Lite - AMP experience**

Basic Internet Foundation



### Internet Lite to the Migoli High School

josef

8 months ago

The Migoli High School has 1271 pupils (Apr2019) and 35 full-time teachers. The high school is located about 3 km outside of Migoli in the Iringa district in Tanzania.

### Migoli (Nyerere High School)



1271 pupils, 34 full-time teachers



[BasicInternet.org](https://BasicInternet.org)



[@Basic4all](https://twitter.com/Basic4all)

“Free Access to National Knowledge Platform”

May2020, Josef Noll