

UiO : **Department of Technology Systems**
University of Oslo

**Arizona State University (ASU) Meet & Great
"Co-Designing the Future" - 21Sep2021**

Next Generation Internet in a Societal Perspective

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Starting Point:

JOSEPH E. STIGLITZ

WINNER OF THE NOBEL PRIZE IN ECONOMICS

THE PRICE OF INEQUALITY

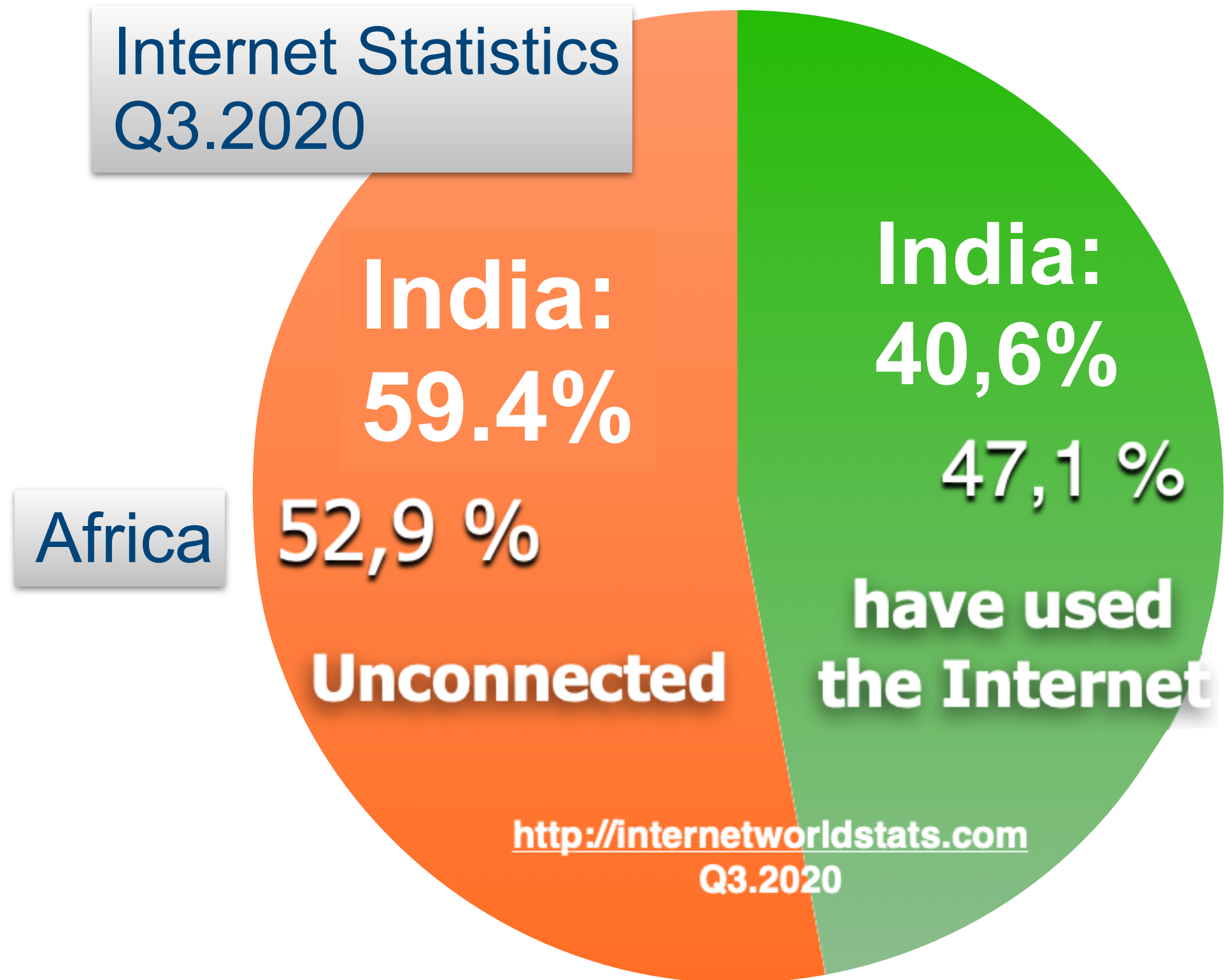
#Internet4All

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

HOW TODAY'S DIVIDED SOCIETY
ENDANGERS OUR FUTURE

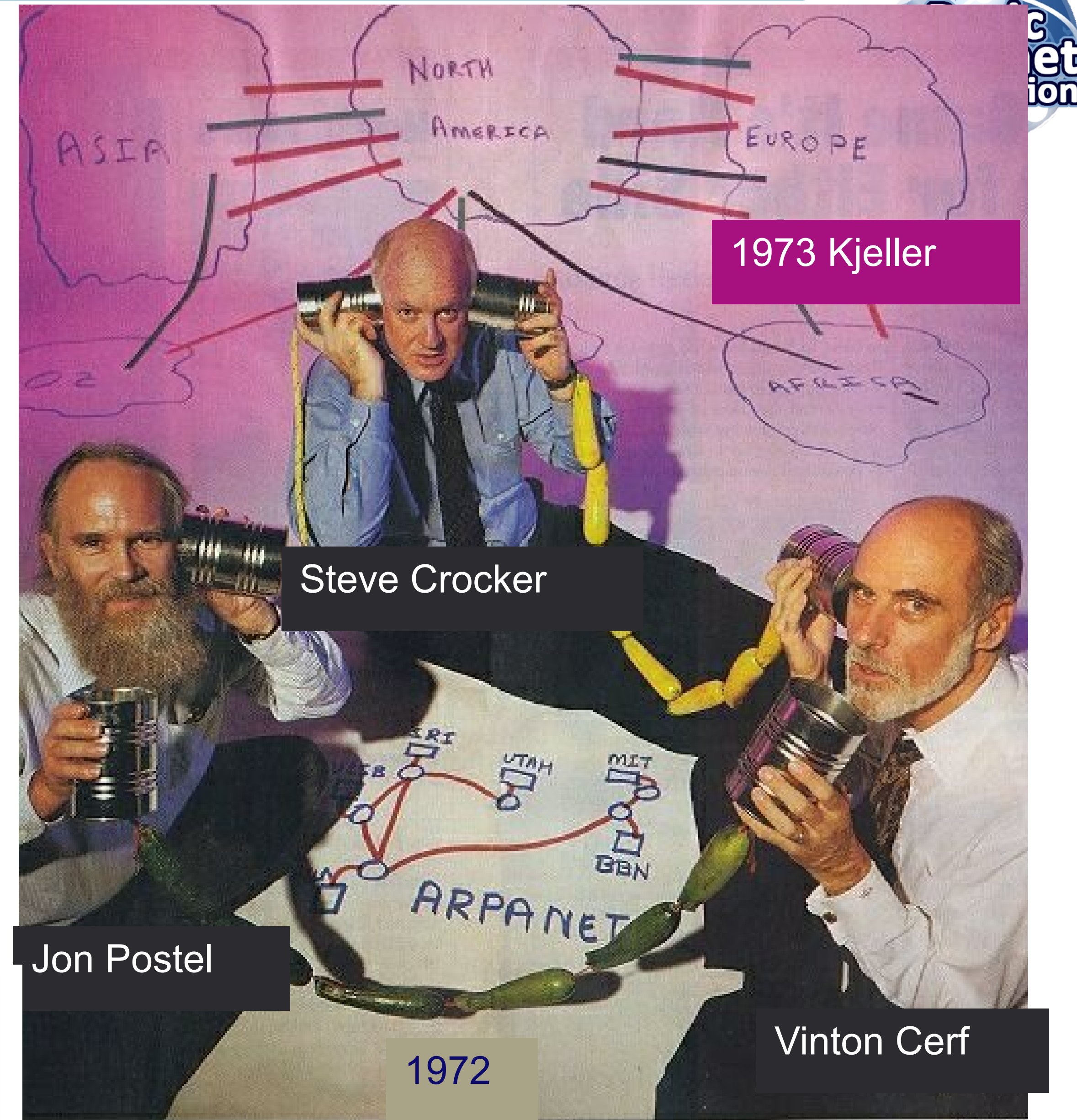
Next Generation Internet as basis for empowerment and trust

Internet Statistics
Q3.2020



ASIA INTERNET USE, POPULATION STATISTICS DATA AND FACEBOOK DATA - JUNE 30, 2020

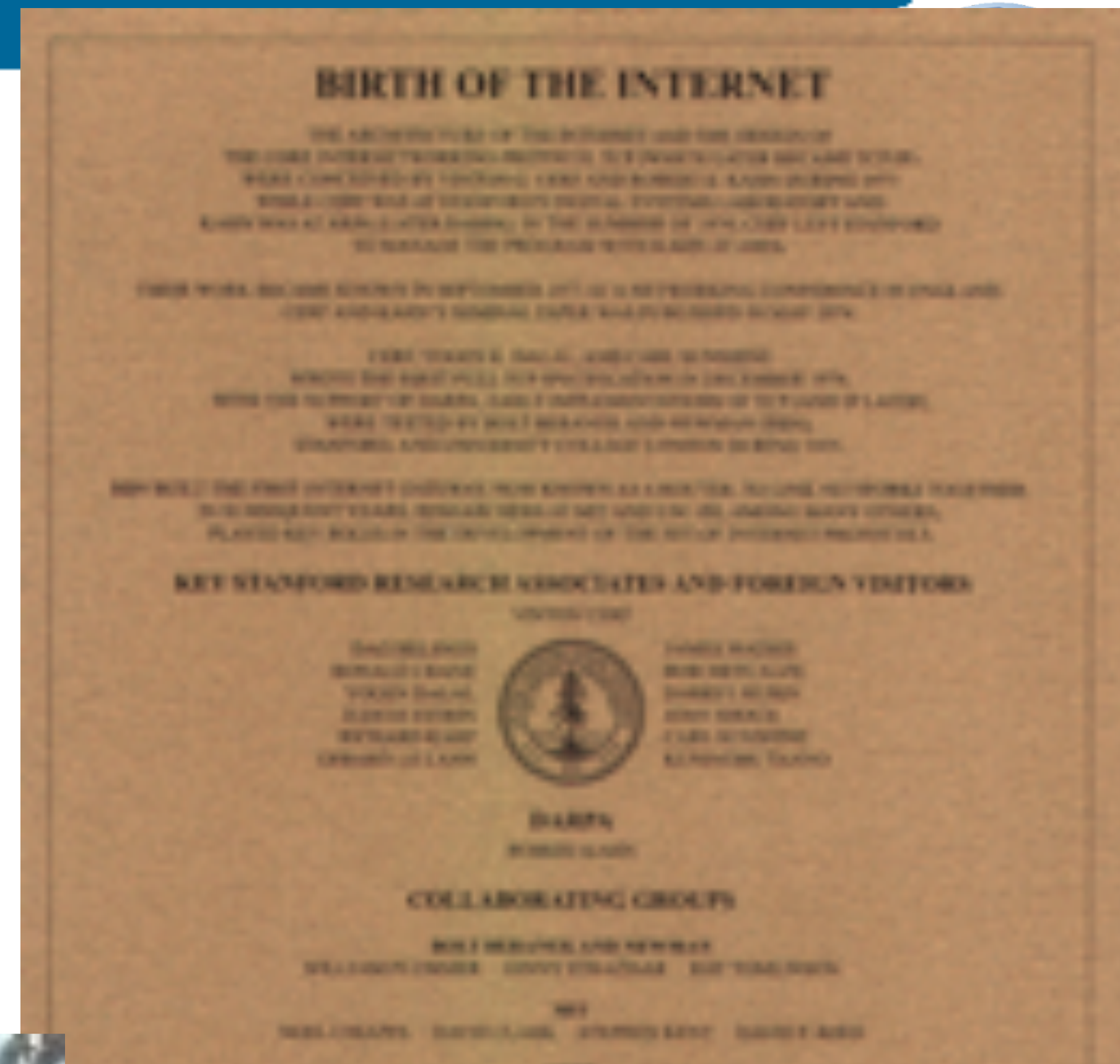
ASIA	Population (2020 Est.)	Internet Users, (Year 2000)	Internet Users 31-MAY-2020	Penetration % Population	Users % Asia	Facebook 31-MAR-2020
<u>India</u>	1,380,004,385	5,000,000	560,000,000	40.6 %	24.3 %	251,000,000



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

The Internet and Scandinavia

- Internet: June 1973 to Kjeller
- List_of_Internet_pioneers [Wikipedia]
 - Yngvar Lundh, **Paal Spilling**
- Application development
 - .php, OpenSource, Linux, Skype, Spotify
 - OperaSoftware, FAST Search
 - Nokia, Ericsson
 - Telenor, Telia
- Mobile Internet:
 - GSM
 - Service adaptation



Vint Cerf

Sigrid Cerf



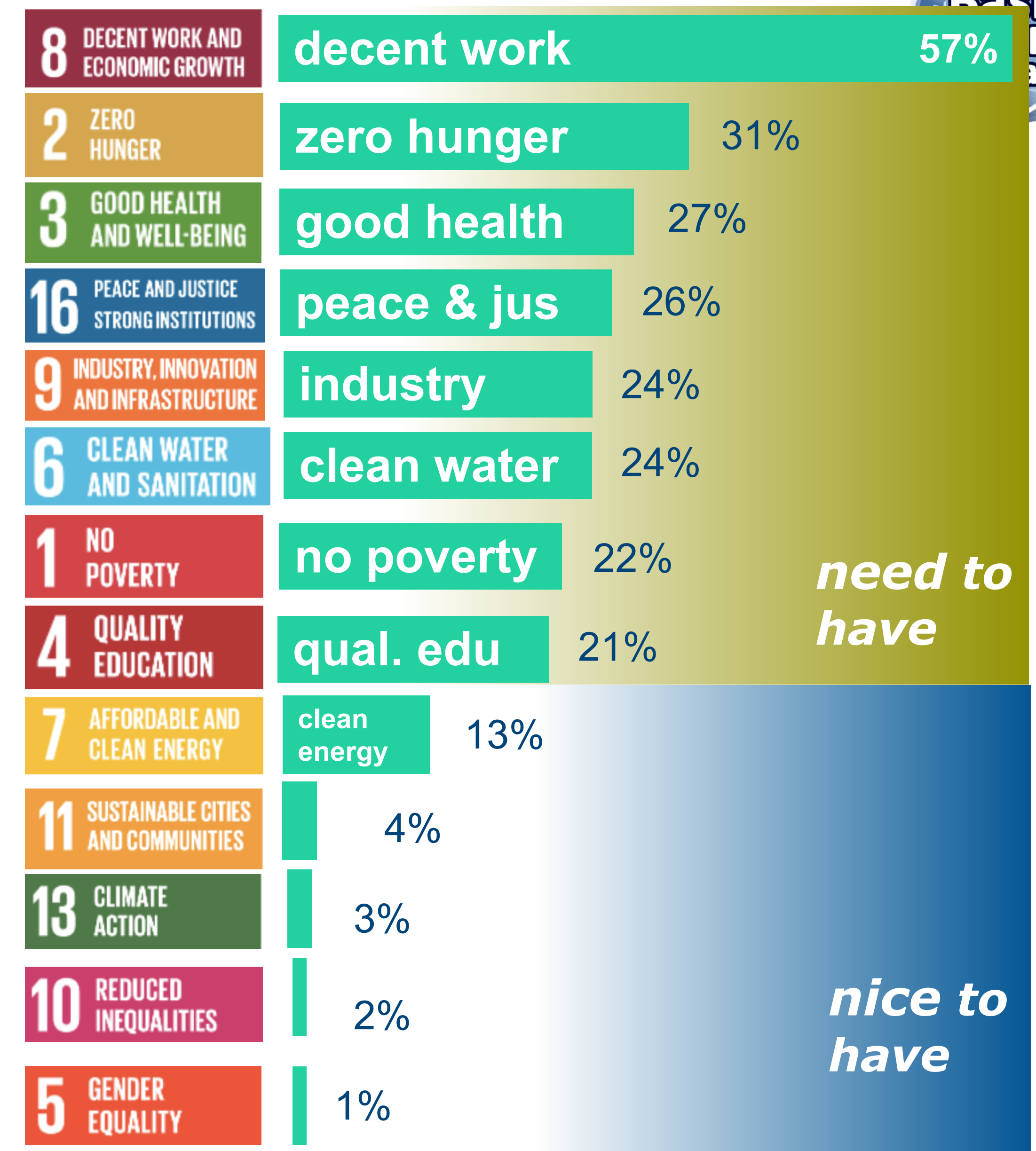
Yngvar Lundh

Pål Spilling

Internet and the SDGs in Africa

Source: afrobarometer.org

- ➔ Public Opinion on SDGs
- ➔ Priorities by people in Africa
 - decent work
 - zero hunger
 - good health
 - ...



<https://blogs.worldbank.org/africacan/how-do-africans-priorities-align-with-the-sdgs-and-government-performance-new-results-from>

Reality of the Digital Divide

- ➔ Internet through the mobile network
 - Mobile network is business-driven

- ➔ “Boys have the toys”
 - digital divide in both devices
 - ▶ Example Smartphone ownership:
33% male, 16% female (Bangladesh)
 - mobile broadband access

More than coverage

CAPEX

OPEX



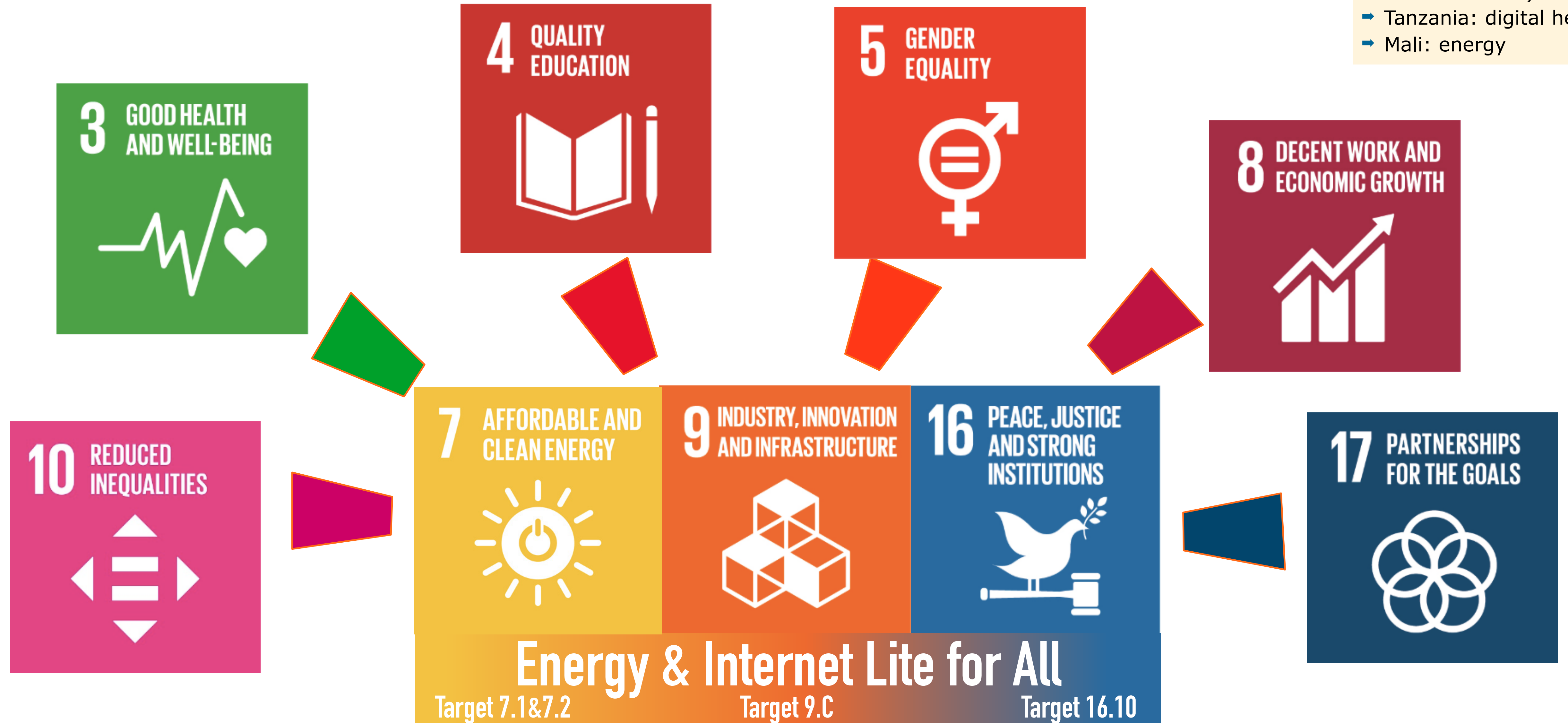
TZ: 640 USD for 4 Mbit/s
 GH: 600 USD for 5 Mbit/s
 KE: 600 USD for 10 Mbit/s
 “every single month”

Showcase
"Non discriminating
access" project

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

Affordable Energy & Internet Lite for All

the catalysts for the goals



Providing Internet for All

- ➔ **Free access to Information (Internet Lite)**
 - 1) Access - one **Information Spot** per village
 - 2) Skills - Health, Education, Agriculture
 - 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

+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, WI

At least
one Information Spot
per village

Decentralised value creation

- Freemium model for access
 - free access to **Internet Lite**
 - premium access to broadband
- support Community Networks
 - democratise the access to the Internet
 - **InfoSpots** with local content
 - ▶ increase the value in the society

Basic Internet Foundation

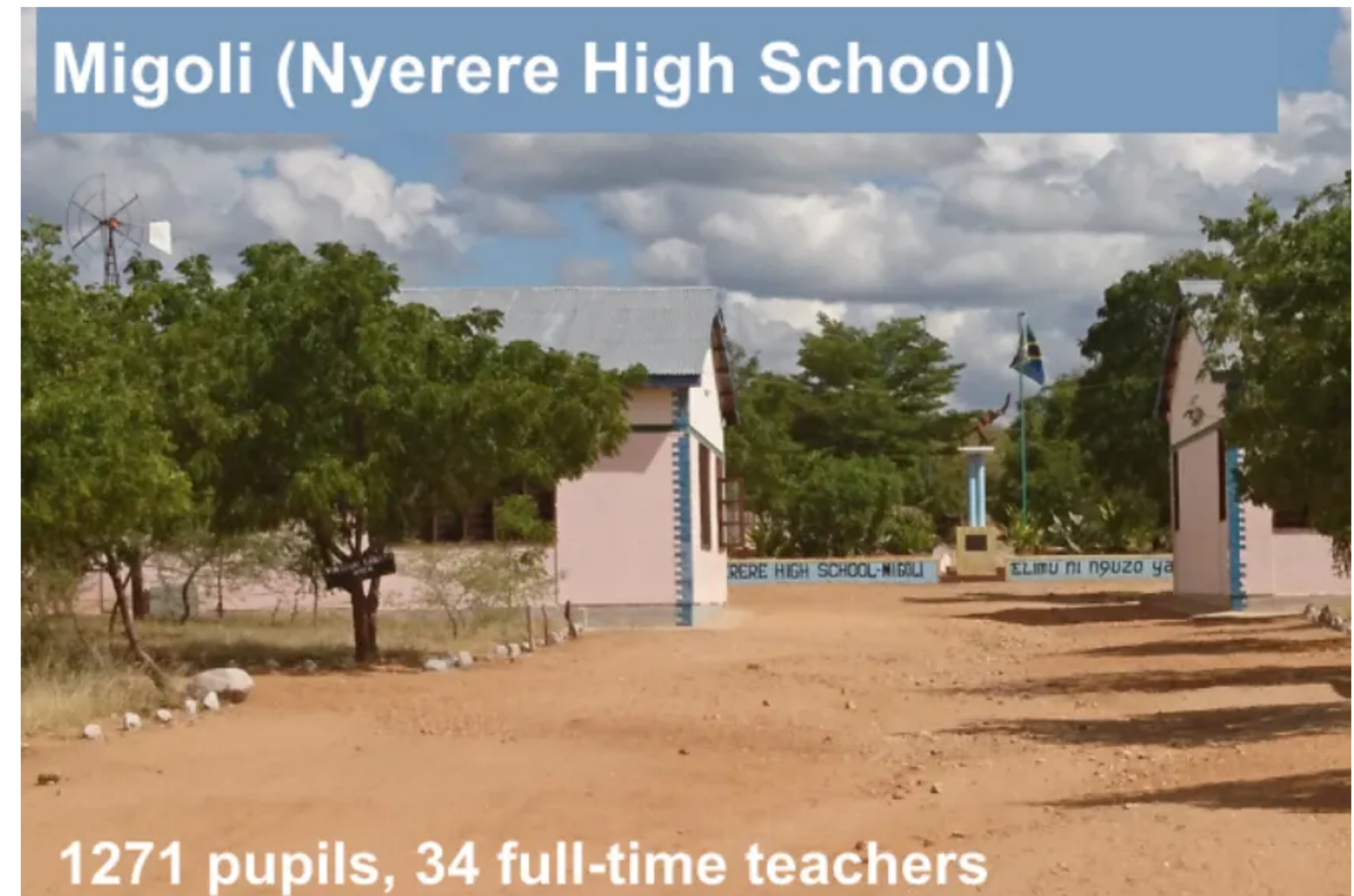


Internet Lite to the Migoli High School

 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.



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

Communities driving the change: Catherine connects schools

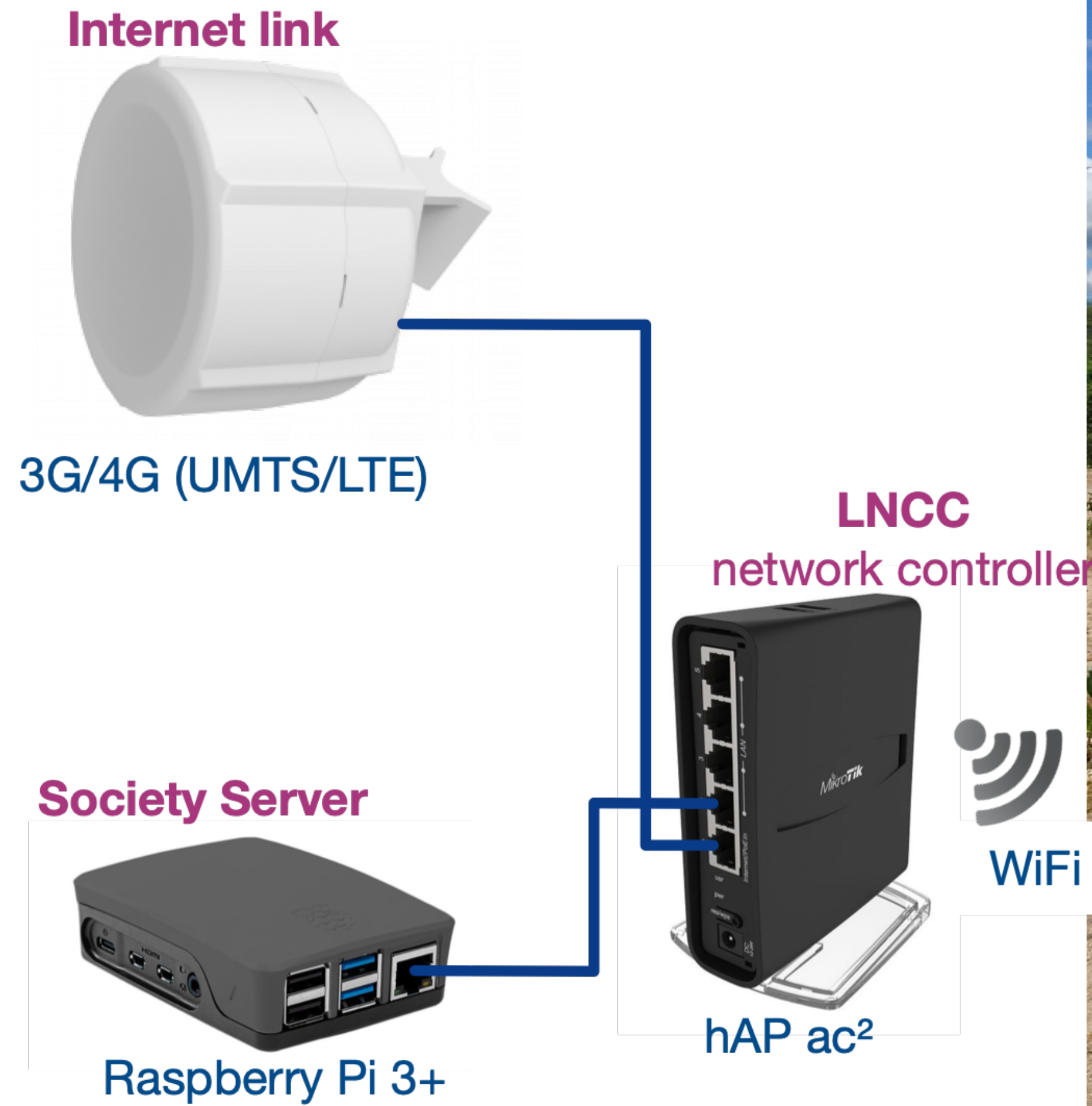


10 schools in 10 areas
in one month
scale-up now...



Technology Used

<http://Solutions.BasicInternet.no>











Free access to information - in Ethiopia

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 በመንግስት በኩል በርካታ እርምጃዎች እየተወሰዱ ሲሆን ከእነዚህም መካከል የገፅ ለገፅ ትምህርት በማቋረጥ ተማሪዎች ቤታቸው እንዲቆዩ መደረጉ ይታወቃል።

ከዚህ 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 ይገልጻል።

በተመሳሳይ ሁኔታ ኩባንያችን ስለወረርሽኙ ወቅታዊ መረጃ ለህብረተሰቡ እየሰጡ የሚገኙትን የጤና ሚኒስቴር <http://www.moh.gov.et> ፣ የኢትዮጵያ ህብረተሰብ ጤና አገልግሎት <http://www.ephi.gov.et> እንዲሁም የተቀናጀ የኮቪድ 19 መቆጣጠሪያ ስርዓት ድረ-ገፅን <http://www.covid19.et> በነፃ እያቀረበ መሆኑ ይታወቃል።

- Government Ethiopia - Agreement
 - “free access to health & education”
 - Ministry of Health
 - Ministry of Education

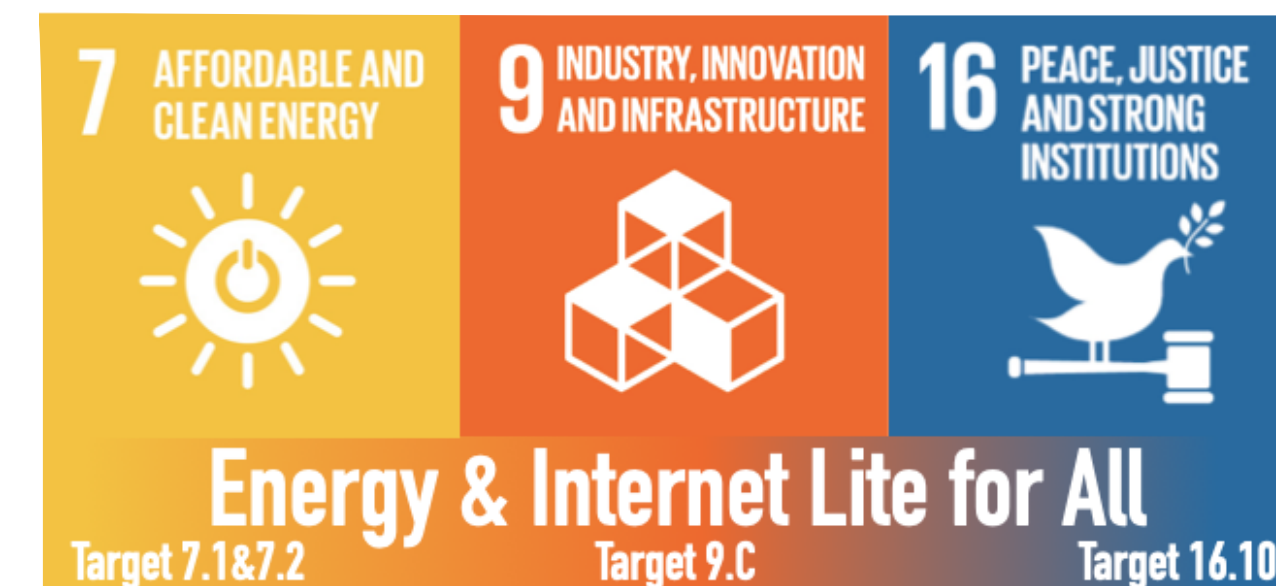
- Ethio Telecom offers “zero rating”
 - Health (MoH): MoH.gov.et
 - Ephi.gov.et & Covid19.et
 - Education: National Digital Library NDL.ethernet.edu.et

- follow-up from discussions after African Innovation Week (AI

Next Generation Internet: Solutions for ~3.5 Billion non-digital people

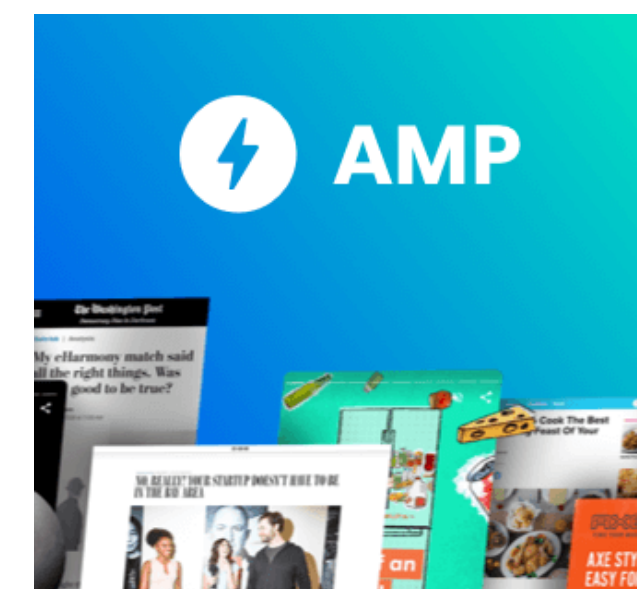
→ Value proposition:

- Freemium access: Basic4All
- Local empowerment, Relevant content (Village empowerment)



→ Technology and Skills

- Local Info Spots
- Off-line broadband content



→ Affordability & Regulations

- OPEX <20 USD/month per school
- Public-private partnership
- Free access to national knowledge portal

