Roundtable Digital Rural
Norwegian Embassy, Dar es Salaam, 12Feb2018

Digital Inclusion in Rural Tanzania

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DigI.BasicInternet.no

DigI and Basic Internet Partners
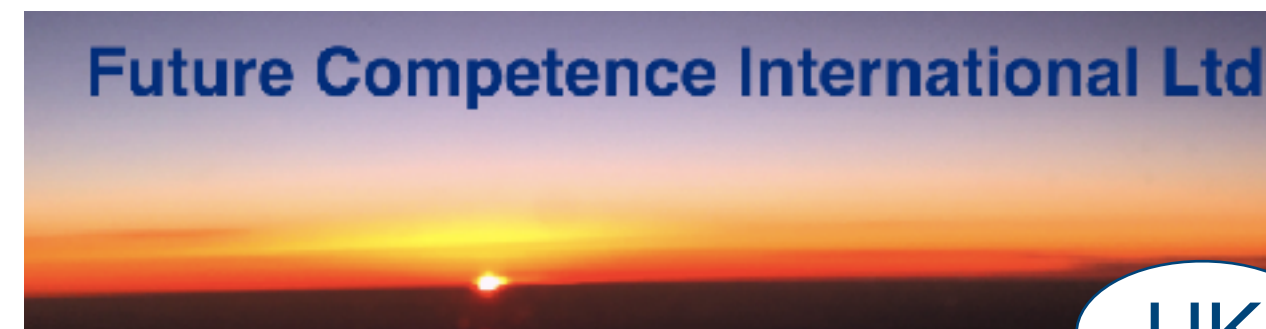
Goals of the meeting

- Contribute with your expertise on Digital Rural Inclusion
  - Governmental organisations, regulatory bodies
  - Telecom operators
  - Embassies of NO, FI, SE, DK, DE
  - Partners from "Digital Inclusion" project
  - all forming the "the ecosystem for Digital Rural Tanzania"
- Goal of the Meeting: "Digital Inclusion in Rural Tanzania"
  - Mobile Broadband uptake in rural areas
  - Digital Health
  - Digital Literacy
  - Decent work
- Scaling up from pilot activity "free access to non-profit content"
  - Phase A: Connecting the 3 villages
  - Phase B: Connecting 10 villages
  - Common initiative "Connecting Rural Tanzania"

Results from Meetings in Feb2018

- **Norwegian Embassy**
  - Johanne Bjørnflaten Walthinsen, Private Business Development
  - Noel Magoti, Private Business Development
- **Ministry of Health (MoH)**
  - Dr. Mpoki M. Ulisubisya, Permanent Secretary
  - Marcos Mzeru
  - Elibariki Mwakapeje
- **USCAF -** Peter Ulanga, CEO
- **Tanzania Telecommunication Company (TTCL) -** Eng. Enocent Msasi
- **Tigo**
  - Jérôme Albou, Chief Technical and Information Officer (CTIO)
  - Anna Tesha
- **Vodacom -** Noel B. Mazoya, Marketing Manager M-Commerce, for Rosalynn Mwori
- **Sokoine Unversity of Agricultue**
  - Helena Ngowi, Professor
  - Flora Francis Kajuna, PhD Researcher
- **National Institute for Medical Research, -** Dr. Bernard Ngowi, Director
- **Muhimbili University of Health and Allied Sciences -**Dr. Felix Sukums, Director of ICT
- **University of Oslo -** Christine Holst, DigI Project Coordinator, Centre for Global Health
- **Basic Internet Foundation -** Prof. Josef Noll, Secretary General

- Universal Communications Service Access Fund (UCSAF)
  - ➡ bring mobile coverage to Tanzania (TZ).
  - ➡ mobile coverage 90% of the population (2G).
  - ➡ 500 wards, over 2000 villages have 2G
    - ‣ covering 4 million people in rural Tanzania, over 300 schools
    - ‣ total of 150.000 km2, which is about 16% of the country. Over 300 schools are connected.
- Goal: Reach 98% of the population
  - ➡ increase of 8% is difficult to reach due to the spread population.
  - ➡ High operational costs for the 2G network
    - ‣ maintenance of the remote sites, security and power supply.
  - ➡ Internet and mobile broadband (3G and 4G networks),
    - ‣ the majority of wards have 3G in the centre
    - ‣ 4G is sparsely deployed, concentrating on cities.

mobile tower
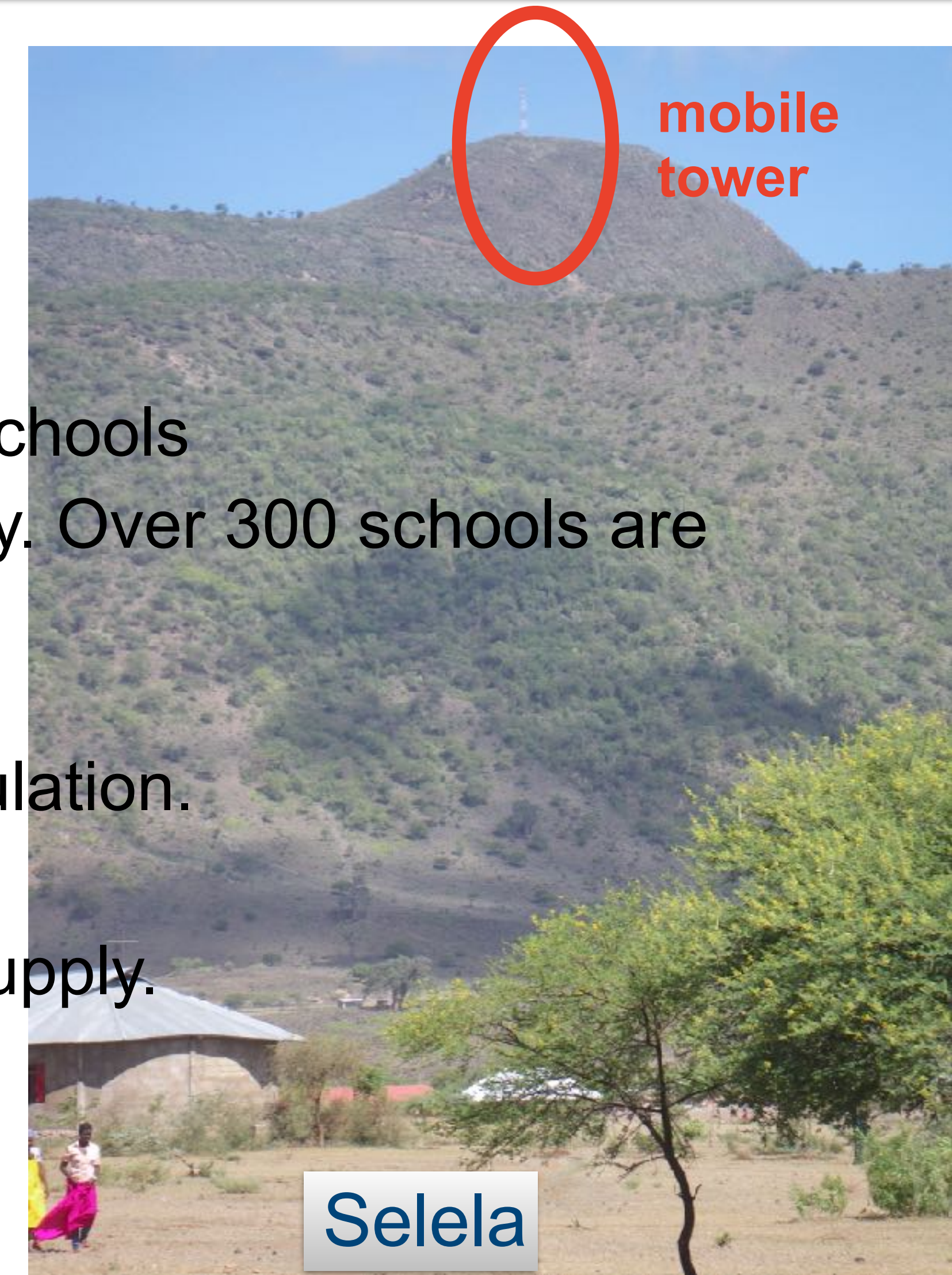
Selela

Government building, Selela

local guest house, Selela

Government building, Izazi

tower (3G), Migoli

- **Content** in Swahili,
  - covering local content, social network content
  - health and education information.
  - best praxis in agriculture, and local information spreading, e.g. fishing conditions and prices is seen as driver for adaptation.
  - Other services include inscription to e.g. secondary schools and similar activities
  - Commercial point of view Mobile Money like M-Pesa has highest priority, in addition to social network content such as Facebook and WhatsApp.
- **Schools** - "*every child should have the ability to access digital content*"
  - programs for providing digital curricula.
  - Partners like Khan Academy
- **Devices:** The majority of phones are 2G phones,

  - communities with electric power see the raise of smartphones. Lack of charging of smartphones is seen as a major hinder,
  - followed by the limited roll-out of 3G and 4G networks.
  - Priority should be given to the adoption of tablets and the availability of low-cost smartphones, evtl through a collaboration with India.
- **Incentives** for users:
  - The benefit of access to information is not obvious to users,
  - reluctance to subscribe to mobile broadband.
  - foster uptake, e.g. to provide free air time, download of music or calling minutes to users participating in digital health education.
- The Permanent Secretary Dr. Mpoki M. Ulisubisya asked Peter Ulanga from USCAF to coordinate the further collaboration.

Discussion Areas

A. Internet to the villages

B. Health information

C. Village involvement

D. International co-operation

Abraham Maslow

Reach full personal potential

5. **Self-actualisation**

meaningful work

4. **Status**, **work**, esteem

Information, participation, education

3. Love, **affection**, **belonging**

Digital health, agriculture, information

2. **Safety** incl. shelter, **food**, **health**

1. Physical Needs like air, water, rest and sleep

Access to Information

[adopted from: https://shift-magazine.net/2015/11/17/the-economics-of-human-need/]
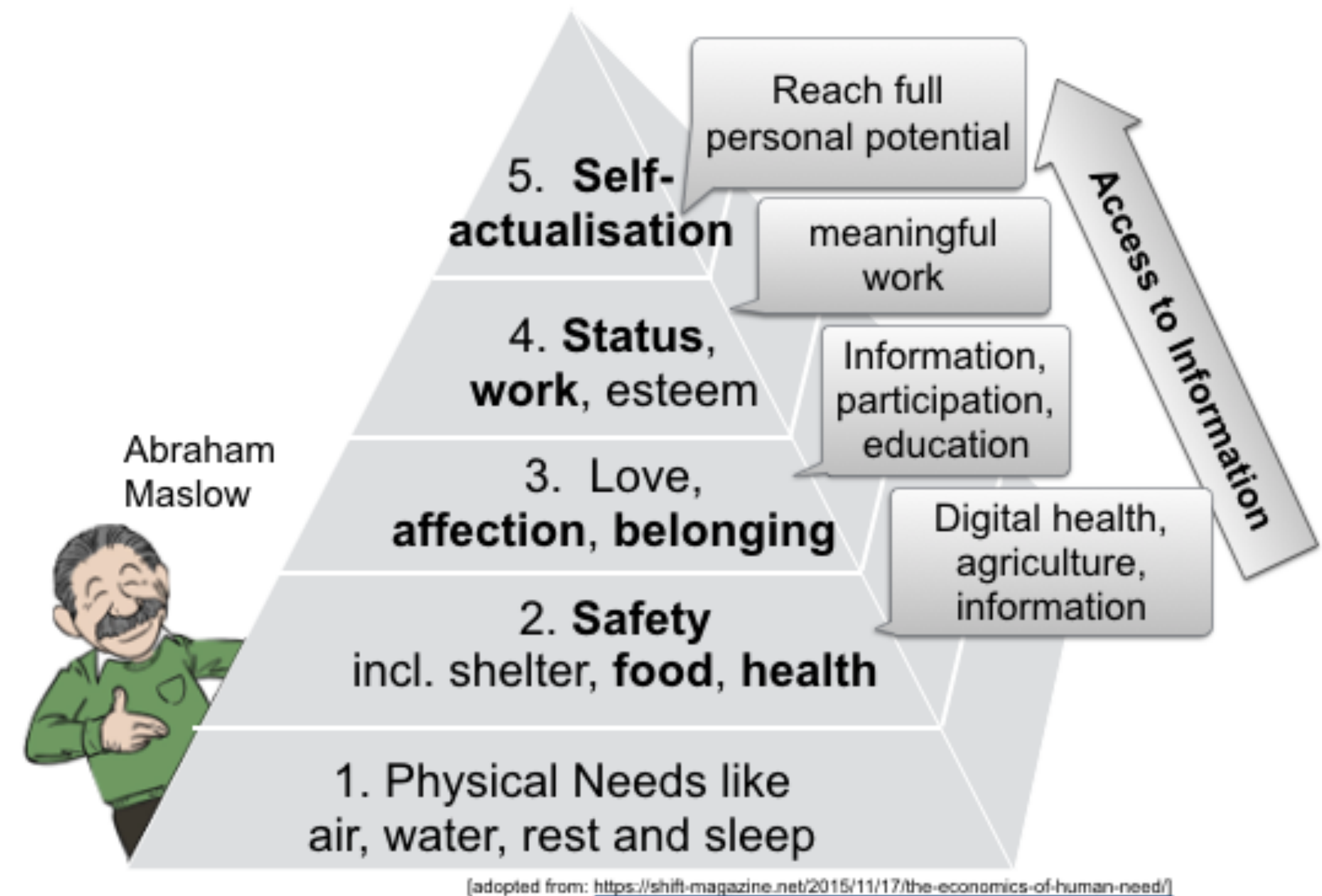
Holistic approach
for rural development

Energy | Communication | Information

Value and business proposition

- "non-profit content" is
  - ➡ education, health, agriculture and governmental information
  - ➡ left out in traditional business models
- ISP and Mobile network provider
  - ➡ increase # subscribers
  - ➡ digital literacy through free access to content
  - ➡ reduce fees for "non-profit content"
- Government
  - ➡ "Digital Tanzania" uptake in rural areas
  - ➡ Non-profit content provision

no use

Access + Need/desire + Ability

limited use

Understanding of what's possible + Ability to navigate and control + Ability to critically assess content

leverage

Desire to use authoring tools + Ability to use existing platforms + Inspiration & Confidence

creation

"I have never been on the Internet. I don't know what you are talking about." – Rickshaw driver, Dhaka, Bangladesh

"I only use Facebook and WhatsApp." – Student, Nairobi, Kenya

"Internet is my teacher"

"I'm currently learning Python and HTML, so I can make a website for my parents' business"

InfoInternet

Telecom focus

17 PARTNERSHIPS FOR THE GOALS

[Source: GSMA, Nov2015]

- From 2G to 4G (5G)
  - ➡ tower upgrade
  - ➡ customer base & devices
  - ➡ future technology: 4G
  - ➡ coverage: LTE >150 km vs 3G ~ 10-15 km
- 4G hot-spot termination
  - ➡ Jio (India): INR 999 (USD ~13) hot-spot
  - ➡ INR 150 (USD ~2.2) for 1 GB/day

- 2G and IP links
  - ➡ Amotel & Telecomshop Belgium for coverage and Internet

GSM + Wifi
➡ 200W
➡ MicroBTS

tower (3G), Migoli

[source: Amotel]

Facilitator for economic growth and partnership

- We need more long-term investments
  - ➡ build infrastructure
  - ➡ enable digital services
- Long-term revenue

The example from India

- 1 GB per day for € ~2.1 per month
- free voice, Zero-rated cloud content
- Schools, railway stations,…
- *"Revenue is not an issue. Services will come"*

  [source: Jio Press Release, Jan 2018, India]

JioFi 4G Data + Voice Device
Festive Offer.
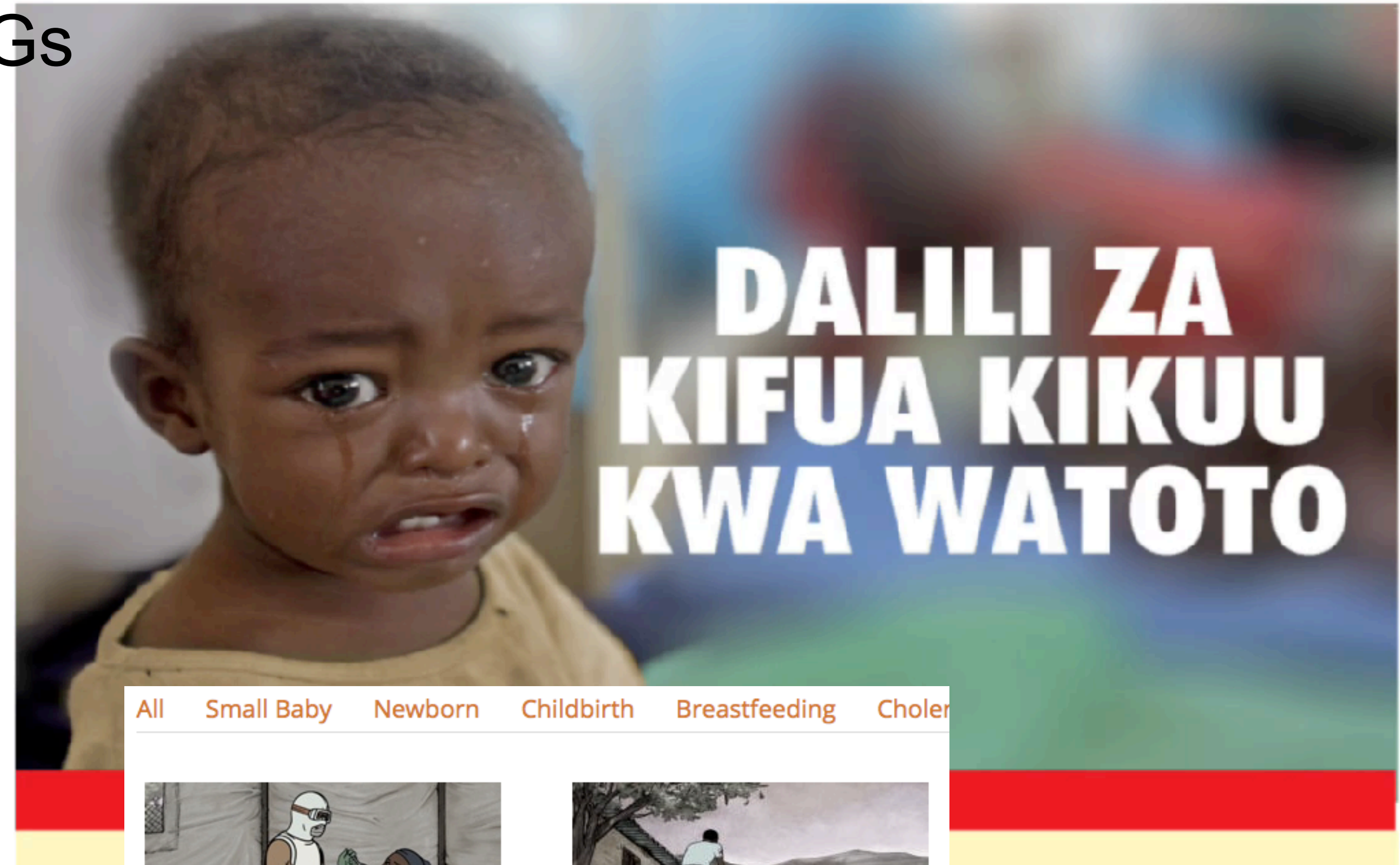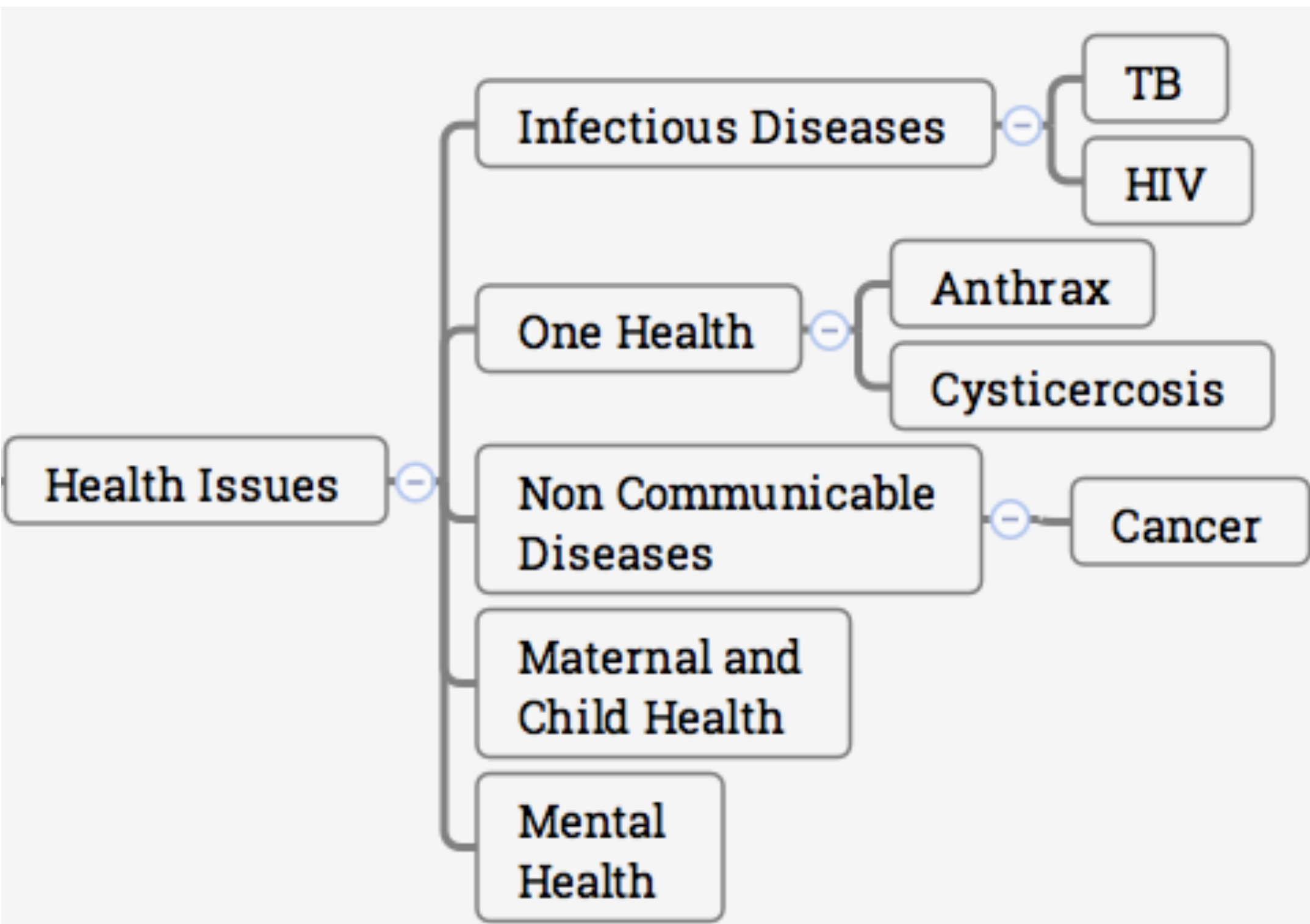₹ 999

JioFi
Attractive Offer*
₹ 1,999

999 INR = 15.3 USD

The adoption rate of 4G phones saw a four-fold increase last year because of the disruption in the telecom market as well as the dip in the cost of internet. Its reach has penetrated every corner of India, including the remote corners of the country. While Reliance Jio, Micromax etc. work on developing 4G feature phones, smartphones still remain the future.

https://www.techradar.com/news/cheapest-4g-phones-in-india

B) Digital Global Health
Involvement, participation and sharing

- **Catalyst** for Agenda 2030 and SDGs
- **Entry point** for the **Digital Society**

DALILI ZA KIFUA KIKUU KWA WATOTO

| All | Small Baby | Newborn | Childbirth | Breastfeeding | Choler |

The Story of Ebola, English

The Story of Ebola, Swahili

https://globalhealthmedia.org/videos

Health Issues
- Infectious Diseases
  - TB
  - HIV
- One Health
  - Anthrax
  - Cysticercosis
- Non Communicable Diseases
  - Cancer
- Maternal and Child Health
- Mental Health

C) Village involvement

- Goal: digital involvement
- Village platform
  ➡ information for ward, Gov,…
  ➡ health information for the people
  ➡ Digital involvement of the people

Visit Izazi

Village information

Izazi is located in Iringa Rural District, Iringa and time zone Africa/ Dar_es_Salaam.

More

Health information

Stay safe from Cysticercosis, Anthrax, Tuberculosis, Cholera, HIV/AIDS and other prevantable diseases.

More

Social information

In Izazi, we are very happy people. ….Check our blog & Tweets.

More

D) International co-operation

- Digital Health
  - ➡ inventory: DHIS2
  - ➡ information: Global Health Media
  - ➡ health education
- Application areas
  - ➡ Agriculture, e.g. Veggie project
- Education
  - ➡ Khan Academy
- Infrastructure
  - ➡ India: 4G hot-spots by Jio
  - ➡ handsets

- Financing Digital Rural Tanzania
  - ➡ World Bank
  - ➡ The Nordics
  - ➡ Compact with Africa (CwA)

Digital Rural Tanzania

Discussion of a holistic approach for rural development

Communication

International co-operation

Digital Inclusion

Internet to the villages

Common initiatives

Health Information

Education

Energy

Village information

contribute to
Partnership with Africa

- Example: Digital Tanzania
  - ➡ Unconnected: 13 Million people in 4.000 villages
- Combined effort of
  - ➡ IT industry,
  - ➡ World Bank,
  - ➡ Telecom and
  - ➡ Norwegian Industry

- Funding requirements
  - ➡ $ 65.000 per village
  - ➡ $ 280 Million for Digital Tanzania
  - ➡ € 89 Billion EU Frontex border control

1 USD/month for Telecom

Cost: 70 kUS$/village

Apr 2018, Josef Noll

About the Basic Internet Foundation

- Founded by University of Oslo (UNIK) and Kjeller Innovation
  - ➡ facilitates: "**Internet light for all**"
  - ➡ free access to information: text, pictures and local content
  - ➡ Develops the market, complementary to market actors
  - ➡ Sustainable business, free information & paid amusement
  - ➡ Secretary General: Prof. Josef Noll (UiO)

- Information is the basis for education, health and entrepreneurship
- Digitalisation is the engine of economic growth and wellbeing of people
- Sustainable development requires digital inclusion, which necessitates Internet for all
- Impact lives of the unconnected 3.5 billions of people in the world

1973: Internet to Kjeller/Europe

1994: Opera Software

2014: Basic Internet «half a dollar is enough»