4ᵗʰ Summit on Community Networks in Africa: An Experience from Kondoa Community Network

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UN 17 Sustainable Development Goals

Background Information on Internet Access around the globe

- Fifty years ago there were only four network node transmitted over what is now known as the internet.

- Today there are 21.7 billion connected devices (this is according to cisco statistics).

- The global Internet users have reached 51.2% (3.9 billion people out of 7.6 billion) and hence participated to the global digital economy.

- Most of households in the world now have access to internet at home (57.8% in 2018, up from 18.9% in 2005).

- Mobile broadband subscription is about 5.3 billion whereas, the active Social Media Users 3.5 billion

Background Information on Internet Access in Tanzania

- In Tanzania, there are 43.7 Million voice telephone subscriptions as of 2019 and only 23.1 Million Internet users in Tanzania (TCRA, 2019).

- It is further reported that the Internet penetration trend in Tanzania is only 45%.

- Furthermore, a study that was carried out by Research for ICT Africa (RIA) reported that 86% of rural dwellers in Tanzania remain unconnected to the Internet compared to 44.6% in urban areas (RIA, 2017).

- When comparing Internet access in term of gender then fewer women than men have access and use of Internet in Tanzania (RIA, 2017).

Community Radio and Community Network

- Community radio/media are established with the focus on community participation.

- Community media gives voice the voiceless group!

- Community media influences the local innovation for vulnerable communities.

- In some situation community media benefits from the global Internet in either searching or contributing to Internet content!

- Community network are the network established by the people for the people.

- It is a feasible bottom-up approach to connect the unconnected population.

Why Broadband Matters?

- Broadband Internet is Key:
  - For ICT based economic development .
  - Bridge the rural and urban divide.
  - Access to modern services including education, health, jobs, agriculture, etc
  - Work from anywhere
  - Home entertainment and connectivity
- A study by World Bank concluded that a 10 percentage point increase in fixed broadband penetration would increase GDP growth by 1.21% in developed economies and 1.38% in developing ones.
- 10 percent increase in fixed-broadband penetration increase in GDP/capita at 2.0 to 2.3 percent whereas 10 per cent increase in mobile-broadband penetration increase in GDP/capita at 2.5 to 2.8 percent (ITU & UN-OHRLLS, 2019).

What is TV White Space?

- Licensed but unutilized television (TV) band spectrum is called as TV white space in the literature.

- TV white spaces are the unused portions of spectrum allocated for TV broadcasting in continuous or discontinuous manner or in geographical setting, also referred to as interleaved spectrum (ITU, 2012).

- These TV spectrum gaps, with advantageous propagation properties inherent to UHF spectrum have been identified by various parties from researchers to policy administrators as an alternative for providing commercial wireless services other than broadcasting (Gomez, 2013).
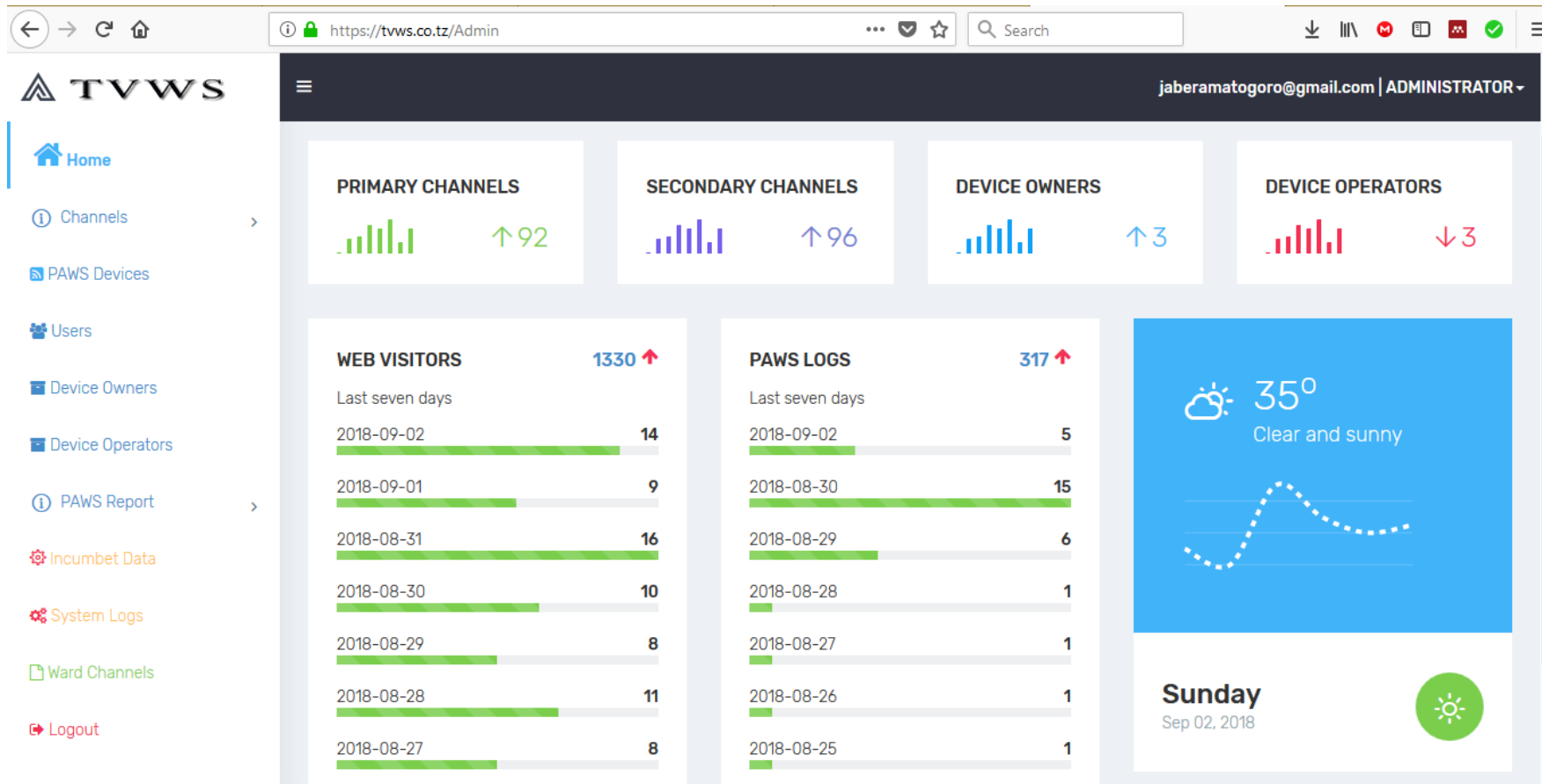
Why TV White Space?

- Ultra-High Frequency (UHF) TV band spectrum has very good wireless radio propagation characteristics to penetrate hills, walls and cover large geographic area.

- There is growing recognition across the globe that dynamic spectrum sharing, especially on the Television White Spaces (TVWS), enabled by geo-location databases has significant potential to increase the availability and ubiquity of broadband access.

EXPERIENCED GAINED FROM KONDOA COMMUNITY NETWORK PROJECT

# What has been done to date!

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# Piloting the use of TV White Space for Community Networks in Rural Tanzania

- The main objective of this project is to deploy a Community Network in Rural Tanzania using TV White Space technology, which offers advantages in terms of coverage and spectrum utilization.

- It aim to connect unconnected in Kondoa District and beyond.

- The project uses a multi-stakehoderism approach bringing together different stakeholders e.g. community members, religious leaders, political leaders, private and public institutions to mention afew.
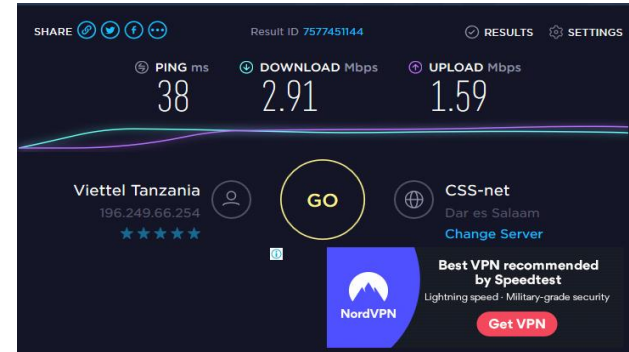
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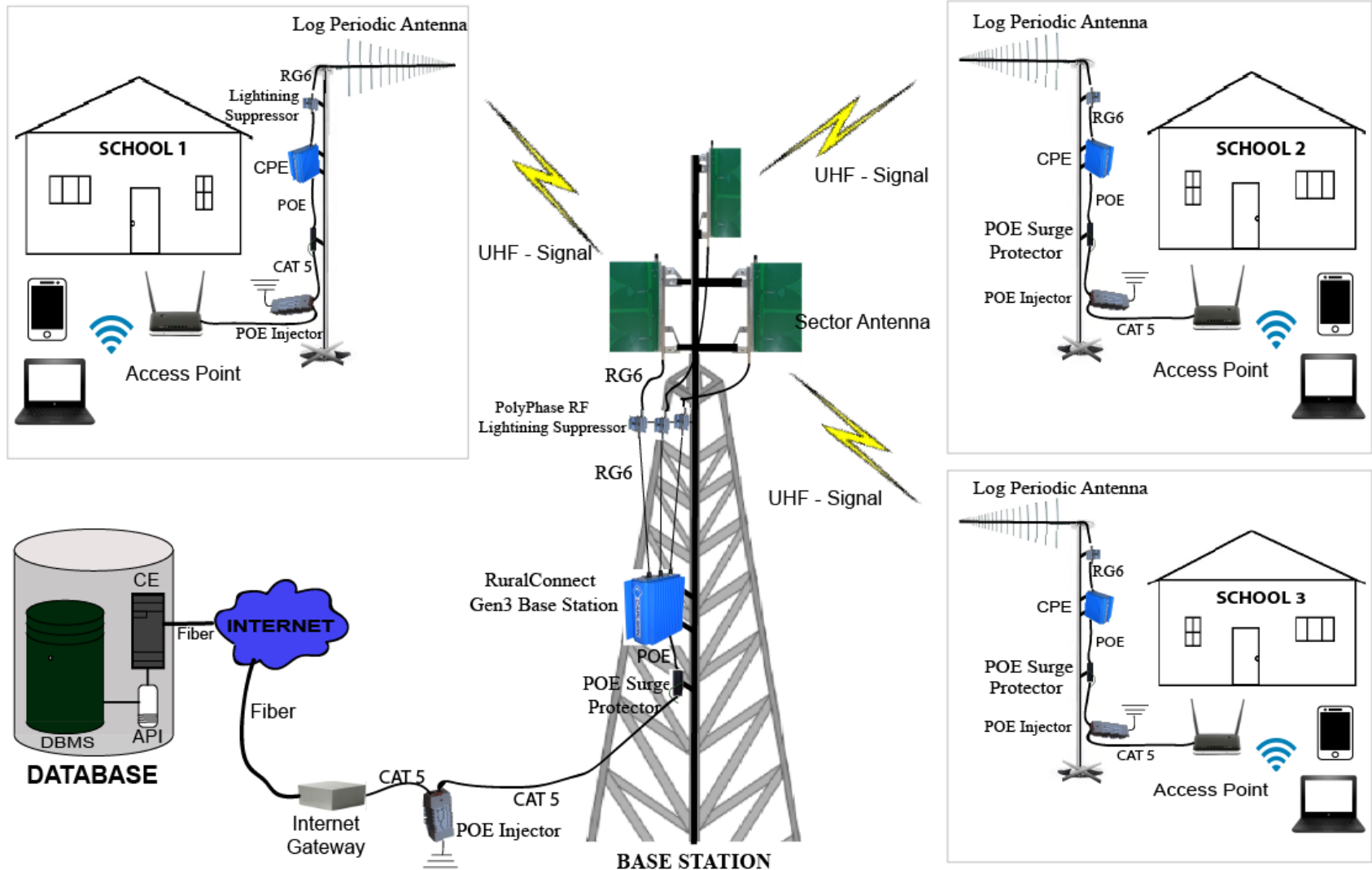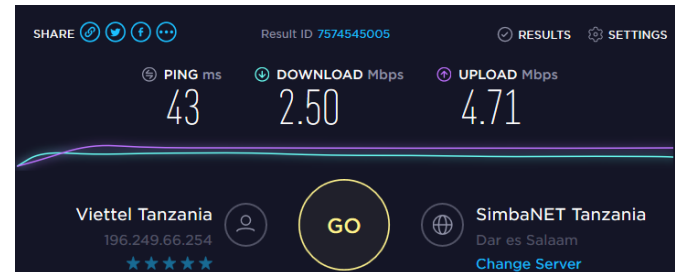
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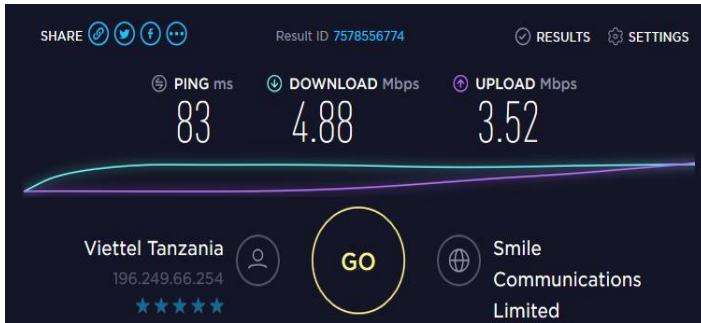
Bustani Teacher's College

Ula Secondary School

Kondoa Girls High School

Study Zone Computer Centre

Challenges Facing Rural Broadband

- Lack of affordable backhauling solution
- High broadband cost
- High co-location fees
- Lack of stable power solution
- High rate of illiterate rate in rural Tanzania
- Lack of local content in rural Tanzania context
- Lack of policy favoring the use of both Community Network Model and TV White Space

Sustainability

- Engage SME and Business Partners operating in Kondoa to pay for connectivity.

- Host educational institution will be engaged to take the project forward after project funding expires.

- A discussion to Universal Communications Service Access Fund to take forward the project.

- A community around each host educational institution will be engaged to take forward the project.

- More partners will be attracted to the project.

- Encourage Individuals using community network especially after class hours to pay a token fee for Internet usage.

- Leverage the Ujamaa concept (Socialism) where a certain group and/or individual community members can pay for the service to benefits other community members who are not able to pay for communication service.

Asanteni Sana

Internet is for Everyone

Steering Committee Members

Project Members in Group Photo with Kondoa Girls High School Students

Technical Team Installing TVWS Antenna at Bustani Teacher's College

When I noted that all target Schools were connected!

This project was made possible in part through a donation from the Internet Society and the University of Dodoma.