

Comments in Response to the Public Consultation On Draft Licensing And Shared Spectrum Framework For Community Networks In Kenya

TO:

The Director General
Communications Authority of Kenya
CA Centre, Waiyaki Way, Westlands
P.O. Box 14448
Nairobi 00800
Email: frequencyreturns@ca.go.ke

CC:

- AHERI - Barrack Otieno otieno.barrack@gmail.com
- Tunapanda - Risper Akinyi risper@tunapanda.org
- Internet Society - Michuki Mwangi and Verengai Mabika mwangi@isoc.org / mabika@isoc.org

Submission Date: 01 June 2021

Table of Contents

1.0 Introduction

2.0 Context

3.0 Key Recommendations

4.0 Brief about the submitting organisations

- AHERI
- Tunapanda Institute
- Internet Society

1.0 Introduction

On the 17th of May 2021, the Communications Authority of Kenya (CA) invited all stakeholders to submit their comments with respect to draft Licensing and Shared Spectrum Framework for Community Networks. In furtherance of its responsibility to develop a responsive legal, regulatory and licensing regime, and in response to the COVID-19 pandemic, the Authority has formulated a draft Licensing and Shared Spectrum Framework for Community Networks. The framework was developed in partnership with the Kenya ICT Action Network (KICTANet), the Association for Progressive Communications (APC), the University of Strathclyde, Glasgow, Scotland and supported by the United Kingdom's Digital Access Programme.

The partner presents a joint submission to the consultation process. We fully support the objectives of this proposed regulation and congratulate the CA for such a progressive approach to connecting the unconnected especially in light of COVID-19. We welcome this opportunity to contribute to the work of the CA in such an important process.

2.0 Context

The partners would like to commend CA for emphasizing the importance of expanding the accessibility, affordability and reliability of the broadband infrastructure with the aim to achieve the United Nations Sustainable Development Goals (SDGs) and bridge digital divides. We applaud the Kenyan government for being among the first country in the region to take a wholistic approach on Community Networks. Kenya also took a bold step in implementing the African Union Commission STC on Communication and Information Technology (CICT) declaration of 2019 ¹, recognising the contribution of community networks in bridging the digital divide. With the COVID – 19 pandemic, studies have shown that Africa's digital divide is widening and broadband growth has generally been slow. Those without broadband access are usually in underserved remote and rural areas. After more than 25 years of Internet development, network infrastructures built and operated on traditional business models have not yet reached many underserved, remote and hard to reach rural areas.

¹https://au.int/sites/default/files/decisions/37590-2019_sharm_el_sheikh_declaration_-_stc-cict-3_oct_2019_ver2410-10pm-1rev-2.pdf

In the absence of affordable and reliable Internet connection, Kenya's rural population who are mostly youth will lack the skills and tools that can enable them to contribute and participate in the knowledge-based economy thus impacting negatively the achievement of the country's vision 2030. During these tough times the global COVID-19 pandemic has reemphasized the importance of connecting every household in Kenya to ensure access to essential government services, digital healthcare, and education.

The partners support the development of community-powered networks based on innovative and sustainable resource models, as one of the solutions to close the digital divide. These networks, often known as Community Networks, provide Internet access in unserved and underserved communities, and are in alignment with the goal of the SDGs to connect the hardest-to-reach areas of the world. Community Networks (CNs) are a complementary connectivity solution for hard to connect areas particularly in Africa. Our experiences show that Community Networks are naturally complementary to existing networks, but that they face a myriad of challenges which include but not limited to:

- Lack of affordable access to backbone infrastructure,
- Barriers to entry (e.g., business and/or service licensing,
- Regulatory fees and taxes, spectrum access), and
- Limited funding, including difficulty in obtaining universal service funding,

It is vital that we approach these challenges holistically.

3.0 General Recommendations

3.1 Innovative Financial & Legal Mechanisms

Most CNs have limited access to funding and access to government funding can be a significant help to their success and goes a long way, especially since CNs are often launched in low population density areas and in low income communities. Often, funds are only needed to help launch a CN until they reach a point of economic balance and scale.

In line with section 7.2 of the proposed contribution we recommend and encourage the CA to open up opportunities for CNs to access Universal Service Funds (USFs) in incremental steps, within the scope of this regulatory framework. By doing so, the proposed framework will achieve a sound and holistic approach, ready to bridge the digital gap on a national level. Experiences in other developing countries show the

benefits of combining favourable licensing frameworks with access to Universal service funds².

3.2 Licensing

With regards to licensing we recommend that the CA consider expanding the boundary of the license to county level as opposed to sub county level to avoid the need for Community Organizations to apply for multiple licenses as the Community Network scales. We also recommend that CA consider removing the requirement for letters from Community representatives provided the entity is a duly registered and compliant community based organization.

3.3 Spectrum allocation

With regards to radio spectrum allocation we highly recommend and support the creating an enabling spectrum regulation for CNs:³

- Allow CNs to access as many frequencies as possible including TV White Space (TVWS), International Mobile Telecommunications (IMT), and Wi-Fi: 2.4Ghz, 5Ghz, 6Ghz
- Adopt new spectrum management tools to better utilize spectrum. Such approaches can include:
 - License-exempt Spectrum: License-exempt spectrum is spectrum that is not tied to a regulatory license. Users may utilize this spectrum with minimal regulatory requirements, and without the need to pay the high costs of obtaining a spectrum license. We recommend expanding more spectrum as license-exempt.
 - Sharing Licensed Spectrum/Dynamic Spectrum Access: Shared spectrum would allow community networks in rural unserved or underserved areas to use already-licensed spectrum on a secondary basis, with the possibility to use the frequencies adjacent to the bands allocated. An example of this is using the “unused” spectrum in the television bands (TVWS)—to provide Internet access. Shared spectrum is also possible in the IMT bands.⁴

² : <https://www.observacom.org/enacom-argentina-destina-us-53-millones-del-fondo-de-servicio-universal-para-proyectos-de-acceso-a-internet/>

³ For more information see: *Policy Brief - Spectrum Approaches for Community Networks*

⁴ <https://www.internetsociety.org/events/african-internet-resilience/shared-spectrum-strategies-to-increase-affordable-access-in-rural-areas/>

- Innovative Licensing: Innovative approaches to spectrum management can present opportunities for community networks to gain access to spectrum. One example of innovative licensing is a “social purpose” license, which is an exclusive service license granted in rural unserved or underserved areas to non-traditional network operators, such as community network operators. With “social purpose” licenses, the CA can set aside specific licenses for non-traditional operators, which removes the competitive nature of licensing, and prioritizes spectrum use for non-commercial purposes.

3.4 Infrastructure support to CNs

Access to affordable infrastructure and equipment is necessary for the success of sustainable CN. We recommend the following approaches to support CN’s access to infrastructure:

- Promote infrastructure sharing and access to rights of way policies that allow smaller networks to share infrastructure and build out infrastructure in a more cost-effective manner.
- Regulation related to interconnection is often only between commercial ISPs, we propose that these interconnection obligations extend to CNs as well.
 - Simplify homologation processes so that affordable equipment can be authorized for use by CNs.
- Consider revamping the Gilgil Telecommunications Industries with the support of the Universal Service Fund for purposes of locally assembling Network equipment that can be used by Community Networks

3.5 WiFi Technologies

9.1 Regulated output power in bands used by Wi-Fi technology in the countries under study

	2400 – 2483.5 MHz		5150 – 5250 MHz		5250 – 5350 MHz		5470 – 5600 MHz		5600 – 5650 MHz		5650 – 5725 MHz		5725 – 5850 MHz	
	EIRP	Tx Power	EIRP	Tx Power	EIRP	Tx Power	EIRP	Tx Power	EIRP	Tx Power	EIRP	Tx Power	EIRP	Tx Power
Mexico	33 dBm in PtP 30 dBMin	27 dBm in PtP 24 dBm	23 dBm	17 dBm	30 dBm	24 dBm	30 dBm	24 dBm			30 dBm	24 dBm	36 dBm	30 dBm
South Africa	20 dBm		23 dBm		20 dBm		30 dBm				30 dBm		36 dBm (PtP 53 dBm)	30 dBm
Brazil	36 dBm	30 dBm	23 dBm		23 dBm		30 dBm	24 dBm			30 dBm	24 dBm	36 dBm	30 dBm
Argentina	36 dBm	30 dBm	23 dBm	17 dBm	36 dBm	30 dBm	36 dBm	30 dBm			36 dBm	30 dBm	36 dBm (53 dBm for PtP links)	30 dBm
United States	36 dBm in PtMP. In PtP 1 dBm less in TxPower per 3 dBi	30 dBm	36 dBm in PtMP & 53 in PtP	30 dBm	30 dBm	24 dBm	36 dBm in PtMP and no limit in the Antenna Gain in PtP	30 dBm						
India	36dBm	30 dBm	20 dBm		20dBm								20 dBm & 36 dBm	30 dBm (5.825)
Canada	36 dBm in PtMP and no limit in the Gain in PtP	30dBm	23 dBm indoor only		30 dBm	24 dBm	30 dBm	24 dBm			30 dBm	24 dBm	36 dBm in PtMP and no limit in the Gain in PtP	30 dBm

In order to address the challenge of affordable access to Internet in Kenya and to maximise the potential of WiFi technologies to deliver access to underserved regions, we recommend that administrative and financial barriers to the implementation of WiFi broadband solutions be reduced as far as possible. We recommend the establishment of an industry association which can assist in technical capacity-building, awareness raising, conflict resolution, and standards conformance. This would be in line with other countries cited where wireless service providers using license-exempt spectrum are thriving and delivering affordable access in rural areas.

3.6 Capacity Building

We also recommend that CA develops a capacity building program focused on Community Networks on responsible use of Spectrum. The training programmes can be offered online or at the regional communication authority offices

4.0 Brief about the submitting organisations

Africa Higher Education Research Institute - AHERI

Africa Higher Education Research Institute (AHERI) is a not for profit organization that started as a project under Community Initiative Support Services (CISS). AHERI hosts annual conferences that seek to promote research in higher education and promote use of the results in decision making process at institutional and systemic level. Detailed information can be found on our website at www.aheri.org. Community Initiative Support Services on the other hand is a non-profit engaged in community development focusing on food security, environmental management, economic empowerment and preventive health for the last 30 years. The organization works with women and Youth groups in 3 counties in Kenya (Kisumu County, Homabay County and Siaya County. Community Initiative Support Services has 3 Community Centres in Kisumu (Head Office), Akala (Innovation Centre) and Siaya (Demonstration Farm and refinery). Community Initiative Support Services also has offices in Homabay (Kabondo), Kisumu City, Seme (Kisumu County), Akala Siaya county and Ngiya (Siaya County) . More information on the organization can be found in the organization's website www.cisskisumu.org. Africa Higher Education Research Institute www.aheri.org has been implementing the Digital Villages and Community Networks project with the support of the Basic Internet Foundation and Internet Society since 2019. The project <https://www.facebook.com/AheriCommunityNetworks> has impacted more than 1000 households largely composed of youth women and girls across three counties in Western Kenya

Tunapanda Institute

Tunapanda Institute is a non-profit organization whose mission is to create an environment for lifelong learning, earning and problem-solving to create sustainable solutions for improved livelihoods and self-expression. The organization runs several programs and initiatives aimed at fulfilling its mission such as intensive three-month technology, design, and business training courses targeting youth from economically disadvantaged environments in East Africa such as Kibera (an informal settlement in Nairobi). These programs enable youth to become digital professionals, and to gain skills and mindsets to empower other youth in their communities through peer-to-peer learning. Tunapanda is also an advocate for affordable internet access and champions TunapandaNET, a community network that focuses on providing connectivity, digital educational resources and training to community schools and centers.

Internet Society

The Internet Society (ISOC; www.internetsociety.org) was founded in 1992 by a number of people involved with the Internet Engineering Task Force (IETF). The Internet Society is a global cause-driven organization governed by a diverse Board of Trustees. The Internet Society's work aligns with its goals for the Internet to be open, globally-connected, secure, and trustworthy. The Internet Society supports and promotes the development of the Internet as a global technical infrastructure, a resource to enrich people's lives, and a force for good in society and, as such, seeks collaboration with all who share these goals.