Comments in Response to the Public Consultation on the Draft Dynamic Spectrum Access Framework for Authorisation of the Use of Tv White Spaces

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RE: Public Consultation on the Draft Dynamic Spectrum Access Framework for Authorisation of the Use of Tv White Spaces

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Introduction

On the 3rd March 2020, the Communications Authority of Kenya (CA) invited all stakeholders to submit their comments with respect to the Draft Dynamic Spectrum Access Framework for Authorisation of the Use of TV White Spaces. The following organizations are herewith submitting their comments with the common objective to help create a quality and affordable telecommunications service to all Kenyans, especially those in rural and underserved areas :

- Kenya ICT Action Network (KICTANet)
- Tunapanda
- Association for Progressive Communications, apc.org
- Internet Society. www.internetsociety.org
- Rhizomatica

Context

Information and Communications Technology (ICT) is a key enabler in achieving Kenya's vision 2030 which aims to transform the country into a globally competitive middle-income knowledge-based economy. Last year the government launched the

"Big Four" agenda which has four priority areas drawn from vision 2030. These are food security, affordable housing, universal healthcare, and manufacturing.[1] In the last decade, Kenya has experienced growth in the ICT sector with the government investing in critical infrastructure such as fiber optic cables which connect Kenya to international fiber networks. In addition, the government also connected each county to the national fiber optic backbone.[2] Even with the progress, 48% of Kenyans especially those living in rural areas still remain unconnected to mobile networks.[3] Fixed-line and wired networks are beyond reach for most Kenyans, this is indicated in the latest released statistics for the last quarter of 2019 in which the total broadband subscriptions from all Internet Service Providers (ISPs) combined was less than half a million[4].

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 of 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.

We welcome this opportunity to contribute to the work of the CA in such an important process.

Evolution of TVWS Regulation

With the exception of early adopters including the United States, the United Kingdom, and Singapore, the adoption of TVWS regulation has been slow. In Sub-Saharan Africa, there has been a willingness to engage in TVWS pilots and trials with Botswana, Ghana, Kenya, Malawi, Namibia, Nigeria, South Africa, and Tanzania all engaging in TVWS pilots since 2013[5]. Yet the formal regulations supporting the use of TVWS technology have been slow to emerge on the continent.

The tide is finally turning. South Africa[6] enacted TVWS regulations in 2018. Since then Mozambique[7], Ghana[8], Nigeria[9], and Uganda[10] have all announced

[1] https://vision2030.go.ke/
[2] http://icta.go.ke/national-ict-masterplan/
[3] https://www.gsma.com/newsroom/press-release/reform-policy-to-boost-kenyas-mobile-connectivity-says-gsma/
[4] https://ca.go.ke/document/sector-statistics-report-q2-2019-2020/
[5] Dynamic Spectrum Alliances - Pilots. http://dynamicspectrumalliance.org/pilots/#africa
[6] Regulations on the Use of Television White Spaces. ICASA. March 2018. https://www.icasa.org.za/uploads/files/Regulations-on-the-use-of-Television-White-Spaces-2018.pdf
[7] Norma vai regular reutilização do espectro radioeléctrico. 7 August 2019. https://www.arecom.gov.mz/index.php/sala-de-imprensa/noticias/325-norma-vai-regular-reutilizacao-do-espectro-radioelectrico
[8] Guidelines For The Operation Of Data Services Using Television White Spaces(tvws) In Ghana. May 2019. https://www.nca.org.gh/assets/Uploads/Guidelines-for-TVWS-Data-Services.pdf
[9] Draft Guidelines on the use of Television White Space (TVWS) in Nigeria. Nigeria Communications Commission. 31 December 2019

consultations and/or draft regulations for TVWS. It is encouraging to see Kenya also leading this change.

There has never been a better time to implement TVWS regulation as the price of TVWS technology continues to drop even as the performance of the technology improves. In addition, the completion of the Digital Switchover in many countries has resulted in even more UHF spectrum being available for use in rural areas.

Key Recommendations / Comments

General Comments

We welcome the fact that CA is moving forward with TVWS regulation and further that dynamic spectrum management may be considered for other bands in the future. Dynamic spectrum management has the potential to directly address the challenge of underutilised spectrum in rural areas.

We would like to urge CA to move forward with all reasonable haste in implementing TVWS regulation. The current pandemic has brought home to the world how important affordable access to communication when people's movements are restricted. TVWS technology can enable network operators to offer innovative and affordable connectivity in underserved regions.

Section 3.1 (page 11) regarding communication with geolocation database

The draft framework states that the "*The white space devices shall not use TVWS channels to communicate with a geolocation database. The database provider shall have adequate security features to restrict access to the geolocation database and the available channels.*" This means each TVWS device would have to have a SIM card and data and a mobile connection to communicate with the database. We suggest this would be very limiting for the operation of TVWS in remote areas and limit the application of TVWS technology in regions where it might have the biggest impact.

https://ncc.gov.ng/media-centre/public-notices/760-public-notice-draft-guidelines-on-the-use-of-television-white-space-tvws-in-nigeria

[10] Standard for TV White Spaces Access And Use In Uganda. November 2019 https://www.ucc.co.ug/wp-content/uploads/2017/09/UCC-TVWS-standards.pdf

Section 3.11. Adjustments to Maximum Transmit Power
We support having the EIRP power levels set by the geo-location database allowing for higher output power in regions where television transmissions are sparse or non-existent.

Section 4.10. The draft regulations state that type approval will not be granted to manually configurable TVWS devices, that the only devices that will be approved are ones with GPS capability and configuration via database. We propose that this requirement be limited to base stations and not client devices in order to keep the cost of TVWS as low as possible.

Section 5. Requirements for Devices Operating in TV White Spaces
We fully support a geo-location database approach to the management of the TVWS ecosystem, however,experience in South Africa and Canada has shown that geo-location database implementation can be a complex process with issues of database certification, cost recovery mechanisms, and operational responsibilities to be addressed. As such, we encourage CA to allow for temporary manual assignment of TVWS spectrum during the period in which the geo-location database is operationalised.
We believe that in rural Kenya there is sufficient unused spectrum that temporary assignments could be made manually with very low risk during the period in which the geo-location database is being operationalised. This is an approach that has been used successfully by the Colombian regulator. In the context of the current pandemic, there is an urgency to making communication infrastructure affordably available to the unserved. Network operators only await permission to be able to use TVWS technologies.

Section 6.1. Approach to Charging and Cost Recovery (page 31)

The Authority in consultation with relevant stakeholders shall determine the appropriate fees for spectrum utilisation by TVWS applications.

The document considers the use of TVWS for rural underserved areas, but the charging only considers “cost recovery” and not “social purpose licensing”. We would like to suggest adding a recommendation, point (g)

- (g) Social use: The Authority shall provide a cost-exempt license of TVWS spectrum, upon consideration of the non-for-profit status qualifications of the operator.

Brief about the submitting organisations

Kenya ICT Action Network (KICTANet)

KICTANet is a multi-stakeholder Think Tank for people and institutions interested and involved in ICT policy and regulation. It was formed as part of a World Summit of Information Society (WSIS) project under catalyzing Access to ICTs in Africa (CATIA) initiative in 2003. The Think Tank is a catalyst for reform in the ICT sector, and its work is guided by four pillars of Policy Advocacy, Capacity Building, Research, and Stakeholder Engagement.

Objectives of the Network are:

1. To improve the effectiveness of ICT policy and regulatory processes by expanding support for ICT initiatives, providing support for member's actions and audience for member's ideas.
2. Facilitate effective dissemination channels regarding ICT policy and regulatory processes to keep everyone updated on what is going on in the sector.
3. Provide access to varied and multiple resources and skills.
4. Link organisations and networks working at the community level to those specialised and working in the broader political space.

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.

Association for Progressive Communications

Founded in 1990, APC is an international network and non-profit organization that wants everyone to have access to a free and open internet to improve our lives and create a more just world. This goal is underpinned by shared values of community participation, cultural diversity, multidisciplinary research, and sustainable

development. APC's work in Africa: Through our Africa Regional Program, APC has brought its vision and values into its ICT policy advocacy work on the continent. APC supports and collaborates with its members and partners in coordinating and contributing to the development of ICT policy, legislation and regulation in African states, as well as facilitating the development of a gender-balanced, intergenerational multisectoral and human rights-oriented pipeline of African internet governance role players through its flagship African School on Internet Governance (AfriSIG). APC has also played a central role in the development of the internet governance standards established in the African Declaration, as well as high-impact advocacy initiatives towards the Declaration's formal endorsement and instrumentalization by African human rights and governance mechanisms.

Rhizomatica

Rhizomatica is a civil society organization whose mission is to increase access to and participation in telecommunications by supporting communities to build and maintain self-governed and owned communication infrastructure. Rhizomatica's approach combines regulatory activism and reform, critical engagement with technology and the development of decentralized telecommunications infrastructure, and direct community involvement and participation.

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.