

Contribution to Ethiopian Telecommunications Sector Stakeholder Consultation No. 001-2019

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Introduction

In Public Notice “Ethiopian Telecommunications Sector Stakeholder Consultation No. 001-2019 Notice 1003” the Ethiopian Communications Authority (ECA) invited interested stakeholders to submit their comments on the issues raised in this Public Notice. The following organizations are herewith submitting their comments with the common objective to help create a quality and affordable telecommunications service to all Ethiopians:

1. Alliance for Affordable Internet - www.a4ai.org
2. Association for Progressive Communication (APC) – www.apc.org
3. Internet Society – www.isoc.org
4. Network for Digital rights for Ethiopia - ndrethiopia.org
5. Bahir Dar Information and Communication Technology for Development (ICT4D) Research Center

We would like to thank the ECA for creating this consultation process shortly after its establishment. We also admire the Ethiopian Government’s decision to liberalize the telecom market to contribute for its strategy to enhance socio-economic development in the country. We believe that a competitive telecom market will help bring telecommunication services to more citizens at an affordable price. We also hope that our contribution will help insure that no-one is left behind in line with the Ethiopian government’s willingness to create a balanced development.

We believe that the opening up of the telecommunications market will create competition as long as there is a strong regulatory environment that upholds competition rules. The formation of a strong ECA can help create a competitive telecom sector and accelerate innovations in the telecom sector in Ethiopia, which in turn will contribute to sustainable socio-economic development. But it is important that every Ethiopian, whether urban or rural, sees the benefits of the change.

A commitment to robust and genuine market competition among the various licensees is essential in order to ensure affordable access to all. This includes the adoption of the international affordability standard of ‘1 for 2’ – that the price of 1GB of mobile broadband should not exceed 2% of the average monthly income, because of the essential role that affordable access plays in growing internet use.¹ An open market and level regulatory playing field between operators offers long-term economic advantages. Users in more competitive markets pay lower prices for internet access than those living in less competitive markets.² In addition, where data remains unaffordable, it is one of the most frequently cited barriers to greater internet use.³ As Ethiopia looks to grow its digital economy and expand internet

¹ <https://a4ai.org/affordable-internet-is-1-for-2>

² https://a4ai.org/affordability-report/report/2019/#linear_regression_results_on_the_market_competition_influences_over_price_of_1gb_in_a4ai_study_countries

³ <https://www.gsma.com/mobilefordevelopment/resources/the-state-of-mobile-internet-connectivity-report-2019/>

access, it must prioritise the affordability of mobile internet as a policy objective for overall economic development.

The ECA can prioritise this long-term growth through greater broadband penetration with fair market rules, inclusive policy making processes, and a dynamic competition policy. Each additional 10% of the national population brought online through mobile broadband leads to an estimated 2.5% growth in the national GDP.⁴ Through this, and with the progressive application of each of these three steps as the ECA develops the broadband market, the ECA can develop trust among all stakeholders and make the more politically difficult decisions that may be necessary to preserve market competition at later stages.⁵

The contributing organisations have decades of experience in the area of ICT policy and regulation and in providing communication services for underserved areas and communities in particular. As we have detailed in our contribution, the approach of solely relying on large commercial operators is unlikely to realise the government's goal of providing affordable communication to all, especially in rural and remote areas.

We believe there is an opportunity for Ethiopia to learn from research done in the area as well as from the experience of other countries to create a telecommunications environment that is inclusive and forward looking. An advantage of being a relative latecomer to liberalisation of the sector is the opportunity to learn from the mistakes of others and capitalise on documented good practices in order not only to recover the lost opportunities but also to create an advanced telecommunications environment open for innovation.

Our contribution will focus on the core issues that we believe are important to create an inclusive and affordable sector that will benefit everyone, including those living in rural and sparsely populated regions. In particular, we focus on opening-up the market not only to large commercial operators but also to smaller regional/local operators and community networks that fill the gap that large operators leave behind. This will necessitate the development of adapted licensing regimes and making resources such as spectrum accessible for these operators. We will use experiences from around the world to support our proposal.

Below are our key recommendations. The rationales behind those recommendations are detailed in the rest of the document.

Key recommendations

- We recommend that ECA adopts the international affordability standard of '1 for 2' – that the price of 1GB of mobile broadband should not exceed 2% of the average monthly income.

⁴ International Telecommunication Union, *Economic Contribution of Broadband, Digitization and ICT Regulation: Econometric Modelling for Africa*, 2019.

⁵ https://a4ai.org/affordability-report/report/2019/#figure_5_steps_for_regulatory_support_for_market_competition

- We encourage the ECA to issue class licenses for both active and passive infrastructure providers and to expedite the class license regulations in order to create from the onset the competitive market it is striving for. Equally important is the need to reduce the administrative and regulatory burden for small-scale operators who do not have the same resources as national operators to fulfill extensive administrative and financial requirements.
- We recommend a licensing framework that is open to community networks and other alternative and innovative networks that can complement the commercial operators in providing access to underserved areas.
- We recommend that ECA considers license-exemptions for small organisations that provide communication services on a non-profit basis, for reseller of service obtained from an-other licensee and for a person who provides an ancillary service.
- In terms of the operator requirements to fulfill coverage obligations, we encourage the ECA to adopt public and open technical standards for coverage maps and to proactively adopt transparency policies with regard to the disposition of telecommunications infrastructure and quality of service monitoring data.
- We encourage the ECA to clarify some definitions and obligations. For example, the definition of ‘very high-speed broadband’ must be more specific than currently set out in the consultation document.
- As evidence suggests that the use of unused spectrum by small class licenses as well as licence exempt operators improve national telecom services coverage, we recommend that they are enabled to use the spectrum in areas where national operators do not have a clear plan to use it in order to complement connectivity efforts
- In order to increase competition, we recommend that spectrum available for microwave links is made available to class licensees and license-exempt operators following the same fair and non-discriminatory principles as for Full licensees.
- We recommend that, in calculating spectrum usage fee, to add granularity to the calculation, with parameters such as the size of the area being covered, and whether the area is urban or rural or whether the spectrum is shared⁶. This allows to make spectrum costs more manageable for spectrum used in a local network.
- We recommend that the information collected from operators on infrastructure available for infrastructure sharing is made openly available to the public to ensure transparency and trust.
- The ECA should consider the establishment of an Open Access Infrastructure sharing agreement among all operators and also equally promote sharing of infrastructure between the ICT sector and other sectors such as utilities, transport, energy/power, roads etc. and encourage a “dig once” policy to reduce multiple laying of cables and duplication of infrastructure.
- We believe that the criteria for granting access to land should be fair and transparent not just for telecoms operators but also for other ISPs and other operators in the broadband ecosystem space.
- The Universal Service Fund should focus on access and support for communities

⁶ <https://www.internetsociety.org/resources/doc/2019/innovations-in-spectrum-management/>

typically not prioritised for profitability such as rural communities and women. It should also consider building digital skills, supporting local content creation, and other activities relevant to supporting a vibrant, local digital ecosystem.

Section 4.1 - 4.10: Licensing Framework

There is an increasing body of evidence from international organizations, including the GSMA itself, showing that the rate at which mobile networks are extending coverage is slowing down and even plateauing⁷. The marked decline in the year to year growth of coverage extension indicates these strategies are not sufficient for those living in sparsely populated and more difficult to reach areas. GSMA, estimates that in low and middle income countries, people in rural areas were 40% less likely to use mobile internet than those in rural areas. In Sub-Saharan Africa, this gap is as high as 58%⁸.

Lack of coverage is just one of the ways current network deployment models have (unintentionally) excluded those living in unprofitable areas. Unarguably, affordability of mobile broadband is one of the main barriers to meaningful access. The Broadband Commission has set a target for affordability at 2% of monthly gross national income per capita for an entry-level broadband services⁹. Mobile internet in Ethiopia is currently more than double that at 5.25% of monthly average income.¹⁰ For the poorest 20% this rises to nearly 16% of their income: this is far too expensive for internet use to be widespread and foundational to an economic transformation.

Inequality in Internet access also takes place at the gender level, with women having fewer opportunities to use the Internet. This difference is referred to as the gender gap. According to the GSMA: in Sub-Saharan Africa, 58% of women are less likely to use mobile internet than men¹¹. The reasons behind the affordability and the gender gap are further compounded by other barriers, such as the lack of available content, limited literacy (both basic and digital) and the low ownership rates of devices with Internet access capabilities prevalent in the unconnected¹². The cause of these barriers have resulted in what is known as "usage gap"¹³. That is, those within range of coverage of an Internet network who are not Internet users.

In this context, the Broadband Commission, in its report *"Connecting Africa Through Broadband: A strategy for doubling connectivity by 2021 and reaching universal access by 2030"* assumes that *"Connecting the last 15-20 percent of the population in rural and remote*

⁷ ITU press release: "Global internet growth stalls and focus shifts to 'meaningful universal connectivity' to drive global development" 22nd September 2019, <https://www.itu.int/en/mediacentre/Pages/2019-PR16.aspx>

⁸ <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/07/GSMA-State-of-Mobile-Internet-Connectivity-Report-2019.pdf>

⁹ <https://broadbandcommission.org/Documents/publications/wef2018.pdf>

¹⁰ https://a4ai.org/extra/mobile_broadband_pricing_gnicm-2019Q2

¹¹ GSMA State of Mobile Connectivity Report 2019 <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/07/GSMA-State-of-Mobile-Internet-Connectivity-Report-2019.pdf>

¹² https://broadbandcommission.org/Documents/ITU_discussion-paper_Davos2017.pdf

¹³ GSMA, The State of Mobile Internet Connectivity 2019: <https://www.gsma.com/mobilefordevelopment/resources/the-state-of-mobile-internet-connectivity-report-2019/>

areas, depending on the population density level, requires innovative business models and alternative technologies, such as satellite and Wi-Fi based technical solutions”¹⁴.

The Report of the UN Secretary-General’s High-level Panel on Digital Cooperation, among the four factors to consider to promote inclusivity, it refers to more concrete solutions and considers that to *“creating the foundation of universal, affordable access to electricity and the internet will often require innovative approaches, such as community groups operating rural networks, or incentives such as public sector support.”¹⁵*

This is consistent with earlier documents such as the Recommendation 19 ITU-D: Telecommunications for rural and remote areas - The World Telecommunication Development Conference (Dubai, 2014)¹⁶ that includes the following recommendation:

“that it is important to consider small and non-profit community operators, through appropriate regulatory measures that allow them to access basic infrastructure on fair terms, in order to provide broadband connectivity to users in rural and remote areas, taking advantage of technological advances;”

Along these lines, the Broadband Commission also mentions community networks in 3 of its 8 steps within its Roadmap. Of particular relevance is, the text within “Objective 1 Ensure that the commercial broadband ICT market is open and structurally prepared for competitive” which within its “Immediate/Short-Term Actions” recommends *“Adopt open wholesale and retail telecommunications market entry policies, especially competitive and unified licensing regimes [...]. Such policies should also accommodate community and nonprofit focused network operators who offer services in underserved areas”*.

Similarly, in a recent Declaration from the Specialized Technical Committee on Communications and ICT, African member states have directed the African Union to:

“PROMOTE the formulation of strategy and pilot projects for Unlocking Access to Basic Infrastructure and Services for Rural and Remote Areas including Indigenous Community Networks, and develop guidelines on legislation on deployment of technologies and ICT applications, to accelerate infrastructure role out in collaboration with ATU and other regional institutions; ”

¹⁴ Broadband Commission, “Connecting Africa Through Broadband: A strategy for doubling connectivity by 2021 and reaching universal access by 2030” October 2019. Available at: https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf

¹⁵ Report of the UN Secretary-General’s High-level Panel on Digital Cooperation. Available at: <https://www.un.org/en/pdfs/DigitalCooperation-report-for%20web.pdf>

¹⁶ https://www.itu.int/en/ITU-D/Conferences/WTDC/WTDC17/Documents/WTDC17_final_report_en.pdf

Different scales and types of operators are needed

In this regard, we commend ECA's plans to issue class licenses for both active and passive infrastructure providers to complement the service provided by Full license awardees. In South Africa, a similar framework exists¹⁷:

- Electronic Communications Service (ECS) licences allow the holder to provide licensed services (such as the provision of voice and data services) to customers over its own or over another licensee's network.
- Electronic Communications Network Service (ECNS) licences allow the holder to establish and operate a network. ECNS licensees are also able to enter into commercial arrangements with other ECNS licensees in order for the former to benefit from the use of the network owned and operated by the latter.

At the same time, both ECS and ECNS can be either "Individual" or "Class". Individual ECNS (IECNS) are national in scope and Class (CECNS) are regional, e.g. District Municipality. This framework has enabled the creation of a highly competitive environment with more than 500 small operators. This is not only good to bring affordable connectivity everywhere in the country but also to create investment and job opportunities to Ethiopians who cannot afford to compete for the Full licenses.

More recently the Uganda Competition Commission, which called for feedback to review their policy and regulatory framework in April 2019, has recently published their new licensing framework containing a similar approach to the South African one¹⁸. Note that among the goals of the public consultation, there is one very similar to the goals of this present one: *"to ease market entry and increase competition and consumer choice in the telecommunication sector"*¹⁹.

In other sectors of the economy, the government has recognised the critical role that Small Medium and Micro Enterprises (SMMEs) play in the economic growth²⁰. Historically, the telecom sector has required massive investment in the entire telecommunications supply chain in order to deliver services. However, the growth of high-capacity national fibre networks and the dramatic drop in costs of wireless technologies has opened opportunities for small service providers to provide services in regions and sectors determined uneconomic by large scale operators. Establishing affordable access to backhaul fibre optic infrastructure as well as opportunities for access to spectrum for small-scale operators can enable both competition as well as access in underserved regions.

Hence, we encourage the ECA to expedite the class license regulations in order to create from the onset the competitive market it is striving for. Equally important is the need to reduce the administrative and regulatory burden for small-scale operators who do not have the same resources as national operators to fulfill extensive administrative and financial requirements.

¹⁷ RSA. Electronic Communications Act. South African Government Gazette, 490(28743), 2006.

¹⁸ <https://uccinfo.blog/2019/11/04/ucc-sets-new-framework-for-telecom-licensing>

¹⁹ <https://www.ucc.co.ug/consultation-paper-on-the-proposed-review-of-the-licensing-framework-for-the-telecommunications-sector-in-uganda/>

²⁰ Tsegay Hagos, 22 April 2018, The Ethiopian Herald (Addis Ababa) Ethiopia: SMEs - Driving Force for Realizing Renaissance. <https://allafrica.com/stories/201804230795.html>

This is important so that Ethiopian businesses benefit from the liberalisation. Brazil has recently addressed this issue by creating a lower regulatory burden for any operator with less than 5% of the market²¹.

License-exemptions in licensing frameworks worldwide

Besides the Full Licenses and Class licenses, a robust licensing framework should consider license-exemptions as well. In South Africa, and Namibia, there are exemptions for both class licenses: active, referred as Electronic Communications Service (ECS) License and passive, referred as Electronic Communications Network Service (ECNS) License²².

One can be exempted from holding an ECS license on the basis of:

- A person or company who provides ECS on a non-profit basis.
- A reseller who provides ECS duly obtained from another licensee.
- A person who provides an ancillary service: single or bundle of retail services which do not amount to an ECS and includes necessary but incidental elements of ECS, where such ECS elements do not constitute the major purpose, utility or value of the service, including but not limited to, tracking, alarm and similar services.

One can be exempted from an ECNS license based on:

- A Small Electronic Communications Network (SECN) is a network that lies within a limited area, and is used by a specific user group (must use frequencies which are licence exempt).
- A Private Electronic Communications Network (PECN) is a network used primarily for providing electronic communications for the owner's own use. Where a PECN resells, leases or otherwise makes available any spare capacity on its network to a third party, such resale, lease or other provisioning of spare capacity is subject to additional regulations.

In countries such as Argentina, there are specific license exemptions for Community Networks²³.

In the realm of food security and poverty reduction, the government has placed large emphasis on promoting co-operatives as one of the main organizational vehicles of transformation²⁴. Cooperatives around the world including in Ethiopia have proven to be one of an effective organisational model for rural development. While cooperatives have

²¹ Brazil - Anatel defines concept of small supplier to reduce regulatory burden (in Portuguese)
<https://digitalpolicy.com/brasil-anatel-define-concepto-de-pequeno-proveedor-para-disminuir-carga-regulatoria/>

²² RSA. Regulations Regarding License Exempt Electronic Communication Networks. South African Government Gazette, (31289), 2008. Available at: https://www.ellipsis.co.za/wp-content/uploads/2008/07/licence_exemption_regulations_2008.pdf

²³ <https://www.enacom.gob.ar/multimedia/normativas/2018/res4958.pdf>

²⁴ Delelegne A. Tefera, Jos Bijman, Maja A. Slingerland, 02 August 2016. Journal of International Development. Agricultural Co-Operatives in Ethiopia: Evolution, Functions and Impact.
<https://onlinelibrary.wiley.com/doi/full/10.1002/jid.3240>

traditionally operated in the agricultural and finance sectors, a growing movement of rural telecommunication/broadband cooperatives can be seen in Mexico²⁵, South Africa²⁶, England²⁷, Wales²⁸, Spain²⁹, the United States³⁰, and elsewhere. Establishing a licensing framework that encourages the formation of telecommunications cooperatives through license-exemptions and lowered administrative burdens could enable the growth of affordable access solutions. Particularly in areas that are on the low priority list for operators whose shareholders are demanding a maximum rate of return. This includes fair access to spectrum, as detailed below.

License coverage and quality of service conditions

In terms of the operator requirements to fulfill coverage obligations, we encourage the ECA to adopt public and open technical standards for coverage maps, such as those adopted by the Swedish communication regulator in 2014³¹. Common technical definitions for coverage will ensure that operator claims of coverage can be held to a common standard.

In addition, we encourage the ECA to proactively adopt transparency policies with regard to the disposition of telecommunications infrastructure. During the period in which mobile network growth was accelerating, accurate measurement about their growth was useful but not essential as there was a general assumption that it was simply a matter of time before they connected everyone. Now that we know this is unlikely to happen, more detailed and more public information on the extent of telecommunications infrastructure is becoming essential in order to better understand access gaps and opportunities and how they can best be addressed. Transparency should apply to infrastructure ranging from fibre networks to tower locations, and licensed radio equipment. It should also extend to spectrum licenses and assignments and ideally to a standard rate card for backhaul costs.

The ECA should also consider the role that its quality of service monitoring data can play in supporting a competitive telecommunications market. Various regulators, such as in Peru, have made the performance metrics of the various licensees publicly available on a per-region basis.³² This enables consumers to competitively select the best offer for them, inclusive of

²⁵ Where Cellular Networks Don't Exist, People Are Building Their Own. Wired. 14 January 2015. <https://www.wired.com/2015/01/diy-cellular-phone-networks-mexico/>

²⁶ The Village That Built Its Own WiFi Network. BBC. 28 March 2019. <https://www.bbc.com/news/av/world-africa-47723967/internet-access-in-africa-are-mesh-networks-the-future>

²⁷ This Rural Community Is Building Its Own Gigabit Internet Network. Vice Magazine. 7 May 2014 https://www.vice.com/en_us/article/5393a5/this-rural-community-is-building-its-own-gigabit-fibre-network

²⁸ Up to speed: the Welsh village that installed its own fast broadband. The Guardian. 15 Nov 2019 <https://www.theguardian.com/technology/2019/nov/15/up-to-speed-the-welsh-village-that-installed-its-own-fast-broadband>

²⁹ How Catalan villages built independent broadband networks. 26 Sept 2017 Financial Times. <https://www.ft.com/content/b15e9552-722a-11e7-93ff-99f383b09ff9>

³⁰ Rural Cooperatives Deliver High-Speed Internet for Less. IEEE Spectrum. 24 May 2019. <https://spectrum.ieee.org/telecom/internet/rural-cooperatives-deliver-highspeed-internet-for-less>

³¹ Agreement on marketing of coverage for mobile services. (in Swedish) <https://publikationer.konsumentverket.se/produkter-och-tjanster/telekomtjanster/bo-2014-02-overenskommelse-om-marknadsforing-av-tackning-for-mob#>

³² <https://www.osiptel.gob.pe/noticia/np-osiptel-ranking-districtos-calidad-internet>

network coverage and service affordability, without the need for *ex ante* interventions by the ECA.

As the ECA moves forward with its licensing terms, it is essential that clear definitions and obligations are set. For example, the definition of ‘very high-speed broadband’ must be more specific than currently set out in the consultation document, and more information must detail how these standards apply to each licensee, especially as the incumbent operator will enter the market with a substantial starting advantage in reaching its coverage obligations.

Finally, both coverage obligations and quality of service standards create space for the ECA to use non-punitive powers to encourage further investment from the licensees. Regulators have used this power to waive licensing fees with clear expectations that the financial savings to the licensee will be diverted to expanding access with investments in network rollout in rural areas and increasing the quality of service through reduced latency.³³ This expands the influential power that the ECA will have in supporting a positive regulatory environment that provides affordable, high-quality internet access to the widest number of Ethiopians.

Section 4.14 - 4.15: Access to Spectrum

Spectrum for International Mobile Telephony

While demand for spectrum for International Mobile Telephony (IMT) often exceeds the pace at which regulators are able to make it available in urban areas, large amounts of licensed spectrum lies unused in sparsely-populated, economically poor regions. For example, Figure 1 shows in purple circles the area in Nigeria where LTE networks from GSM operators are providing coverage and the people covered by them, using population coverage density from the Earth Institute³⁴. As can be seen, the total coverage of the land area and populations in the LTE signal footprint is still relatively small. For illustration, the blue circle with the pop-up dialogue within the image, which has a radius of 10 km, contains nearly 50,000 people living where none of the LTE operators in the country are using their spectrum. Similar situations occur in the other 7 countries where coverage provided by GSM has been made available.

This suggests that there is an opportunity for innovative approaches to reuse this spectrum to provide affordable access for all. Innovative approaches who are, in turn, recommended by the Broadband Commission, which recommends using “*liberal, dynamic spectrum policies*”³⁵, as well as the ITU-D which recognizes “*that it is also important that*

³³ <https://a4ai.org/research/improving-mobile-broadband-quality-of-service-in-low-and-middle-income-countries/>

³⁴ Center for International Earth Science Information Network (CIESIN). Earth Institute. <https://ciesin.columbia.edu/data/hrsl/>

³⁵ Broadband Commission, “Connecting Africa Through Broadband: A strategy for doubling connectivity by 2021 and reaching universal access by 2030” October 2019. Available at: https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf

administrations, in their radio-spectrum planning and licensing activities, consider mechanisms to facilitate the deployment of broadband services in rural and remote areas by small and non-profit community operators”³⁶.

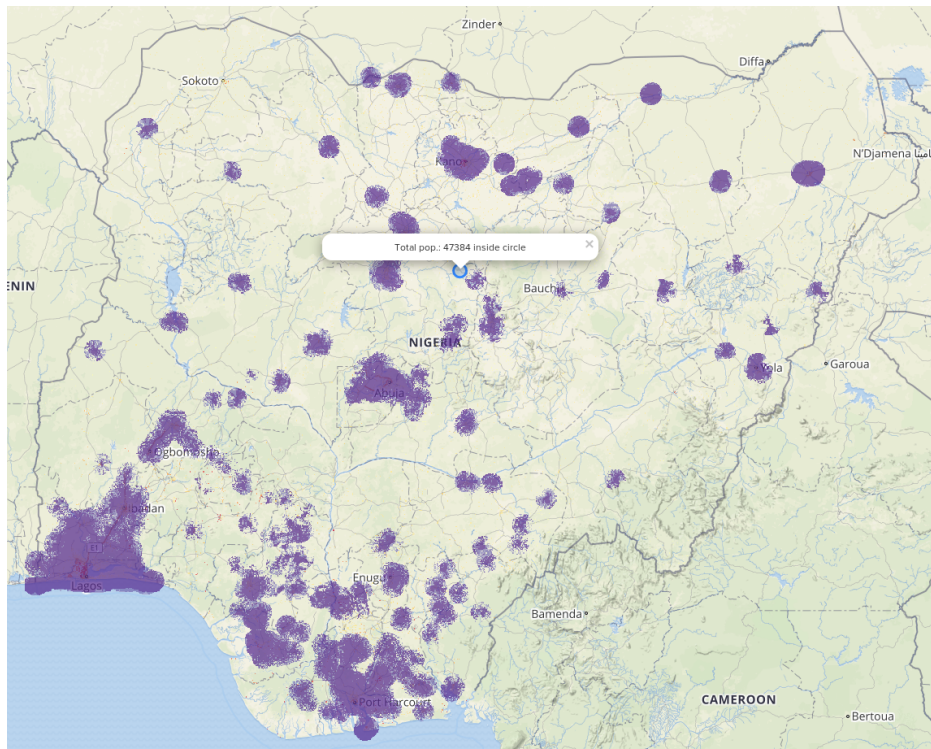


Figure 1. LTE coverage in Nigeria from all GSMA members³⁷.

To address the under-use of assigned spectrum in rural areas a strategy will likely be needed to share IMT spectrum that has already been assigned. In many countries, as is likely to be the case in Ethiopia in any of the proposal for spectrum allocation included in Annex B (that include 4 blocks for 3 Full Licensees), there are still blocks of spectrum in the bands used for GSM, 3G and LTE which are likely to remain unassigned³⁸. There is evidence that when set-asides for social use of this bands are created, such as the case of Mexico³⁹, small operators and community networks provide affordable mobile services in places unattractive to traditional operators. Therefore, regulators aiming to address digital exclusion may find that an effective approach is to adopt set-asides of small spectrum blocks of GSM and LTE spectrum for those providing affordable connectivity in underserved areas. Similarly, they may consider similar innovations when incorporating the new spectrum bands being assigned for both LTE and 5G into their Radio Frequency Plans. Alternatively, an effective strategy may be to allocate this new spectrum to smaller regions than nationally, or to allocate it dynamically on a secondary-use shared basis to prevent it being unused where it is needed the most. Countries such as the United Kingdom are already pioneering such an approach⁴⁰.

³⁶ https://www.itu.int/en/ITU-D/Conferences/WTDC/WTDC17/Documents/WTDC17_final_report_en.pdf

³⁷ GSMA 'Mobile Coverage Maps' <https://www.mobilecoveragemaps.com>

³⁸ <https://opentelecomdata.org/spectrum-chart/>

³⁹ <http://www.ift.org.mx/industria/espectro-radioel-ectrico/programa-anual-de-uso-y-aprovechamiento/programa-2015>

⁴⁰ https://www.ofcom.org.uk/data/assets/pdf_file/0033/157884/enabling-wireless-innovation-through-local-licensing.pdf

Hence, we respectfully request that the ECA reconsiders the current stance that “*class licenses will not include access to spectrum for public mobile services.*”. As elaborated above, evidence suggests that class licenses as well as licence exempt operators should be enabled to use the spectrum in areas where national operators do not have a clear plan to use it in order to complement connectivity efforts

Spectrum for microwave links

We additionally commend the plans from ECA to “make spectrum available for microwave links” for the new entrants “through a fair and non-discriminatory process and based on the needs of operators”. However, in order to increase competition, we recommend that this process is also made available to class licensees and license-exempt operators following the same fair and non-discriminatory principles.

Around the world, operators and regulators have tended to focus on the 7 GHz and 11 GHz bands⁴¹. The latter, in particular, is attracting considerable interest, driven by a new generation of devices covering this band both from new microwave companies as well as companies historically focused on license-exempt bands. The main innovation in Spectrum management in this band comes from coordinating different services to share the band. Countries like South Africa, the United States and Canada, are allowing the provision of fixed wireless backhaul links in a band traditionally used for fixed satellite services. Coordinating among different services can become a lengthy process, because in many cases it is checked manually. To streamline this process, countries such as the United States have created a type of geo-location database - the Universal Licensing System database. This database can be queried by operators in advance before submitting an application, to make sure they request a band that is empty in a given location.

In some countries, this automated process for applying for this spectrum requires registered engineers to certify coordination. In the countries under study, this is the case in the United States and Argentina, and it is very well established in New Zealand. This positive approach reduces the burden on regulators, who used to be the ones dealing with coordination. However, at the same time, the fees of those certified engineers may become an additional barrier for small operators and community networks to access these bands.

Spectrum fees

The way that spectrum usage fees are calculated varies from country to country. In most cases it is determined by a formula that considers different parameters, such as the size of the spectrum block being assigned, the center frequency (value of that particular spectrum band), and the type of application (point to point - backhaul - vs access). Some countries have come up with very innovative formulas which add granularity to the calculation, with parameters such as the size of the area being covered, and whether the area is urban or rural or whether the spectrum is shared⁴². This allows the very same formula to make spectrum costs more

⁴¹ <https://www.internetsociety.org/resources/doc/2019/innovations-in-spectrum-management/>

⁴² <https://www.internetsociety.org/resources/doc/2019/innovations-in-spectrum-management/>

manageable for spectrum used in a local network, while, when applied to the whole country and to the exclusive use of spectrum used by Full Licensees, would render the same amounts that treasury would like to see collected from the telecommunications industry.

Section 4.21, 4.22, 4.24: Infrastructure Sharing

We are encouraged that the Authority is considering infrastructure sharing for both active as well as passive elements of a network. In general, infrastructure sharing has the potential of accelerating the penetration of broadband services, by reducing costs of investment and operations, lowering barriers to entry and increasing penetration in underserved areas. Although the full-service licenses provide that the licensee may request infrastructure sharing from a telecommunications operator that the Authority has determined has SMP, Article 44(7) of the Proclamation requires an operator that has SMP to share (both passive and active infrastructure) based “*on reasonable request*”. The requirements of what is reasonable should be clearly defined. This is particularly important as Ethiopia migrates from a monopoly of an already established state owned telecoms provider with a network and infrastructure to an open competitive market. Markets that made similar successful migrations have separated the infrastructure component from the service component of the incumbent. An example is BT in the UK. Another example is Telkom in South Africa where a similar approach was recommended for other operators that have SMP as stated in the Competition Commission’s Data Inquiry⁴³. The Authority might want to learn from the approach taken by the UK regulator OFCOM in separating the dominant state owned monopoly BT from Openreach to ensure a fair and competitive playing field in the infrastructure space⁴⁴. Both agreed that Openreach become a legally separate business within BT as a precursor to structural separation in due course. Such dichotomy will require legislation and careful supervision. Operators sharing Infrastructure must ensure fairness in transport as well as coverage in both wholesale and retail markets. We note the ECA will require all licensed operators to communicate dedicated information on infrastructure available for infrastructure sharing . Good practice requires that such data should be open and public to ensure transparency and trust.

The ECA should additionally consider the establishment of an Open Access Infrastructure sharing agreement among all operators. In order to promote faster and more efficient deployment of infrastructure the ECA should equally promote sharing of infrastructure between the ICT sector and other sectors such as utilities, transport, energy/power, roads et, ensuring better collaboration in development and more efficient use of resources. Additionally, it should encourage a “dig once” policy to reduce multiple laying of cables and duplication of infrastructure.

Rights of Way

The full-service licenses specify that the licensee is entitled to ‘*reasonable access*’ to land or building for the construction and maintenance of network facilities as provided for in Article 32 of the Proclamation. The criteria for granting access to land should be fair and transparent

⁴³ <http://www.compcom.co.za/wp-content/uploads/2017/09/Data-Services-Inquiry-Report.pdf>

⁴⁴ <https://researchbriefings.parliament.uk/ResearchBriefing/Summary/CBP-7888>

not just for telecoms operators but also for other ISPs and other operators in the broadband ecosystem space to provide services. The ECA should ensure effective regulation of anti-competitive behavior when necessary and offer access or capacity to all market players in a non-discriminatory way, so as to achieve end user affordability. We recommend that a one stop shop model is considered for all permitting issues regarding Rights Of Way (RoW). The ECA must also ensure it establishes harmonised rates for RoW charges and avoids the challenges of different regional charges imposed on operators as pertains in many African countries where arbitrary rates are in force. Uniformity in RoW charges enables the operator to properly take into consideration reasonable expenses it is likely to incur in network infrastructure deployment and service expansion, and as a basis for carrying broadband services to unconnected areas. We look forward to sharing further insights on this in the next planned Stakeholder Consultation “for the purpose of issuing a Directive pursuant to Article 32 to further clarify the rights and responsibilities of telecommunications operators and lessees and possessors of land in this regard.”

Section 4.25 Universal Service Funds

Universal and affordable access are foundational objectives for an ICT policy that leverages widespread internet access into overall economic transformation and expansion. We are heartened by the Authority’s intention to found a Universal Service Fund and to fund it through contributions from each of the three full licensees, as well as other for profit class licensees.

A government’s investment in public access (in spaces such as community centers, schools, health centers, and community networks and elsewhere), primarily through institutions like Universal Service & Access Funds (USAFs), is one of the most effective policy predictors of the ultimate affordability of mobile broadband among low- and middle-income countries.⁴⁵ The Fund also gives the Ethiopian government a key opportunity to pursue socio-economic objectives around the expansion of broadband connectivity.

The Fund should focus on access and support for communities typically not prioritised for profitability. Rural communities and women represent two key populations that typically have lower incomes but are no less crucial to the digital transformation of the economy.⁴⁶ This point will be especially important for Ethiopia, with one of the world’s largest non-urban population.⁴⁷ To ensure comprehensive coverage across the country, universal access should be considered a fundamental part of the government’s overall strategy along with market competition. In addition, this strategy should not be limited to merely thinking about where to build the network: it can and should consider building digital skills, supporting local content creation, and other activities relevant to supporting a vibrant, local digital ecosystem.

Results with USAFs are not always the expected ones. In Mozambique, the Universal Service Fund financed the construction of 103 base stations for operators in rural, underserved

⁴⁵ https://a4ai.org/affordability-report/report/2018/#universal_&_public_access

⁴⁶ <http://webfoundation.org/docs/2018/03/Using-USAFs-to-Close-the-Gender-Digital-Divide-in-Africa.pdf>

⁴⁷ <https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS>

regions of the country. Yet, according to the regulator, three quarters of these base stations are non-operational due to the fact that the operational costs of maintaining the base stations is close to or some times greater than the revenues generated from them. This is just one example of universal access and service plans, which have taken different forms in different countries, with uneven success rates.⁴⁸ This example, paired with the success stories from other parts of the world,⁴⁹ reaffirms the importance of not just creating a Fund but ensuring it is effectively managed and resourced, within an independent and multi-stakeholder board.

The Universal Service Fund should engage all stakeholders and do so in more than just revenue collection. This can include, for example, the allocation of funds to the community networks and the co-operatives described above. This enables affordable access in areas that lack coverage, while at the same time using a business model that leverages the local economy and builds upon pre-existing efforts.

Additionally, most countries have programs to develop rural enterprises as well as SMEs, but currently these usually do not cover the field of telecommunications, despite the potential impact of rural telecommunication microenterprises and non-profitable organisations. The problem with this situation is exemplified by the following case: Telecomunicaciones Indígenas Comunitarias, an Indigenous (TIC-AC) GSM network in Mexico, was one of the winners of the Prize Innovatis, the National Prize for Social Innovation Research. Apart from this recognition, the different government entities responsible for the prize were supposed to support the winners through its different programs. From the three winners, TIC-AC was the only one that did not receive any support, as none of the programs of the entities covered telecommunications. The USAF in Ethiopia could help fill this gap in this context in engaging with and supporting community networks.

Public access plays a key role in the ICT sector and serves a complementary role to private investment to build a competitive and diverse market that is ultimately more resilient in providing high-quality, affordable access.⁵⁰ At the national level, a number of positive examples of this role exist from across the world.⁵¹ At a human level, public access enables entrepreneurs, including women and from diverse backgrounds, to grow e-commerce businesses.⁵² Further benefits include the adoption of mobile money and expansion of access to formal banking. This means that effective and robust investment into universal access not only helps grow a country's digital economy, it also contributes to a greater capacity for financial regulation and accurate tax collection to support the national budget.

Conclusion

In conclusion, we believe that this is an exciting moment for Ethiopia. We believe that Ethiopia has a major opportunity to learn from others and create a competitive telecommunication

⁴⁸ A. Gillwald, "A closing window of opportunity: Under-serviced area licensing in South Africa," *Information Technologies and International Development*, vol. 2, no. 4, pp. 1–19, 2005.

⁴⁹ <https://a4ai.org/studies/closing-the-digital-divide-with-universal-service-leadership/>

⁵⁰ https://a4ai.org/affordability-report/report/2019/#the_role_of_public_access_in_broadband_markets

⁵¹ <https://a4ai.org/2019publicaccess/>

⁵² <https://a4ai.org/profitting-from-affordability-and-convenience-2019-affordability-report-indonesia-impact-story/>

environment that is open to innovation and that benefits all its people. This is not against its ambition to raise funds from investors that enter the market. It is essential that the ECA continuously supports robust market competition developing a clear, fair, and supportive licensing framework.

The contributing organisations thank ECA for this opportunity and are available to support it in this important endeavor.

About Contributing organisations

- The [Alliance for Affordable Internet](#) (A4AI), which is part of the [Web Foundation](#), is the world's broadest technology sector coalition working to reduce internet costs to enable universal, affordable access for all. The Alliance is composed of 90+ member organisations from across the private, public, and not-for-profit sectors in both developed and developing countries. Working through a consultative, locally-driven and locally-led process in member countries, [including in Africa](#), A4AI works to shape the policies and regulations needed to drive down prices.
- The [Association for Progressive Communications](#) is a global organization that helps people get access to the internet where there is none or it is unaffordable, by supporting grassroots groups to use technology to develop their communities and further their rights, and by making sure that government policies related to information and communication serve the best interests of the general population, especially people living in the global South.
- [Internet Society](#) is a global cause-driven organization governed by a diverse Board of Trustees that is dedicated to ensuring that the Internet stays open, transparent and defined by Internet users.
- [Network for Digital Rights for Ethiopia \(NDRE\)](#) is an open membership network working to advance digital rights in Ethiopia by creating awareness, establishing communities online and offline, influencing policy, laws and regulations that affect digital rights for the socio-economic advancement of Ethiopia.
- [Bahir Dar Information and Communication Technology for Development \(ICT4D\) Research Center](#) is established with a view to promoting and advancing the role of ICT for change in socio-economic landscape of the country. The research center runs five research groups i.e. mobile and wireless communication, Natural language processing, electronic services, Artificial Intelligence and privacy & security.

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