



APC Submission to the ITU Council Working Group on International Internet-related Public Policy Issues (CWG-Internet)

Online Open Consultation on “International Internet-related Public Policy Issues on Harnessing New and Emerging Telecommunications/ICTs for Sustainable Development”

*Association for Progressive Communications (APC)
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1. Introduction

The Association for Progressive Communications (APC) welcomes this opportunity to contribute to the work of the ITU Council Working Group-Internet (CWG-I) Open Consultation on “International Internet-related Public Policy Issues on Harnessing New and Emerging Telecommunications/ICTs for Sustainable Development”.

APC is an international network of civil society organisations founded in 1990 dedicated to empowering and supporting people working for peace, human rights, development and protection of the environment, through the strategic use of information and communication technologies (ICTs). We work to build a world in which all people have easy, equal and affordable access to the creative potential of ICTs to improve their lives and create more democratic and egalitarian societies. APC has been a sector member of the ITU-D and R sectors since 2014.

2. Summary

In an increasingly interconnected world, it is easy to forget that many people, especially those living in the rural areas of low-income economies, lack basic internet connectivity. We encourage the ITU to continue to focus on its core mandate of “connecting all the world’s people”. Within this context, ITU’s expertise could help to explore new and emerging technologies to improve connectivity.

New and emerging technologies and the institutional strategies around them need to be promoted and resourced to address, firstly, digital inclusion, so everyone, and not a privileged few, can benefit from other new emerging technologies, such as virtual reality, the internet of things, augmented reality and blockchain.

Commitments for meaningful internet access and digital inclusion need to be reinforced before the benefits of new and emerging technologies can be fully realised. To achieve this, innovative complementary solutions to existing national mobile broadband strategies, such as community networks, should be prioritised. The social and cultural barriers that contribute to the gender digital divide should be also addressed, as well as access disparities among other people and groups to ensure that “no one is left behind”.

3. Background

The internet is a critical enabler of human rights ranging from freedom of expression, access to information, privacy, and freedom of assembly and peaceful protest. Meaningful access to the internet¹ also has an impact on development and social justice, and is a precondition for the exercise of economic, social and cultural rights, ranging from social and health safety nets, to access to education and information that could increase people’s agency in the world. In an increasingly interconnected world, it is easy to forget that many people, especially women, minorities, and people living in the rural areas of low-income economies, lack this basic connectivity. People facing multiple and intersecting forms of exclusion and discrimination face compounded challenges to meaningful access to the internet.

While there is reason to celebrate the benefits and contributions to human development brought by the internet, only around half of the world’s population has internet access.² Disparities in access are deepening inequalities between people and societies. Moreover, there are diminishing prospects for further rapid uptake of internet services unless new strategies are adopted. In most countries, especially those in which original copper-based telephone infrastructure was not well developed, access to the internet is primarily via more costly mobile wireless networks. Hence, while mobile broadband coverage is reaching saturation in urban areas, connecting more sparsely populated remote areas has proved a challenge for this model, because it is much more expensive and these areas also offer much lower returns on the investment. Compared to competing in much more lucrative urban areas with other mobile network operators’ new 5G offerings, mobile network operators do not prioritise investing in more sparsely populated, remote and poorer urban areas. As a result, these areas are left uncovered, which is now reflected in the global slowdown of growth in internet access. This mirrors the slowdown in growth of coverage from 2G, 3G and 4G networks worldwide.³

¹“Meaningful internet access” should be construed as pervasive, affordable connection (of sufficient quality and speed) to the internet in a manner that enables individuals to benefit from internet use, including to participate in the public sphere, exercise human rights, access and create relevant content, engage with people and information for development and well-being, etc.; irrespective of the means of such access (i.e. whether via a mobile or other device; whether through private ownership of a device or using a public access facility like a library). See: www.intgovforum.org/multilingual/index.php?q=filedepot_download/3406/437

²ITU. (2018, 6 December). New ITU statistics show more than half the world is now using the Internet. *ITU News*. <https://news.itu.int/itu-statistics-leaving-no-one-offline>

³<https://unstats.un.org/sdgs/report/2019/goal-09>

In fact, the digital divide is most evident between urban and rural areas. The GSMA estimated that in low- and middle-income countries, people in rural areas were 40% less likely to use mobile internet than those in urban areas. In Sub-Saharan Africa, this gap is as high as 58%.⁴ Demand-side data from the same region shows that the digital gap is actually increasing.⁵ These trends indicate that, although current connectivity strategies have been relatively successful in connecting half of the world's population – those in relatively densely populated areas with sufficient resources (economic, infrastructural and skills) to make use of the internet – the marked decline in uptake rates indicates that approaches based solely on national mobile networks are not effective for those living in more difficult-to-reach areas.

There are inequalities besides coverage. For instance, in Africa, the percentage of internet users is still only 22.2%, and the data shows that the rate at which the number of internet users is growing is decreasing considerably every year. For a continent such as Africa, where 780 million people are still not connected, a future in which all people enjoy the benefits of affordable connectivity seems an unlikely prospect. Africa is not alone, however, and this pattern is also visible in the slowing growth in internet uptake elsewhere.⁶

Another key factor is affordability. Even where coverage exists, affordability of mobile broadband is one of the main barriers to meaningful access. The Broadband Commission for Digital Development set up by the International Telecommunication Union (ITU) and UNESCO has set a target for affordability at 2% of monthly gross national income per capita for entry-level broadband services⁷ – that is, for a minimum of 500 MB for prepaid handset-based subscriptions,⁸ for example, prepaid mobile broadband. Although many countries meet this target on average,⁹ and there is a positive trend, in that prices are slowly falling,¹⁰ differences across income groups show that this target is very far from being met. In Africa, the poorest 20% of the population – that is, 200 million people – would have to spend on average 20% of their per capita income for 500 MB of data. This number is 10% in Latin America and the Caribbean and 6% in Asia-Pacific countries.¹¹ In the case of the least developed countries (LDCs), the poorest 20%, or 200 million people, require 41% of their monthly disposable income for 1 GB of data.¹² Furthermore, 1 GB of data is a very low bar – it is only sufficient for a couple of hours of educational videos, for example. By contrast, the average household data usage in the United States was 190 GB per month in 2016.¹³

⁴Bahia, K., & Suardi, S. (2019). *The State of Mobile Internet Connectivity 2019*. GSMA. <https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2019/07/GSMA-State-of-Mobile-Internet-Connectivity-Report-2019.pdf>

⁵Gillwald, A., & Mothobi, O. (2019). *After Access 2018: A demand-side view of mobile Internet from 10 African countries*. Research ICT Africa. https://researchictafrica.net/wp/wp-content/uploads/2019/05/2019_After-Access_Africa-Comparative-report.pdf

⁶ITU. (2019, 22 September). Global internet growth stalls and focus shifts to 'meaningful universal connectivity' to drive global development. *ITU*. <https://www.itu.int/en/mediacentre/Pages/2019-PR16.aspx>

⁷Broadband Commission for Digital Development. (2018). *2025 Targets: "Connecting the Other Half"*. <https://broadbandcommission.org/Documents/publications/wef2018.pdf>

⁸<https://www.itu.int/en/ITU-D/Statistics/Pages/definitions/pricemethodology.aspx>

⁹ITU. (2018). *Measuring the Information Society Report 2018 – Volume 1*. <https://www.itu.int/en/ITU-D/Statistics/Documents/publications/misr2018/MISR-2018-Vol-1-E.pdf>

¹⁰Web Foundation. (2019, 1 October). Mobile data prices fall across low and middle income countries. https://webfoundation.org/2019/10/mobile-data-prices-fall-across-low-and-middle-income-countries/?mc_cid=ba1bfdab1d&mc_eid=9b68ffa709

¹¹Numbers calculated using GNI per capita and income distribution by quintile from the World Bank, as well as 500 MB data pricing from ITU database.

¹²Numbers calculated using GNI per capita and income distribution by quintile from the World Bank, as well as 500 MB data pricing from A4AI database.

¹³Engebretson, J. (2016, 26 September). iGR: Average Monthly Broadband Usage is 190 Gigabytes Monthly Per Household. *Telecompetitor*. <https://www.telecompetitor.com/igr-average-monthly-broadband-usage-is-190-gigabytes-monthly-per-household>

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 divide regarding access. The latest data from the ITU suggests that “there are about 250 million fewer women online than men, and the problem is more pronounced in developing countries.”¹⁴ The GSMA suggests that number is closer to 300 million, citing regions like South Asia and Sub-Saharan Africa, where 58% and 41% of women are less likely to use mobile internet than men, respectively.¹⁵ Demand-side data also shows that over time, in Africa, this gap has been increasing,¹⁶ demonstrating the inability of the current connectivity model to address this gap.

All disparities in internet access are situated within other disparities that women face in society, based on location, economic power, age, gender, racial or ethnic origin, social and cultural norms, education, or other factors. For instance, the lack of available locally relevant content, limited literacy (both basic and digital), and the low ownership rates of devices with internet access capabilities prevalent in the least-connected regions.¹⁷ Specifically, regarding the gender digital divide, APC considers that it is both a symptom and cause of violations of women’s human rights. It is a symptom, in that the discrimination that women face on the basis of social and cultural norms is one of the most pronounced causes of the gender digital divide. Women cannot own devices since men are favoured in the household, women's internet usage is monitored by men, women face greater threats and violence online, and women are under-represented in STEM (science, technology, engineering and mathematics) spaces, so the design of tech caters mainly to men. These barriers have resulted in what is known as a “usage gap”¹⁸ – those within range of coverage of an internet network who are not internet users.

4. Questions

How will new and emerging telecommunications/ICTs impact both the internet and sustainable development, including the digital economy?

Notwithstanding the fact that around half of the world's population does not have meaningful internet access, the ICT industry has continued to evolve, with new technologies such as machine learning, artificial intelligence (AI), robotics, virtual reality and the internet of things predicted to revolutionise our future. Those who promote the arrival of a “Fourth Industrial Revolution” frequently reference these technologies as “having the potential to propel digitally-ready countries into a new age of unprecedented economic prosperity.”¹⁹ From an internet infrastructure perspective, 5G (the newest generation of mobile connectivity) “is being positioned as the underlying connectivity infrastructure upon which many of these technologies will rest and through which people and things will interact.”²⁰

Between 2019 and 2025, it is expected that mobile operators across the world will spend USD 1.3 trillion on network infrastructure, of which more than 75% will be related to 5G, a technology designed for high

¹⁴Sey, A., & Hafkin, N. (2019). *Taking stock: Data and evidence on gender equality in digital access, skills and leadership*. United Nations University Institute on Computing and Society and ITU. <https://www.itu.int/en/action/gender-equality/Documents/EQUALS%20Research%20Report%202019.pdf>

¹⁵Bahia, K., & Suardi, S. (2019). Op. cit.

¹⁶Gillwald, A., & Mothobi, O. (2019). Op. cit.

¹⁷Philbeck, I. (2017). *Connecting the Unconnected: Working together to achieve Connect 2020 Agenda Targets*. ITU. https://broadbandcommission.org/Documents/ITU_discussion-paper_Davos2017.pdf

¹⁸Bahia, K., & Suardi, S. (2019). Op. cit.

¹⁹Gillwald, A. (2019, 20 August). South Africa is caught in the global hype of the fourth industrial revolution. *The Conversation*. <https://theconversation.com/south-africa-is-caught-in-the-global-hype-of-the-fourth-industrial-revolution-121189>

²⁰Bloom, P. (2019, 4 April). Talkin’ ‘bout my (5th) Generation. *Rhizomatica*. <https://www.rhizomatica.org/talkin-bout-my-5th-generation>

density of users and devices in urban environments, where most people are already connected.²¹ In contrast, it is estimated that only about USD 450 billion would be required to connect the next 1.5 billion people.²² This shows where the interest of the industry is, given that rural roll-outs have in fact recently slowed down, or even ceased, as operators focus their investments on more profitable 4G/LTE and now 5G installations in competitive urban markets. This means that if governments and industry do not deliberately change their strategies to encourage complementary approaches, there will continue to be people with low or non-existent levels of access in rural areas in most developing countries (and even in many developed ones), despite 35 years of GSM mobile network development.²³

Similarly, investments in machine-to-machine connectivity appear to be gaining more attention than connecting the unconnected. Peter Bloom of Rhizomatica, an APC member organisation working on alternative telecommunications infrastructure, has argued that there has been a change in discourse, from connecting people to connecting things. He points out that the patronising/colonial nature of the “connecting people” discourse is problematic in its own right, but when that is being supplanted by “connecting everything”, further concern is warranted. “My conclusion is that the imperative to ensure everyone has the right to communicate and access information, which is laudable, is being supplanted by this new drive to connect the already connected even further through a whole host of new and upgraded technologies,”²⁴ says Bloom.

Alison Gillwald, executive director at Research ICT Africa, makes a similar point regarding Africa: “At the same time, international donor agencies and governments are diverting public funding from pro-poor policy research agendas on digital inclusion to artificial intelligence as well as robotics, machine learning, drones and blockchain. This, on a continent where Internet penetration in many countries is below the critical mass 20% believed to be necessary to enjoy the network effects associated with broadband adoption and economic growth.”²⁵ These new and emerging technologies, by their widely accepted definition, inherently follow a centralised approach, which will primarily benefit a few, and it is unlikely that this will have the broader positive impact in society (at least from a digital economy perspective) that is predicted. This poses a real risk that the digital divide, inequalities and exclusion of the unconnected could further expand.

To help counteract this, objectives and commitments for universal affordable access, as required by SDG Target 9c of the Sustainable Development Goals,²⁶ need to be reinforced before the benefits of these new and emerging technologies can be fully realised. At the same time, innovative complementary solutions to existing national mobile broadband strategies need to be considered, such as “Expanding Internet Connectivity”, which will be the subject of the September 2020 open consultation of CWG-Internet.

²¹Shabelnikova, A. (2019). *2025 Capex outlook: Financing the 5G era*. GSMA.

<https://www.gsmaintelligence.com/research/2019/04/2025-capex-outlook-financing-the-5g-era/755>

²²Broadband Commission for Digital Development. (2016). *Working Together to Connect the Next 1.5 Billion by 2020*. https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.16-2016-PDF-E.pdf

²³<https://www.gsma.com/aboutus/history>

²⁴Bloom, P. (2019, 4 April). Op. cit.

²⁵Gillwald, A. (2019, 20 August). Op. cit.

²⁶“Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020.” <https://www.undp.org/content/undp/en/home/sustainable-development-goals/goal-9-industry-innovation-and-infrastructure/targets.html>

Additionally, the development of artificial intelligence impacts the digital economy, from the reorganisation of labour²⁷ to the exploitation of vulnerable groups' data.²⁸ AI and its implications for human rights is a complex topic that deserves to be discussed in specialised forums and in an open, participatory and inclusive way. It is not clear how this issue falls within ITU's mandate, unless the ITU intends to explore how AI technologies can improve connectivity.

What are the opportunities and challenges for the adoption and growth of the new and emerging telecommunications/ICTs and internet?

As discussed above, a significant challenge is that despite decades of deployment, it appears increasingly likely that current strategies will not be able to address the needs of billions of people in developing countries who lack meaningful access to the internet due to limited coverage or lack of affordable services. We fear that the excitement and hype around the potential of new and emerging technologies such as 5G and AI, which have the potential to improve the experiences of people already connected, present a challenge in the sense that they will distract from the urgency of connecting the unconnected. Fortunately, network equipment continues to become more affordable and easier to deploy, resulting in increasing numbers of networks emerging where people build and operate their own telecommunication infrastructure, often managed on a cost-recovery basis, rather than for commercial gain. Although there is no universally accepted definition, these networks are usually called "community networks" because local communities are involved in some way in deploying, owning and operating the physical infrastructure that supports voice or internet connectivity. This presents an opportunity.

Although traditional strategies are now coming under more scrutiny, most governments are not yet aware of the potential impact of independent small-scale community-based networks. As a result, these networks are still relatively scarce, or invisible, because regulatory environments are generally hostile to them and are not yet adapted to foster their growth and replication. Aside from the absence of enabling regulatory environments, community networks, particularly those in rural areas in the global South, also face other difficulties. Financial resources for their initial deployment are often very limited and there are other factors such as lack of affordable or reliable energy supply, and high costs for backhaul connectivity. Yet, despite these difficulties and their lack of visibility, community networks also appear to have many advantages over traditional large-scale commercial networks, including:

- More local control over how the network is used and the content that is provided over the network.
- Greater potential for attention to the needs of marginalised people and the specific populations of rural communities, including women and older people.
- Lower costs and retention of more funds within the community.
- Increased potential to foster a sense of agency and empowerment among users and those involved in the network.

How can governments and the other stakeholders harness the benefits of new and emerging telecommunications/ICTs? What are the best practices for promoting human skills,

²⁷Raval, N. (2019). Automating informality: On AI and labour in the global South. In A. Finlay (Ed.), *Global Information Society Watch 2019 – Artificial intelligence: Human rights, social justice and development*. APC and ARTICLE 19. <https://www.giswatch.org/2019-artificial-intelligence-human-rights-social-justice-and-development>; the submission made by APC member PROTEGE QV also points out the need for job preservation: <https://www.itu.int/en/Lists/consultationOct2019/Attachments/18//AvisMomeniContribution.pdf>

²⁸Peña, P., & Varon, J. (2019). Decolonising AI: A transfeminist approach to data and social justice. In A. Finlay (Ed.), *Global Information Society Watch 2019 – Artificial intelligence: Human rights, social justice and development*. APC and ARTICLE 19. <https://www.giswatch.org/2019-artificial-intelligence-human-rights-social-justice-and-development>

institutional capacity, innovation and investment for new and emerging telecommunications/ICTs?

APC research²⁹ has found that the policy and regulatory environment has the most far-reaching impact on many aspects of technology adoption, including the technology strategy of emerging networks, institutional models, and also their longer-term impact. Most efforts to establish complementary innovative initiatives have been at a disadvantage in providing connectivity because the national policy environments have not been conducive to these networks. This is especially the case for providing mobile voice services. Access to radio spectrum is insufficient, while licensing or interconnection requirements and government fees/taxes are not adjusted for small networks, which creates relatively much higher burdens on them. For example, in some countries, government taxes and levies on the satellite service doubles the cost of the bandwidth used by small networks for the backhaul connection to the internet, the largest cost component of running the network.

Also, community networks have usually not been given the same government support that is given to national operators for extending their services into underserved areas. Of relevance here is the fact that the community networks actually generate additional traffic (and revenues) for the existing commercial networks. For example, analysis of calling patterns in community mobile networks deployed in Mexico and the Philippines shows incoming call traffic is four to 10 times higher than the outbound traffic originating from the community networks.³⁰ However, as a result of inhospitable regulatory environments, most community networks have been confined to using unlicensed spectrum, and are dependent on limited sources of funding in the start-up phase, or for expansion. The networks are thus slower to grow or replicate and few provide voice services.

Finally, APC views a human rights-based approach to access, including the provision of new and emerging technologies, as critical. By this we mean approaches to access and the deployment of new and emerging technologies that are rooted in the principles of accountability, equality and non-discrimination, participation, transparency, empowerment and sustainability, and also address the underlying context in which people live, which involves multiple and intersecting barriers to exercising their human rights. This requires ending practices like internet shutdowns, censorship and surveillance, which violate international human rights norms and interfere with efforts to expand meaningful internet access.

5. Conclusions and recommendations

We encourage the ITU to continue to focus on its core mandate of “connecting all the world’s people”. The ITU’s expertise and relationship with the Member States are vital in supporting the exploration of complementary new and emerging technologies to improve connectivity, and we greatly appreciate the strategic emphasis on “doing things differently” that is recently being stressed by ITU-D.

Commitments for universal affordable access, as stated in the SDGs, need to be reinforced before the benefits of these new and emerging technologies can be fully realised. To achieve this, innovative complementary solutions to existing national mobile broadband strategies, such as community networks, should be prioritised.

The policy and regulatory environment has the most far-reaching impact regarding technology adoption. New and emerging technologies and the institutional strategies around them need to be promoted and resourced to address, firstly, digital inclusion, so that everyone, and not a privileged few, can benefit

²⁹Bidwell, N., & Jensen, M. (2019). *Bottom-up Connectivity Strategies: Community-led small-scale telecommunication infrastructure networks in the global South*. APC. <https://www.apc.org/en/pubs/bottom-connectivity-strategies-community-led-small-scale-telecommunication-infrastructure>

³⁰Ibid.

from other "new emerging technologies" such as virtual reality, the internet of things, augmented reality and blockchain.

Other new and emerging technologies and institutional models are not part of traditional approaches to address connectivity issues, such as social purpose operators, open source software and open hardware, and should also be promoted to close the digital divide. The social and cultural barriers that contribute to the gender digital divide should also be considered, as well as access disparities among other people and groups in society, to ensure that "no one is left behind".

New and emerging technologies, by their widely accepted definition, inherently follow a centralised approach, which will primarily benefit a few, expanding the digital divide, inequalities and exclusion of the unconnected that the current centralised approach to connectivity is unable to solve, and further concentrating an industry with already high levels of concentration.

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