

**ITU COUNCIL WORKING GROUP  
ON INTERNATIONAL INTERNET-RELATED PUBLIC POLICY ISSUES  
(CWG-INTERNET)**

**Online Open Consultations on  
“Expanding Internet Connectivity”**

*(March 2020-September 2020)*

**USEFUL INFORMATION AND INSTRUCTIONS**

Information on the Online Open Consultations

Online Open Consultations are launched by the [ITU Council Working Group on International Internet-related Public Policy Issues \(CWG-Internet\)](#) and are held throughout the period between two successive CWG-Internet meetings. This process gives an opportunity to all stakeholders from all nations to express their views with regards to the topic(s) under discussion.

Information on the Physical Open Consultations

This Online Open Consultation will be followed by a Physical Open Consultation meeting, which will take place **at the ITU HQ, in Geneva, Switzerland**. [Note: this meeting is conducted in English only. Dates to follow.]

Discussions during the physical consultation meeting will be based on the responses received during the online consultation process, which will be consolidated in a single document ("Compilation Document"), to be published ca. 2 weeks prior to the meeting on the ITU Website.

During the physical meeting, respondents to the online consultation will have the opportunity to present their submitted views and to have a fruitful discussion with the other participants, including Members of the CWG-Internet. For those not in the position to participate on site, remote participation is also available upon request, while completing the online registration form.

## TOPIC OF DISCUSSION

Following the instructions of [Council Resolution 1336 \(Mod. 2019\)](#), the 13<sup>th</sup> Session of the [ITU Council Working Group on International Internet-related Public Policy Issues \(CWG-Internet\)](#), decided on 20th September 2019 **to hold an open consultation (online and physical) on the following topic:**

### "Expanding Internet Connectivity"

CWG-Internet invites all stakeholders to submit contributions on international internet-related public policy issues relating to expanding internet connectivity, focusing on the following questions:

1. What are the challenges and opportunities for expanding Internet connectivity, particularly to remote and under-served areas? What are the roles of governments and non-government actors in overcoming these challenges?
2. Are there particular challenges facing land-locked countries in securing affordable Internet access? What can be done to overcome these challenges?
3. How can small/community/non-profit operators help in promoting the increase of Internet connectivity?

### [How to submit your response \(accessible format\)](#)

You can include your responses to the questions into the space further below and submit it through the [online form](#) **OR** send it to [InternetPublicViews@itu.int](mailto:InternetPublicViews@itu.int) including your Full Name, Title, Country and Organization you are representing.

Your response will then be published on the ITU Website: <https://www.itu.int/en/council/cwg-internet/Pages/consultation-sep2020.aspx>

Please include each submission also includes a **short summary/abstract (1-3 paragraphs)**. This will form part of the final summary document to be published after the end of the physical open consultation meeting.

## QUESTIONS

### Question 1:

1. **What are the challenges and opportunities for expanding Internet connectivity, particularly to remote and under-served areas? What are the roles of governments and non-government actors in overcoming these challenges?**

Access to internet is a necessity for economic and human development for countries and unfortunately, only 35 percent of the population in developing countries have access to Internet (against 80 percent in developed countries). In 2016, a study by the World Bank noted that a 10-percentage point increase in fixed broadband penetration would increase GDP growth by 1.21 percent in developed economies and 1.38 percent in developing ones. Yet, investments in internet and network infrastructure still lags behind in developing countries. However, while there are challenges in expanding Internet connectivity to remote and under-served areas, they are also immense opportunities for communities and countries.

The challenges of expanding Internet connectivity to remote and under-served areas include (i) the low return of investment by Operators and Tower companies. In these countries, remote and under-served areas are off the electricity grid or any other source of electric power needed to invest in internet connection. If operators are to expand to these areas, they need to install power plants – either solar, gas or fuel powered generators to sustain internet connectivity. These overheads increase the installation price, reduce the return on investments, and risk making the cost of internet higher. This exacerbates (ii) the affordability of internet connectivity in rural areas, - where low economic investments are the norm, and greatly affected by reduced household purchasing power. In rural areas, agriculture is the main source of income – subsistence agriculture with less economic return. In most developing countries, licensing frameworks and application processes are unclear making operators who venture into business shun remote and under-served areas, in some cases there are no fiscal incentives to expand to remote areas.

There are opportunities that can be realized in expanding Internet connectivity to remote areas, which include (i) provision of clear licensing framework guidelines that encourage investment in outlying areas. In the least developing countries, while remote areas are sparsely populated, they are home to approximately more than 60 percent of the countries population – they offer more potential customers. Secondly, there is potential to (ii) simplify and make transparent the application process and conditions for obtaining an operator’s license, and this ensures that uncertainty is removed for investors. In Africa for example, the market of internet remains mainly monopolistic with the state controlling the players – and yet the state has less resources to invest in remote areas. (See Fig.1).

Thirdly, to encourage investment in Internet connectivity, governments or regulatory authorities should consider waiving or removing the minimum capital requirements for Operators. This will allow small players to enter the market easily or target remote areas. Fourthly, governments can enact regulatory framework that

- I. facilitates the use of LOWA technologies, TV White Spaces and Off the grid boxes (these measures ensure effective use of broadband and unutilized capacities),
- II. by investing in loss guarantee schemes, blended financing models and community collaboration deployment models. Finally, use regulation to,
- III. encourages sharing of towers and similar network infrastructure by Operators in remote areas.

These measures allow governments to ensure that players remain profitable, while serving areas that might otherwise be unprofitable for players.

	Internet	Mobile telephones	Fixed telephones
Monopolistic	10%	9%	55%
Partially competitive	12%	41%	23%
Fully competitive	69%	43%	25%

**Fig.1: Percentage of African countries where telecommunications markets (fixed line telephony, mobile telephony, Internet) are monopolistic, partially competitive, or fully competitive: (Source: International Telecommunications Union, 2007)**

In conclusion, the greatest opportunities are what internet connectivity brings to remote and under-served areas. For example, connectivity contributes to “the delivery of essential services such as education and healthcare, offers increased opportunities for women's empowerment and environmental sustainability, and contributes to enhanced government transparency and accountability”(The WorldBank, 2020) .

Lack of internet connectivity has contributed to “the digital divide,” – specifically the “rural-urban divide” - that has reduced the economic participation of the rural people; contributing to rural unemployment and lack of access to the markets by smallholder farmers. Internet access is poised to reverse the negative impacts of the digital divide. If internet connectivity is established and extended to rural areas in a developmental model approach, it could reduce poverty and hunger.

**Question 2:**

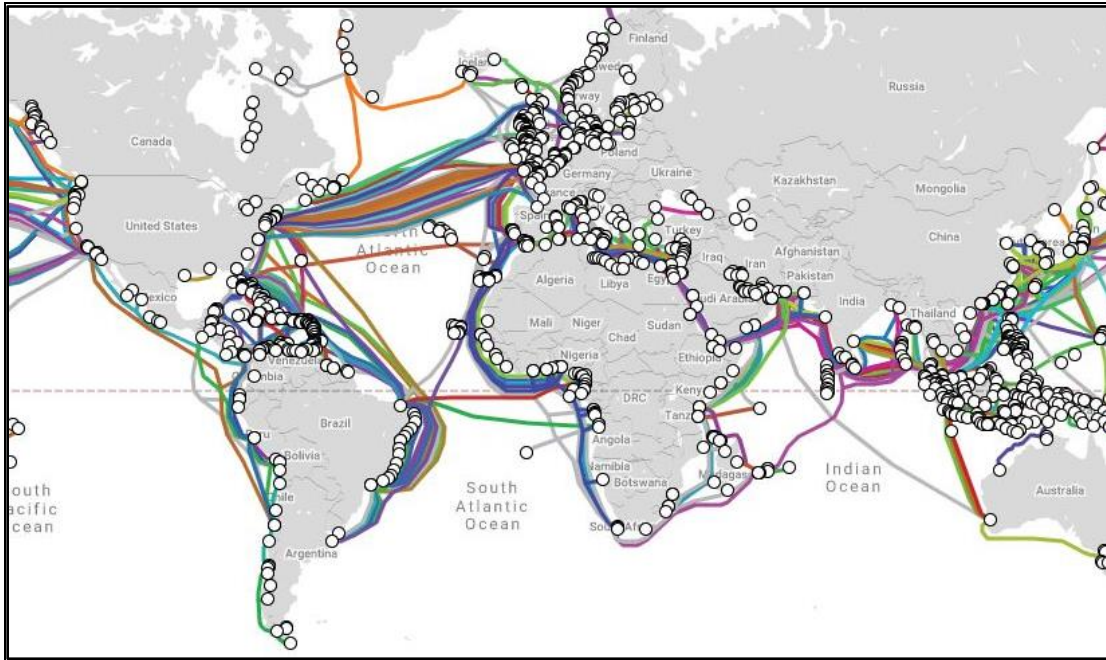
**Are there particular challenges facing land-locked countries in securing affordable Internet access? What can be done to overcome these challenges?**

Answer to question 2:

Landlocked countries do not have access to undersea cables. Without access to the undersea cables, landlocked countries have to rely on satellite internet connections. In Africa for example, before the laying of undersea cables, most landlocked countries relied on the following satellite operators - Anatolia (Kalitel), Europestar, Eutelsat, Intelsat, Lockheed Martin, New Skies, and PanAmSat<sup>1</sup>. All these are foreign owned and charging in forex (which is scarce in developing countries), which in turn contributes to the increase of internet prices. The laying of undersea cables has improved the situation for coastal countries (see Fig.2)

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<sup>1</sup> <https://www.itu.int/osg/spu/ni/ipdc/workshop/presentations/Moroney.doc>



**Fig. 2 The Status of Submarine Cables in Africa, Asia and Latin America (25/11/2020) – Source: [Submarine cable map](#)**

As a result, affordability of internet and the return on investment (ROI) in landlocked countries is low. This is mainly due to the geographic remoteness and their further distant to the nearest undersea cable node, implying a cost of laying a transporting cable to the landlocked. This places such countries at an economic disadvantage than their coastline counterparts. For example, The United Nations Economic Commission for Europe (UNECE) in 2019 held a meeting<sup>2</sup> to address some of the challenges faced by land-locked developing countries (LLDCs) in Europe and reviewed the Vienna Programme of Action (VPoA)<sup>3</sup>. The VPoA is a 6 priorities approach to infrastructure to help the European and Asian land-locked countries build infrastructure that can ensure they leverage on geographic disparities. This model can be replicated in other regions and specifically for internet connectivity.

There are interventions that can be done to address these challenges. These include, for example providing unused satellite bandwidth (for example to land-locked countries in sub-Saharan Africa). Provision of basic digital services as freemium digital public goods to increase potential user base. Designing business models that ensure investment cost are recuperated, for example, by applying a Tower Company approach and providing Over The Top (OTT) services, to reduce investment costs. By also allowing Operators to share infrastructure in a cost-share model could ensure investments are not competitive but also reach under-served areas. Policy makers should also consider the UN SDG scheme for free digital public goods to contribute to the Digital Cooperation Roadmap Key Area 1.

<sup>2</sup> <https://www.unece.org/info/media/news/transport/2019/addressing-challenges-faced-by-landlocked-developing-countries-in-europe-and-asia/doc.html>

<sup>3</sup> <http://unohrlls.org/about-lllcs/programme-of-action/#:~:text=The%20Vienna%20Programme%20of%20Action,areas%20of%20the%20renowned%20document>

### Question 3:

#### How can small/community/non-profit operators help in promoting the increase of Internet connectivity?

Answer to question 3:

Small community based or non-profit operators can increase the Internet Connectivity, if proper policy regulations allow them to operate. Besides increasing network connectivity and coverage in remote and under-served areas, these operators can support investments of small communities in off-grid solutions. The small operators are usual SMEs with various business models, their being local and being social-purpose operators makes them important for development – their focus might not necessarily be profit oriented. One such example is the Zenzeleni Community Networks<sup>4</sup> in Eastern Province of Cape Town, which is run by a cooperative and provides ISP services to the community<sup>5</sup>.

There are other value-added services that small operators can provide to their communities, such as digital literacy training in combination with other developmental partners (or NGOs) like MercyCorps and the Digital Opportunity Trust. They could also provide hybrid digital solutions based on smartphone data plans in combination with SMS/USSD/IVR, for example, hybrid cooperatives solutions in the Tea and Dairy industry in Kenya.

In some cases, they can avail a portfolio of freemium services to increase demand to these services. When these operators bring connectivity to the communities, services such as agriculture, education and health can be reachable to all. For example, UNICEF and ITU launched GIGA Model in September 2019<sup>6</sup>. The GIGA<sup>7</sup> model seeks to connect every school to the Internet and every young person to information, opportunity and choice. GIGA seeks to see how connectivity can create stronger infrastructure and bring education to the most distant learner.

Similarly, the Niger Smart Villages project led by ITU, AINSI with participation of FAO, UNESCO and WHO aims to provide broadband infrastructure to improve Internet access in rural and remote parts of the country. When broadband infrastructure is provided to a village, villagers can access agriculture, education and health information curated and provided by the respective UN agencies and relevant government ministries. One of the ways that the ‘smart’ villages are achieved is through the deployment of innovative apps which have been mounted on tablets as ‘plug-and-play solutions’ which are handed out in rural communities to introduce and support digital education, digital health and digital agriculture<sup>8</sup>.

### SHORT SUMMARY

[Please provide a short summary (1-3 paragraphs) outlining the main points of your response above]

Access to internet is a necessity for economic and human development for countries. The challenges of expanding Internet connectivity to remote and under-served areas include (i) the low return of investment

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<sup>4</sup> <https://zenzeleni.net/>

<sup>5</sup> <https://theconversation.com/how-a-rural-community-built-south-africas-first-isp-owned-and-run-by-a-cooperative-87448>

<sup>6</sup>

<https://www.unicef.org/innovation/giga#:~:text=GIGA%2C%20an%20initiative%20launched%20by,of%20hope%20and%20opportunity%20in>

<sup>7</sup> <https://gigaconnect.org/about/>

<sup>8</sup> <https://www.itu.int/en/myitu/News/2020/06/12/13/32/Niger-launches-Smart-Village-project>

by Operators and Tower companies, (ii) the affordability of internet connectivity in rural areas, and (iii) licensing frameworks and application processes are unclear making operators who venture into business shun remote and under-served areas. The opportunities include, (i) provision of clear licensing framework guidelines that encourage investment in outlying areas, (ii) the potential to simplify and make transparent the application process and conditions for obtaining an operator's license, (iii) to encourage investment in Internet connectivity, governments or regulatory authorities should consider wavering or removing the minimum capital requirements for Operators. In summary, the greatest opportunities are what internet connectivity brings to remote and under-served areas, essential services such as education and healthcare.

Landlocked countries do not have access to undersea cables. Without access to the undersea cables, landlocked countries have to rely on satellite internet connections. As a result, affordability of internet and the return on investment (ROI) in landlocked countries is low. This is mainly due to the geographic remoteness and their further distant to the nearest undersea cable node, implying a cost of laying a transporting cable to the landlocked. There are interventions that can be done to address these challenges. These include, for example providing unused satellite bandwidth (for example to land-locked countries in sub-Saharan Africa).

Small community based or non-profit operators can increase the Internet Connectivity, if proper policy regulations allow them to operate. The small operators are usual SMEs with various business models, their being local and being social-purpose operators makes them important for development – their focus might not necessarily be profit oriented. There are other value-added services that small operators can provide to their communities, such as digital literacy training in combination with other developmental partners (or NGOs) like MercyCorps and the Digital Opportunity Trust. Examples includes The Giga Model by UNESCO and ITU and Smart Villages by ITU – in collaboration with FAO, UNESCO and WHO.

## CONTACT DETAILS

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