May 21, 2025 – ITU ICT Development Index (IDI) EGTI Sub-group

Purpose

Discuss the inclusion of an indicator for fixed broadband penetration in the ICT Development Index (IDI).

Proposed solution

The proposed solution is to only include an indicator for fixed broadband penetration that is calculated as: **Fixed broadband subscriptions / households**.

UN authorities are currently working on improving data collection and estimation methodology of households and it is likely that the UN will agree to a solution for estimation of the number of households. That is why it is proposed to keep the next cycle of the IDI flexible and open for inclusion of the fixed broadband penetration indicator with a year's notice, instead of waiting for 4 years.

It is also proposed to include the fixed broadband indicator under meaningful connectivity rather than universal connectivity, as access to fixed broadband can be perceived to add a qualitative element to internet connectivity compared to the more widespread mobile broadband connectivity.

Rationale for the proposal

In CRA Qatar's opinion the inclusion of a correctly calculated indicator for fixed broadband penetration will improve the completeness of the IDI index, and it will align with the logic for mobile broadband connectivity that includes an indicator for penetration.

Methodology of the IDI index

In the presentation and discussion of the IDI methodology version 3.1[1] from 2023, ITU mentioned the following for fixed broadband penetration:

"*The choice of the denominator has proven problematic. In previous versions of the IDI, and consistent with the definition adopted by EGTI and codified in the ITU Handbook (ITU, 2020b), the indicator has traditionally been divided by 100 population, which is also an SDG indicator. However, several commenters on the IDI Forum and participants in the IDI meeting considered the number of households to be a denominator that is more aligned with policy objectives than*

[1] https://www.itu.int/en/ITU-D/Statistics/Pages/IDI/default.aspx

population. This would account for the fact that fixed-broadband subscriptions are often shared within a household and that the average size of households varies across countries. However, up-to-date, internationally comparable data on the number of households are too scarce for using households as denominator."

"*As participants shared many different views and no acceptable solution emerged, an indicator on fixed broadband subscriptions is not included in this version of the methodology. The participants acknowledged that this is a big loss for the index, because the indicator is very relevant for the ICT development of countries. The conclusion was that the inclusion of an indicator of fixed broadband penetration must be deferred to 2027, when the IDI will be reviewed. It is hoped that – by then – there will be sufficient data on the number of households and/or on households with Internet access using fixed broadband. The ITU Secretariat will encourage and help to the extent it can Member States to provide these household survey data to the ITU and to provide data on household size to the Population Division of the UN Department of Statistics, with whom it will continue the dialogue on the subject.*" Page 10, 11.

In summary, the participants in the IDI meeting agreed to include an indicator for fixed broadband penetration in the IDI. However, it was so important for the participants that the indicator was calculated per household rather than population, that most participants preferred not to include the indicator if it was calculated in a perceived incorrect way.

ITU then decided to wait until the revision of the IDI in 2027 and see if there was significant progress to collect or estimate the number of households globally so that the indicator could again be included. CRA Qatar understands that there is progress in the UN system regarding the number of households, but it is currently uncertain if the issue will be resolved by 2027.

CRA Qatar therefore proposes that the ITU keeps open the option to include the fixed broadband penetration indicator calculated by households during the next phase of the IDI index from 2027. This should be done with a minimum of a half year's notice at any time starting 2027. This is in accordance with the decision to include the indicator when it can be calculated correctly.

In fact, ITU only agreed to keep the IDI static from 2023 to 2027, ITU has made no decision about whether the index must be static from 2027 onwards.

Classification of fixed broadband penetration as universal or meaningful connectivity

In the presentation and discussion of the IDI methodology version 3.1[2], ITU mentioned that:

"Universal connectivity

The notion of universality encompasses four categories: people, households, communities, and businesses (Figure 2). The last three categories represent the main places where people can connect: at home, in schools and community centers, and at work. The following indicators are therefore natural candidates for inclusion: individuals using the Internet, households with Internet access, business using the Internet and schools using the Internet. In addition, using the Internet requires a subscription to a service, so mobile broadband subscriptions and fixed broadband subscriptions feature on the list of candidate indicators." Page 9.

"Meaningful connectivity

The UMC framework features five connectivity enablers: infrastructure, affordability, device, skills, and safety and security. Ideally, the index would feature indicators capturing each of these areas provided they satisfy the criteria of data availability and data quality." […] "Concerning the quality of Internet connections, indicators considered include Internet traffic, the speed of Internet connections and international bandwidth capacity and bandwidth usage." Page 12.

CRA Qatar would like to discuss whether the indicator for fixed broadband penetration belongs under universal or meaningful connectivity.

In ITU's definition above, since using the internet requires a subscription to a service, then both mobile and fixed internet subscriptions belong under meaningful connectivity.

However, we can also view this from a different perspective. If we assume that many users have a mobile broadband subscription, and some of them also have a fixed broadband subscription in order to increase the quality of the internet connectivity, then fixed broadband subscriptions can be viewed as meaningful connectivity rather than universal connectivity. Considering that mobile broadband penetration is much higher than fixed broadband penetration, this seems like a reasonable assumption.

[2] https://www.itu.int/en/ITU-D/Statistics/Pages/IDI/default.aspx

In addition, at a conference in Doha, Qatar, in April 2025, ITU made a presentation with analysis and recommendations for the EGDI, TII pillar. ITU suggested including an indicator for fixed broadband penetration and supported the suggestion with these statements:

Advantages of including fixed broadband indicator penetration (ITU comments)

Quality of Connectivity

- Fixed broadband typically offers higher speeds, greater stability, and larger data allowance than mobile broadband.
- It enables heavy internet use – like video streaming, remote work, online education, cloud computing and digital service for business and government.

Digital inclusion at the household level

- Fixed broadband is often shared among multiple users in a household, allowing more people to use the internet

Enabler for economic growth

- For businesses, government and institutions, fixed broadband is essential infrastructure.
- It supports digital transformation in sectors like education, health, finance and government.
- Countries with stronger fixed broadband infrastructure are better positioned for innovation and competitiveness.

Complementary to mobile broadband

- Mobile broadband is widespread, but fixed broadband offers a foundation for more intensive or sustained use.
- Including both gives more balanced views of infrastructure capacity and resilience.

Tracking investment and policy impact

- Including fixed broadband in the TLL helps measure the impact of national broadband and infrastructure investments, which are often focused on fiber and fixed-broadband expansion.

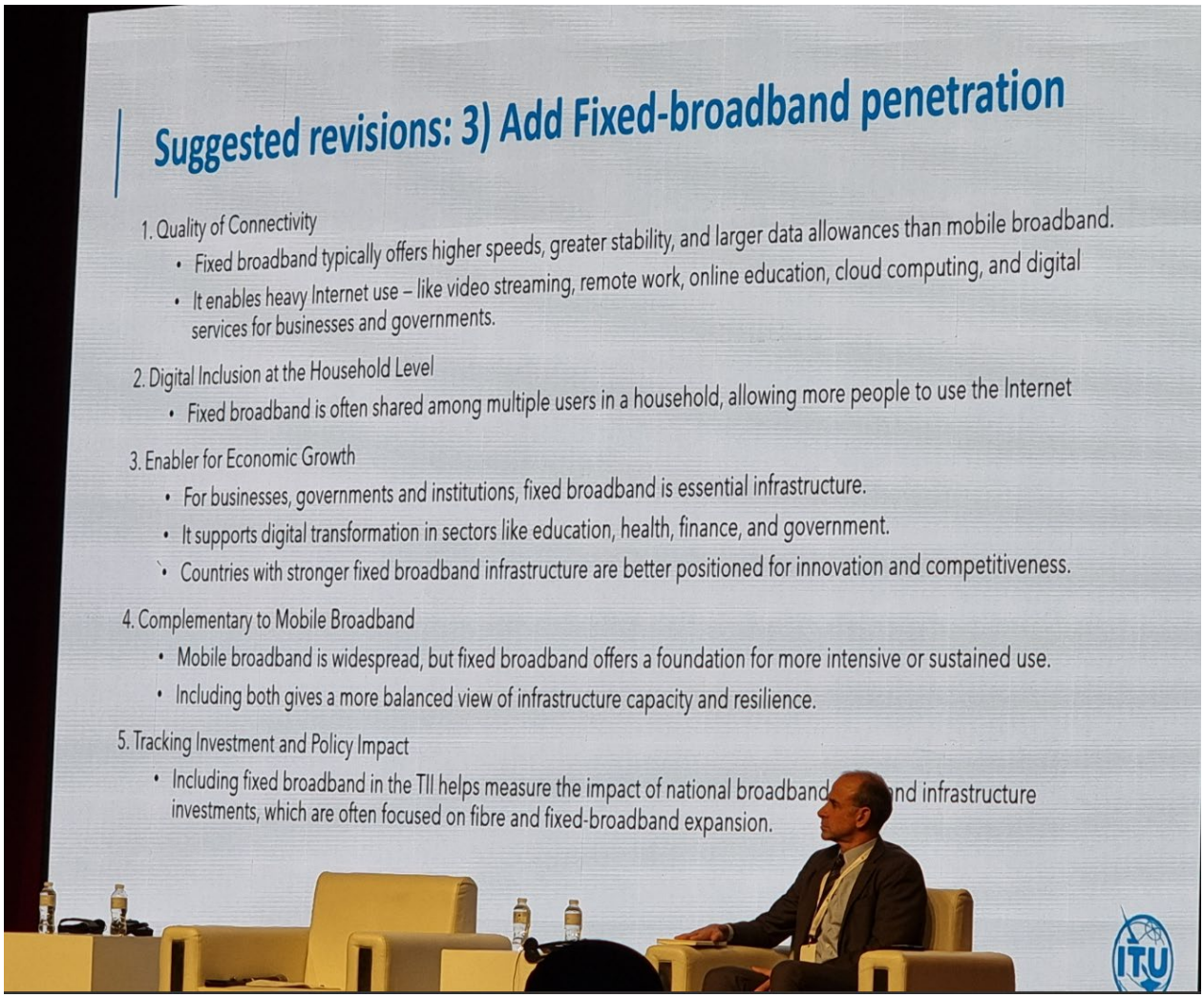
ITU mentions that fixed broadband typically has higher quality and is complementary to mobile broadband. This supports that fixed broadband may be regarded as meaningful connectivity.

ITU also mentions that fixed broadband is shared throughout the household, thus seemingly confirming that the number of households is the correct denominator to measure fixed broadband penetration.

Let us also review the comments that ITU provides regarding fixed broadband as an enabler for economic growth, tracking investment and policy impact. ITU states that for businesses, government and institutions, fixed broadband is an essential infrastructure. CRA Qatar agrees to this statement, but questions whether fixed broadband penetration correctly measures this phenomenon.

Businesses, government and institutions typically connect to the internet via leased lines (including IP transmission). Often, a ministry or a corporate headquarters will connect internal users via a Local Area Network and will then connect them to the internet via a leased line. These organizations typically do not connect users to the internet via individual fixed broadband subscriptions. This means that fixed broadband subscriptions do not measure internet connectivity for these entities. The same applies for data centers and cloud computing service providers. Indeed, this point was raised by several participants at the 2023 ITU meeting.

In CRA's opinion, this means that it is inappropriate to use ITU's argumentation regarding businesses and government institutions to recommend including indicators for fixed broadband penetration. Rather, ITU should consider introducing indicators that directly measure penetration of leased lines. However, this is not straightforward and may even be under the remit of UNCTAD instead of ITU.



UN DESA EGDI, TII pillar, conference in Doha, April 2025