

# Measuring digital development Facts and Figures: Focus on Least Developed Countries

March 2023



Measuring digital development

# **Facts and Figures: Focus on Least Developed Countries**

March 2023



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# Foreword



I am pleased to present *Facts and Figures: Focus on Least Developed Countries*. This publication provides an overview of the state of digital connectivity in Least Developed Countries (LDCs), drawing on the data from ITU's flagship publication [Facts and Figures 2022](#).

Since the Fourth United Nations Conference on Least Developed Countries in 2011, progress has been made in terms of connectivity in the LDCs. The share of the population in LDCs using the Internet increased almost ten-fold to reach 36 per cent. Accessing the Internet has become cheaper and easier and mobile broadband has gone from being non-existent to being ubiquitous. But progress has been from a very low base and so much remains to be done. SDG Target 9.c called for closing the *access gap* in the LDCs by 2020. Yet, three years past this deadline, almost one fifth of the population cannot even access the Internet. Among those who can access, many do not, because of multiple barriers, ranging from awareness to skills and costs.

Over the past decade, the connectivity challenge has become more complex and demanding. Bringing everyone online is no longer enough. *Meaningful connectivity* - the possibility to enjoy a safe, satisfying, enriching, productive and affordable online experience - is the new imperative. For LDCs, this remains a major challenge. The digital divide between LDCs and the rest of the world shows little sign of narrowing. The risk is all too evident. As the world becomes increasingly adept at leveraging the Internet for value creation, LDCs risk falling further behind.

With its demonstrable, in-depth evidence and global reach, ITU's annual flagship report *Facts and Figures*, issued every year, serves as a powerful advocacy tool in efforts to put digital development at the top of the agenda of policymakers and the global development community. Crucially, it provides the data they need to design more effective and more targeted policies and investment. In this context, this special edition of *Facts and Figures* reveals the tremendous 'digital diversity' of the LDCs carrying with it different priorities and calls for different solutions. For instance, Internet use ranges from 6 to 86 per cent of the population. In terms of mobile broadband prices, the most affordable LDC market sees prices about 20 times cheaper than the least affordable one.

A final word of caution and a plea: a significant portion of the figures presented here is based on estimates made by ITU. Reliable, and timely official statistics from LDCs remain very scant. To move forward in global development efforts, we must strengthen national data systems and improve our knowledge.

Universal and meaningful digital connectivity can contribute to addressing the challenges faced by these countries and help them achieve sustainable digital transformation.

In its daily work, the ITU Telecommunication Development Bureau acknowledges the specific challenges and needs that these countries face. We provide assistance across our key priorities - including in the specific areas of policy and regulation, emergency telecommunications, digital inclusion, cybersecurity, ICT infrastructure, and spectrum management. Cutting across all our themes is the need for capacity building in these countries.

We are committed - now more than ever - to help LDCs on their journey to advance sustainable digital transformation.

A handwritten signature in blue ink, appearing to read 'Cosmas Luckyson Zavazava'.

Cosmas Luckyson Zavazava  
Director, ITU Telecommunication Development Bureau

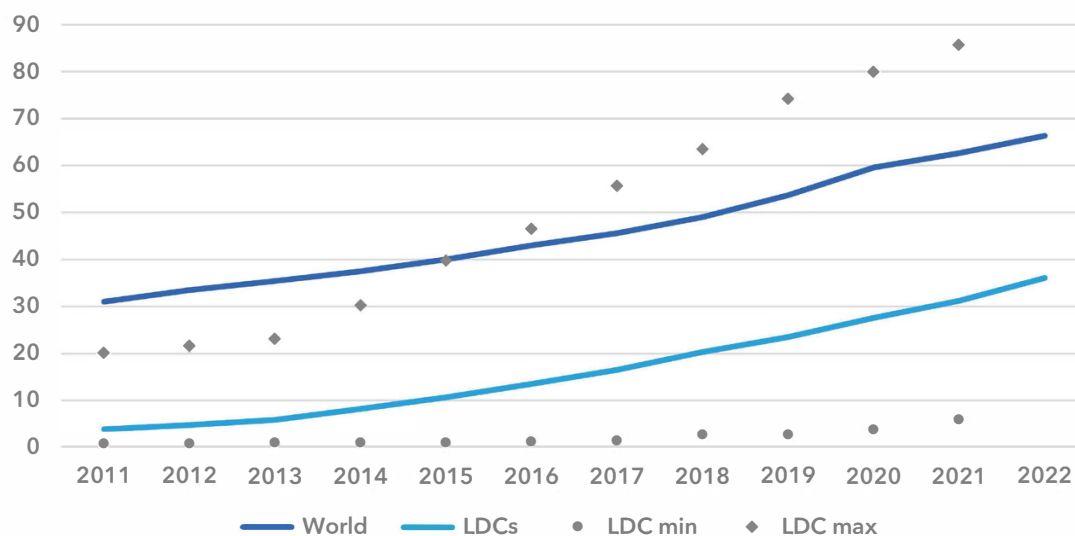
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## Internet use

**Only 36 per cent of the population in least developed countries is online**

### Percentage of individuals using the Internet



Note: In any given year, *LDC min* and *LDC max* represent the LDC with the lowest and highest value, respectively.  
Source: ITU

In 2022, an estimated 407 million people in least developed countries (LDCs) were using the Internet, accounting for 36 per cent of the population, compared to 66 per cent globally. The 720 million people still offline in LDCs account for 27 per cent of the global offline population, even though the LDC population accounts for only 14 per cent of the world's population.

The average conceals striking disparities across the 46 LDCs. In 2021, the latest year for which country-level data are available, the Internet penetration rate ranged from 6 per cent in Burundi to 86 per cent in Bhutan, which is on par with many advanced economies (see section *Diversity within the LDCs*). In 2022, in the one LDC in the Americas region, Internet use stood at 53 per cent, in the 12 LDCs in Asia and the Pacific it was 43 per cent, while in the 33 LDCs in Africa the average was 28 per cent.<sup>1</sup>

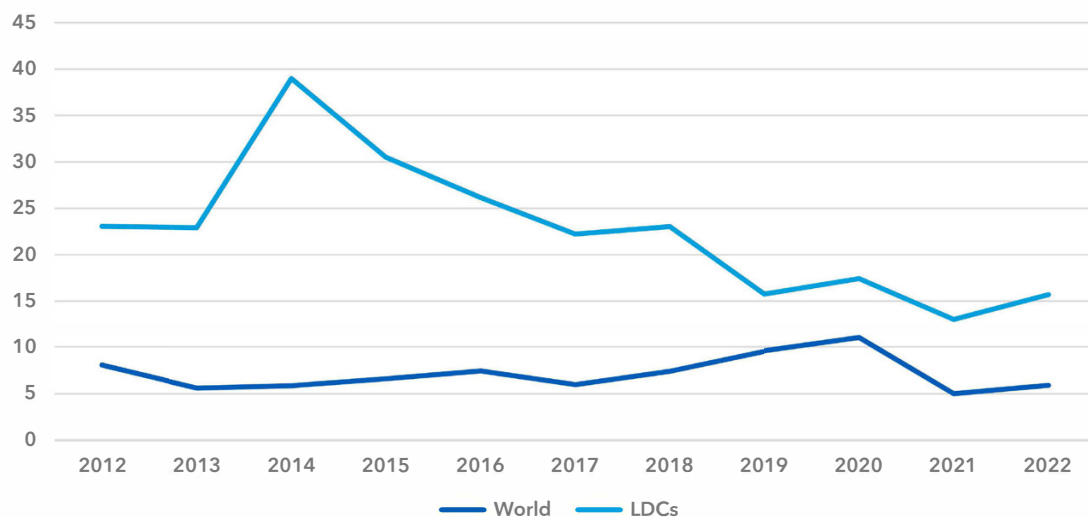
Since the Fourth United Nations Conference on the Least Developed Countries in 2011, Internet use in LDCs surged from 4 per cent of the population to 36 per cent, corresponding to a compound annual growth rate of 22 per cent, more than three times the global growth rate (7.2 per cent).<sup>2</sup> However, this differential is not surprising considering that LDCs started from a much lower base (in 2011, 31 per cent of the world's population was already online). Figures show that as Internet penetration increases, growth in Internet use tends to slow down, indeed, growth rates ranged from 13 to 17 per cent between 2019 and 2022, significantly lower than those observed between 2011 and 2018 (23 to 39 per cent). In LDCs, the COVID-19 pandemic did not cause a boost in Internet use, unlike in more advanced economies, where growth rates typically doubled in 2020 and 2021.

<sup>1</sup> See Annex 1 for the composition of the subregions.

<sup>2</sup> All growth rates in this publication are computed as compound annual growth rate - or CAGR.

These figures suggest that universal and meaningful connectivity - the possibility for everyone to enjoy a safe, satisfying, enriching, productive and affordable online experience - remains a distant prospect for LDCs. ITU and the [Office of the UN Secretary-General's Envoy on Technology](#) have established a set of aspirational targets for universal and meaningful connectivity for 2030. While it is possible that a few countries will meet the targets by 2030, many LDCs will not.

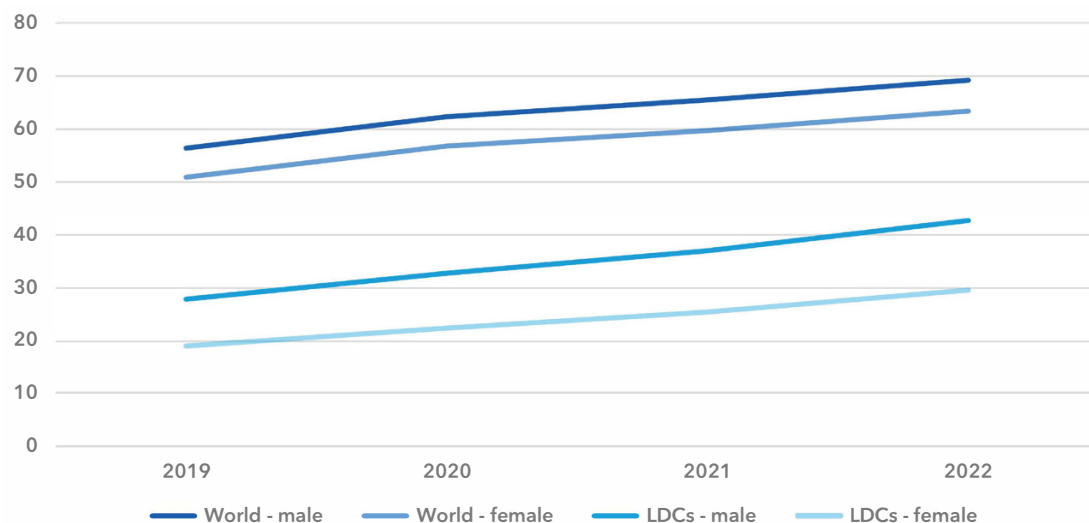
### Annual growth rates of Internet use



Source: ITU

### **The gender gap in Internet use shows no sign of narrowing in LDCs**

#### Percentage of individuals using the Internet, by gender



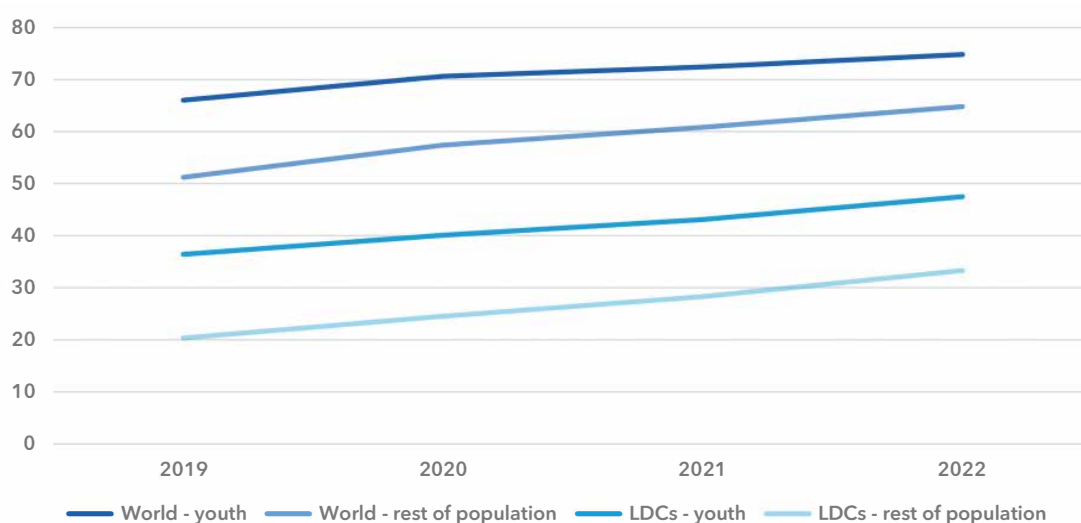
Source: ITU



When measured in terms of Internet use, the digital gender gap in LDCs remains significant with no sign of narrowing. In 2022, 43 per cent of the male population in LDCs was online, up from 28 per cent in 2019. That is 13 percentage points more than the uptake among the female population (30 per cent). The gender parity score, calculated as the percentage of females divided by the percentage of men using the Internet, stands at 0.69 and has remained stable since 2019. In contrast, with a parity score of 0.92 the world as a whole is moving closer to gender parity, defined as a score of at least 0.98.

**The young are leading the way in Internet use**

Percentage of individuals aged between 15 and 24 years using the Internet

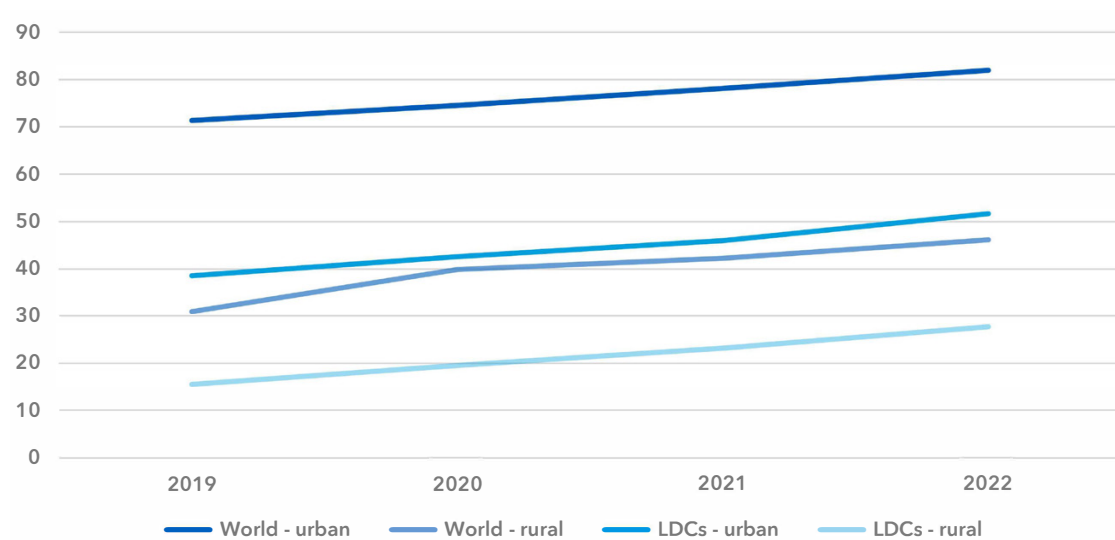


Source: ITU

As of 2022, almost half (48 per cent) of young people (15- to 24-year-olds) in LDCs were online, almost double the rate of 2019 (26 per cent). That is almost 15 percentage points more than for the rest of the population (33 per cent, up from 20 per cent in 2019). While trailing the global average of 75 per cent, the relative gap between LDCs and the world average is much smaller for young people than the gap for the whole population. This greater uptake among the young bodes well for the future, as half of the population of LDC is 20 or younger. It means that the workforce will become more connected and technology-savvy as the young generation joins its ranks. This in turn could improve the development prospects of LDCs.

**Internet use in rural areas is growing twice as fast as in urban areas**

Percentage of individuals using the Internet, by location



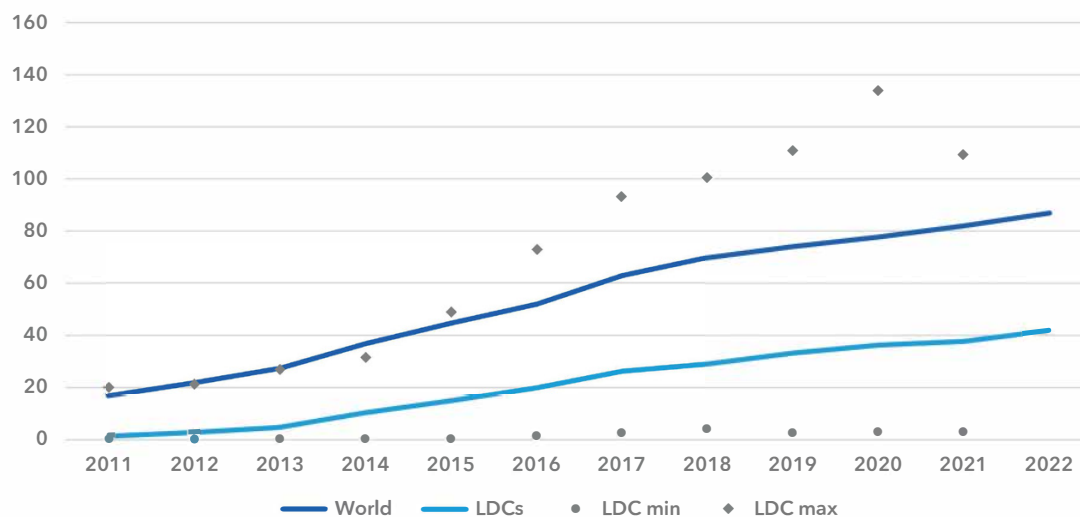
Source: ITU

In the LDCs, just over a quarter (28 per cent) of the population in rural areas was online in 2022, compared with 52 per cent of the population in urban areas. Between 2019 and 2022, the urban-rural ratio narrowed from 2.5 to 1.9, as rural areas are experiencing 'catch-up' growth: 21 per cent annually during the four-year period, more than twice the rate in urban areas (10 per cent). These trends mirror the trends observed at the global level.

## Broadband subscriptions

*Despite a decade of break-neck growth, mobile broadband is not ubiquitous yet*

### Active mobile broadband subscriptions per 100 inhabitants



Note: In any given year, *LDC min* and *LDC max* represent the LDC with the lowest and highest value, respectively.  
Source: ITU

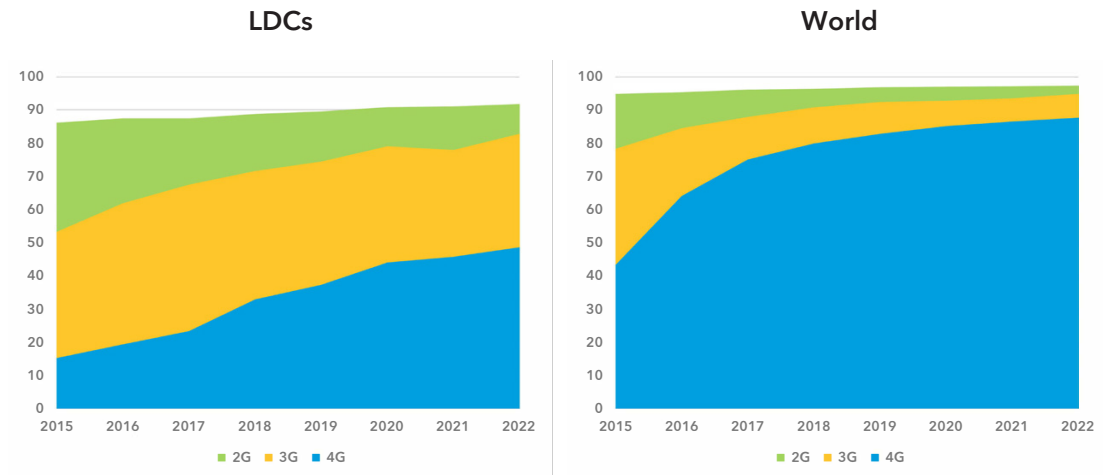
The number of mobile broadband subscriptions in LDCs grew from a negligible 1.3 per 100 people to 42 per 100 inhabitants in 2022. Despite the impressive growth – an average of 37 per cent *per annum* – current penetration rates are less than half the world average (87 active mobile-broadband subscriptions per 100 inhabitants). Vast regional disparities exist in the group. In LDCs in Asia and the Pacific, there were 65 mobile broadband subscriptions per 100 people, more than twice the rate in the Africa region LDCs. Country-level disparities are staggering, one LDC had 110 subscriptions per 100 people, another less than 3.

Fixed-broadband, plays an insignificant role in LDCs, which seem to be caught in a vicious cycle of high costs and low demand, with only 1.6 subscriptions per 100 inhabitants in 2022. The situation is better in LDCs in Asia and the Pacific, with 4.1 subscriptions per 100 inhabitants, than in LDCs in Africa, with only 0.4 subscriptions per 100 inhabitants. Fixed broadband networks are unavailable in many parts of LDCs, especially in rural areas, and if they are available, they are often prohibitively expensive (see the “Affordability” section below).

## Mobile network coverage

### Universal broadband coverage still elusive

#### Percentage of population covered by type of mobile network



Note: The values for 2G and 3G networks show the incremental percentage of the population that is not covered by a more advanced technology network. For example, 83 per cent of the population in LDCs was covered by a 3G network or above in 2022 (34 per cent + 49 per cent).

Source: ITU

In LDCs, and most developing countries, mobile broadband (3G or above) is the main way – and very often the only way – to connect to the Internet. And yet only 83 per cent of the combined LDC population is covered by a mobile broadband signal, compared with 95 per cent of the world’s population. For LDCs, this leaves an *access gap* of 17 per cent of the population that cannot access the Internet: some have no mobile signal at all (8 per cent), and others have a mobile cellular signal that does not connect to the Internet (9 per cent). The access gap of the world’s population is 5 per cent, made up of the 2 per cent of the population with no mobile signal and 3 per cent that only receives a 2G signal. Similar to other connectivity measures, performance varies across LDCs. For instance, the access gap is 10 per cent in LDCs in Asia and the Pacific, half the gap observed in the LDCs in Africa.

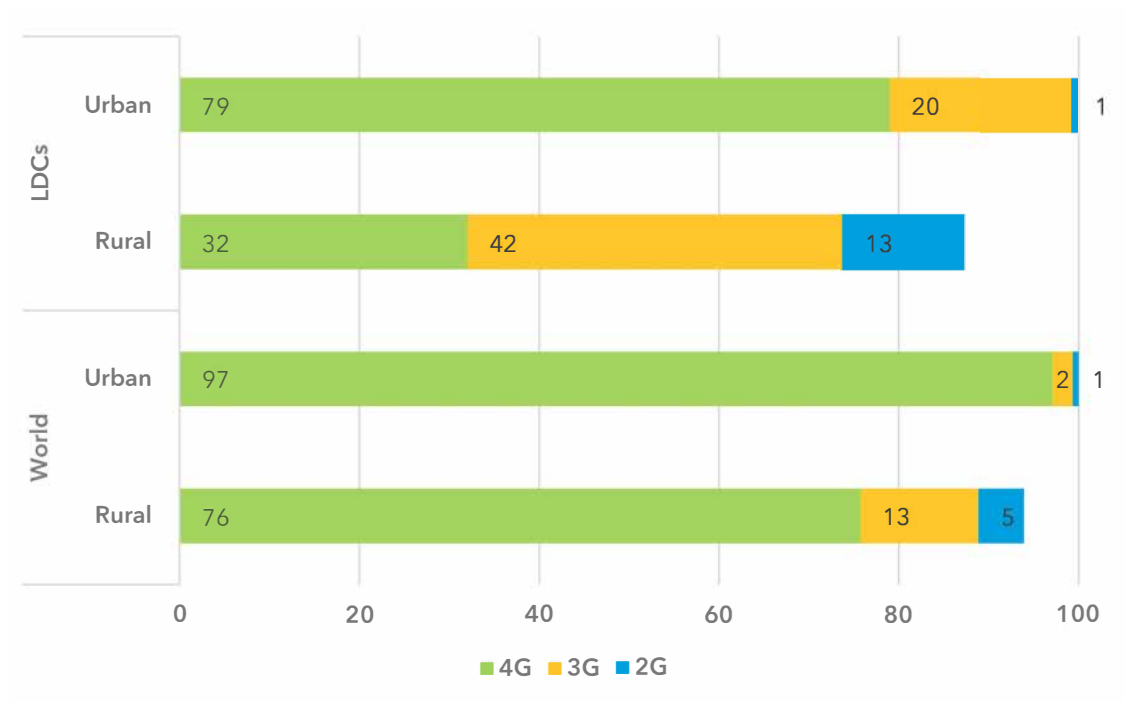
These results show that as a group, LDCs are far from reaching the SDG Target 9.c of universal mobile broadband coverage despite having passed the deadline to meet that target three years ago (“to significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020”).

Network connection and access are pre-requisites for using the Internet: while 17 per cent of the population in the LDCs cannot access the Internet, another 47 per cent has access to it but does not use it. This *usage gap* is a reminder that there are other barriers besides access that stand in the way of Internet use.<sup>3</sup>

<sup>3</sup> For a discussion of the usage gap and the barriers to connectivity, see [The Global Connectivity Report 2022](#) published by ITU.

Virtually all urban areas in the world are covered by a mobile broadband network. In LDCs, however, one fifth of the urban population only has access to a 3G network, a much slower technology than 4G. In the rural areas of LDCs, 13 per cent of the population has no mobile signal at all and another 13 per cent only has access to a 2G network, meaning that 26 per cent cannot access the Internet. Forty-two per cent can only rely on a 3G network. This means that only a third of the rural population of LDCs is covered by a 4G network.

Population coverage by type of mobile network and location, 2022

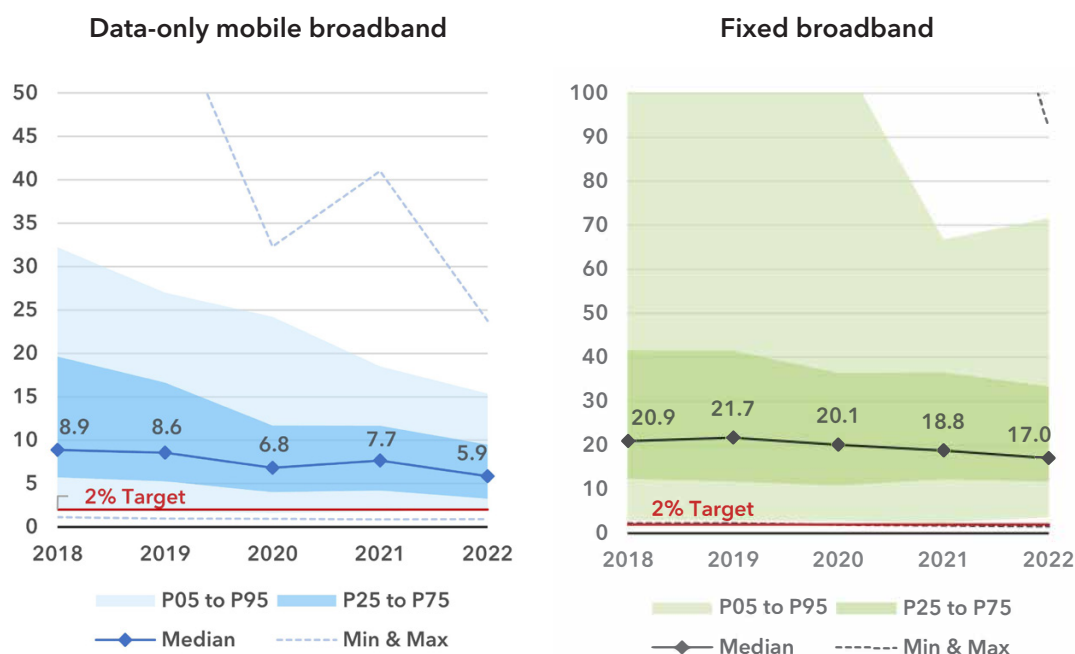


Note: The values for 2G and 3G networks show the incremental percentage of the population that is not covered by a more advanced technology network. For example, 89 per cent of the world's rural population was covered by a 3G network and above (76 per cent + 13 per cent).  
Source: ITU

## Affordability

*Despite rapid falls in mobile-broadband prices, affordability targets remain elusive*

Price of broadband services as a percentage of gross national income per capita in LDCs



Note: To eliminate the effect of annual changes in data availability on price trends, median values shown here were calculated based on a comparable set of countries for which data is available for each year from 2018 to 2022 (40 LDCs for the mobile-broadband and 28 for the fixed-broadband basket). Based on LDCs with data available for 2022 only, medians would be 5.8 and 18.5, respectively. Mobile broadband refers to a basket of services including 2 GB monthly data allowance at 3G or higher technology. Fixed broadband services include 5 GB monthly allowance at 256 kbit/s or higher speeds. The shading in the figures shows the distribution of prices across countries, with P05 to P95 and P25 to P75 referring to a specific percentile of countries (e.g. the darkest coloured segment (25th to 75th percentile) shows the range of prices for the middle half of the countries.)  
Source: ITU

The lack of affordability is one of the main barriers to Internet use and accessing the Internet is more costly in LDCs than anywhere else in the world. The price of a benchmark mobile broadband basket with a 2 GB monthly allowance amounts to almost 6 per cent of the average monthly income in LDCs, which is around four times the 1.5 per cent average cost across the globe. The UN Broadband Commission has set an affordability target for the cost of a benchmark monthly entry-level broadband subscription at no more than 2 per cent of the average gross national income (GNI) per capita in a country. In 2022, only two LDCs met the 2 per cent target: Bangladesh (for both mobile- and fixed-broadband subscriptions) and Bhutan (for mobile broadband only). There are a further 16 LDCs where mobile broadband services cost less than 5 per cent of monthly GNI per capita. This means that in the vast majority of LDCs, Internet costs more than 5 per cent of GNI per capita and can rise to as much as 24 per cent. The share of income that the poorer segment of the population needs to spend makes it even more prohibitive.

In LDCs, the price gap between mobile and fixed broadband is much wider than elsewhere in the world. Fixed broadband typically costs around three times as much as mobile broadband in LDCs, but 'only' twice as much elsewhere. Median prices conceal vast disparities: fixed broadband basket prices in 2022 ranged from 3.6 to 71.6 per cent of monthly GNI per capita in 90 per cent of LDCs where data is available (although in one country it reached 96.2 per cent).

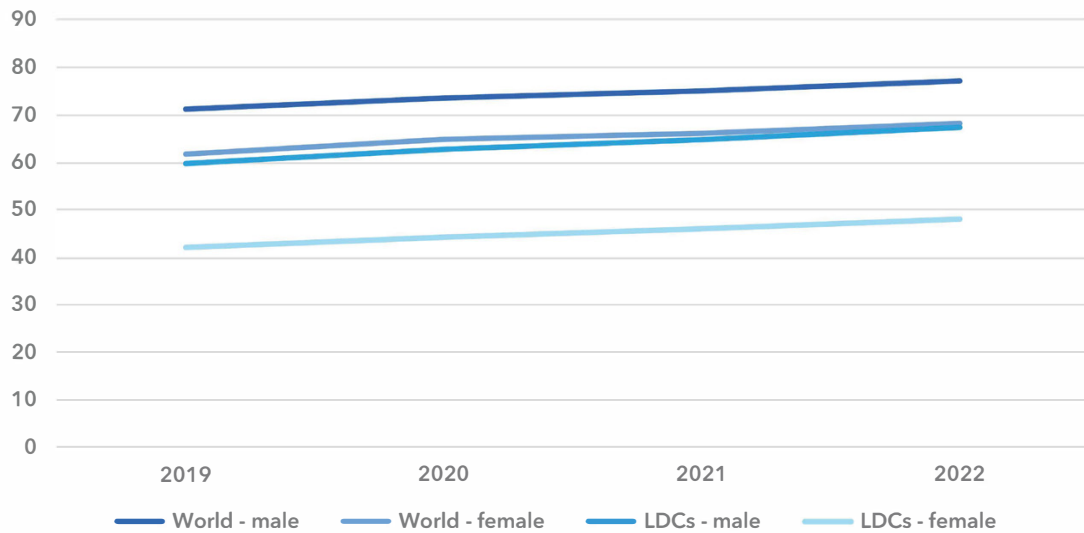
Broadband services are becoming more affordable in LDCs, despite the dampening effect of the COVID-19 pandemic on this trend. The median price for a data-only mobile subscription in 2018 dropped from 8.9 per cent of monthly GNI per capita to 5.9 per cent in 2022, a 34 per cent reduction.

Affordability has improved faster in LDCs where prices were highest. Among LDCs with the most expensive data-only mobile subscriptions in 2018, prices ranged from 19.6 to 85.7 per cent of GNI per capita. In contrast, by 2022, prices in the same LDCs ranged from 9.5 to 23.8 per cent of monthly GNI per capita. Over the same period, the median price of fixed broadband subscriptions dropped by only 19 per cent and still accounts for 17 per cent of GNI per capita.

## Mobile phone ownership and subscriptions

*Amidst high mobile phone ownership, the gender divide runs deep*

Percentage of individuals owning a mobile phone, by gender

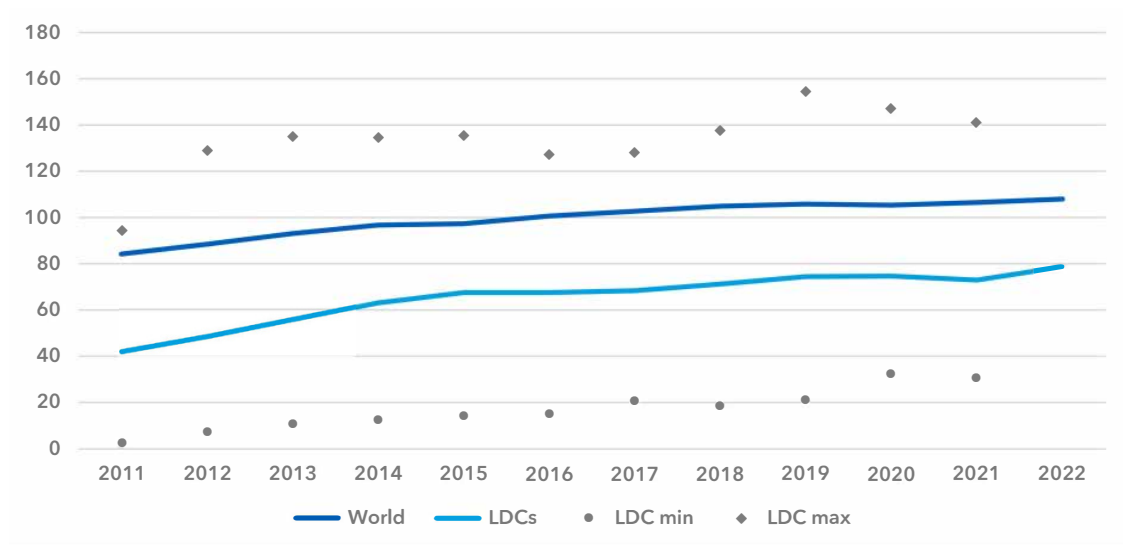


Note: Individuals aged 10 or older  
Source: ITU

In 2022, a majority of people in LDCs owned a mobile phone (58 per cent), which is much closer to the global average (73 per cent) than observed for many other indicators. Not surprisingly, this was also the case for mobile cellular subscriptions: the LDC average of 79 subscriptions per 100 inhabitants is relatively close to the world average of 108. The gap in mobile broadband is much bigger: 42 subscriptions per 100 inhabitants in the LDCs compared with 87 for the world. In part this is because the necessary infrastructure to access a mobile broadband network is missing, but these results also suggest that voice and text remain an important way of communication in LDCs.



### Mobile cellular subscriptions per 100 inhabitants



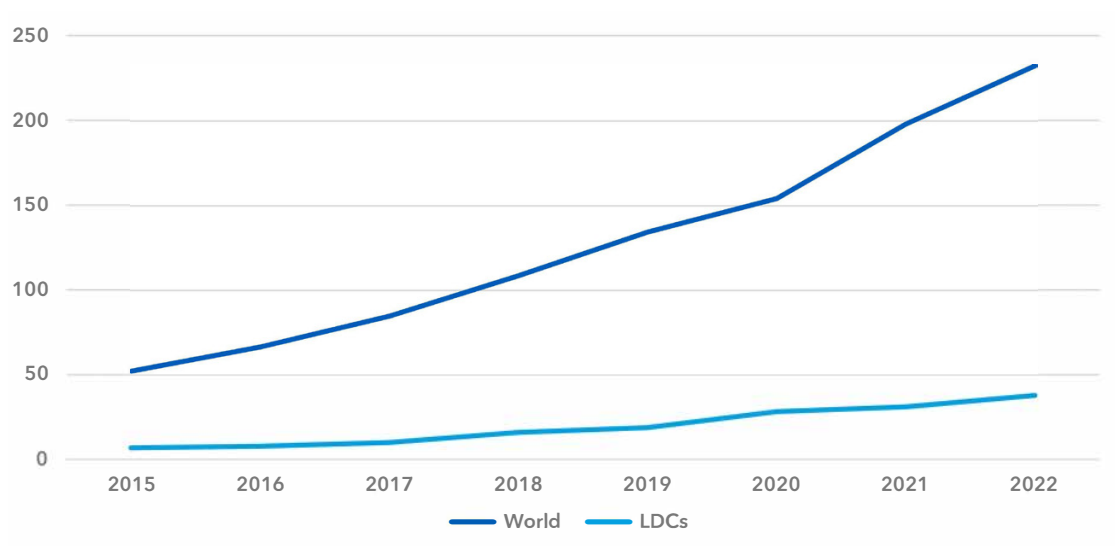
Note: In any given year, *LDC min* and *LDC max* represent the LDC with the lowest and highest value, respectively.  
 Source: ITU

The gender gap for mobile phone ownership remains wide. In 2022, mobile phone ownership among the male population in LDCs reached 68 per cent, while ownership among the female population rose to only 48 per cent. This translates into a gender parity score of 0.71, much lower than the global gender parity score of 0.88. However, neither parity scores for LDCs, nor scores at the global level, have made much progress over the last four years.

## International bandwidth usage

*The international connectivity gap between LDCs and the rest of the world is widening fast*

### International bandwidth usage per Internet user (kbit/s)



Source: ITU

The unrelenting appetite for Internet data continues to drive demand for international data and therefore bandwidth usage. However, the lack of infrastructure for international connectivity remains a barrier for universal and meaningful connectivity in many LDCs. In 2022, the average international bandwidth usage was 38 kbit/s per Internet user in LDCs, about one sixth of the global average of 233 kbit/s.

More recently, LDCs have benefitted from the deployment of submarine and overland cables as well as satellite links. Since 2015, bandwidth usage in LDCs has grown by 28 per cent annually, higher than the global increase of 24 per cent. Nevertheless, this has not been sufficient to close the staggering international connectivity gap between LDCs and the rest of the world. On average, Internet users in LDCs used less international bandwidth in 2022 than the world average in 2015 and the gap between LDCs and the world has widened from 45 kbit/s to 195 kbit/s.

## Disparity between LDCs

### ***Averages conceal vast disparities in connectivity performance among LDCs***

Least developed countries are often analysed as a single group. However, as far as elements of connectivity performance are concerned, it can be useful to group LDCs based on indicators of Internet use, mobile phone ownership, mobile and fixed subscription levels, affordability of entry-level mobile and fixed broadband, and gender equality.

The first group made up of Bhutan, Cambodia, Djibouti, Lao P.D.R., Lesotho, Mauritania, Myanmar, Sao Tome and Principe, Senegal, and Tuvalu, is characterized by levels of ICT usage and ownership similar to overall world averages. In this group, the gender gap in Internet use is on a par with the rest of the world. However, affordability remains a challenge with prices well above the Broadband Commission target of 2 per cent of monthly GNI per capita or lower.

By contrast, the second group of LDCs – consisting only of Bangladesh and Republic of Nepal – has lower levels of Internet use, mobile phone ownership, and mobile subscriptions as well as a wide digital gender gap. However, with prices approaching 2 per cent of monthly GNI per capita, these two LDCs are much better placed to reach the Broadband Commission target on affordability.

The third group consisting of Afghanistan, Angola, Benin, Burkina Faso, Comoros, Ethiopia, Gambia, Guinea, Guinea-Bissau, Haiti, Kiribati, Liberia, Malawi, Mali, Mozambique, Rwanda, Solomon Islands, Sudan, Tanzania, Timor-Leste, Togo, Uganda, Yemen, and Zambia, is the largest and therefore most representative LDC on average. Low levels of ICT use and ownership, low subscription levels and poor affordability measures demonstrate the development challenges present in these countries.

However, their circumstances remain ahead of the fourth group of countries, which includes Burundi, Central African Republic, Chad, Democratic Republic of the Congo, Eritrea, Madagascar, Niger, Sierra Leone, Somalia, and South Sudan: ICT indicators in these countries are the poorest among LDCs. In this group, the average for mobile phone ownership remains well below 50 per cent. In addition, these countries are characterized by especially challenging affordability issues with the median country's data-only mobile broadband plan priced at over 10 per cent of monthly GNI per capita.

The diversity of these groups of countries underlines the need for flexibility in approaching the varied challenges of bringing universal and meaningful connectivity to people living in LDCs. The underlying conditions in each country must be fully understood to develop truly impactful policies.

**Average of key ICT indicators by groups of similar LDCs, 2021**

Indicator (units)	Group				World average
	1 (10 LDCs)	2 (2 LDCs)	3 (24 LDCs)	4 (10 LDCs)	
Share of individuals using the Internet (%)	60.8	45.3	30.2	15.0	<b>62.6</b>
Gender equality - Internet use (relative gap)	0.92	0.68	0.80	0.69	<b>0.88</b>
Share of individuals owning mobile phones (%)	78.8	70.1	54.6	30.2	<b>70.6</b>
Mobile broadband subscriptions (per 100 inhabitants)	71.6	57.2	33.3	11.6	<b>82.0</b>
Fixed broadband subscriptions (per 100 inhabitants)	1.5	5.4	0.4	0.1	<b>16.8</b>
Data-only mobile broadband prices (as a % of GNI per capita)	2.9	1.7	7.0	11.5	<b>1.4</b>
Fixed broadband prices (as a % of GNI per capita)	12.6	5.9	31.8	80.0	<b>3.0</b>

Note: Countries were assigned to groups using hierarchical clustering (detailed explanation available at [https://uc-r.github.io/hc\\_clustering](https://uc-r.github.io/hc_clustering)). Missing data were imputed based on overall ranked performance of countries for available indicators. Averages shown are not population-weighted as clustering was performed under the assumption of equal weight per country. *Relative gap* is calculated as the geometric mean of the gender gap for individuals using the Internet and those not using the Internet. *Data-only mobile broadband* refers to a basket of services including 2 GB monthly data allowance at 3G or higher technology. *Fixed broadband* includes 5 GB monthly allowance at 256 kbit/s or higher speeds. Affordability data (*Data-only mobile broadband* and *Fixed broadband*) are group medians to account for outliers and data are from 2022.

Source: ITU

## Annex 1: Regional composition

For the purpose of this publication, the 46 LDCs were grouped according to the following classification:

**Africa (LDC-AFR: 33 countries):** Angola, Benin, Burkina Faso, Burundi, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Djibouti, Eritrea, Ethiopia, Gambia, Guinea, Guinea-Bissau, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauritania, Mozambique, Niger, Rwanda, Sao Tome and Principe, Senegal, Sierra Leone, Somalia, South Sudan, Sudan, Togo, Uganda, United Republic of Tanzania and Zambia

**Asia and the Pacific (LDC-ASP: 12 countries):** Afghanistan, Bangladesh, Bhutan, Cambodia, Kiribati, Lao People's Democratic Republic, Myanmar, Nepal, Solomon Islands, Timor-Leste, Tuvalu and Yemen

**Americas (LDC-AMS: 1 country):** Haiti

## Annex 2: Group aggregates and country values for selected connectivity indicators

This annex reports aggregates for the world and the LDC group (Table A2.1) and values for individual LDCs (Tables A2.2 and A2.3) for selected connectivity indicators. For more data, visit the [ITU DataHub](#).

**Table A2.1: World aggregates and LDC aggregates**

	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Mobile-cellular telephone subscriptions per 100 inhabitants</b>												
World	84.2	88.5	93.1	96.7	97.3	100.6	102.7	104.9	105.8	105.4	106.5	108.0
LDCs	42.2	48.6	55.8	63.1	67.5	67.6	68.4	71.2	74.5	74.7	73.0	78.7
<b>Fixed-telephone subscriptions per 100 inhabitants</b>												
World	17.2	16.7	16.0	15.1	14.0	13.4	12.9	12.6	11.8	11.4	11.1	10.8
LDCs	1.0	1.0	1.0	1.0	0.9	0.9	0.8	0.9	0.8	0.8	0.7	0.6
<b>Active mobile-broadband subscriptions per 100 inhabitants</b>												
World	16.9	21.9	27.4	36.8	44.6	51.9	62.8	69.7	74.0	77.7	82.0	86.9
LDCs	1.3	2.8	4.7	10.3	14.9	19.9	26.2	29.0	33.2	36.3	37.7	41.9
LDC-AFR	1.9	3.5	5.5	8.8	12.6	14.1	18.1	19.7	22.2	25.9	28.7	31.3
LDC-ASP	0.2	1.6	3.2	13.2	19.4	30.7	40.8	46.3	55.5	62.4	57.1	64.6
LDC-AMS	-	-	-	0.2	0.2	10.3	28.5	30.3	27.4	28.6	28.2	31.2
<b>Fixed-broadband subscriptions per 100 inhabitants</b>												
World	8.6	9.2	9.7	10.1	11.4	12.2	13.6	14.1	14.7	15.7	16.8	17.6
LDCs	0.1	0.2	0.3	0.5	0.8	0.9	1.0	1.1	1.2	1.4	1.4	1.6
LDC-AFR	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.3	0.3	0.4	0.4	0.4
LDC-ASP	0.2	0.3	0.7	1.2	1.8	2.2	2.5	2.8	3.0	3.7	4.0	4.1
LDC-AMS	-	-	-	-	0.0	0.0	0.3	0.3	0.3	0.3	0.3	0.3
<b>Population covered by a mobile-cellular network (%)</b>												
World	N/A	N/A	N/A	N/A	94.8	95.3	96.1	96.3	96.8	97.0	97.1	97.3
LDCs	81.1	82.3	84.4	85.2	86.1	83.8	85.0	85.5	89.5	90.8	91.0	91.7
LDC-AFR	75.8	78.5	79.1	82.3	82.5	83.2	83.6	85.2	86.5	88.4	88.7	89.4
LDC-ASP	88.2	88.8	94.3	90.9	94.7	96.0	95.3	96.1	96.3	96.4	96.3	97.3
LDC-AMS	N/A	N/A	N/A	63.3	70.1	70.1	70.1	70.1	70.0	70.0	70.0	70.0

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	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
<b>Population covered by at least a 3G mobile network (%)</b>												
World	N/A	N/A	N/A	N/A	78.3	84.5	87.9	90.8	92.4	92.8	93.5	94.8
LDCs	24.1	22.1	31.1	43.6	53.3	61.9	67.5	71.6	74.4	79.0	77.9	82.8
LDC-AFR	23.8	28.4	34.4	38.2	46.2	53.1	60.2	64.9	69.4	71.7	73.2	79.5
LDC-ASP	26.9	11.9	26.3	53.8	67.1	79.6	83.5	86.3	86.9	87.9	88.3	90.1
LDC-AMS	N/A	24.7	34.8	40.0	40.0	40.0	40.0	60.0	60.0	60.0	60.0	67.5
<b>Population covered by at least an LTE/WiMAX mobile network (%)</b>												
World	N/A	N/A	N/A	N/A	43.4	64.1	75.1	79.9	82.8	85.1	86.5	87.7
LDCs	N/A	N/A	N/A	N/A	15.4	19.5	23.5	33.0	37.4	44.1	45.8	48.7
LDC-AFR	N/A	N/A	N/A	N/A	6.2	10.3	13.8	17.6	23.5	30.8	32.3	36.0
LDC-ASP	N/A	N/A	N/A	N/A	33.3	37.0	42.0	57.0	63.4	73.9	74.2	75.9
LDC-AMS	N/A	N/A	N/A	N/A	-	14.0	30.0	30.0	30.0	35.0	35.0	35.5
<b>International bandwidth usage per Internet user (kbit/s)</b>												
World	N/A	N/A	N/A	N/A	52.3	66.7	84.9	108.7	134.4	154.2	198.2	232.6
LDCs	N/A	N/A	N/A	N/A	6.8	7.8	9.9	15.9	18.8	28.2	31.0	37.7
<b>Individuals using the Internet (%)</b>												
World	31.0	33.5	35.4	37.5	40.0	43.0	45.6	49.0	53.7	59.6	62.6	66.3
LDCs	3.9	4.8	5.9	8.2	10.7	13.5	16.5	20.3	23.5	27.6	31.2	36.1
LDC-AFR	3.1	3.9	4.9	6.8	9.1	11.0	13.0	14.9	17.2	20.3	23.8	28.3
LDC-ASP	9.0	9.8	10.6	11.4	14.2	22.8	27.2	32.5	32.5	36.4	38.9	43.0
LDC-AMS	5.3	6.2	7.7	10.7	13.7	18.1	23.1	30.8	35.8	42.2	46.4	52.5
<b>Individuals owning a mobile phone* (%)</b>												
World	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	66.6	69.3	70.6	72.7
LDCs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	51.0	53.6	55.5	57.9
<b>Data-only mobile broadband basket price as a % of GNI per capita**</b>												
World	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.9	1.9	1.7	1.9	1.4
LDCs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8.9	8.6	6.8	7.7	5.9
<b>Fixed broadband basket price as a % of GNI per capita**</b>												
World	N/A	N/A	N/A	N/A	N/A	N/A	N/A	3.0	3.1	2.9	3.3	3.0
LDCs	N/A	N/A	N/A	N/A	N/A	N/A	N/A	20.9	21.7	20.1	18.8	17.0

Note: \* Individuals aged 10 or older. \*\* In order to eliminate the effect of annual changes in data availability on price trends, median values shown here were calculated based on a comparable set of countries for which data are available for each year from 2018 to 2022 (40 LDCs for the mobile-broadband and 28 for the fixed-broadband basket). All data are ITU estimates. N/A: Not available. For the composition of LDC-AFR, LDC-ASP and LDC-AMS, see Annex 1.  
Source: ITU World Telecommunication/ICT Indicators database

**Table A2.2: Selected connectivity indicators for LDCs (Part 1)**

Values are for 2021 unless specified otherwise.

	% individuals using the Internet		Mobile cellular subs. per 100 inhab.	Fixed telephone subs. per 100 inhab.	Mobile broadband subs. per 100 inhab.	Fixed broadband subs per 100 inhab.
<b>World (2022)</b>	<b>66.3</b>		<b>108.0</b>	<b>10.8</b>	<b>86.9</b>	<b>17.6</b>
<b>LDCs (2022)</b>	<b>36.1</b>		<b>78.7</b>	<b>0.6</b>	<b>41.9</b>	<b>1.6</b>
Afghanistan	18.4	-1	56.6	0.4	18.5	0.1
Angola	32.6		44.4	0.3	21.2	0.8
Bangladesh	38.9		108.9	0.9	54.7	6.6
Benin	34.0		98.0	0.1	33.4	0.2
Bhutan	85.6		100.1	2.5	86.2	0.4
Burkina Faso	21.6		111.7	0.4	60.9	0.1
Burundi	5.8		61.7	0.1	8.2	0.0
Cambodia	60.2		120.0	0.2	105.7	2.0
Central African Rep.	10.6		33.6	0.0	5.2	0.0
Chad	17.9		60.2	0.0	7.3	0.0
Comoros	27.3		103.9	0.9	42.0	0.1
Dem. Rep. of the Congo	22.9		48.9	0.0	24.1	0.0
Djibouti	68.9		44.3	2.5	35.9	1.3
Eritrea	21.7		49.7	1.8		0.1
Ethiopia	16.7		53.6	0.7	21.7	0.4
Gambia	33.0		101.4	2.3	50.3	0.2
Guinea	34.7		101.9	0.0	23.4	0.0
Guinea-Bissau	35.2		108.5		52.9	0.2
Haiti	38.9		63.9	0.1	28.2	0.3
Kiribati	53.6		40.8	0.0	41.1	0.2
Lao P.D.R.	62.0		65.0	17.5	56.4	2.0
Lesotho	48.0		79.8	0.4	64.2	0.4
Liberia	33.6		31.8	0.1	6.6	0.3
Madagascar	19.7		56.3	0.1	17.8	0.1
Malawi	24.4		60.0	0.1	39.3	0.1



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	% individuals using the Internet		Mobile cellular subs. per 100 inhab.	Fixed telephone subs. per 100 inhab.	Mobile broadband subs. per 100 inhab.	Fixed broadband subs per 100 inhab.
Mali	34.5		111.1	1.4	40.0	0.7
Mauritania	58.8		141.1	1.3	70.8	0.4
Mozambique	17.4		42.7	0.2	19.3	0.2
Myanmar	44.0		126.3	1.0	109.6	1.7
Nepal (Republic of)	51.6		127.2	2.4	59.6	4.2
Niger	22.4		56.4	0.2	5.5	0.0
Rwanda	30.5		81.0	0.1	47.0	0.2
Sao Tome and Principe	51.2		84.8	1.2	39.8	1.5
Senegal	58.1		117.7	1.5	94.1	1.2
Sierra Leone	18.0	<sup>-1</sup>	97.7	0.0	21.2	0.0
Solomon Islands	36.1		67.0	1.0	18.1	0.1
Somalia			51.8	0.5	2.6	0.7
South Sudan	6.5	<sup>-1</sup>	30.5		6.3	0.0
Sudan	28.4	<sup>-1</sup>	75.6	0.3	42.0	0.1
Tanzania	31.6		85.0	0.1	18.3	2.0
Timor-Leste	39.5		104.9	0.1	30.3	0.1
Togo	35.0		72.4	0.6	34.3	0.8
Tuvalu	71.6		80.3	17.9		4.0
Uganda	10.3		65.7	0.2	52.2	0.1
Yemen			46.0	3.8	5.0	1.2
Zambia	21.2		104.0	0.3	53.2	0.4

Note: Estimates are in italics; <sup>-1</sup> means data are for 2020.

Source: ITU World Telecommunication/ICT Indicators database

**Table A2.3: Selected connectivity indicators for LDCs (Part 2)**

Values are for 2021 unless specified otherwise.

	% pop. covered by a mobile-cellular network	% pop. covered by at least a 3G mobile network	% pop. covered by at least a 4G mobile network	Mobile broadband basket as a % of GNI p.c.	Fixed broadband basket as a % of GNI p.c.
<b>World (2022)</b>	<b>97</b>	<b>95</b>	<b>88</b>	<b>1.5</b>	<b>3.2</b>
<b>LDCs (2022)</b>	<b>92</b>	<b>83</b>	<b>49</b>	<b>5.8</b>	<b>18.5</b>
Afghanistan	90	57	26	10.7	+1
Angola	100	87	33	2.7	+1
Bangladesh	100	98	98	1.0	+1
Benin	98	80	46	5.7	+1
Bhutan	98	95	80	0.9	+1
Burkina Faso	93	53	37	9.9	+1
Burundi	97	51	32	12.8	+1
Cambodia	100	96	96	2.3	+1
Central African Rep.	56	48	0	23.8	+1
Chad	86	59	22	22.5	+1
Comoros	92	87	85	7.8	+1
Dem. Rep. of the Congo	73	55	40	10.3	+1
Djibouti	90	90	90	6.2	+1
Eritrea	85	35	0		
Ethiopia	97	85	10	3.4	+1
Gambia	98	88	8	11.6	+1
Guinea	88	40	29	5.9	+1
Guinea-Bissau	100	43	23	8.0	+1
Haiti	70	60	35	14.8	+1
Kiribati	75	75	54	5.8	+1
Lao P.D.R.	95	85	52	2.1	+1
Lesotho	96	96	85	4.9	+1
Liberia	76	63	35	15.5	+1
Madagascar	88	67	27	9.3	+1
Malawi	86	84	69	9.4	+1

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	% pop. covered by a mobile-cellular network	% pop. covered by at least a 3G mobile network	% pop. covered by at least a 4G mobile network		Mobile broadband basket as a % of GNI p.c.		Fixed broadband basket as a % of GNI p.c.	
Mali	100	68	47		9.7	<sup>+1</sup>	24.1	<sup>+1</sup>
Mauritania	97	44			3.8	<sup>+1</sup>	19.2	<sup>+1</sup>
Mozambique	85	85	50		9.4	<sup>+1</sup>	33.7	<sup>+1</sup>
Myanmar	96	94	94		3.1	<sup>+1</sup>	15.3	<sup>+1</sup>
Nepal (Republic of)	93	54	45		2.4	<sup>+1</sup>	10.3	<sup>+1</sup>
Niger	92	24	15	<sup>-1</sup>	7.2	<sup>+1</sup>		
Rwanda	99	99	98		3.0	<sup>+1</sup>	41.6	<sup>+1</sup>
Sao Tome and Principe	94	94			5.1	<sup>+1</sup>	15.6	<sup>+1</sup>
Senegal	99	99	83		2.8	<sup>+1</sup>	17.8	<sup>+1</sup>
Sierra Leone	93	80	49		3.3	<sup>+1</sup>		
Solomon Islands	95	45	25		9.8	<sup>+1</sup>	47.6	<sup>+1</sup>
Somalia	80	70	30		5.3	<sup>+1</sup>	80.0	<sup>+1</sup>
South Sudan	48	15	15					
Sudan	90	79	35		4.5	<sup>+1</sup>		
Tanzania	95	85	13		4.6	<sup>+1</sup>	20.7	<sup>+1</sup>
Timor-Leste	97	97	45		4.3	<sup>+1</sup>	30.3	<sup>+1</sup>
Togo	98	97	83		8.7	<sup>+1</sup>	32.6	<sup>+1</sup>
Tuvalu	50	48	0		2.7	<sup>+1</sup>	13.7	<sup>+1</sup>
Uganda	98	85	31		5.4	<sup>+1</sup>	50.5	<sup>+1</sup>
Yemen	89	95	0		6.1	<sup>+1</sup>	4.0	<sup>+1</sup>
Zambia	97	96	91		2.4	<sup>+1</sup>	14.7	<sup>+1</sup>

Note: Estimates are in italics; <sup>-1</sup> means data are for 2020 and <sup>+1</sup> means data are for 2022.  
Source: ITU World Telecommunication/ICT Indicators database

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