

# THE STATE OF BROADBAND CONNECTIVITY IN SUB-SAHARAN AFRICA

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## THE CHALLENGE WE ARE FACING IN AFRICA: THE POPULATION THAT DOES NOT USE THE INTERNET

### BROADBAND NON-ADOPTERS (2020)

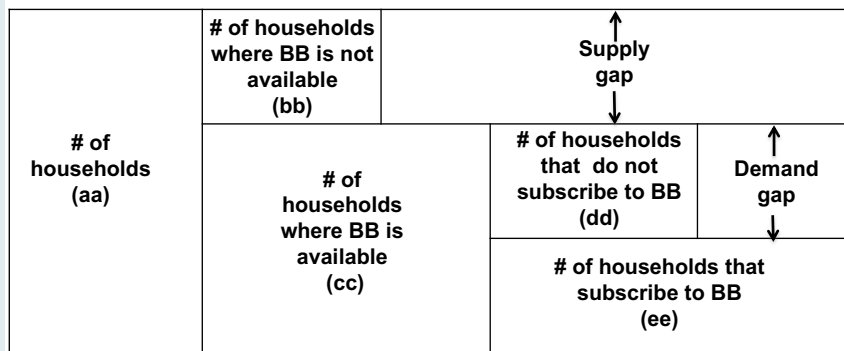
	4G (Individuals*)	Fixed Broadband (HH)
Africa	69.45%	94.04%
Arab States	49.18%	32.96%
Asia and Pacific	47.97%	44.76%
Commonwealth of Independent States	32.80%	27.89%
Europe	27.26%	12.43%
North America	23.63%	4.54%
Latin America and the Caribbean	41.66%	41.46%
WORLD	45.88%	43.20%

Note: \* Unique subscribers/population

Source: Katz, R. (2021). *Telecommunications Industry in the Post-COVID-19 World Report of the VII ITU Economic Experts Roundtable*. Geneva: International Telecommunication Union; Katz, R. and Jung, J. (2021). *The Economic Impact of Broadband and Digitization through the Covid-19 pandemic - Econometric Modelling*. Geneva: International Telecommunication Union

## PART OF THE SUB-SAHARAN AFRICAN CHALLENGE RELATES TO THE SUPPLY GAP

### BROADBAND SUPPLY VERSUS DEMAND GAP



Source: Katz, R. and berry, T. (2014). *Driving demand of broadband networks and services*. London: Springer.

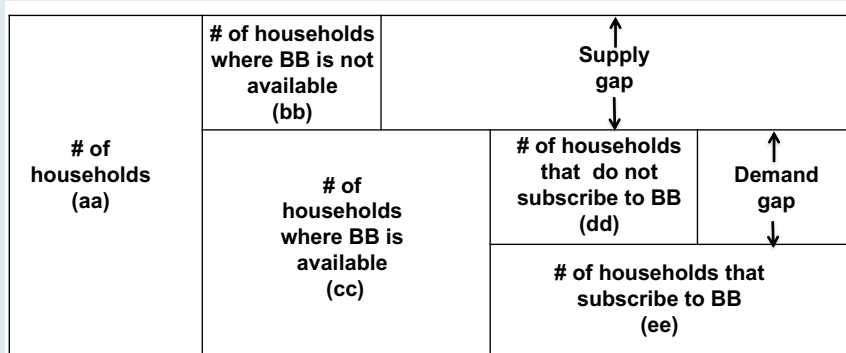
### UNSERVED BROADBAND POPULATION (2020)

	4G (Individuals)	Fixed Broadband (HH)
Africa	55.7 %	53.3 %
Arab States	38.1 %	23.9 %
Asia and Pacific	5.8 %	37.6 %
Commonwealth of Independent States	19.2 %	6.2 %
Europe	2.8 %	5.1 %
North America	2.1 %	4.1 %
Latin America and the Caribbean	14.0 %	11.0 %
WORLD	15.3 %	30.1 %

Source: Katz, R. (2021). *Telecommunications Industry in the Post-COVID-19 World Report of the VII ITU Economic Experts Roundtable*. Geneva: International Telecommunication Union

## THE OTHER VARIABLE EXPLAINING THE SUB-SAHARAN AFRICAN BROADBAND CHALLENGE RELATES TO THE DEMAND GAP

### BROADBAND SUPPLY VERSUS DEMAND GAP



Source: Katz, R. and berry, T. (2014). *Driving demand of broadband networks and services*. London: Springer.

### PERCENT OF THE COVERED POPULATION THAT DOES NOT ACQUIRE BROADBAND (2020)

	4G (Individuals)	Fixed Broadband (HH)
Africa	13.8 %	40.7 %
Arab States	11.1 %	9.1 %
Asia and Pacific	42.2 %	7.2 %
Commonwealth of Independent States	13.6 %	21.7 %
Europe	24.5 %	7.3 %
North America	21.5 %	0.4 %
Latin America and the Caribbean	27.7 %	30.5 %
WORLD	30.6 %	13.1 %

Source: Katz, R. (2021). *Telecommunications Industry in the Post-COVID-19 World Report of the VII ITU Economic Experts Roundtable*. Geneva: International Telecommunication Union

## COVID-19 HAS NEGATIVELY IMPACTED TELECOMMUNICATIONS INVESTMENT IN DEVELOPING COUNTRIES

### TELECOMMUNICATIONS INVESTMENT PER CAPITA (USD)

	2019	2020	Delta
WORLD	\$ 50.86	\$50.77	-0.2 %
Africa	\$ 9.81	\$ 9.12	-7.0 %
Latin America and the Caribbean	\$ 45.16	\$41.99	-7.0 %
Asia and Pacific	\$ 30.08	\$ 29.22	-2.9 %
Arab States	\$ 42.54	\$ 41.09	-3.4 %
Commonwealth of Independent States	\$ 31.93	\$ 33.04	3.5 %
Europe	\$ 99.92	\$ 101.77	1.9 %
North America	\$ 291.50	\$ 305.28	4.7 %

Source: Katz, R. and Jung, J. (2021). *The Economic Impact of Broadband and Digitization through the Covid-19 pandemic - Econometric Modelling*. Geneva: International Telecommunication Union

**ON THE POSITIVE SIDE, A DECLINE IN SERVICE PRICING HAS HELPED ADDRESS PART OF THE DEMAND GAP IN AFRICA**

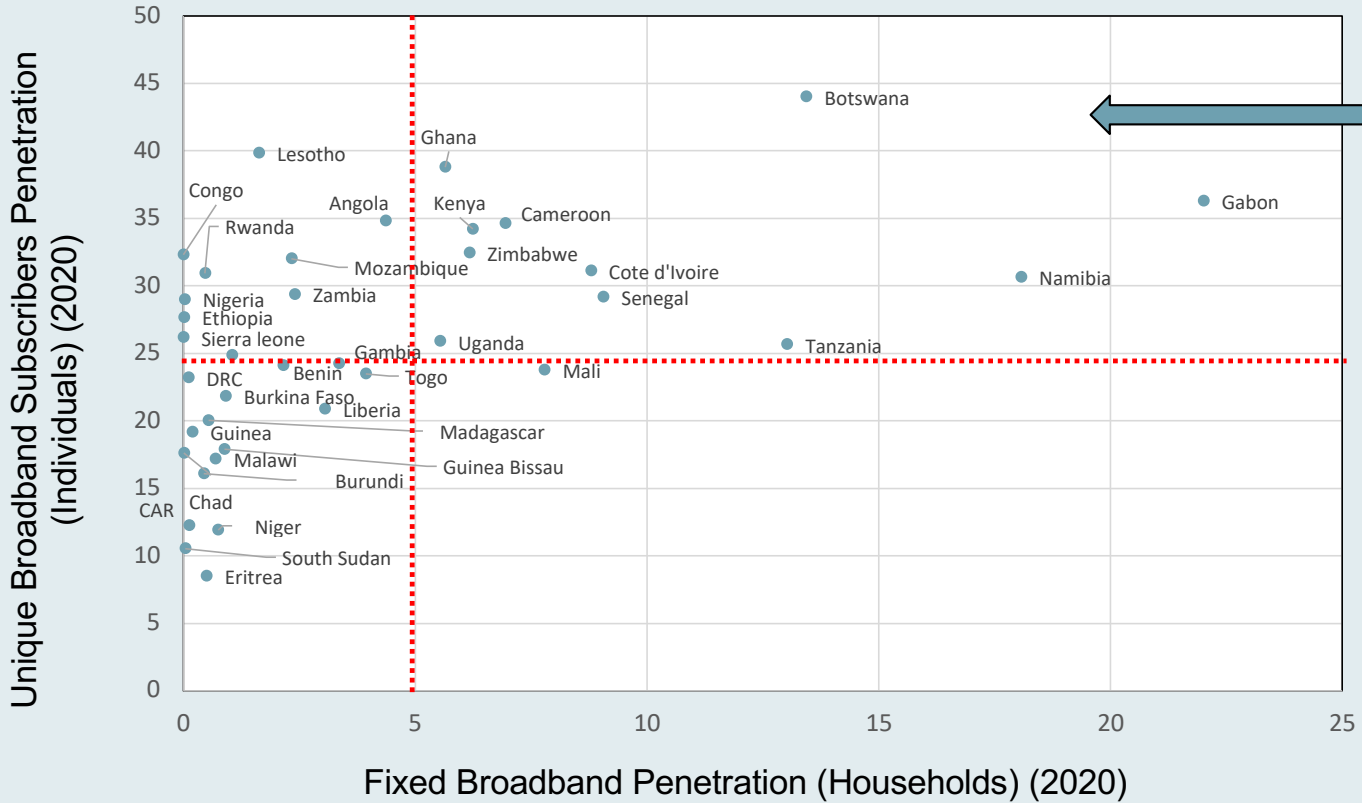
**INCREASE IN BROADBAND AFFORDABILITY  
(Service pricing as per cent of GNI per capita)**

	Fixed Broadband			Mobile Broadband		
	2019	2020	Delta	2019	2020	Delta
WORLD	7.39 %	7.14 %	-3.3 %	1.60 %	1.51 %	-5.1 %
<b>Africa</b>	<b>51.61 %</b>	<b>46.08 %</b>	<b>-10.7 %</b>	<b>7.03 %</b>	<b>5.68 %</b>	<b>-19.2 %</b>
Latin America and the Caribbean	3.18 %	3.62 %	13.9 %	1.97 %	1.78 %	-10.0 %
Asia and Pacific	2.83 %	3.12 %	10.3 %	0.95 %	1.08 %	13.0 %
Arab States	3.20 %	3.55 %	10.9 %	1.27 %	1.05 %	-17.0 %
Commonwealth of Independent States	0.88 %	0.77 %	-12.5 %	0.99 %	0.86%	-12.6 %
Europe	1.32 %	1.27 %	-3.7 %	0.60 %	0.61 %	1.6 %
North America	0.86 %	1.00 %	16.3 %	0.44 %	0.43 %	-4.5 %

Source: Katz, R. and Jung, J. (2021). *The Economic Impact of Broadband and Digitization through the Covid-19 pandemic - Econometric Modelling*. ITU

**THAT SAID, SUB-SAHARAN AFRICA IS NOT A HOMOGENEOUS CONTINENT WHEN IT COMES TO BROADBAND ADOPTION**

**FIXED VS. MOBILE BROADBAND PENETRATION (2020)**

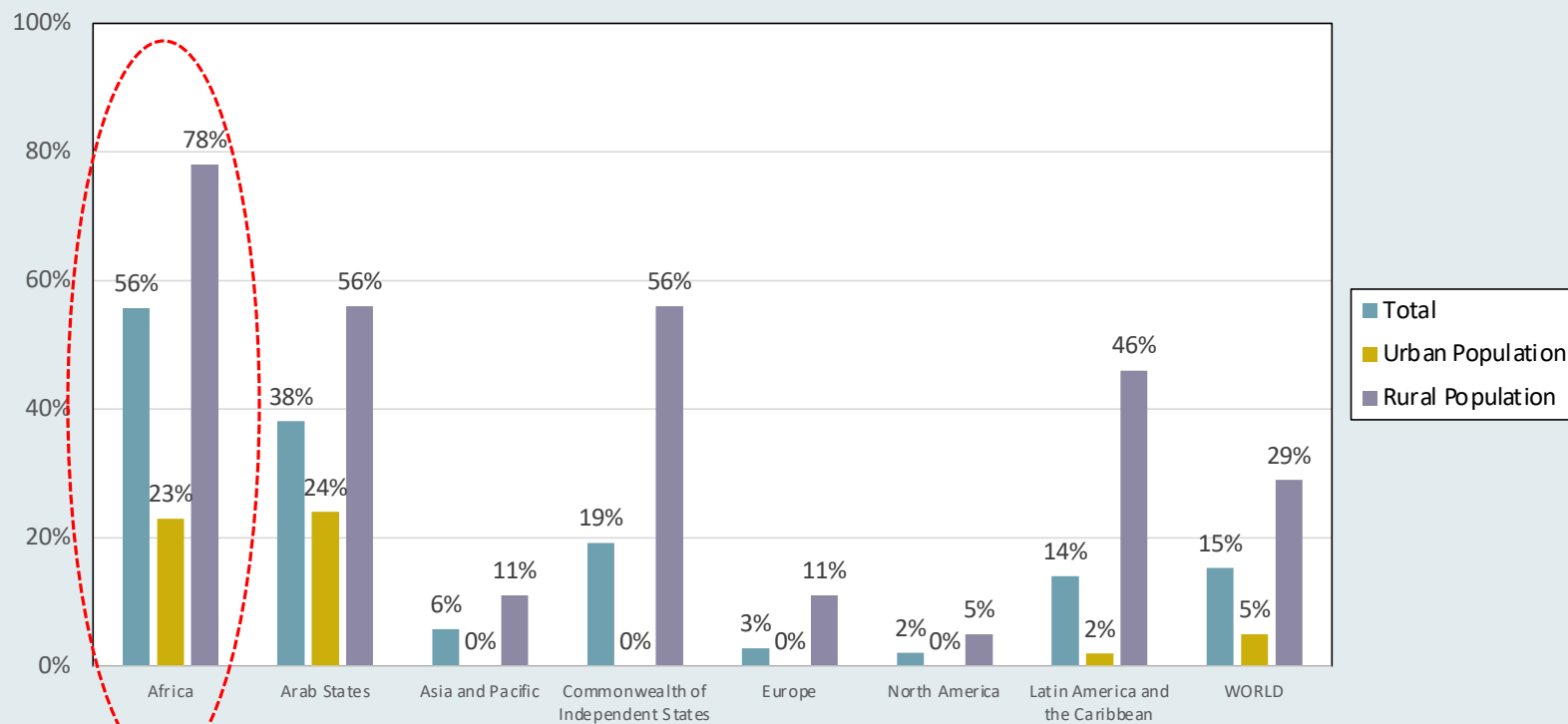


South Africa, and Mauritius excluded but positioned in this quadrant

Source: Telecom Advisory Services analysis

## IN ADDITION TO COUNTRY DIFFERENCES, A DUALITY EXISTS BETWEEN HIGHLY DEVELOPED URBAN CENTERS AND THE REST OF THE GEOGRAPHIES

### PERCENT OF POPULATION UNSERVED BY 4G (2020)



Source: Katz, R. (2021). *Telecommunications Industry in the Post-COVID-19 World Report of the VII ITU Economic Experts Roundtable*. Geneva: International Telecommunication Union

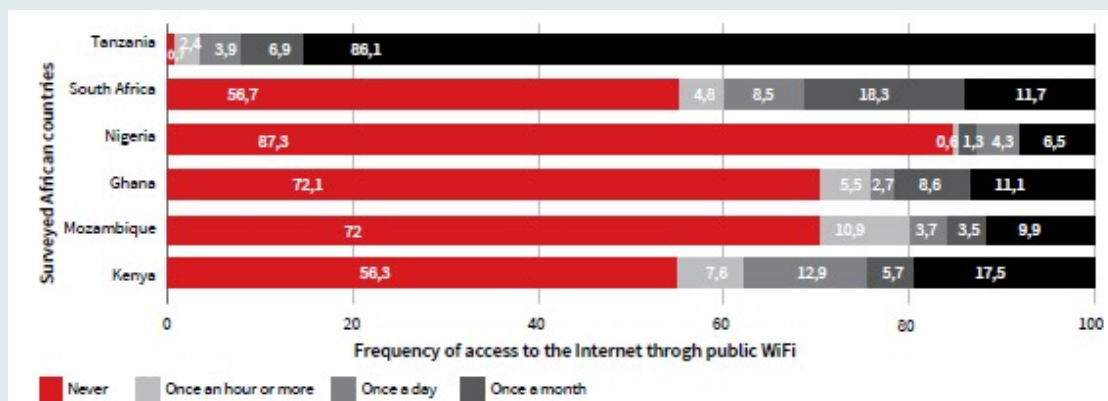


## IN THIS CONTEXT, WI-FI IS ACTING AS A SUITABLE COMPLEMENT TO FIXED AND WIDEBAND BROADBAND INFRASTRUCTURE

Country	City	Free Wi-Fi Sites
Kenya	Nairobi	31,000
	Mombasa	3,000
	Nakuru	2,000
	Eldoret	1,000
	Kisumu	1,000
	Thika	1,000
	<b>Total</b>	<b>39,000</b>
South Africa	Cape Town	76,000
	Durban	34,000
	Johannesburg	155,000
	Pretoria	36,000
	Port Elizabeth	8,000
	<b>Total</b>	<b>273,000</b>
	Nigeria	Lagos
Abuja		7,268
Kano		1,000
Ibadan		1,000
Port Harcourt		2,000
Benin City		1,000
<b>Total</b>		<b>38,811</b>

Source: *Wiman* (2021)

### INTERNET ACCESS THROUGH PUBLIC WI-FI



Source: *RIA After Access survey data, 2017–2018*

## IN CONCLUSION

- Still a significant digital divide in Sub-Saharan Africa (94% of households, 70% of individuals with 4G)
- Part of the digital divide is driven by lack of broadband coverage (53% of households regarding fixed broadband, 56% of individuals regarding 4G)
- In light of investment trends after COVID-19 (7% decline since 2019), no increase in coverage is expected in the near future
- The other variable driving digital divide is demand (40% of households can buy fixed broadband service but do not, 14% of individuals are served by 4G networks but do not subscribe)
- Price declines in both fixed and mobile broadband indicate an improvement in affordability
- These trends are not uniform across the continent: South Africa, Mauritius, Botswana, Gabon, Namibia, Cote d'Ivoire, Senegal, Tanzania, Cameroon, Kenya, Ghana Zimbabwe, and Uganda are on a more advanced development vector than the rest of Sub-Saharan Africa
- However, the urban-rural country duality also exists within every single Sub-Saharan African nation: 78% of rural population is unserved by 4G, while urban unserved is only 23%
- In this context, Wi-Fi is a suitable complement to existing infrastructure

## TELECOM ADVISORY SERVICES

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