Why This Workshop

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About the Association for Progressive Communications (APC)

International network of CSO founded in 1990 dedicated to ICTs for social justice: 62 organisational members and 29 individual members active in 73 countries.

Since 2017, actively supporting community network development in 16 countries from the Global South. Currently supporting 30 organizations.

Policy training (regional: CRASA, EACO, WATRA, African Union Commission, CITEL, national) and research.

Participation in policy processes: Global (IGF, UN, ITU's WTDC, GSR, CWG-Internet and SG Qs), Regional (AU's STC –CICT-3), National (Public Consultations and Technical Assistance).

New Roles for USAF 2.0
Innovative Funding Models


Subsidies and Grants (traditional)


Demand Aggregation and Anchor Tenant models


Community Broadband networks


Blended Financing


Fund of Funds and Co-Investment

USAF 2.0 Potential Funding Tools

What are Municipal and Community Broadband Networks?

Do you know any municipal and community broadband network in Indonesia?

"Connecting the first 53% wasn't so hard. Connecting the remaining 47% is a different ball-game, and 'business as usual' will not work."

- Ms. Doreen Bogdan-Martin
  ITU Secretary General

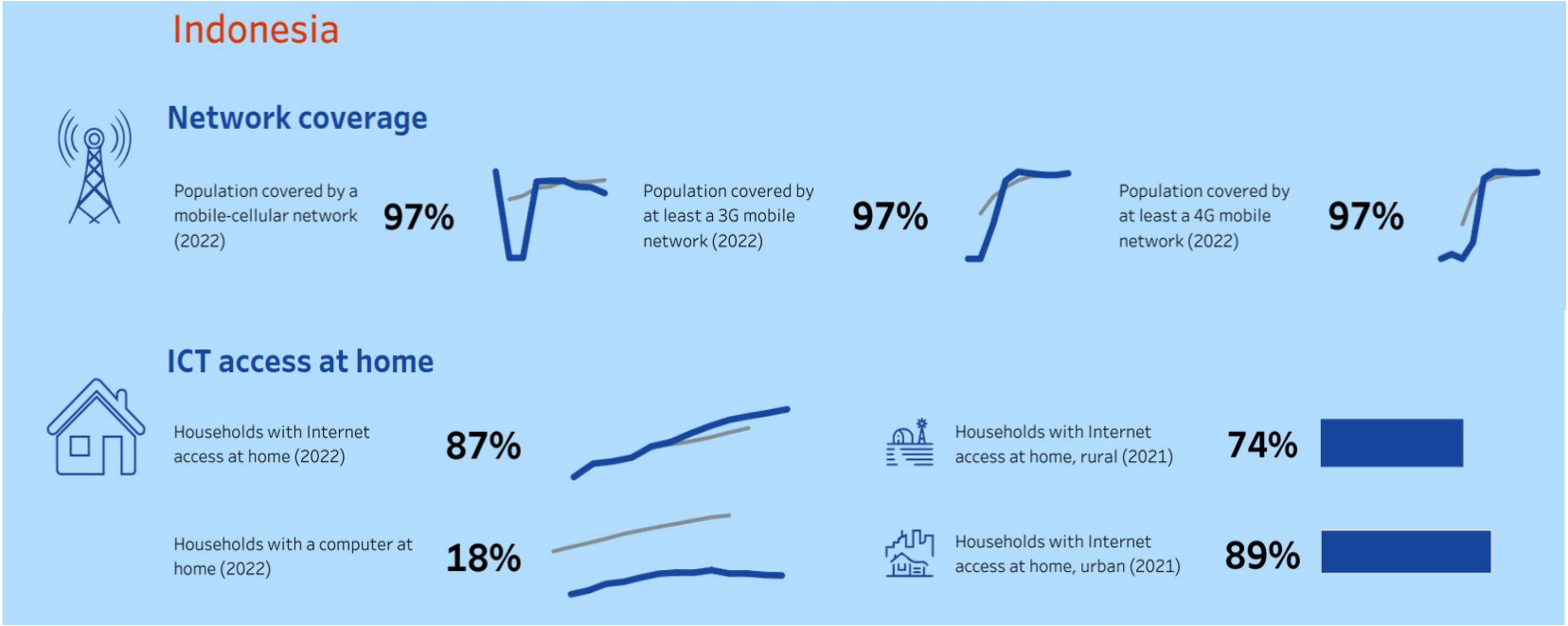
Why Growth is Slowing

We've Connected the Easy Half

Billions of People on Earth	Average Annual Income	Affordable Monthly Communication Spend
1st Billion	$29,206	$205
2nd Billion	$12,702	$53
3rd Billion	$5,540	$23
4th Billion	$2,987	$12
5th Billion	$1,771	$7
6th Billion	$1,065	$4.4
7th Billion	$540	$2.25

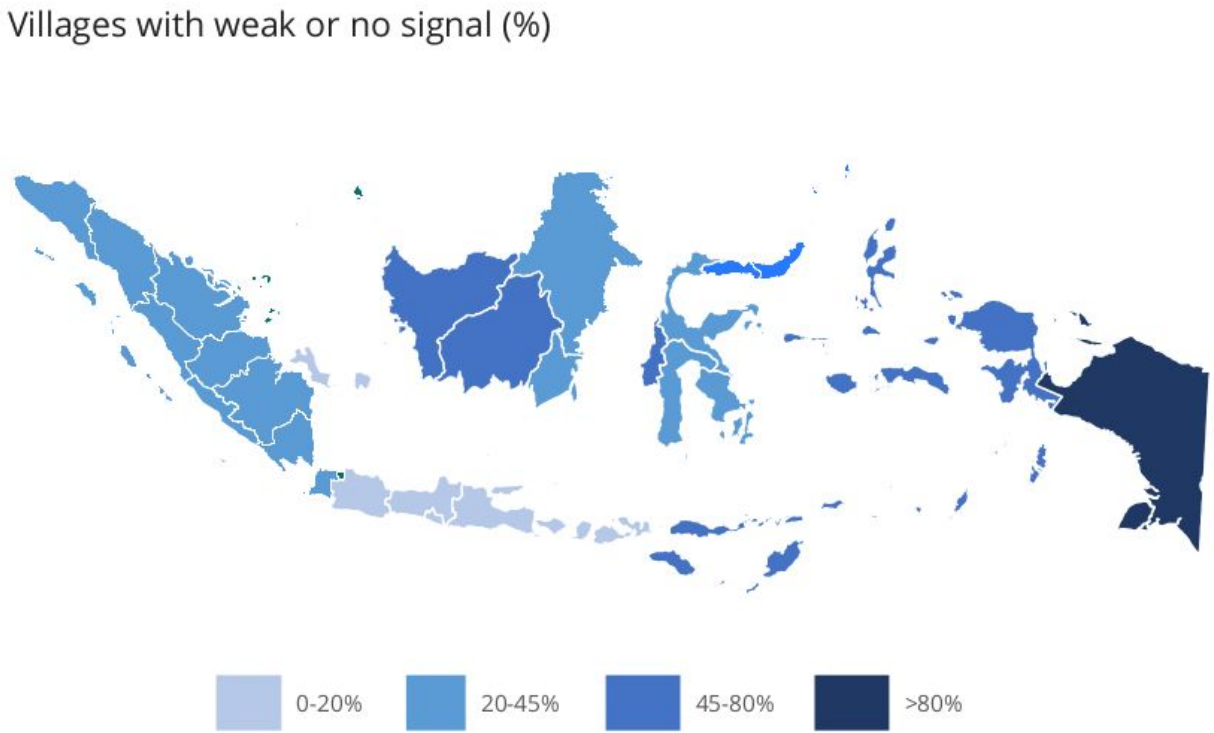
Source: Richard Thanki, University of Southhampton from UN & ITU data

Coverage and Access in Indonesia



https://www.itu.int/en/ITU-D/Statistics/Dashboards/Pages/Digital-Development.aspx

Urban - Rural Divide



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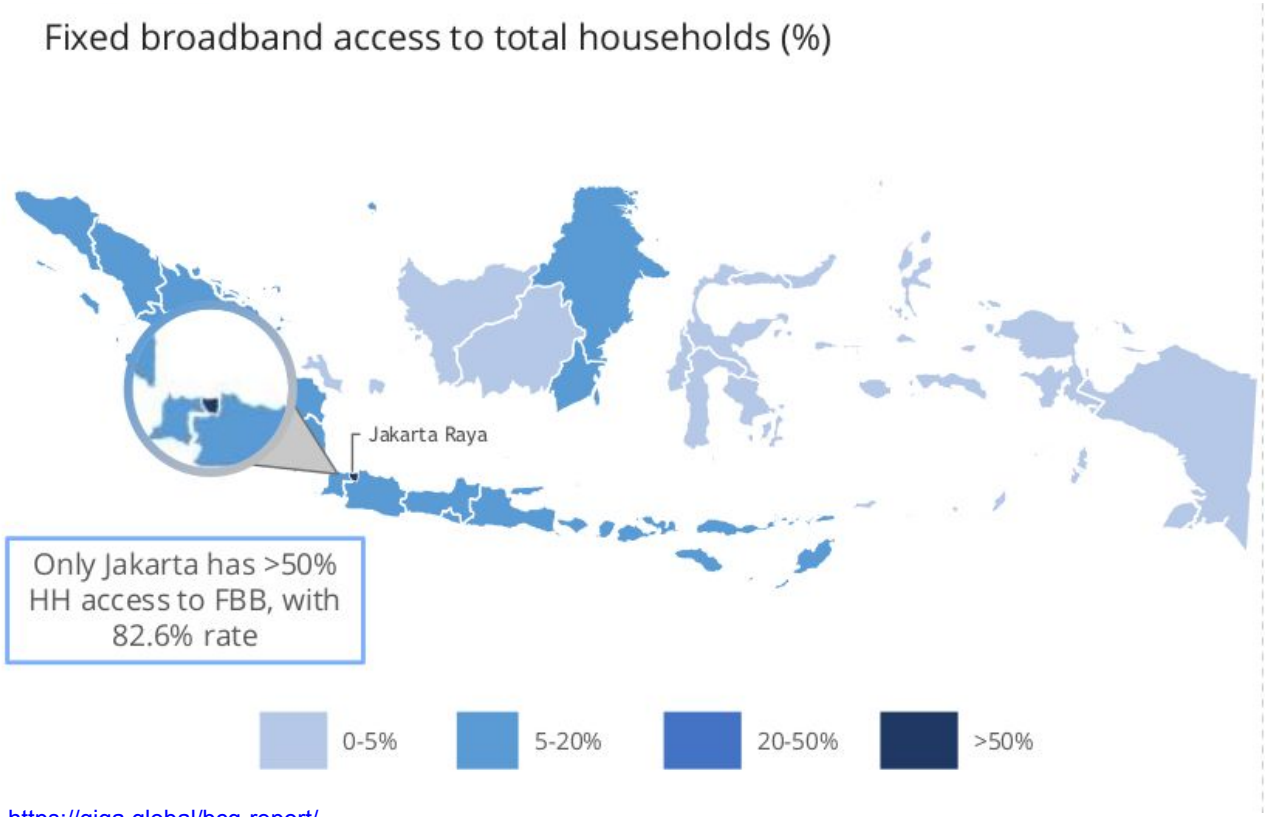

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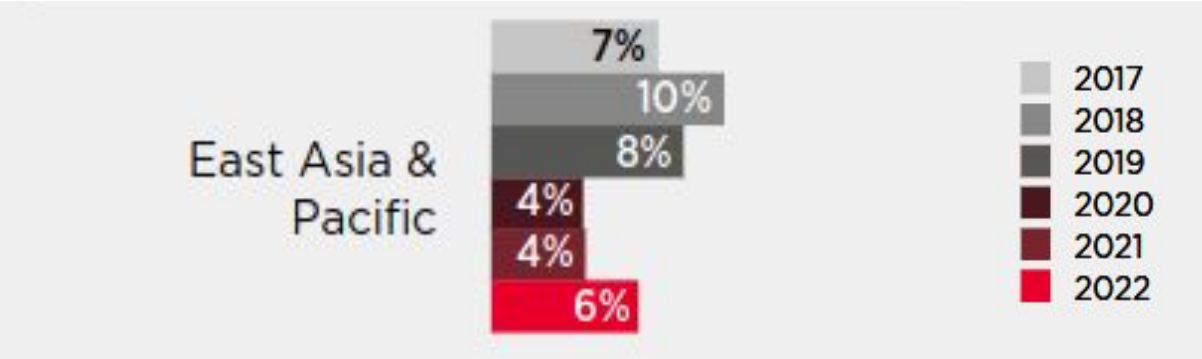
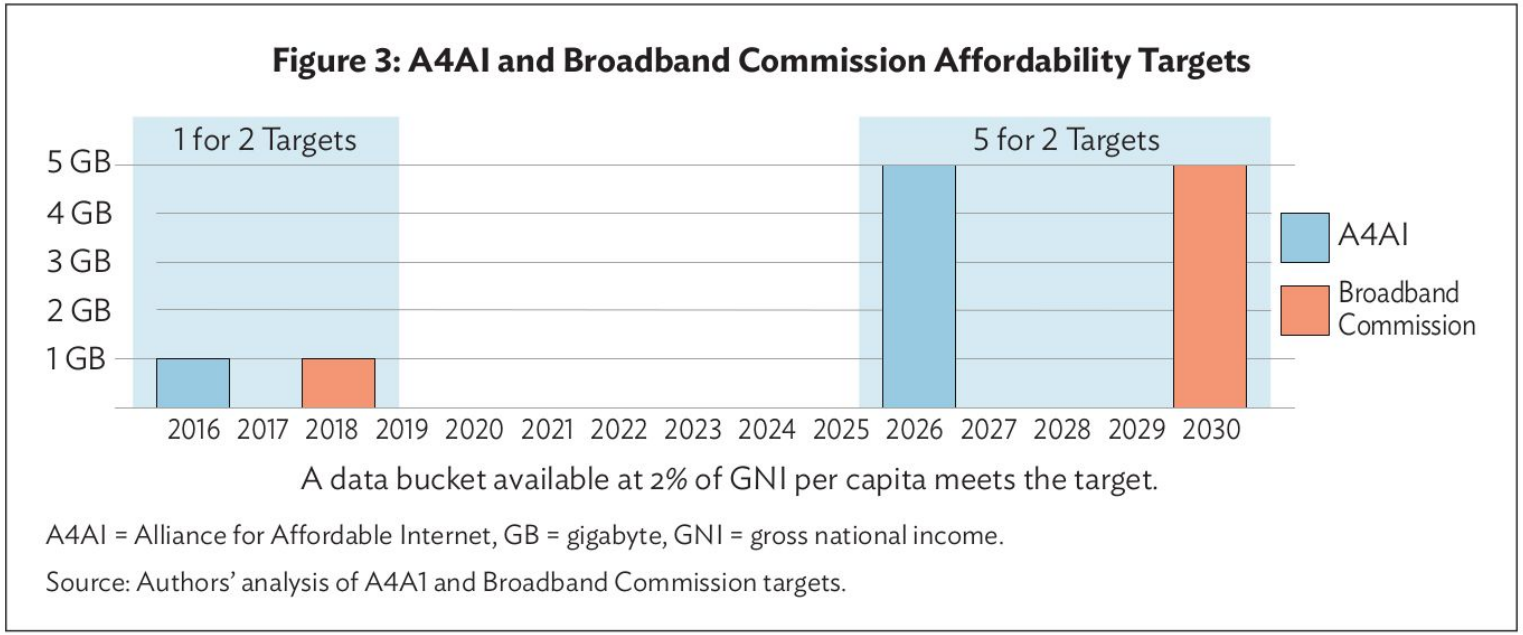
Gender Divide in Mobile Internet Use



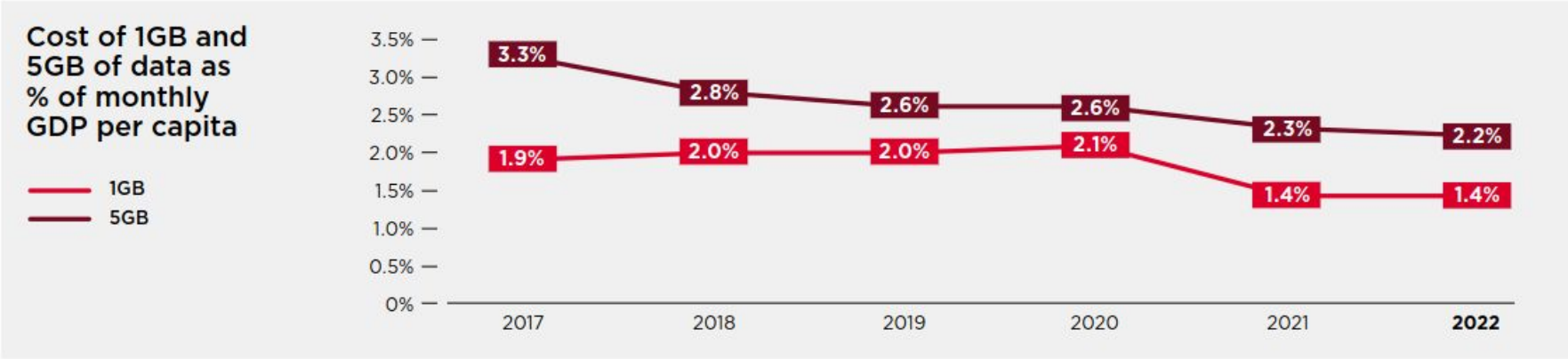
https://www.gsma.com/r/wp-content/uploads/2023/07/The-Mobile-Gender-Gap-Report-2023.pdf

Mobile Broadband Affordability: From 1GB to 5GB below 2% monthly income



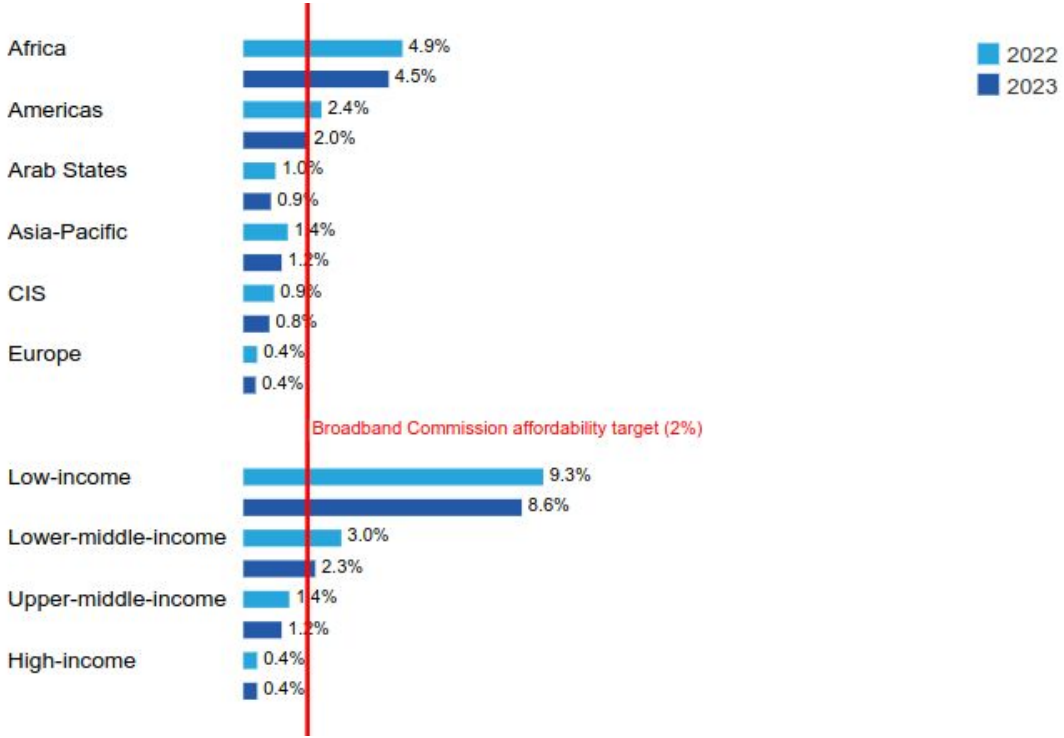
Source https://www.adb.org/sites/default/files/publication/847626/sdwp-083-last-mile-connectivity-affordability-frontier.pdf

Mobile Broadband Affordability: 1GB and 5GB below 2% monthly income



GSMA's The State of Mobile Internet Connectivity 2023: East Asia and Pacific Key Trends - https://www.gsma.com/r/wp-content/uploads/2023/10/State-of-Mobile-Internet-Connectivity-2023-East-Asia-and-Pacific.pdf

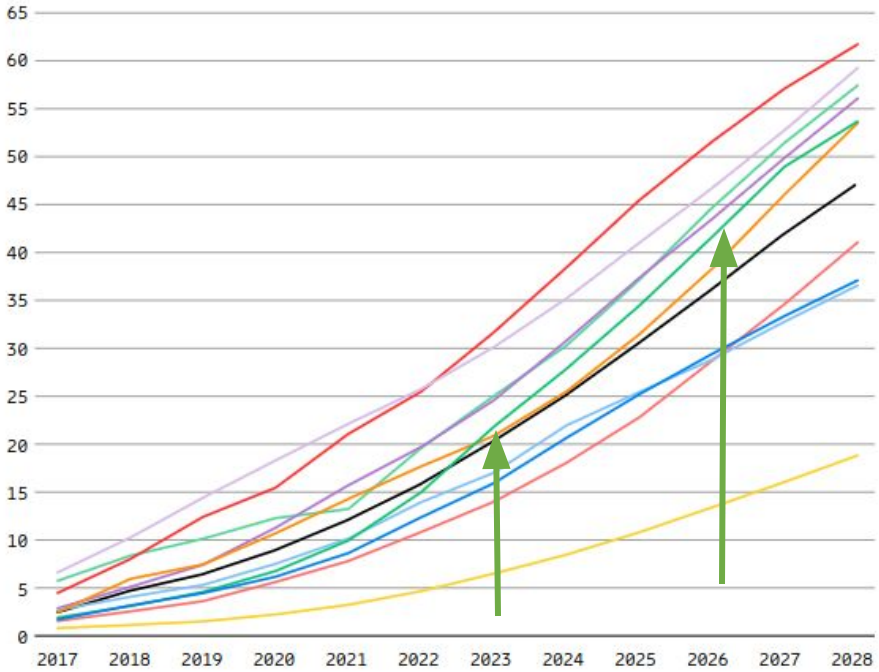
Income divide



https://www.itu.int/hub/publication/d-ind-ict_mdd-2023-1/

Mobile broadband Actual and Projected Usage

Figure 20: Mobile data traffic per smartphone (GB per month)



Regions	2022	2028	CAGR 2022–2028
India, Nepal, Bhutan	26	62	16%
GCC	26	59	15%
North America	20	58	20%
Western Europe	20	56	19%
North East Asia	18	54	20%
South East Asia and Oceania	15	54	24%
Global average	16	47	20%
Latin America	11	41	25%
Middle East and North Africa[1]	12	37	20%
Central and Eastern Europe	14	37	18%
Sub-Saharan Africa	4.7	19	26%

Source https://www.ericsson.com/49dd9d/assets/local/reports-papers/mobility-report/documents/2023/ericsson-mobility-report-june-2023.pdf

Impact of Covid-19 on Connectivity

Internet traffic volume has grown ~50-60% since pre-pandemic levels

COVID-19 pandemic illuminated a long-standing issue: The many low-income communities around the world that lack reliable and / or affordable access to connectivity are being left further behind.

Examples of the impact on the lived realities for people in Indonesia?

Digital inequality is increasing in different dimensions with the current model

Complementary solutions are needed

ITU World Telecommunication Development Conference 2022

RESOLUTION 37 (Rev. Kigali, 2022)

Bridging the digital divide

The World Telecommunication Development Conference (Kigali, 2022),

invites Member States

5 to consider inclusive and innovative policies to close the digital divide, taking into account national initiatives and telecommunications/ICTs complementary access networks and solutions,

ITU Plenipotentiary Conference 2022

RESOLUTION 139 (REV. BUCHAREST, 2022)

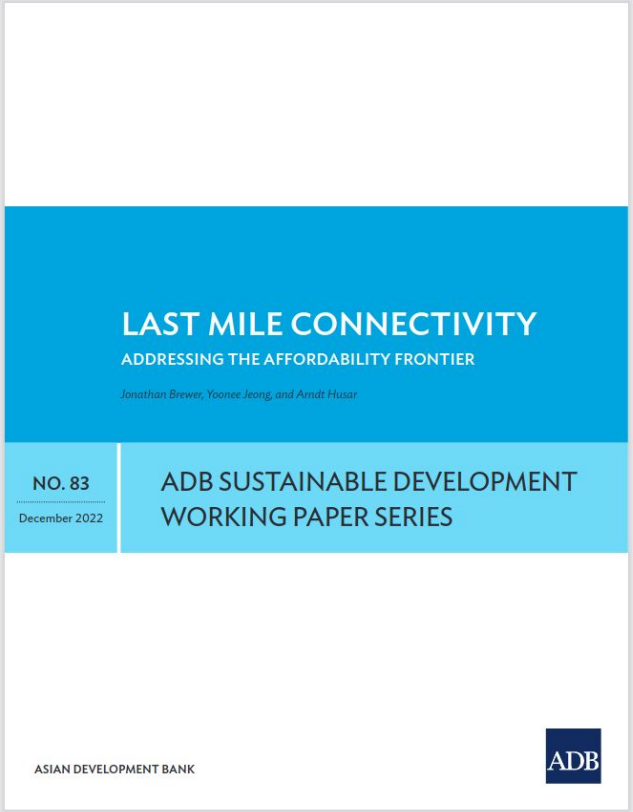
Use of telecommunications/information and communication technologies to bridge the digital divide and build an inclusive information society

The Plenipotentiary Conference of the International Telecommunication Union (Bucharest, 2022),

invites Member States

4 to consider facilitating an environment for sharing national experiences for bridging the digital divide, as appropriate, using affordable technologies, such as current and emerging telecommunication/ICT infrastructure, including telecommunication/ICT complementary access networks and solutions, according to national regulations;

Asian Development Bank



Box 2: Community LTE in Bokondini, Indonesia

Remote communities in Indonesia have hosted micro-cellular community networks since 2013, when California startup Endaga helped a missionary school in the highlands of Papua build a financially sustainable 2G network with hundreds of subscribers.[a] Using ultra-low-cost equipment based on open standards enabled a $6,000 piece of equipment to net $2,000 in revenue per month for its operators for voice and SMS traffic.

This same school has hosted a data-only CoLTE network since 2018, with backhaul via a 3/1 Mbps satellite link. As a data-only network, network users need a smartphone to access it and need to rely on OTT applications like WhatsApp, Facebook Messenger, or Viber for messaging. Many use dual-SIM phones, with one SIM for 2G voice and SMS from an incumbent carrier, and a second SIM for prepay 4G data.[b] Coverage is available around 2 km from the antennas.[c]

https://www.adb.org/sites/default/files/publication/847626/sdwp-083-last-mile-connectivity-affordability-frontier.pdf

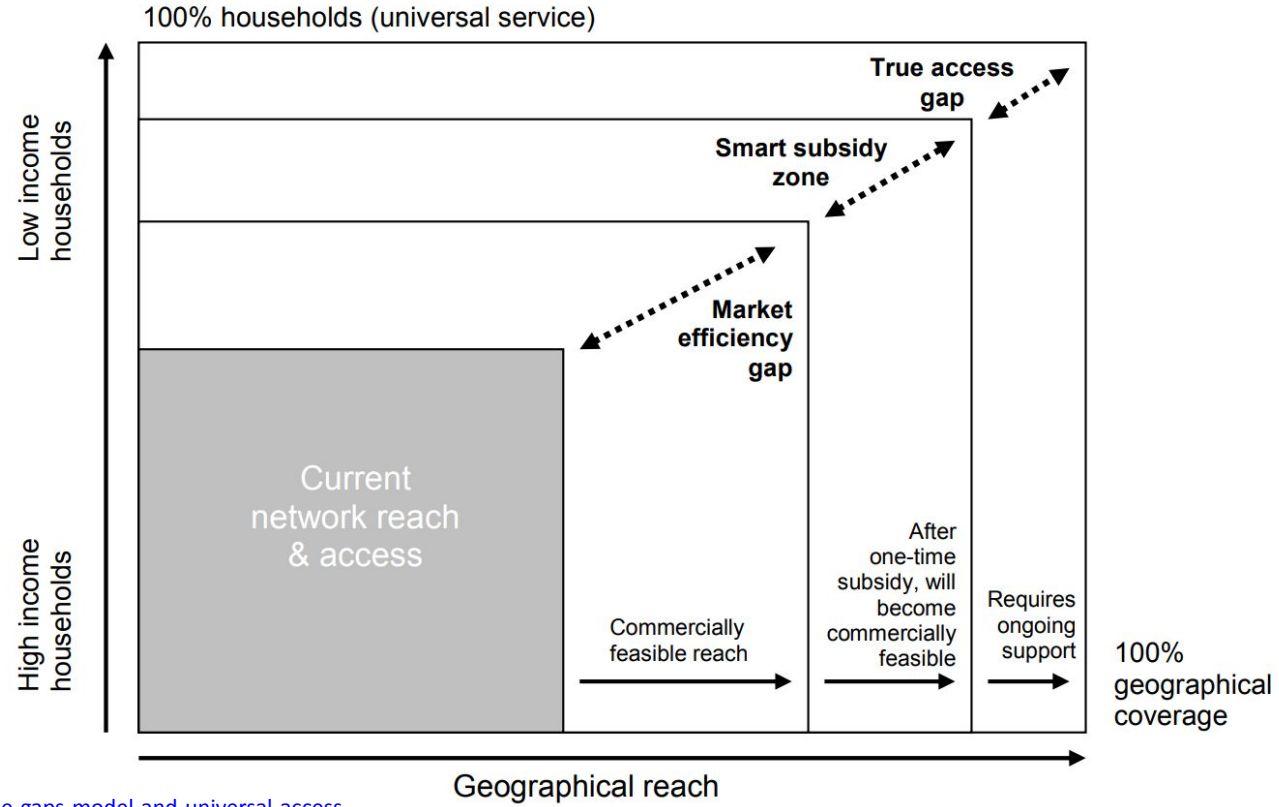
EA8.2: REDUCE AFFORDABILITY BARRIERS TO GETTING ONLINE

While the cost of getting online (in terms of both a connection and devices) has fallen over time, it still remains out of reach for many citizens. Policies can help ensure that community Internet services are available in rural areas, and that those from lower incomes are also able to benefit from digital services. Another key issue is ensuring schools have Internet access for use by both pupils (digital literacy skills) and adults (affordable access).

https://asean.org/wp-content/uploads/2021/08/ASEAN-Digital-Masterplan-2025.pdf

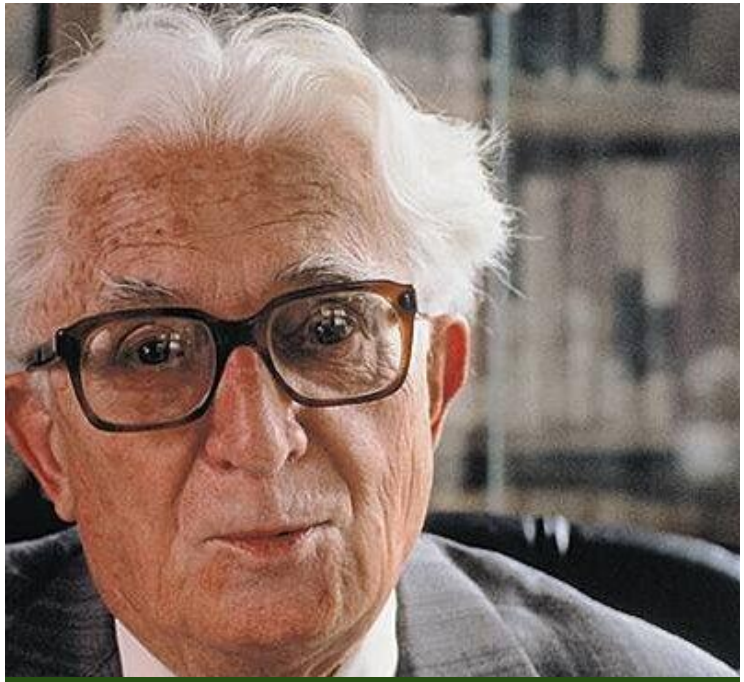
Economics of Affordable Access

Access Gap Model - 2002



http://blogs.worldbank.org/ic4d/the-gaps-model-and-universal-access

Fernand Braudel - No Single Economy



Fernand Braudel

Global Economy
Large companies, financial institutions, the State: serves global markets

Local Market Economy
Small businesses, self-employment: serves local needs

Non-Market Economies
Few market economy activities and mainly informal activities: serves a subsistence economy

Connectivity in Emerging Markets

Major waves of investment in connectivity infrastructure

1 Mobile Networks *(1990s – present)*

- Remains the largest with continuous investment by operators every year
- 4G and 5G expansion will drive further required investment

2 Submarine cables *(2009 - present)*

- Investment continues and is quite similar in scale to mobile network investment *(2Africa, Equiano)*

3 Data Centers & National Backbone *(2013 - present)*

- Pan-continental transactions and investment commitments of $2B in 2021 *(Equinix-MainOne, WIOCC-Open Access Data centers, Digital Realty, Liquid-Africa Data centers etc.)*

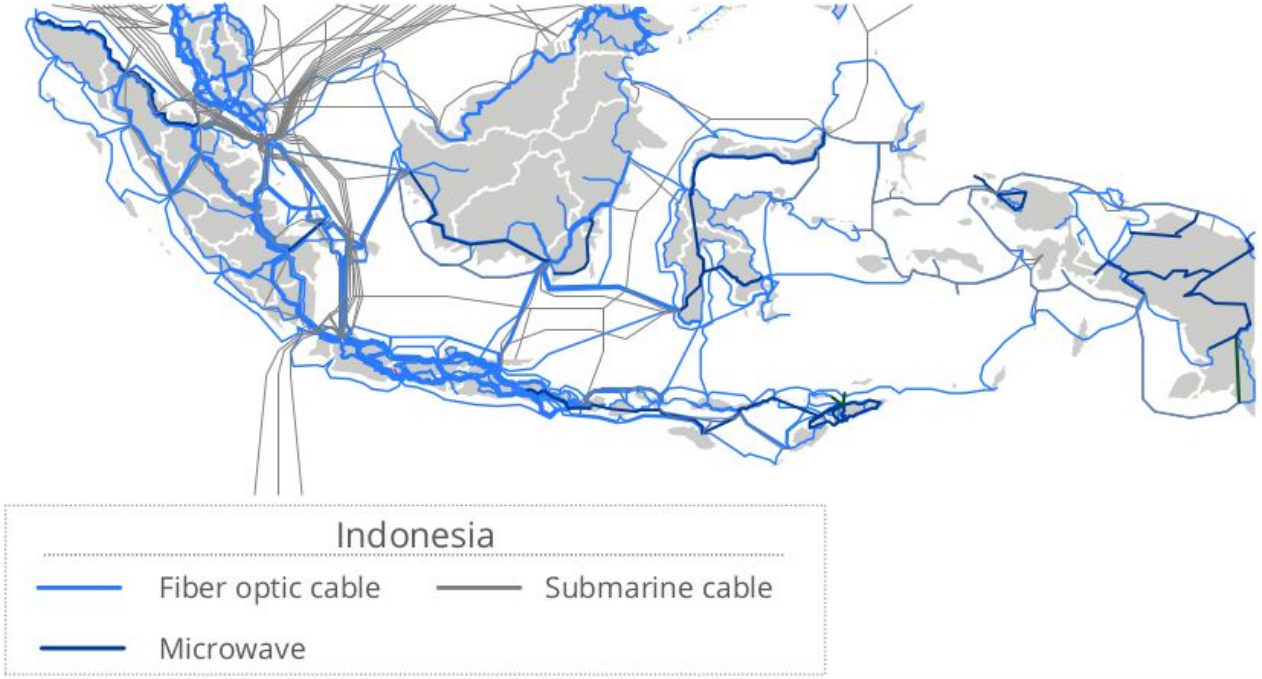
4 Uncapped Fixed Broadband

Delivered by community connectivity providers

- **Uncapped connectivity is a prerequisite to a full potential, digital economy**
- Landed fiber capacity needs to be distributed to homes, SMEs, and businesses via fiber and high-capacity fixed wireless links

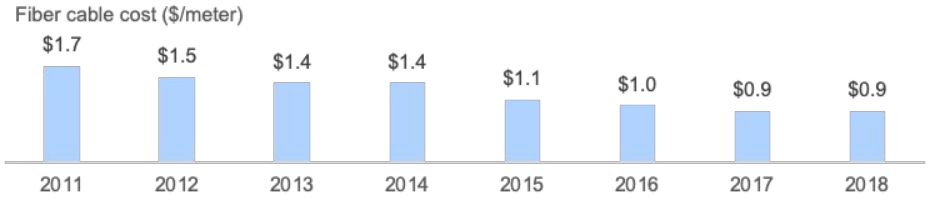
Source: Connectivity Capital Analysis

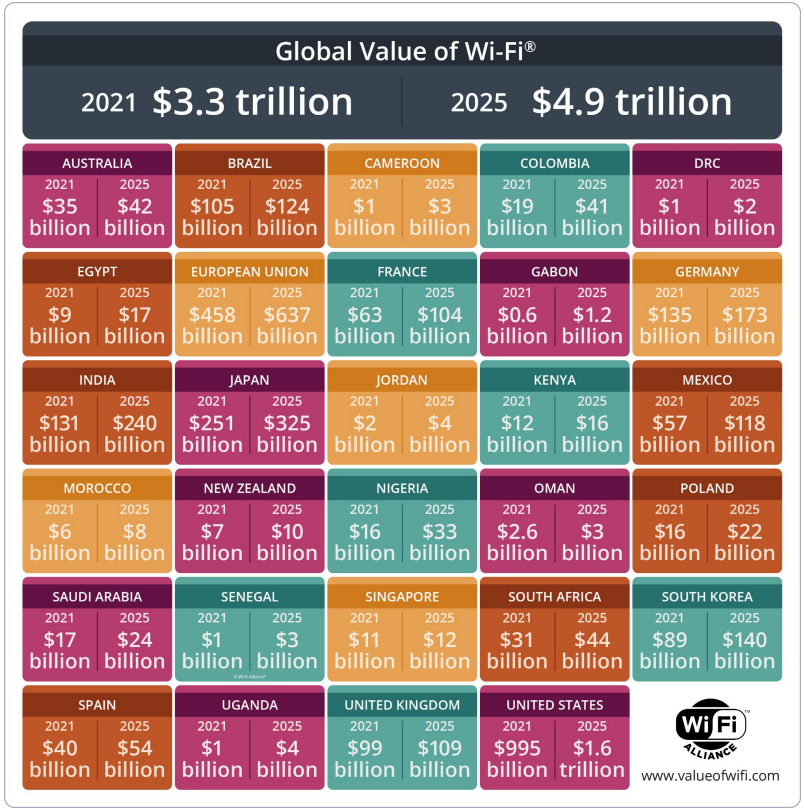
Increased granularity and capacity of backhaul networks



https://giga.global/bcg-report/

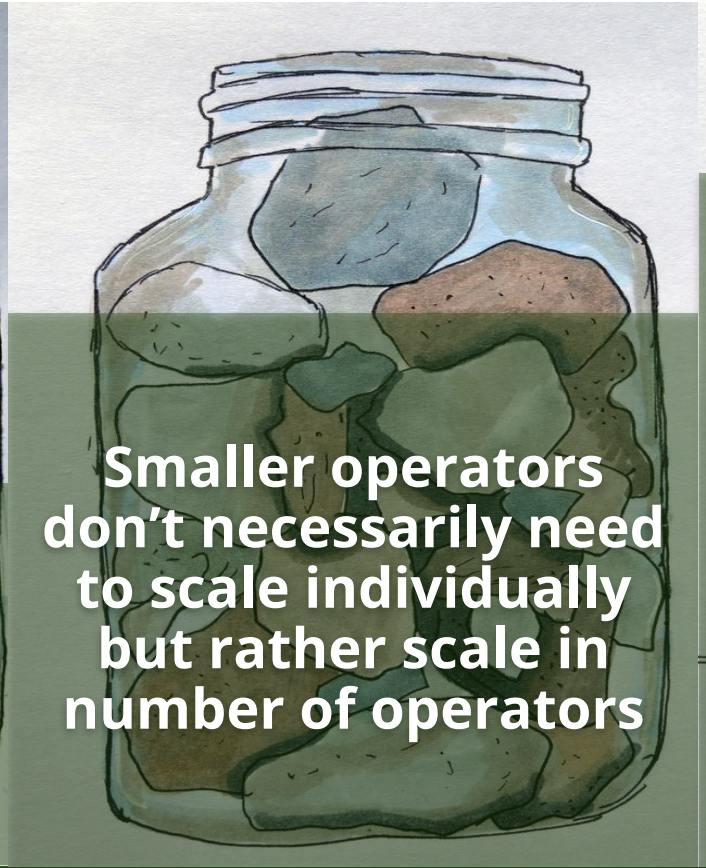
Falling CAPEX





Source: Hjort, et. al. (2019), TeleGeography (2021), Ericsson Mobility Report, https://www.wi-fi.org/news-events/newsroom/economic-value-of-wi-fi-forecast-in-africa-middle-east-and-india

Jar of Stones - a metaphor



There is an opportunity to unlock the potential of small network operators through the creation of an enabling ecosystem

https://www.capitalfm.co.ke/business/2022/06/kenyan-smes-projected-to-contribute-50pc-of-gdp-in-next-three-years/

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