



Modelling the effects of public policies to expand connectivity in Tanzania

Addressing the coverage and usage gaps

Context

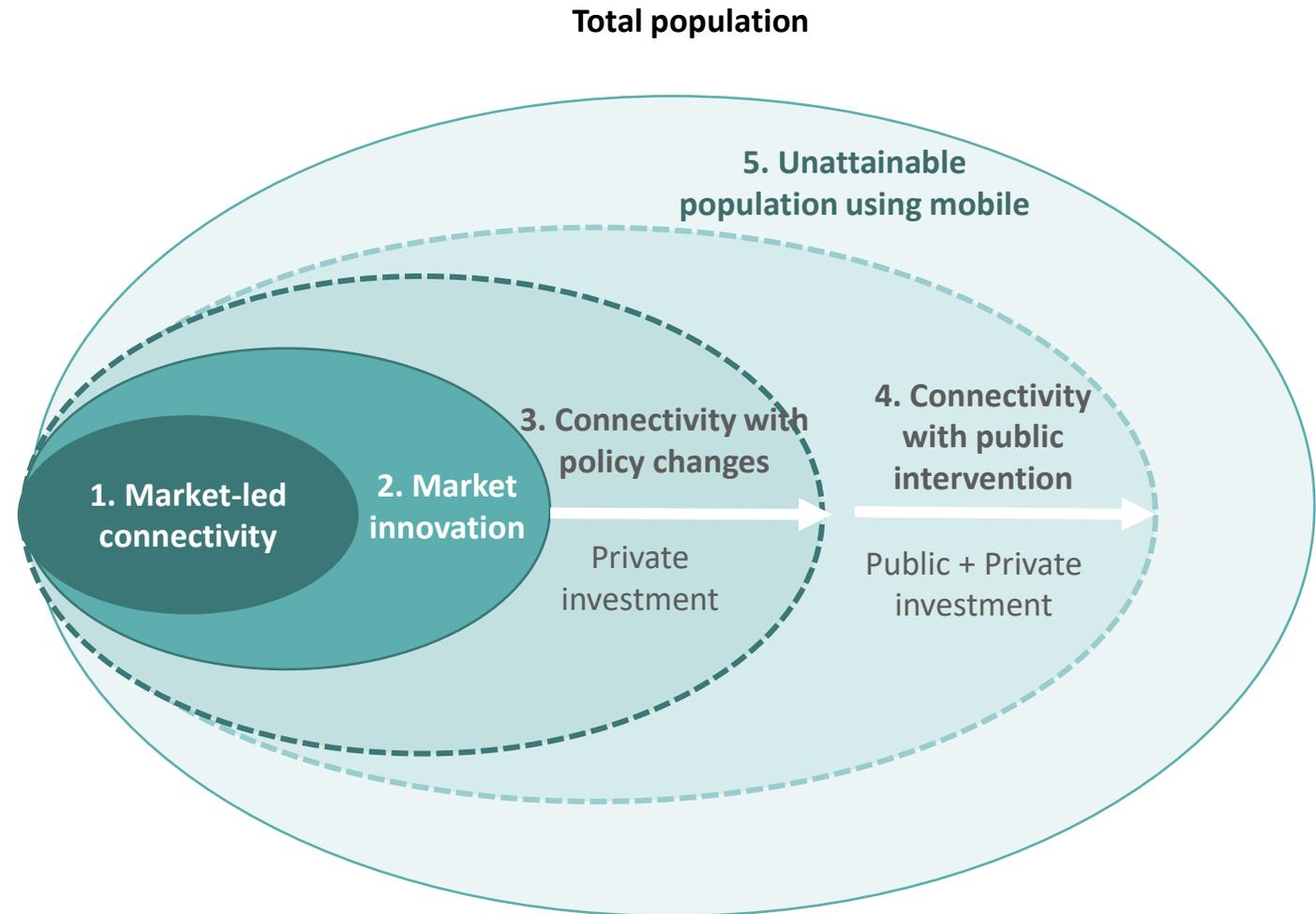
- GSMA and World Bank collaborating through DDP and in-country projects.
- GSMA developed a model to support MNOs roll-out in rural areas.
- World Bank and GSMA shared interest in quantifying impact of policy on connectivity.

Objectives of project

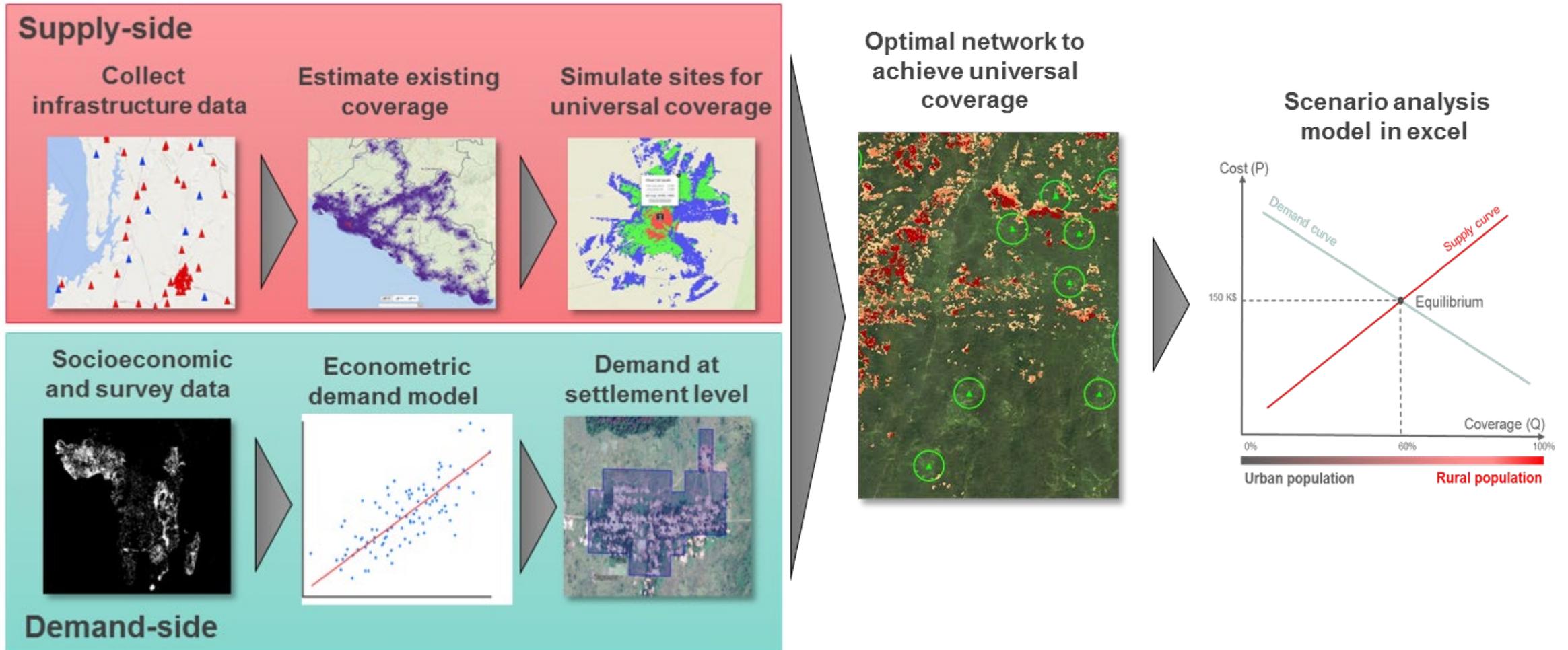
- Enrich GSMA model to evaluate impact of policy change on mobile coverage and usage.
- Apply model in seven countries in Sub-Saharan Africa, including Tanzania.
- Use results to support policymakers decision-making on connectivity.

Scenario analysis

1. Coverage provided by market
2. Coverage provided by market-led innovations
3. Coverage provided with policy changes
4. Coverage with subsidies
5. Coverage beyond market and public interventions



Modelling approach : focus on the last mile



Policy scenarios for Tanzania

Innovation

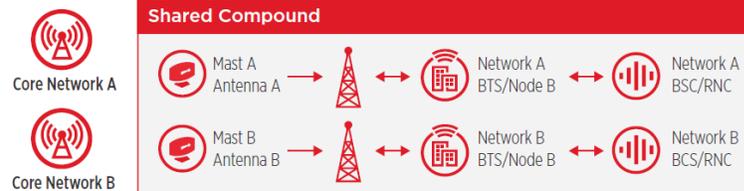
Model the impact of new, lower cost sites (e.g. network-as-a-service) and alternative (non-microwave) backhaul



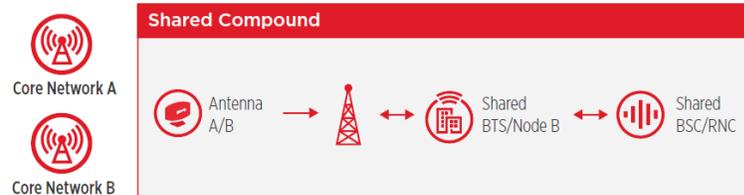
Active infrastructure sharing

Model the impact of infrastructure sharing at the site level

SITE SHARING



FULL RAN SHARING



Taxation

Removal of sector-specific taxes, in particular duties excise duty on electronic communication services.

National ID

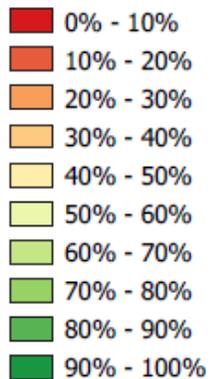
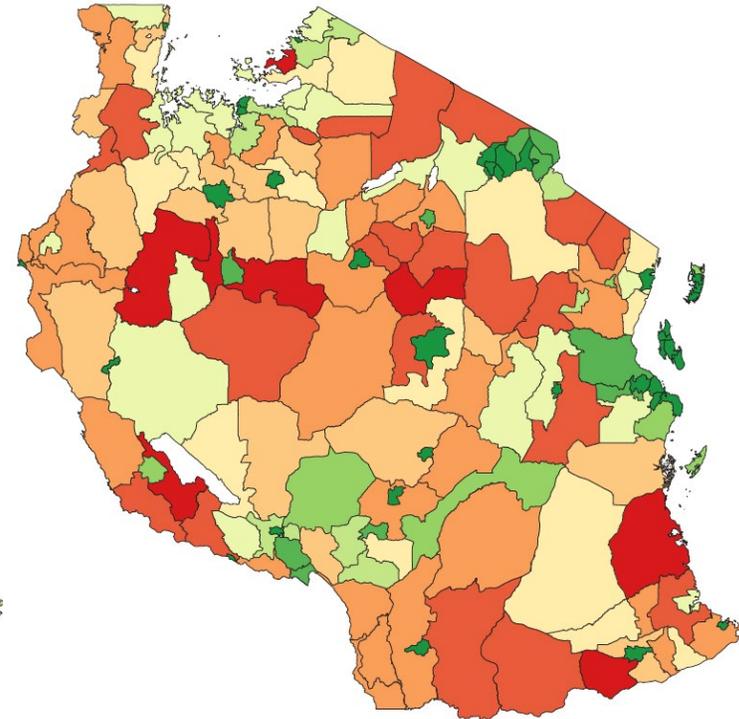
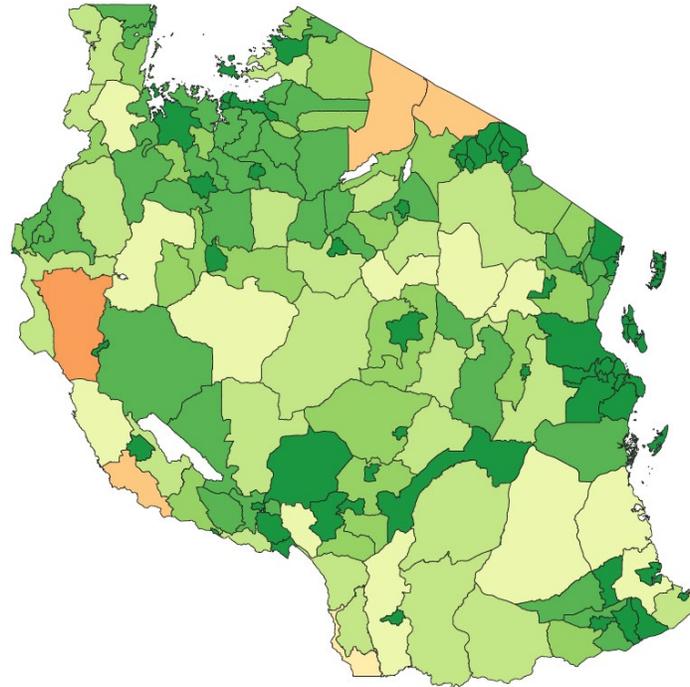
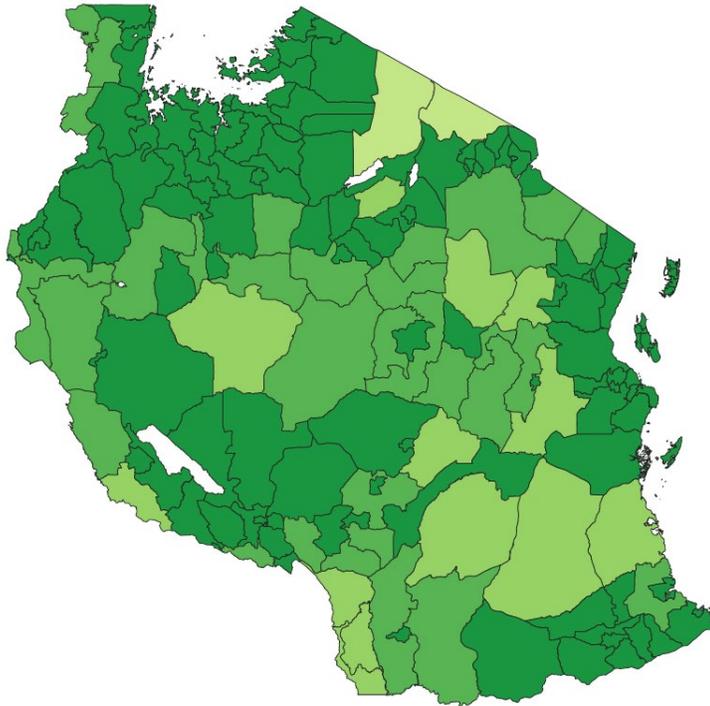
Achieving full roll-out of biometric national identity cards to all adults.

Coverage in Tanzania (data updated Q4 2020)

2G Coverage = 94%

3G Coverage = 83%

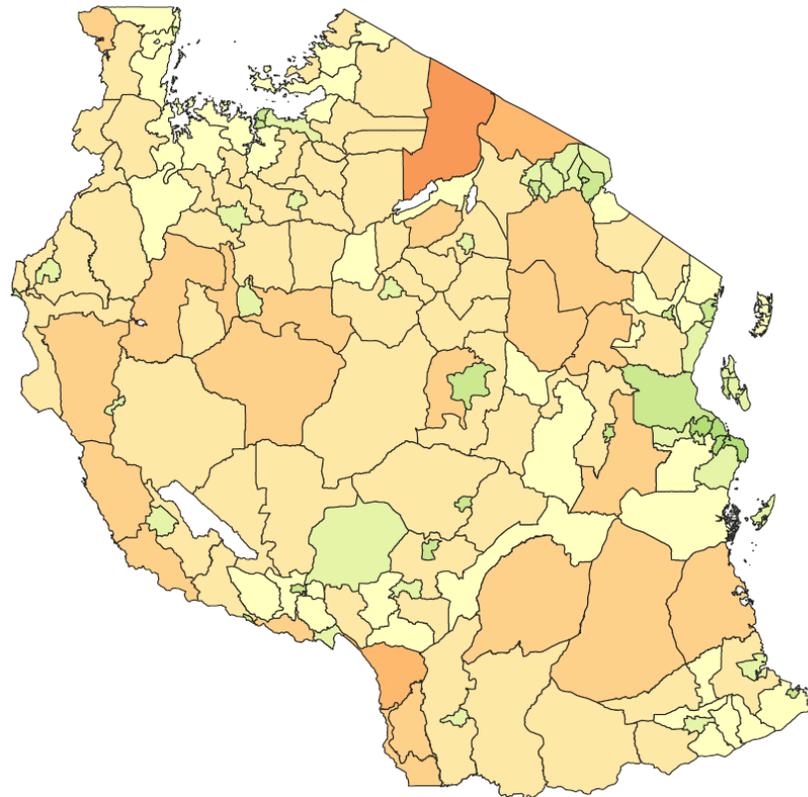
4G Coverage = 55%



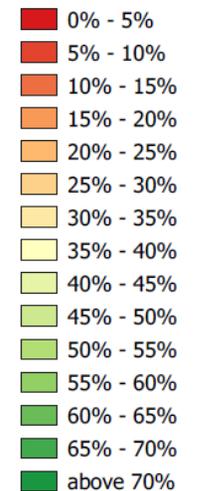
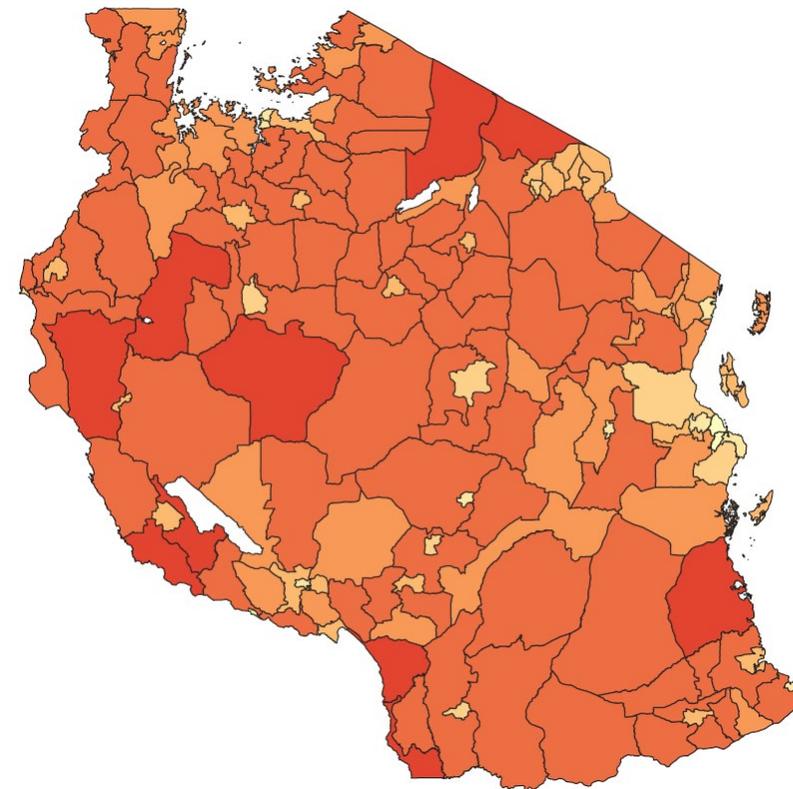
Source: GSMA analysis of data sourced from mobile operators, GSMA Intelligence, Center for International Earth Science Information Network (CIESIN), household survey data and Earth Observations Group. Existing coverage is calculated based on site data provided in 2020 Q4 and so may have since increased.

Adoption in Tanzania (Q4 2020)

Mobile adoption = 42%

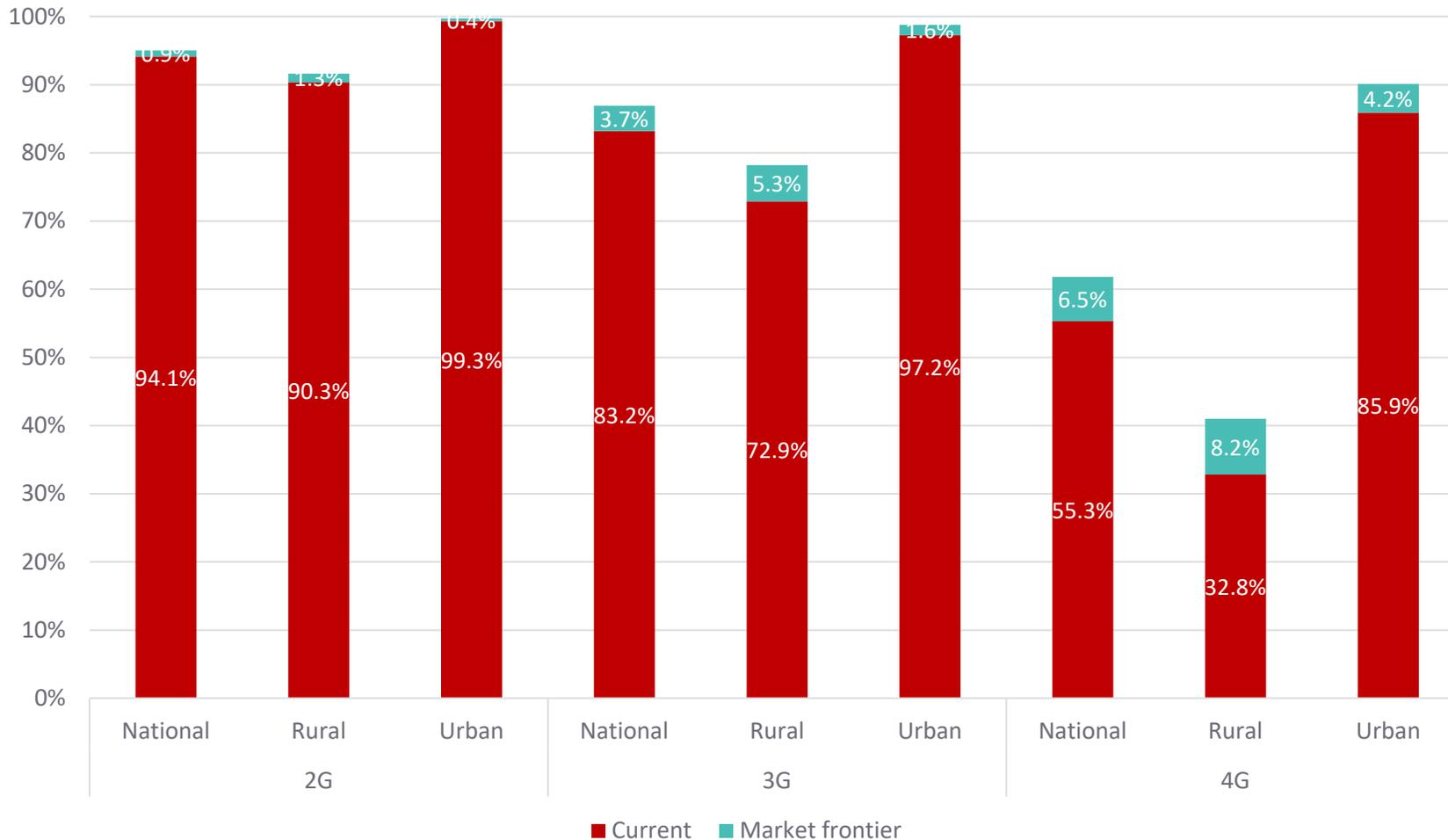


Mobile internet adoption = 21%



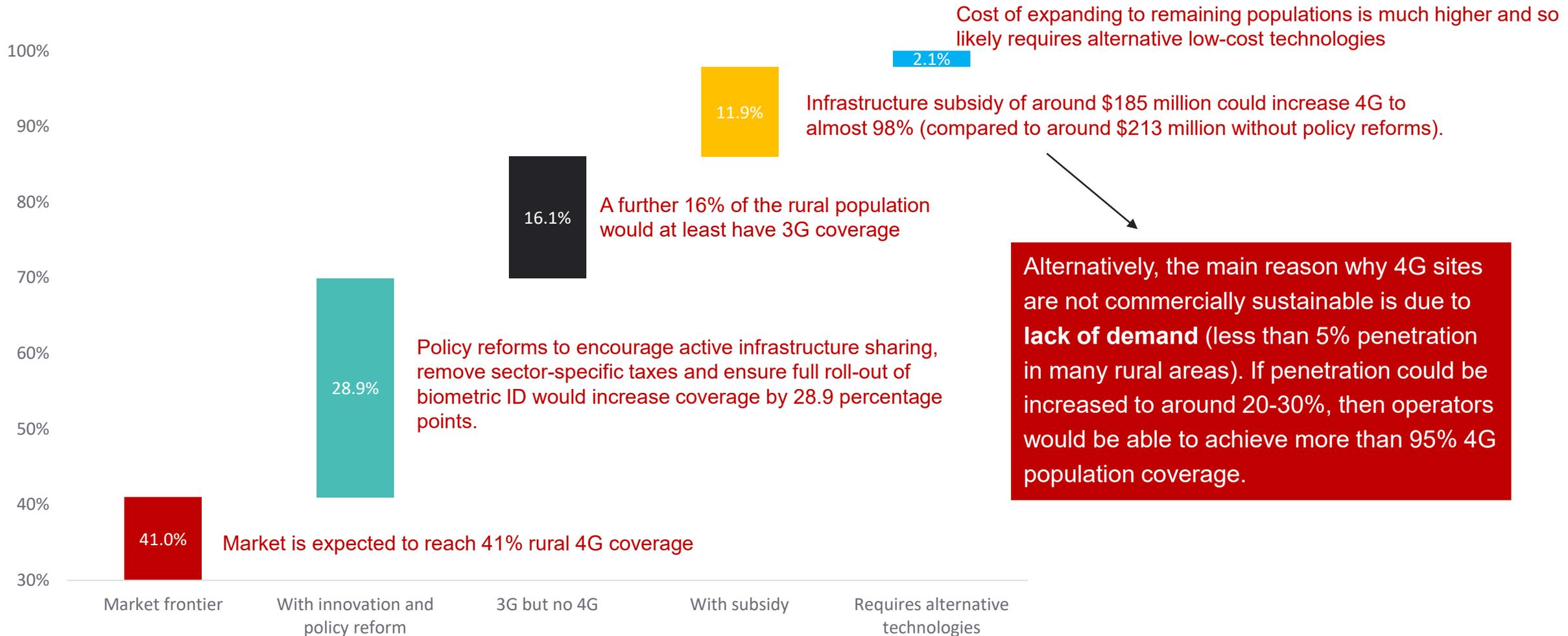
Source: GSMA analysis of data sourced from mobile operators, GSMA Intelligence, Gallup World Poll, Center for International Earth Science Information Network (CIESIN), household survey data and Earth Observations Group..

Expected coverage by technology and geography



- In 2020, operators had reached 94% population coverage for 2G, 83% for 3G and 55% for 4G.
- Operators are close to the 'market frontier' for 2G and 3G
- 4G coverage is expected to increase in the coming years as operators upgrade existing sites
- Coverage in urban areas is expected to be almost universal for all technologies

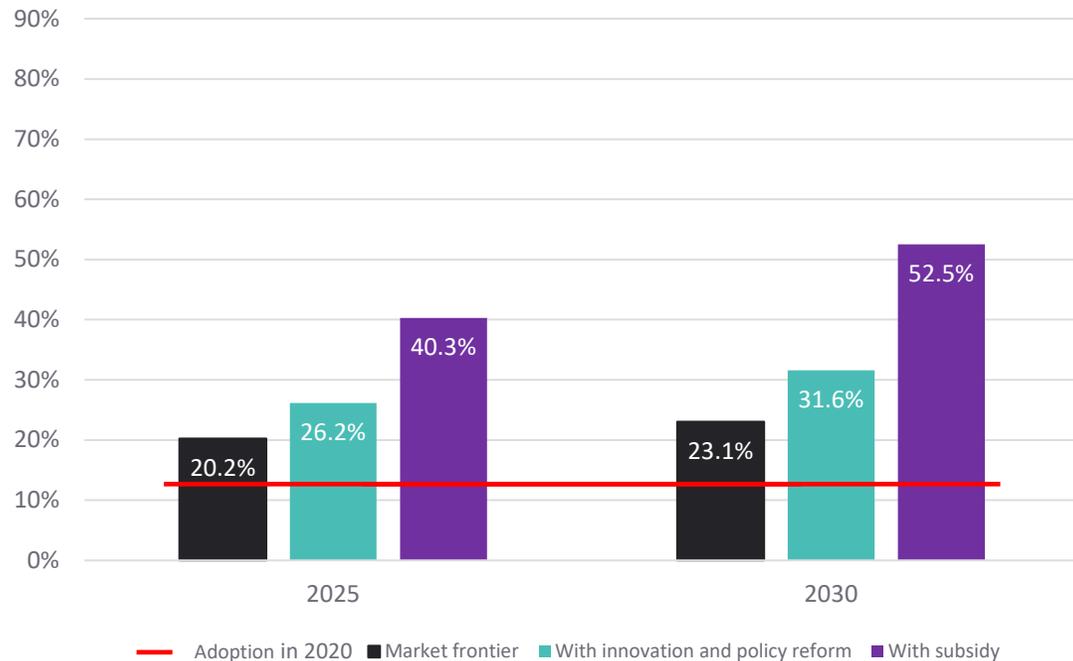
Policy analysis for rural 4G coverage



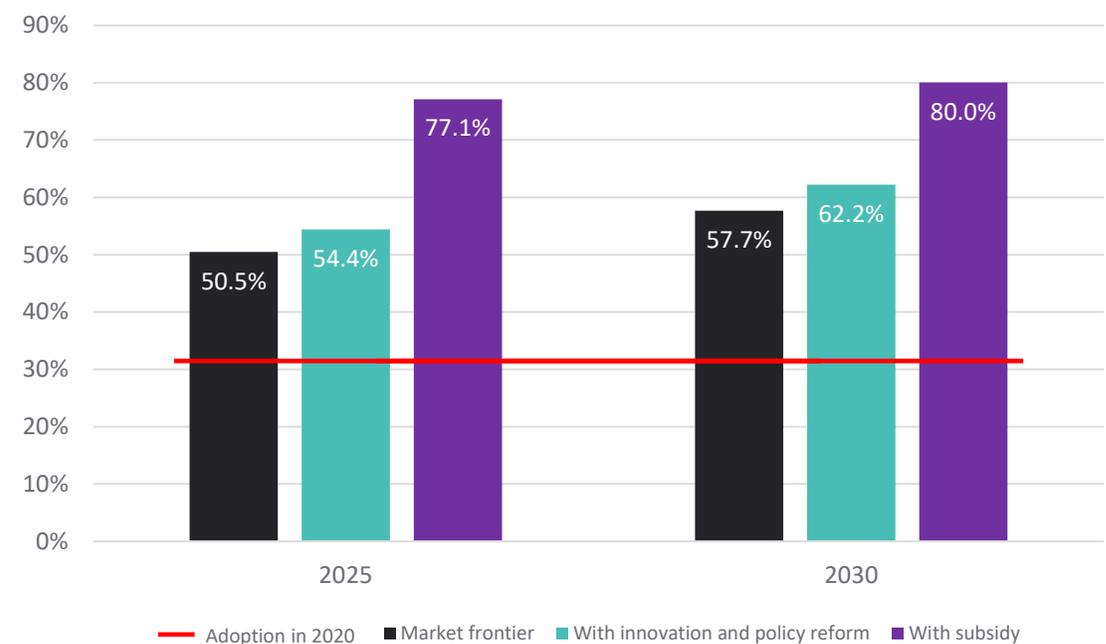
Policy analysis for mobile internet adoption

- Nationally, mobile internet adoption is expected to reach 41% by 2030, though with a significant urban-rural gap
- Policy reforms – particularly reduction in sector-specific taxes and ensuring full roll-out of biometric national ID - could bring more than 5 million people online by 2030.
- Other interventions will be needed to achieve universal connectivity (e.g. policies to improve digital skills and awareness, enabling development of digital ecosystems and local content, handset subsidies or financing)

Rural mobile internet adoption to 2030



Urban mobile internet adoption to 2030



Summary of Key Findings

- ✓ MNO's expected to reach 87% 3G coverage and 62% 4G population coverage over next 5 years – but with significant gaps in rural areas.
- ✓ Adoption will remain a key challenge: by 2030 only around one quarter of the rural population will use mobile internet services.
- ✓ Tax, national ID and infrastructure sharing policy changes would enable:
 - ✓ Adoption of mobile to increase 5pp (55% of population by 2030).
 - ✓ Adoption of mobile internet to increase 6pp (47% of population by 2030).
 - ✓ 4G national coverage could reach by 20pp (82% of population by 2030)
- ✓ \$185 million in subsidies could result in 98% coverage for 3G/4G
- ✓ Remaining population will not be covered by 3G/4G networks despite policy reforms or the introduction of subsidies. Alternative low-cost technology solutions are therefore likely to be needed to reach this segment.

Why is connectivity so important?

A recent study by the GSMA and World Bank assessed the effects of 3G deployment in Tanzania between 2008-2013

Households with 3G coverage increased consumption by 7-11 percentage points

Mobile broadband coverage reduced the proportion of households below the national poverty line by 5-7 percentage points.

Particular improvement in labour market outcomes, with 3G coverage increasing wage employment and non-farm self-employment.

Young, urban and more educated men benefitted the most in terms of wage employment and higher labour force participation.

This highlights the importance of ensuring underserved groups have the skills and resources to leverage the opportunities brought by digital technologies.

Mobile Broadband Internet, Poverty and Labor Outcomes in Tanzania





Thank you

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THE WORLD BANK

