Connected but Underserved: The Signal Quality Gap

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3. The Performance Gap: How Much Does Signal Matter?
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Executive Summary: Coverage vs. Connection

Mobile connectivity in Nigeria has expanded rapidly, but having "bars" on your phone doesn't always mean you have a usable connection. Coverage maps often suggest availability, but the reality on the ground can be very different.

This report digs deeper into the Nigerian mobile network to identify "Underserved Zones"—areas where users are technically connected but receive a signal too weak or unstable to support modern digital life

The Goal: To move beyond simple coverage maps and identify where the network needs to become stronger and clearer for the average consumer.

What Makes a "Good" Signal?

We analyzed millions of signal scans across the country, looking at two key technical metrics that determine your daily experience:

- Signal Strength (RSRP): How "loud" the signal is. A weak signal makes your phone struggle to maintain a connection.
- Signal Quality (RSRQ): How "clear" the signal is. A low-quality signal has interference or "noise," which causes data errors.

We classified every area into two groups for comparison:

✅ Good Signal Zones: Areas with strong, clear connections (RSRP ≥ -100 dBm and RSRQ ≥ -15 dB).

⚠️ Underserved Zones: Areas with weak or noisy signals (RSRP < -100 dBm or RSRQ < -15 dB).

The Performance Gap: How Much Does Signal Matter?

The Cost of a Weak Signal
Living in an underserved zone means significant penalties in performance compared to neighbors with good signals:

Download Speed: 40% Slower

Real-World Impact: Web pages load slower, and apps take nearly twice as long to open.

Upload Speed: 40% Slower

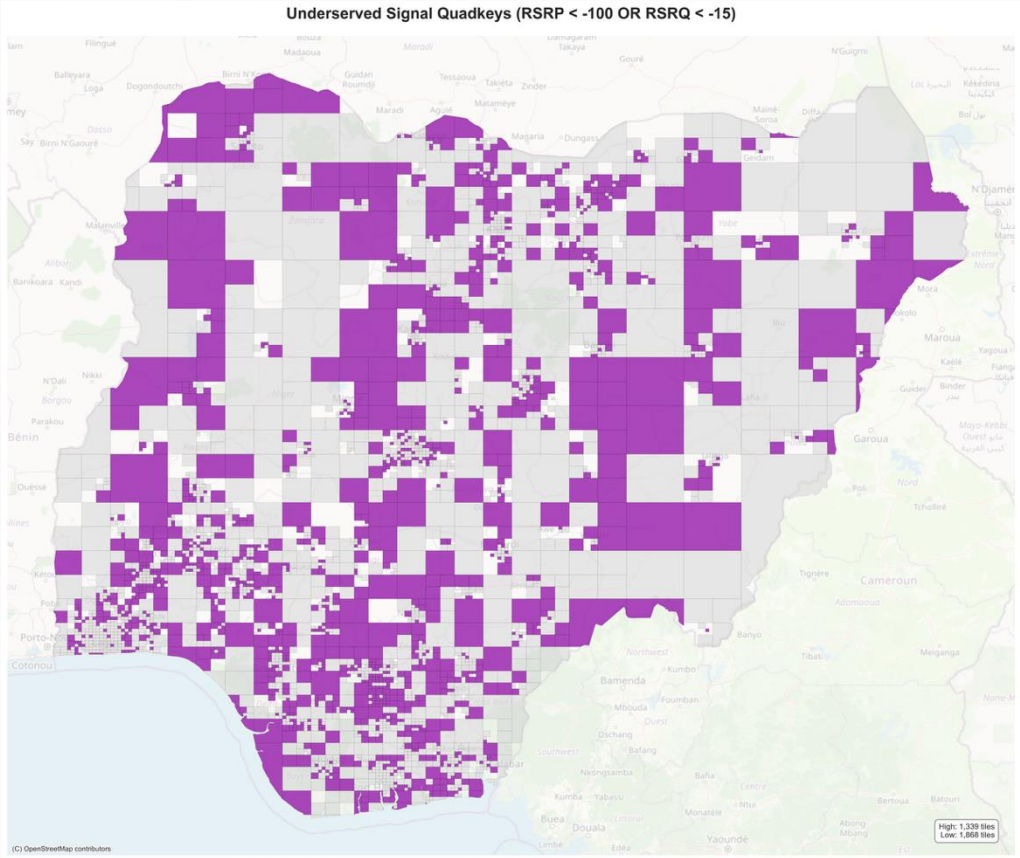
Real-World Impact: Sending photos, videos, or work files becomes frustratingly slow.

Latency (Lag): +3 ms Higher

Real-World Impact: This added delay makes video calls choppy and online gaming less responsive.

The Performance Gap: How Much Does Signal Matter? (II)

Where it happens the most?



Why This Matters for You (The Consumer)

Identifying these underserved areas is the first step toward fixing them.

- It confirms your experience: If you have full bars but slow internet, it is likely due to poor signal quality, not just strength.
- Digital Exclusion: Users in these zones are "technically connected" but effectively excluded from high-quality services like HD video streaming or remote learning.

Next Steps:

- By pinpointing exactly where the signal is too weak—rather than just looking at where towers are located—we can better target neighbourhoods and rural areas for infrastructure upgrades.
- The emphasis is on ensuring that "coverage" means a truly usable connection for every Nigerian

Thank You