Enabling Environment, Lifting Barriers to Connectivity and Building Connectivity

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Port Moresby, Papua New Guinea

Enabling Environment

Enabling Environment

What is it?

- Environment that enables

✓ Innovation

✓ Infrastructure

✓ Partnerships

For Development

- Impact of this study

LACNIC/ISOC Supported RPKI Training Workshop

Smart Development

Three Infrastructures

- Human
- Technical
- Governance

Partnership for Development

Stakeholder Approach

LACNIC/ISOC Supported RPKI Training Workshop

Lifting Barriers Study

Lifting Barriers to Connectivity

Available in English, French, and Spanish (link on Resources slide)

- Why did we do this study?
- How did we do this study?
- Impact of this study

LACNIC/ISOC Supported RPKI Training Workshop

Lifting Barriers to Connectivity

- "We" examined: **international** connectivity, national **backbone** and '**middle-mile' elements** of the value chain as well as any obstacles to competitive Internet access services

- Examined **key indicators** (price, speed and usage of Internet) as well as **macroeconomic and policy environment** for **20** benchmark countries.

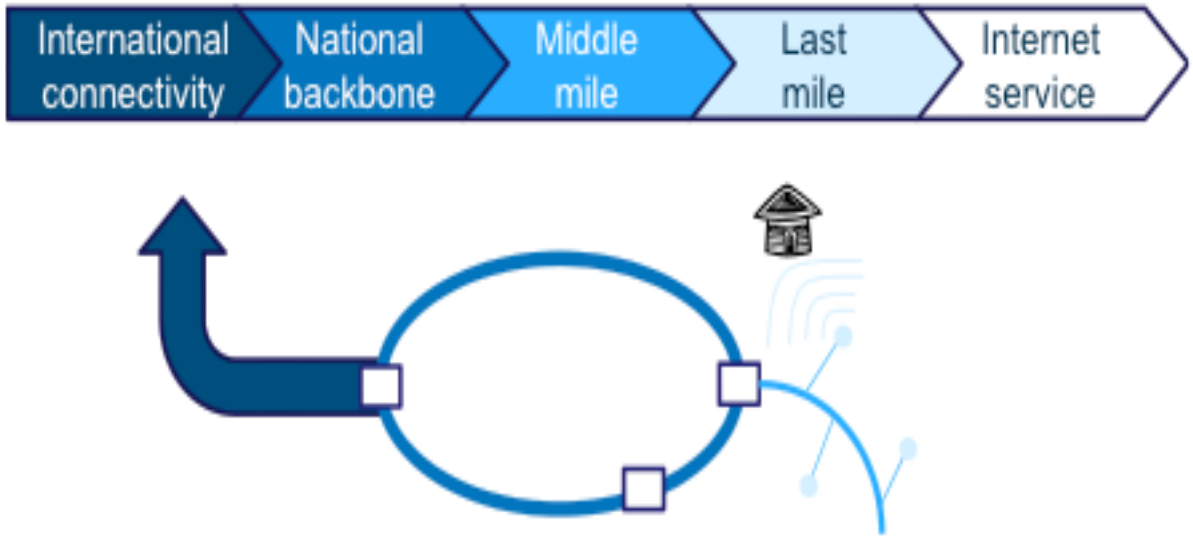
  - FOUND that: the pricing of services for end users is one of the strongest measures of a successful policy environment for two reasons

  - **Lower** prices attract more users, which increases scale and reduces unit costs, thereby increasing the utility of the Internet to citizens and businesses

Lifting Barriers to Connectivity Value-chain

- Analysys Mason

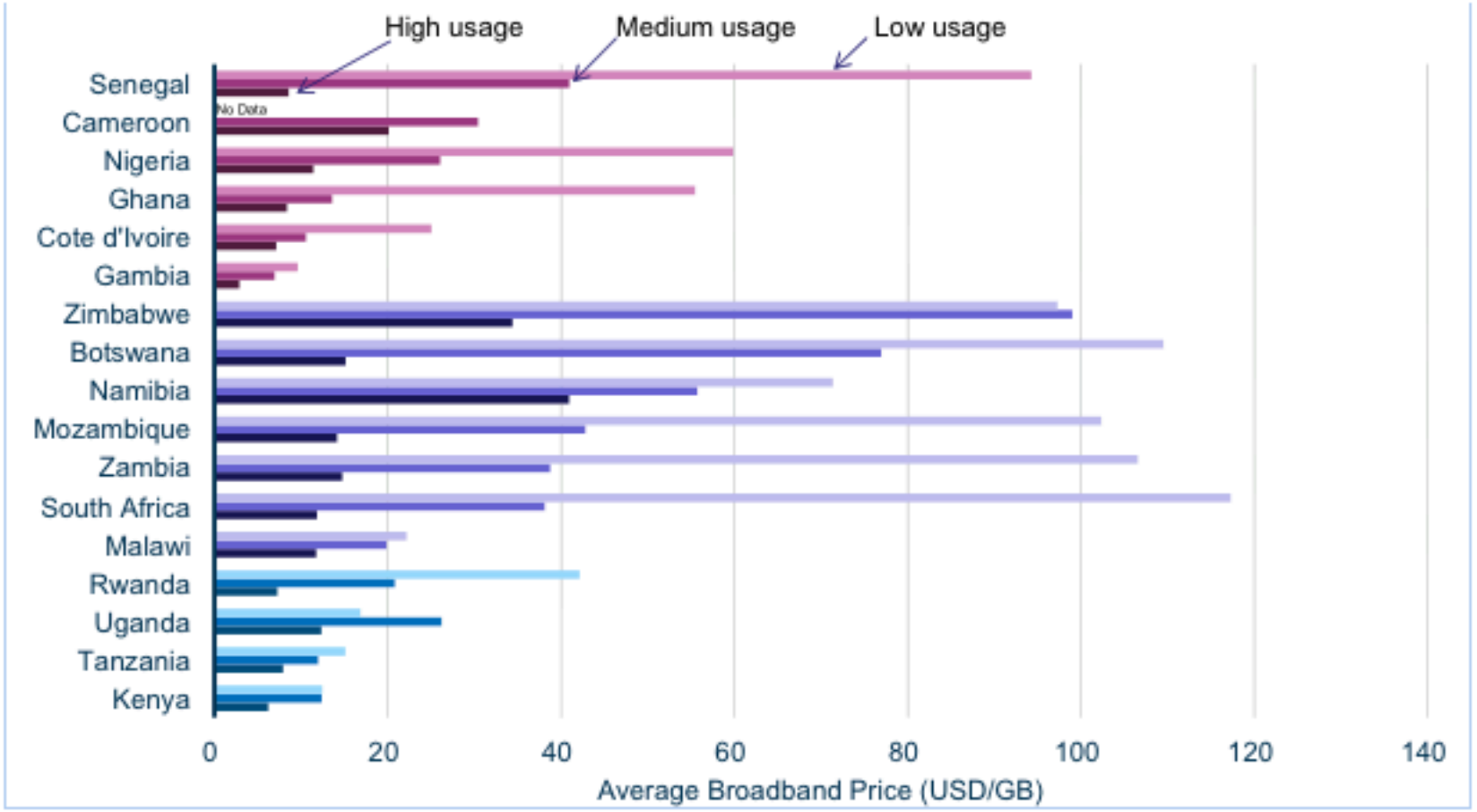
Figure 2.1: Elements of the Internet access value chain [Source: Analysys Mason, 2013]



Lifting Barriers to Connectivity: Benchmarking

Figure 3.8: Average price per GB of traffic for low-, medium- and high-usage Internet access bundles

[Source: Analysys Mason, Google, Telegeography, 2012]



Recommendations (1):

Our conclusions and recommendations are presented in terms of solutions that can offer one of three types of improvement:

- **Removing roadblocks**. Policy-makers should remove roadblocks that deter investment in and use of terrestrial fibre, including: lack of liberalisation; **high cost of licences**; challenges **accessing rights of way** for deployment within countries and across borders; and **high taxes on equipment and services**.

- **Promoting investment**. Governments should promote **private-sector investment** in infrastructure to the extent possible, offering **regulatory certainty** to give confidence to investors and allowing or promoting infrastructure sharing in order to lower costs. Where private-sector investment is not likely, governments may need to use their own resources – financial and infrastructural – to ensure services are delivered, potentially using **public/private partnerships** (PPPs).

Recommendations (2):

- **Leading at the highest levels of government**. Development and usage of communications infrastructure should be made a **high-level priority**, with an agency invested with **oversight** of all aspects of the **value chain**, including research and innovation, taxation, state investments in infrastructure and/or operators, and regulation. Such an agency should have the authority to **address any conflicts within the government** that result in any **roadblocks** or reduced investment.

Specific policy suggestions in these broad areas are shown in the table below.

Category	Specific lessons
Remove roadblocks	• Liberalise the regulatory regime by allowing competition and lowering barriers to entry, particularly in the markets related to submarine cables and international gateways • Reduce bureaucracy and costs of rights of way, including across borders • Reduce the sector-specific tax burden

Figure 0.3: Policy lessons drawn from this study [Source: Analysys Mason, 2013]

Recommendations (3):

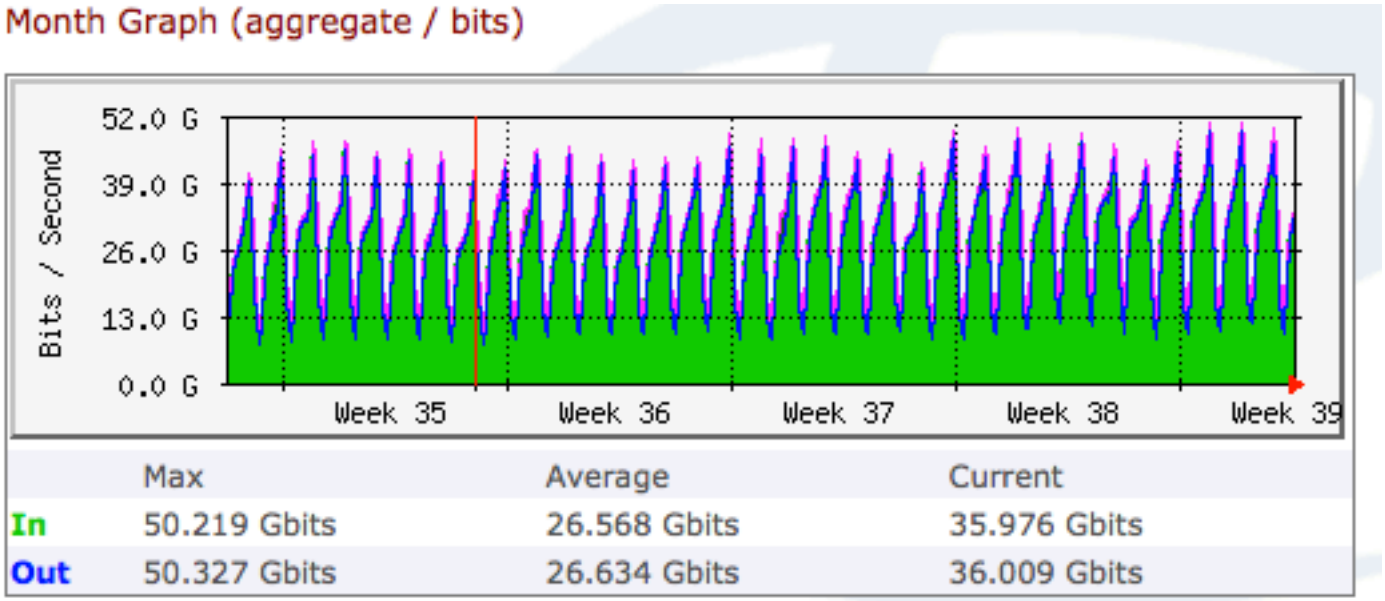
Promote investment and	• Offer investors greater policy and regulatory certainty
services	• Infrastructure sharing should be incentivised, or obliged where appropriate and proportionate • Government should invest judiciously, ideally in open-access PPPs, and not in infrastructure that competes with the private sector
Offer high-level political vision and leadership	• Good political leadership and a clear ICT strategy are key • Holistic view of the Internet access value chain, involving a wide range of stakeholders, to identify obstacles and remove conflicting policies around tax, investment and promotion of ICT • Policies should not have the effect of distorting the market by favouring individual operators or restoring *de facto* monopolies

Lowering Costs (1)

- Liberalize backhaul from the submarine cable-landing station/ allow more high capacity networks to compete
- Peering at the IXP
- Local content caches available at IXP
- Regulator to Company discussions about the cost of doing business and ways to lower that

Lowering Costs (2)

- Creative cost-sharing – transit
- Active web-site at IXP so that investors can see that you have eyeballs on the network:



https://www.inex.ie/technical/stats

Some Links to Resources

- **Internet Society:** http://www.internetsociety.org
- **IXP Study:** http://www.internetsociety.org/ixpimpact
- **Lifting Barriers to Connectivity Study:** http://www.internetsociety.org/doc/lifting-barriers-internet-development-africa-suggestions-improving-connectivity

THANK YOU FOR YOUR ATTENTION!

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