

Working Group on Broadband for the most vulnerable countries

Broadband for national development
in four LDCs: Cambodia, Rwanda,
Senegal and Vanuatu

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Broadband Internet offers significant benefits for Least Developed Countries (LDCs). It is a transformational tool that can help these countries overcome vulnerabilities, grow their economies and enhance the livelihoods of their citizens.

The Broadband Commission Working Group on Broadband for the Most Vulnerable Countries chaired by Ms. Fekitamoeloa Katoa 'Utoikamanu - Under-Secretary-General and High Representative for the Least Developed Countries, Landlocked Developing Countries and Small Island Developing States (UN-OHRLLS), led the work on the report which has been created collaboratively, drawing on contributions and insights from the participants of the Broadband Commission Working Group¹.

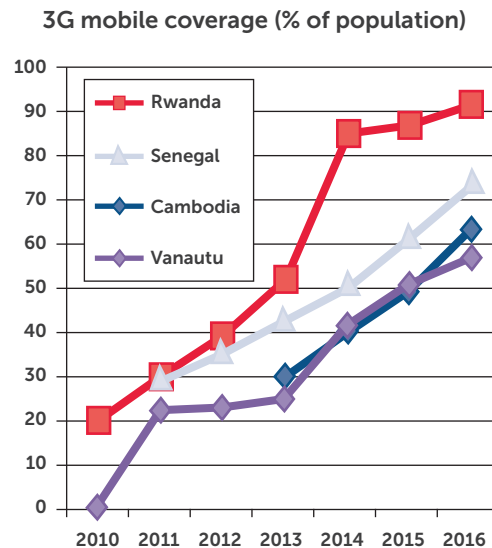
This report reviews experiences of leveraging broadband infrastructure for development in four LDCs: Cambodia, Rwanda, Senegal and Vanuatu. This quartet reflects the range of different types and locations of LDC, such as landlocked developing countries, LDCs with access to the sea and small island developing states, located in Africa, Asia and the Pacific.

The four LDCs have made considerable progress in expanding broadband infrastructure, in particular Rwanda (figure 1) and, making access affordable (figure 2). Broadband investment has been predominantly private sector-driven, operating in competitive market environments. Important nuances among the four are apparent in approaches to broadband deployment.

Narrowband services, predominantly revolving around text-based mobile phone applications, have had impacts in health, agriculture and finance in the four countries.

These services have been successful because narrowband mobile coverage is widespread, the applications operate on widely available basic handsets and they require modest user skills to operate. Evidence from Senegal indicates that mobile cellular services have had a notable impact on the economy. Mobile operators in all four countries are among the top taxpayers and have generated significant downstream employment.

Figure 1: 3G mobile coverage (% of population)



Source: National regulatory authorities, operators and estimates

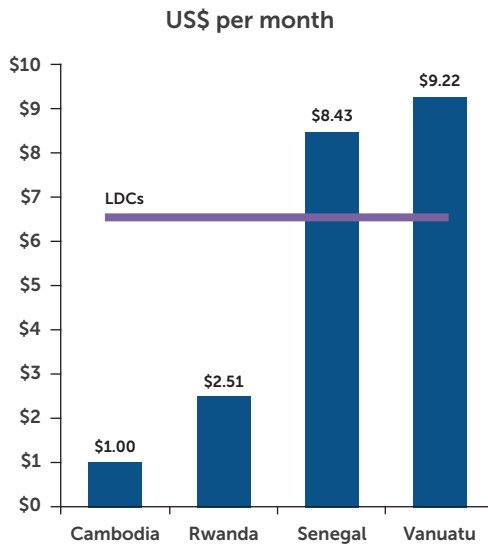
However, demand for and productive use of broadband in LDCs has not matched the growing supply. Causes include weak digital literacy, unaffordability of smartphones, lack of relevant local content and applications, patchy mobile broadband coverage and limited capacity among policy makers to apply broadband across different sectors of economy.

Productive use of broadband—which also relates to the development of local e-Business—is hindered by constraints related to promotion of local entrepreneurship, access to capital and facilitating laws and business services. Broadband is a general-purpose technology (GPT), whose adoption and impact take time to grasp and diffuse.

There is some evidence of leveraging broadband in different sectors. All four study countries have progressed in connecting government institutions and digitizing back office administrative processes. However, except for Rwanda, online public services aimed at businesses and citizens are not well developed. There are also examples of innovative broadband interventions in health such as, the online exchange of medical images and use of drones for dispatching blood and vaccines to hard to reach areas. In education, multimedia teaching material

¹ <http://broadbandcommission.org/workinggroups/Pages/vulnerablecountries.aspx>

Figure 2: Mobile Internet Price (500 MB per month), 2017



Source: Website of leading operator by subscription market share in the four countries (i.e., Axiata, MTN, Sonatel and Digicel), ITU for LDC average

has been developed and online learning is available at tertiary institutions. CCTV and drones are being utilized in Vanuatu for disaster monitoring. Yet, most of these interventions are pilots, driven by development partners and still to reach widespread scale.

Lessons from the four case studies suggest that the following interventions are needed to accelerate broadband impacts:

- **Digital training and awareness** needs to be magnified among both citizens and governments. There is generally a narrow focus on broadband as infrastructure rather than the services it enables. A holistic vision is required that identifies how broadband can be applied across different sectors in an integrated manner.
- Governments need to ensure the existence of **enabling legislation** that builds trust in the digital economy. These include laws governing electronic transactions, consumer protection, data privacy and information security. This will result in consumers and businesses having greater confidence in using and developing online services.
- There needs to be better **coordination** among the government, private sector, educational institutions and development partners to enhance broadband use. Dialogue among the government, the private sector and academic institutions is essential for understanding skills requirements in order to plan necessary training.
- Better systems are needed to **monitor and evaluate** broadband impacts. There is scarce economic and employment data about the key industries that comprise the digital sector. This makes it difficult to construct meaningful strategies or adapt them to changing market conditions.