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Broadband for All: A Digital Infrastructure Moonshot for Africa Case Study

Executive Summary

What will it take for Africa to bridge the digital connectivity gap? That is the question the Broadband Commission Working Group on "Broadband for All: A Digital Infrastructure Moonshot for Africa" decided to tackle to further the agenda on digital inclusion. Established in November 2018, the Working Group (WG), representing over 25 institutions, under the leadership of the World Bank Group, spent the following 12 months examining underlying conditions, investment requirements, technology solutions, and policy and regulatory frameworks to achieve an interim milestone to double broadband connectivity by 2021 and achieve universal affordable and good quality broadband access in Africa by 2030. Not a simple task but working together made it easier. To achieve the targets, the WG estimated that the cost of closing the digital divide would be approximately US $100billion or close to $9 billion a year. But quantifying the cost of bridging the broadband gap was only the first step of a more ambitious undertaking. The Working Group also proposed a roadmap to achieve universal access to affordable and good quality broadband stressing the need to include more than just capital investments in the estimates but also investments in basic digital skills, content, enabling policy and regulations, and operating expenses.

The Africa Moonshot report was officially launched at a global event in October 2019 during the World Bank Group Annual Meetings. Since then a global awareness-raising and advocacy campaign aimed at putting broadband access at the center of the development agenda has attracted various stakeholders including governments, the private sector, development partners and the public. Acknowledging the significance of the agenda, the stakeholders agreed to continue the momentum towards the universal and affordable good quality broadband under two follow-up working groups under the UN Broadband Commission, notably through the "GIGA School Connectivity Working Group" and the "21st Century Financing Models for Sustainable Broadband Development Working Group." In addition, the World Bank, ITU and UNICEF are working towards specific implementation scenarios to support affordable access to broadband connectivity to schools in select countries. Little did we know how timely our work on this digital connectivity for all agenda was about to be. The world got hit by a pandemic of unprecedented magnitude, COVID-19 reinforcing the urgent need for connectivity. Digital resilience quickly became a

priority for governments across the globe. Nowhere is it truer than in Africa where a majority of the populations do not have access to affordable and reliable connectivity.

The World Bank Group is committing significant resources to support Africa's digital transformation in the next 10 years under the Digital Economy for Africa (DE4A) Initiative. Under this Initiative, digital infrastructure has been identified as one of the critical foundations for the emergence of a vibrant, inclusive and safe digital economy while other key areas include digital public platforms, digital entrepreneurship, digital financial services, and digital skills. The cost breakdown provided by the WG demonstrates the size of financing requirements to be mobilized primarily by the private sector and supported by public expenditures and additional resources by donors. The DE4A Initiative takes the approach to systematically leverage public and private investments for priority areas and to address regulatory and policy barriers to develop an enabling environment for the needed investments in digital economy.

The WG also facilitated a partnership between the World Bank and Facebook to support affordable access to devices to address a critical barrier to a massive broadband uptake in developing countries. The members of the WG have since conducted an in-depth study to present various options to address the affordability gap throughout the device value chain and devise innovative mechanisms to de-risk private financing.

The knowledge gained and shared in the process of preparing the Africa Moonshot report is being well applied as we respond to the COVID crisis which underscores the importance of digital infrastructure for economic and social resilience. Unfortunately, not all countries have been able to leverage digital technologies because of poor access to high quality internet. We are working closely with them to close the digital divide.

The Working Group as the Conduit to Deeper Knowledge

Since its launch in 2010, the UN Broadband Commission has been advocating the international community to join forces and expand investment in broadband access to achieve a sustainable development agenda, noting ICT's impact on social and economic development. To track achievements, the Commission has set measurable targets in terms of digital inclusion and published the annual State of Broadband report while constantly calling the global stakeholders' attention through the Commissioners who would spread the Commission's outcome and message. In addition, the Commission has been a venue where public and private sector leaders have been able to have in-depth and practical discussions on related agenda items. The multi-stakeholder approach it takes has brought diverse perspectives and unique experiences on the global agenda from IGOs, including the World Bank, AUC, ITSO as well as UN agencies, private sector partners, NGOs, and national governments. Among the defining features of the Commission, there has been a range of working groups focusing on various key broadband-related topics and produced policy documents around the area.

These working groups emerged on a voluntary basis whenever there was a consensus that a more in-depth discussion on a particular topic was needed. For example, there have been four working groups related to health. They have called attention to topics around using broadband-based solutions to advance primary health systems and effective ways to scale them up, how policymakers can use readily available digital technologies to address non-communicable disease without suffering financial hardship, and conducive technology options to global epidemics. There have also been three working groups that explored topics around education and broadband. Other working group topics covered gender equality, climate change, platforms, and contents, and produced some meaningful outputs.

The working groups have taken a regional approach three times to the deepening global digital divide as well as the broadband access gap within the country or region. These include the Least Developed Countries (LDCs) in 2011 and vulnerable counties in 2018, which paid attention to the challenges facing the LDCs and Small Island Developing States (SIDS). Most recently, in 2019, the Broadband Commission members noted the need for a significant broadband infrastructure investment, especially in Africa, in order to ensure the promise of digital transformation leaves no one behind.

$100 Billion and Multi-stakeholder Engagement to Connect All Africans by 2030

Established under the leadership of the World Bank Group (WBG) in November 2018, the Broadband Commission Working Group on "Broadband for All: A Digital Infrastructure Moonshot for Africa" spent the following 12 months examining underlying conditions, investment requirements, technology solutions, and policy and regulatory frameworks to achieve an interim milestone to double broadband connectivity by 2021 and the universal access to affordable and good quality broadband in Africa by 2030.tThe Working Group convened to develop investment costing models and discuss critical assumptions and conditions to connect the unconnected, enabling environments for private sector investments and necessary regulatory reforms that meet private sector expectations across different industries. The collaborative approach allowed the 25 member institutions to share a wealth of experiences and technology options of respective organizations and reconcile diverse perspectives to reach full network coverage and connectivity in the region.

The Working Group estimated that the cost of closing the digital divide would be approximately US $100 billion or close to $9 billion a year. A broadband development roadmap developed by the Working Group is based on a unanimous agreement that the universal connectivity requires more than just infrastructure investments and significant investments in necessary digital skills, content, and enabling policy and regulations. The roadmap identified seven key policy milestones: i) building broadband markets that improve competition; ii) reducing economic costs of taxes and fees in the telecom sector; iii) mobilizing public funds to close the funding gap and to reduce risks for private investments; iv) expanding government procurement of digital services to facilitate the digital economy and create initial demands for the network; v) taking a proactive approach to providing connectivity beyond commercially viable areas and to the marginalized communities; vi) addressing demand-side factors through digital skills development, creation of digital content, and provision of affordable broadband services and devices; vii) developing local skills through training for the long-term sustainability of the network. A detailed action plan was also provided for respective milestones in the roadmap to help governments, development partners, and the private sector accelerate and prioritize efforts.

Calling for Broader Coalition Beyond the Working Group

The report of the Working Group, "Connecting Africa through Broadband" (or "Africa Moonshot" report), was officially launched in October 2019 during the World Bank Group Annual Meetings. A flagship event brought together a broad coalition of partners, including Broadband Commissioners and African Ministers to reflect on the report's recommendations and practical steps towards inclusive connectivity. Panelists included Achim Steiner, UNDP Administrator, H.E. Aurélie Adam Soulé, Minister of Digital Economy and Communications of Benin, Makhtar Diop, the World Bank Vice President of Infrastructure, Doreen Bogdan-Martin, Director of Telecommunication Development Bureau (BDT) of ITU, H.E. Amani Abou-Zeid, Commissioner for Infrastructure and Energy at the African Union Commission (AUC) and Peter Ib, CEO of Bluetown. The session was moderated by Lerato Mbele, BBC World News presenter. The event also

featured two African entrepreneurs who underscored the importance of broadband affordability and quality to ensure that businesses operate on competitive grounds.

While the high-level dialogue facilitated a consensus on exceptional and coordinated efforts to accelerate Africa's digital transformation journey, the event was also live-streamed in two languages, English and French, and attracted 13,500 viewers who also joined an interactive public discussion. In addition, a global awareness-raising and advocacy campaign around the hashtag #Broadband4Africa was created.

Extended Momentum through GIGA and 21st Century Financing Models Working Groups

The stakeholders agreed to continue the momentum towards the universal and affordable good quality broadband under two following Working Groups under the UN Broadband Commission, notably through the " School Connectivity Working Group (GIGA)" and the "21st Century Financing Models for Sustainable Broadband Development Working Group (21st Century Financing)." While the GIGA Working Group set an objective to connect every school to the internet, its members took a deep dive into mapping, financing, technology options, policies and regulations, and business models to achieve the connectivity agenda at the school level. Based on the findings and tools developed through the Working Group activities, the World Bank, ITU, and UNICEF are also working towards specific implementation scenarios to support governments design a school connectivity component in select countries. The 21st Century Financing Working Group inspired by the critical funding gap of $100 billion in Africa to achieve the universal access, aims at continuing the discussion around new funding models that leverage the expertise of impact investors and addressing new needs, stakeholders, and learnings.

While the Working Group highlighted the lack of affordability of broadband-enabled devices, it has also facilitated a partnership between the World Bank and Facebook to support affordable access to devices to address a critical barrier to a massive broadband uptake in developing countries. The two institutions have since coalesced to conduct an in-depth study to present various options to address the affordability gap throughout the device value chain and to devise innovative mechanisms to de-risk private financing. The collaboration will be designed to engage other interested stakeholders and to help design and implement relevant programs in a specific context.

WBG's Digital Economy for Africa Initiative

The Working Group results and the strengthened partnership with multiple stakeholders have also contributed to the consolidation of an ongoing initiative within the World Bank Group (WBG). The WBG had launched in 2019 the Digital Economy for Africa (DE4A) Initiative committing significant financing to support Africa's digital transformation in the next ten years. The Working Group report and its roadmap became key contributions to the operationalization of the DE4A initiative. Based on the findings and recommendations, the DE4A Initiative takes the approach to systematically leverage public and private investments for priority areas and address regulatory and policy barriers to develop an enabling environment for the needed investments in the digital economy. As part of the initiative, the World Bank Group is conducting digital economy country diagnostics to identify challenges and opportunities for future growth across the continent. As of FY20, the Bank has 15 active and 29 pipeline investment operations in Africa that contribute to the operationalization of the DE4A initiative.

While the African Union endorsed the Digital Transformation Strategy for Africa 2020-2030 (DTS) in February 2020, the WBG provided inputs to the Strategy document at the request of the African Union Commission (AUC). The inputs to the DTS included the foundational elements of the digital economy, a

roadmap, and action plans for implementation. A consultation process also ensured that the final Strategy was closely aligned with the Working Group recommendations. While the Strategy provides a political underpinning at the continental level to initiate engagements with African governments on digital transformation, development partners would leverage the Working Group outputs which serve as a framework agreement among the global stakeholders to support its implementation.

Strengthened Collaboration to Respond to the Urgency of COVID-19 Pandemic

The abrupt outbreak of the coronavirus disease 2019 (COVID-19) pandemic further enhanced the timeliness of the work on this digital connectivity for all agenda. The COVID-19 pandemic has revealed the critical importance of digital infrastructure, technologies, and services more clearly than ever before to ensure continuity of operations and businesses during times of required physical distancing. Unlike other public health crises, COVID-19 demanded the use of virtual communication methods that need to be delivered over good quality and resilient broadband infrastructure and using online digital services and products. In the context of this unprecedented event, the partnerships and communication channels solidified through the Working Group were instrumental in opening a prompt high-level dialogue to discuss an accelerated action plan to keep telecommunications networks and services affordable, available and accessible, as well as safe and resilient, with digital as the new norm.

The Broadband Commission's "Agenda for Action: For Faster and Better Recovery" on COVID-19 crisis was a direct output of the continued discussions and collaboration. The agenda set out a framework outlining immediate concrete measures to ensure resilient connectivity, digital inclusiveness, and safe use of online services to minimize the social and economic impact of COVID-19. In addition, under the Speedboat initiative, the World Bank, ITU, GSMA, and the World Economic Forum issued a "COVID-19 Crisis Response: Digital Development Joint Action Plan and Call for Action" to fast-track collaboration, ensure that digital technologies are fully mobilized and networks are well-equipped to handle an exponential increase in digital traffic, help countries future-proof their digital capabilities and infrastructure for subsequent crises, and prioritize access to digital services for those that remain unconnected.

Monitoring the Progress Towards the Universal, Affordable, and Good Quality Broadband

The lack of open-source broadband infrastructure maps housed and maintained with a single open data platform, particularly in Africa, has also been identified as a key challenge to monitor the progress towards the 2030 goal as well as recognize achievements and to hold the stakeholders accountable for the commitments. The World Bank is interested in developing mapping tools to be used by policy leaders and regulators in client counties to inform investment decisions and monitor progress. A recently launched Global Infrastructure Map brings together global infrastructure-related geospatial data layers, including the mobile network coverage as well as submarine cables and colocation data centers. The map is a work in progress, and the objective is to develop it further to include additional layers, including a globally available map of terrestrial fiber-optic networks. The World Bank is in the process of supporting partnerships to develop a dynamic open data mapping platform, which will track the accelerated investments towards the expanded networks.

At the World Bank, we are working with governments and partners toward the unwavering commitment to expanding access to affordable and quality broadband for countries to fully leverage the digital economy for economic growth and socio-economic development. While we are congratulating the achievements of the UN Broadband Commission during its undertaking over the past 10 years, we would

like to call for greater collaboration across industries, governments, and institutions for accelerated progress towards the targets in the African continent.