



DIGITAL ECONOMY DIAGNOSTIC

The Gambia

#DE4A
Digital Economy
for Africa Initiative





Photo credit – Alhagie Manka

The Gambia Digital Economy Diagnostic

TABLE OF CONTENT

ACKNOWLEDGEMENTS	7
LIST OF ACRONYMS	8
EXECUTIVE SUMMARY	12
INTRODUCTION	30
- Background on Digital Economy and DE4A Methodology	30
- The Gambia at a Glance	33
1. DIGITAL INFRASTRUCTURE	39
1.1 Importance	39
1.2 Diagnostic Findings: Current State of Broadband Internet Development	41
1.3 Recommendations	72
2. DIGITAL PUBLIC PLATFORMS	75
2.1 Importance	75
2.2 Diagnostic Findings: Current State of Digital Public Platforms	76
2.3 Recommendations	88
3. DIGITAL FINANCIAL SERVICES	91
3.1 Importance of Digital Financial Services (DFS)	91
3.2 Diagnostic Findings: Current State of DFS	93
3.3 Recommendations	108
4. DIGITAL BUSINESSES	112
4.1 Importance	112
4.2 Diagnostic Findings: Current State of Digital Businesses	113
4.3 Recommendations	127

5. DIGITAL SKILLS	132
5.1 Importance	132
5.2 Diagnostic Findings: Current State of Digital Skills	133
5.3 Recommendations	142
CONCLUSION	146
Cross-Cutting Issues and A Way Forward	146
REFERENCES	152
ANNEXES	158

LIST OF FIGURES

Figure 1. ICT regulation benchmarking in the gambia and selected peers, ICT & RWI	60
Figure 2. Mobile taxes in the gambia and selected peers	65
Figure 3. Data regulation diagnostic across selected ssa countries	70
Figure 4. e-government development index (edgi) for the gambia and selected peers	88
Figure 5. Share of adults with access to financial services in the gambia & selected peers	95
Figure 6. Mobile money indicators in the gambia and selected peers	96
Figure 7. Awareness of financial services in the gambia	104
Figure 8. Mobile money agent networks in the gambia and selected peers	106
Figure 9. Doing business ranking, the gambia and selected peers, 2020	118
Figure 10. Top ten business environment constraints in the gambia	121
Figure 11. Incubators, accelerators & other capacity development providers in the gambia	123
Figure 12. Global entrepreneurship index, the gambia and selected peers, 2019	124
Figure 13. Comparing firm-level technology absorption index	126
Figure 14. Learning-adjusted expected years of schooling in the gambia & selected peers, 2020	135
Figure 15. Types of educational activities conducted since school closures in the gambia, 2020 (% of respondents)	137

The Gambia Digital Economy Diagnostic

LIST OF TABLES

Table 1. The gambia in brief – key Figures and indicators	35
Table 2. Impact of a 10-percent increase in mobile broadband penetration on gdp growth	40
Table 3. Effect of 10-percent increase in mobile broadband penetration in the gambia and selected peers	40
Table 4. Summary of key first mile challenges	44
Table 5. Key national fiber infrastructure	46
Table 6. National fiber routes in the gambia and selected peers	48
Table 7. Summary of key middle mile challenges	50
Table 8. Retail mobile broadband market in the gambia	51
Table 9. Mobile internet usage and coverage gaps in the gambia and selected peers	52
Table 10. Analysis of broadband supply in the gambia	54
Table 11. Summary of key last mile challenges	55
Table 12. The gambia vis-a-vis senegal: benchmarking frist-to-last mile indicators	56
Table 13. Key policies, regulations and legislations related to ict/digital infrastructure in the gambia	58
Table 14. Gamcel audited financial statements	69
Table 15. Summary of key invisible mile challenges	70
Table 16. Main entrepreneurship policies in the gambia	117
Table 17. Doing business in the gambia and selected peers: starting a business and paying taxes	119



Photo credit – Alhagie Manka

The Gambia Digital Economy Diagnostic

ACKNOWLEDGEMENTS

This report was prepared by the World Bank Group team led by Aneliya Muller (Digital Development Specialist, Chapter Lead for Digital Infrastructure and co-lead for Digital Businesses) and comprising the following members: Dolele Sylla (Public Sector Specialist, Chapter Lead for Digital Public Platforms); Katie Kibuuka (Private Sector Specialist, Chapter Lead for Digital Financial Services); Farah Dib (Private Sector Specialist, Chapter co-Lead for Digital Businesses); Alison Grimsland (Education Specialist, Chapter Lead for Digital Skills); and Penny Williams (Program Manager, Lead on Social Protection and ID).

The team also included Naomi Halewood (Senior Digital Development Specialist); Samuel Mills (Senior Health Specialist); Lucine Park (Digital Development Specialist); Christoph Stork (Digital Infrastructure Consultant, Partner at Research ICT Solutions); Luisa Sande Lemos (Private Sector Development Consultant); Merridy Gaye Wilson Strydom (Education Consultant); Poncelet Ileleji (Education Consultant); and Paulette Zoua (Program Assistant). The team benefited from the insights and leadership of Feji Boroffice (Resident Representative in The Gambia) and the Gambia country team, including Mehwish Ashraf (Country Economist), Sering Touray (Poverty Economist), and Yassin Njie (Program Assistant). The graphic design of the report was prepared by William Ursenbach.

The team worked in close collaboration with colleagues from the International Finance Corporation (IFC), led by Josiane Kwenda (IFC Country Manager) and comprising Lorentz Nwachuku (Senior Investment Officer); Karamba Badio (Senior Investment Officer); Ami Dalal (Senior Investment Officer); Guillaume Xavier Touchard (Investment Officer); and Pauline Deschryver (Associate Investment Officer).

Valuable guidance was provided by Nathan M. Belete (Country Director); Michel Rogy (Practice Manager, Digital Development); and Luc Lecuit (Operations

Manager). Additional guidance and contributions were provided by Alexandre Arrobbio (Practice Manager, Governance); Consolate Rusagara (Practice Manager, Finance, Competitiveness and Innovation); and Meskerem Mulatu (Practice Manager, Education).

The team is grateful to the peer reviewers of this report for their valuable comments: Jerome Bezzina (Senior Digital Development Specialist); Constantin Rusu (Senior Public Sector Specialist); Maimouna Gueye (Senior Financial Sector Specialist); Eva Clemente Miranda (Private Sector Specialist); Mariam Nusrat (Education Specialist); and Edoardo Totolo (Operations Officer).

The team would like to express their sincere gratitude to all government and private sector organizations for their insights and generous cooperation during the drafting of this report. It would especially like to thank the teams of The Gambia's Ministry of Finance and Economic Affairs and teams from the Ministry of Information and Communication Infrastructure and Public Utilities Regulatory Authority, as well as members of the Central Bank of The Gambia and Ministry of Basic and Secondary Education; Ministry of Higher Education, Research, Science and Technology; the Ministry of Trade, Industry, Regional Integration and Employment; and the Gambia Chamber of Commerce and Industry for their precious cooperation and availability.

The Gambia DE4A Report elaboration was supported by the Digital Development Partnership (DDP), administered by the World Bank Group. DDP offers a platform for digital innovation and development financing, bringing public and private sector partners together to advance digital solutions and drive digital transformation in developing countries.

www.digitaldevelopmentpartnership.org

LIST OF ACRONYMS

4G	Fourth generation of broadband cellular network technology	ESSP	Endorsed Education Sector Strategic Plan
ABP	Annual Borrowing Plan	EU	European Union
3G	Third generation of broadband cellular network technology	FDI	Foreign Direct Investment
ACE	Africa-Coast-to-Europe (submarine cable)	FMD	Fiscal Management Development
ACE	Africa Centers of Excellence	FSPS	Financial Services Providers
ACH	Automated Clearing House	FTTX	Fiber to the x (generic term for any broadband network architecture using optical fiber to provide all or part of the local loop used for last mile telecommunications)
AFDB	African Development Bank	G2B	Government-to-Businesses
ASA	Advisory Services and Analytics	G2C	Government-to-Citizens
ATM	Automated Teller Machine	G2G	Government-to-Government
AU	African Union	GAIN	Gambia Angel Investor Network
AXIS	African Internet Exchange System	GAMBIS	Gambia Biometric Identification System
BOP	Balance of Payment	GAMCEL	Gambia Cellular Company
CBG	Central Bank of The Gambia	GAMPOST	Gambia Postal Services
CCRT	Catastrophe Containment and Relief Trust	GAMTEL	Gambia Telecommunication Company
CEN	Country Engagement Note	GBA	Greater Banjul Area
CIIP	Critical Information Infrastructure Protection	GBOS	Gambia Bureau of Statistics
CIO	Chief Information Officer	GCAA	Gambia Civil Aviation Authority
CISF	Capital Investment Stimulation Fund	GCCPC	Gambia Competition and Consumer Protection Commission
CRB	Credit Reference Bureau	GDP	Gross Domestic Product
CRVS	Civil Registration and Vital Statistics	GEI	Global Entrepreneurship Index
CSIRT	Computer Security Incident Response Team	GERMP	Gambia Electricity Restoration and Modernization Project
CTO	Chief Technology Officer	GIA	Gambia International Airlines Limited
DFS	Digital Financial Services	GICTA	Gambia Information & Communication Technology Agency
DLDM	Directorate of Loans and Debt Management	GIEPA	Gambia Investment and Export Promotion Agency
DPF	Development Policy Financing	GIZ	German Agency for International Cooperation
DPPP	Directorate of Public-Private Partnerships	GMD	Gambian Dalasi
DSA	Debt Sustainability Analysis	GNI	Gross National Income
DSSI	Debt Service Suspension Initiative	GNPC	Gambia National Petroleum Company
ECF	Extended Credit Facility	GOBS	Gambia Bureau of Statistics
ECOWAS	Economic Community of West African States	GOTG	Government of The Gambia
EDMS	Electronic Document Management System	GPA	Gambia Ports Authority
EEZ	Exclusive Economic Zone		
EFT	Electronic Fund Transfer		
EGDI	E-government Development Index		
EGRA	Early Grade Reading Assessment		

The Gambia Digital Economy Diagnostic

GPE	Global Partnership for Education	MOHERST	Ministry of Higher Education, Research, Science and Technology
GPPA	Gambia Public Procurement Authority	MOICI	Ministry of Information and Communication Infrastructure
GPPC	Gambia Public Printing Corporation	MOTIE	Ministry of Trade, Industry, Regional Integration and Employment
GPRS	General Packet Radio Service	MOU	Memorandum of Understanding
GRA	Gambia Revenue Authority	MSMES	Micro, Small and Medium Enterprises
GRTS	Gambia Radio and Television Service	MTDS	Medium-Term Debt Strategy
GSC	Gambia Submarine Cable Company Limited	MTFF	Medium-Term Fiscal Framework
GSMA	Global Systems for Mobile Communications	MTO	Money Transfer Operators
HFO	Heavy Fuel Oil	MVNO	Mobile Virtual Network Operator
ICT	Information and Communication Technologies	NAQAA	National Accreditation and Quality Assurance Authority
ICT4D	Information and Communication Technologies for Development	NAWEC	National Water and Electricity Company
ID	Identification	NBN	National Broadband Network
IDA	International Development Association	NDP	National Development Plan
IFAD	International Fund for Agricultural Development	NEA	National Environment Agency
IFC	International Finance Corporation	NEDI	National Enterprise Development Initiative
IFMIS	Integrated Financial Management Information System	NEET	Not in Education, Employment, or Training
ILO	International Labor Organization	NEMA	National Environment Management Act
IMF	International Monetary Fund	NEP	National Entrepreneurship Policy
IMVF	Instituto Marques de Valle Flor	NFBIS	Non-Bank Financial Institutions
IP	Internet Protocol	NFIS	National Financial Inclusion Strategy
IPFS	Investment Project Financing	NFSPMC	National Food Security Processing and Marketing Corporation
IPPS	Independent Power Producers	NICI	National Information and Communication Infrastructure
ISDB	Islamic Development Bank	NIN	National Identification Number
ISOC	Internet Society	NPP	New Project Proposal
ISP	Internet Service Provider	NREN	National Research and Education Network
IT4D	Information Technology for Development	OECD	Organization for Economic Co-operation and Development
ITAG	Information Technology Association of The Gambia	OMVG	Gambia River Basin Development Organization (Organisation pour la Mise en Valeur du Fleuve Gambie)
ITAS	Integrated Tax Management System	OTT	Over-The-Top
ITFC	Islamic Trade Finance Corporation	P2P	Person-to-Person
ITU	International Telecommunication Union	PC	Performance Contract
IXP	Internet Exchange Point	PDO	Program Development Objective
KPI	Key Performance Indicator	PEFA	Public Expenditure Financial Assessment
KYC	Know Your Customer		
LDP	Letter of Development Policy		
LMS	Learning Management System		
MDAS	Ministries, Departments and Agencies		
MICS	Multiple Indicator Cluster Survey		
MNO	Mobile Network Operator		
MOBSE	Ministry of Basic and Secondary Education		
MOFEA	Ministry of Finance and Economic Affairs		

#DE4A

PFM	Public Financial Management	TIN	Tax Identification Number
PIP	Public Investment Program	TVET	Technical and Vocational Education and Training
PKI	Public Key Infrastructure	UK	United Kingdom
POP	Points of Presence	UN	United Nations
PP	Public Procurement (Act)	UNCDF	United Nations Capital Development Fund
PPA	Performance & Policy Actions	UNCITRAL	United Nations Commission on International Trade Law
PPP	Public-Private Partnership	UNDP	United Nations Development Program
PSI-PMI	Piloting Progressive Science Initiative and Progressive Math Initiative	UNICEF	United Nations Children's Fund
PURA	Public Utilities Regulatory Authority	WACREN	West Africa REN
PV	Present Value	WAEMU	West African Economic and Monetary Union
QOS	Quality of Service	WAMZ	West African Monetary Zone
RCF	Rapid Credit Facility	WAPP	West Africa Power Pool
REN	Research and Education Network	WARCIP	West Africa Regional Communications Project
RTGS	Real Time Gross Settlement	WB	World Bank
RWI	Regulatory Watch Initiative	WBG	World Bank Group
SAP	Supplementary Appropriation Bill	WFP	World Food Program
SCD	Systematic Country Diagnostic	Y/Y	Year-on-year
SDF	Social Development Fund	YEP	Youth Empowerment Project
SDFP	Sustainable Development Financing Policy		
SDG	Sustainable Development Goal		
SDP	Strategic Development Plan		
SDR	Special Drawing Rights		
SIM	Subscriber Identification Module		
SIXP	Serekunda Internet Exchange Point		
SMP	Staff Monitored Program		
SOE	State-owned enterprise		
SPD	Standard Procurement Document		
SPV	Special Purpose Vehicle		
SRB	Strategic Review Board		
SSA	Sub-Saharan Africa		
SSHFC	Social Security and Housing Finance Corporation		
T&D	Transmission and Distribution		
TA	Technical Assistance		



Photo credit – Alhagie Manka

EXECUTIVE SUMMARY

Digital technologies are paving the way for new economic growth and service delivery models across Africa and beyond, particularly in the wake of the global COVID-19 pandemic. Rooted in expanding broadband penetration and supported by innovation, entrepreneurship and public services digitization, digital transformation has spurred the development of a small but rapidly growing digital economy, which encompasses a wide range of new applications of information and communication technology (ICT). While consensus on how to define and measure the digital economy is still emerging, its share in global and African GDP is expected to continue growing, possibly outpacing the growth of the overall economy. The 2020 e-Conomy Africa Report by the International Finance Corporation (IFC) and Google finds that Africa’s internet economy can potentially reach US\$180 billion or 5.2 percent of the continent’s gross domestic product (GDP) by 2025, and US\$712 billion or 8.5 percent of the continent’s GDP by 2050¹. This trend is likely to accelerate, as digital technologies have come to the forefront of the unprecedented global fight against the COVID-19 pandemic, during which digital connectivity has become an even more essential public good and prerequisite for business and operational continuity. Digital technologies can, and are, enabling more economic activities to happen—and to happen safely albeit unevenly — across firms, sectors, and geographies²,

exposing a stark digital divide between the connected and unconnected. Moreover, the pandemic has highlighted a critical need to effectively adopt digital technologies across key socioeconomic sectors, including health, education, water and sanitation, financial services, and agriculture to improve their productivity and service delivery efficiency.

At the same time, the COVID-19 crisis presents an opportunity to “build back and forward better”, as emerging evidence suggests that affordable access to and productive use of digital technologies can not only help countries respond to emergencies but also stimulate long-term, economy-wide inclusive productivity growth, poverty reduction, and job creation. The rapid adoption of digital technologies in the global economy has meant their benefits are widely dispersed and their indirect aggregate growth impacts are difficult to estimate, as they have effectively become a factor of production³. At the same time, emerging empirical evidence suggests that reaching the African Union’s (AU’s) 2030 “Digital Transformation for Africa” goal of universal and affordable internet coverage, contingent on the appropriate human capital investments, can raise real GDP growth per capita by 5 percentage points (p.p.) per year and reduce poverty headcount by 2.5 p.p. per year across Sub-Saharan Africa (SSA)⁴. The usage of digital technologies has positive correlations with economic

¹ IFC, Google, 2020. E-Conomy Africa 2020. Available at: <https://www.ifc.org/wps/wcm/connect/e358c23f-afe3-49c5-a509-034257688580/e-Conomy-Africa-2020.pdf?MOD=AJPERES&CVID=n-muGYF2>.

² World Bank, 2020. Europe 4.0: Addressing Digital Dilemma. Available at: <https://openknowledge.worldbank.org/handle/10986/34746>.

³ World Bank, 2016. World Development Report – Digital Dividends. Available at: <https://www.worldbank.org/en/publication/wdr2016>.

⁴ Choi, J., Dutz, M., Usman, Z. 2019. The Future of Work in Africa: Harnessing the Potential of Digital Technologies for All. Washington, DC: World Bank.

The Gambia Digital Economy Diagnostic

growth and inclusion across countries of different income levels and is directly linked to the World Bank Group's (WBG's) twin goals of ending extreme poverty and promoting shared prosperity. More specifically, as evidenced for households in neighboring Senegal, mobile internet coverage is associated with 14 percent higher total consumption and 26 percent higher non-food consumption, as well as a 10 percent lower extreme poverty rate. At the enterprise level, firms with more sophisticated levels of technologies in Senegal have higher levels of productivity, generate more jobs, and, on average, increase the share of unskilled workers on their payroll⁵. Moreover, the introduction of digital technologies can have a transformative effect on governments. It is estimated that developing countries could collectively save 0.9 to 1.1 percent of GDP (equivalent to US\$220 billion to 330 billion annually) by introducing digital platforms⁶. Even for small, poor, and fragile countries like The Gambia, digital transformation can unlock significant dividends by strengthening local and national public services, promoting private investment, and helping civil society build community networks⁷. However, as highlighted in the World Bank's 2016 World Development Report on Digital Dividends and underscored by the 2020 and 2021 volumes of the WBG Africa Pulse reports, these long-term development impacts are by no means definitive; instead they will depend on the country's success in making the internet universally accessible and affordable (boosting connectivity), while strengthening analog foundations consisting of skills that allow individuals, entrepreneurs, and public

servants to seize opportunities in the digital world; regulations that create a vibrant business climate and let firms (including informal ones) leverage digital technologies to compete and innovate; and accountable institutions that use the internet to provide services and empower citizens⁸.

In this context, relying on the Digital Economy for Africa methodology⁹, the report conducts a timely diagnostic of the state of the digital economy in The Gambia. Based on desk research and a comprehensive program of interviews with a wide range of stakeholders, including government entities and members of the private sector, civil society and development partners, the assessment focuses on five pillars of the digital economy – digital infrastructure, digital public platforms, digital financial services, digital businesses and digital skills. The report aims to highlight opportunities to develop The Gambia's digital economy, with an emphasis on policies that can help the country address its fragility, spur inclusive growth and job creation (critical for its young population) and bridge the existing digital divide while strengthening resilience in the face of crises, such as COVID-19. Actionable recommendations are put forward to inform national decision-making, constituting a mix of possible policy reforms, investments, and capacity-building activities. The findings also aim to provide guidance on potential areas of WBG support in The Gambia for the implementation of the AU Strategy for Digital Transformation and the WBG's twin goals to end extreme poverty and promote shared prosperity.

⁵ World Bank, 2021. Inclusive Digital Senegal: Opportunities for Jobs and Economic Transformation (P168s247) by Cruz, M., Dutg, M., and Castelan, C. World Bank, Washington DC (forthcoming).

⁶ IMF (International Monetary Fund). 2017. Digital Revolutions in Public Finance. Washington, DC: International Monetary Fund.

⁷ World Bank, 2020. Strategy for Fragility, Conflict and Violence 2020-2025. Washington, D.C.: World Bank Group. Available at: <http://documents.worldbank.org/curated/en/844591582815510521/World-Bank-Group-Strategy-for-Fragility-Conflict-and-Violence-2020-2025>.

⁸ World Bank, 2016. World Development Report – Digital Dividends. Available at: <https://www.worldbank.org/en/publication/wdr2016>.

⁹ World Bank. Digital Economy for Africa Initiative. Description available at: <https://www.worldbank.org/en/programs/all-africa-digital-transformation>.

Notwithstanding important assets, in the context of a fragile and poverty-stricken environment, The Gambia's digital economy remains embryonic, leaving the country ill-prepared to face a rapidly spreading global reality of digitally enabled economic and personal interactions. Despite its strategic coastal location, which allows The Gambia to enjoy direct submarine fiber optic cable access to Europe, the country faces critical bottlenecks all along its digital infrastructure value chain that result in high prices, low quality, and feeble reliability of broadband services, key supply-side barriers, leaving downstream development of the digital economy largely stifled. Access to basic services — critical for economic development and digital transformation — is insufficient, with access to electricity reaching 60 percent of the population nationally but only 35 percent in rural areas. Over 60 percent of the Gambian workforce have no formal schooling, while almost 50 percent of the adult population (15 years+) is estimated to be illiterate¹⁰. Coupled with the fact that almost half of the population live below the national poverty line, these factors curb demand for digital solutions. At the same time, weak business regulatory environment, characterized by the high cost of starting a business and burdensome taxation, joined with poor access to finance — especially for early-stage start-ups — limit the development of the private sector in general and digital businesses in particular. Against this background, key foundations, particularly broadband connectivity and digital literacy and skills, are deemed insufficiently strong to underpin demand for digital solutions and support the growth of digital businesses.

These vulnerabilities have been amplified by the COVID-19 pandemic, highlighting the critical

importance of affordable and reliable digital access to ensure the continuous functioning of the economy and availability of vital services. As both the public and private sectors had to switch to a largely virtual modus operandi, digital infrastructure has been put under significant pressure. According to some internet service providers (ISPs), with the onset of the pandemic the bandwidth usage in The Gambia experienced roughly a 30 percent increase across the entire broadband network, reportedly resulting in significant congestion and reduced quality. At the same time, as nine out of ten Gambian households experienced a decrease in income between March and mid-August 2020, 43 percent of households couldn't honor their electricity payments and 27 percent couldn't pay their internet bills, with the latter share increasing to 36 percent during the period October to December 2020¹¹. With its schools and universities closed for more than six months from mid-March 2020 and online learning neither effective nor accessible to all, due to uneven and weak broadband connectivity, the country has witnessed a learning crisis that weakens the productivity of future generations, especially among the poor in remote areas. In the private sector, an estimated 50,000 to 100,000 direct jobs were lost due to negligible tourism activity (a lifeline of the Gambian economy) during the lockdown period, and multiple companies, particularly young micro, small and medium enterprises (MSMEs), filed for bankruptcy. However, in line with regional trends demonstrating that 22 percent of SSA firms have started or increased the use of digital tools in response to COVID-19¹², there is some encouraging evidence that the uptake of digital technologies has been rising among enterprises in The Gambia, particularly by companies offering financial and ICT services.

¹⁰ Latest available WDI data for 2015

¹¹ World Bank, Gambia Bureau of Statistics and State and Peace-building Fund, 2020. High Frequency Survey on the COVID-19 Impacts on Households. Waves 1 and 3, published in October 2020 and February 2021, respectively.

¹² World Bank, 2021. Africa Pulse. Covid-19 and the Future of Work in Africa: Emerging Trends in Digital Technology Adoption. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/35342/9781464817144.pdf?sequence=10&isAllowed=y>

The Gambia Digital Economy Diagnostic

The Government of The Gambia (GoTG) recognizes the importance of the digital economy for accelerated, inclusive and sustainable growth, especially in the COVID-19 era; however, the effective implementation of strategic digital transformation directives have been lagging. The National Development Plan (NDP) 2018–2021 has, under the Critical Enabler 5 “Making The Gambia a Digital Nation and Creating a Modern Information Society”, outlined a framework to harness the benefits of ICT in all sectors of the economy for equitable development. Although the NDP is undergoing a mid-term evaluation and reprioritization exercise, in a bid to support a resilient post-COVID-19 recovery, the digital agenda will clearly continue to play a central role among its revised objectives. In line with the GoTG’s overarching strategic vision, in March 2020 the Ministry of Information and Communication Infrastructure (MOICI) presented a new ICT/digital roadmap “2020–2024 ICT4D” that incorporates the Broadband Strategic Plan 2020–2024 and includes critical objectives, such as upgrading last mile network connectivity; improving regulatory policies; strengthening e-government and cybersecurity; accelerating the rollout of regional ICT centers for communities/schools; improving digital literacy both among civil servants and the entire population; and creating a conducive environment for digital local content creation. It would be important to build on this progress and on strategic guidance to ensure the effective implementation of identified priorities, while closing pending regulatory and legal gaps.

The conducted analysis of the five foundational pillars of the digital economy underscores the synergetic importance of a coordinated, holistic and ecosystem-based approach, as each foundation plays an important role in its own right but also depends upon, and reinforces, the others. For example, without improved access to and use of affordable broadband connectivity on the supply side, combined with enhanced digital literacy and skills on the demand side,

the development of digital financial services (DFS) and digital businesses are likely to derail. The GoTG’s ability to develop digital platforms and leverage technology for improved efficiency and service delivery is key to enabling the interlinkages between the pillars to create synergetic effects. The combined effect of these improvements is larger than their sum.

Digital infrastructure in The Gambia falls short of its potential, mainly due to critical bottlenecks in international connectivity and insufficient competition in the middle mile, driven by a quasi-monopoly by the incumbent operator of the national backbone, as well as its poor management and high access costs. The Gambia is reliant on a single Africa-Coast-to-Europe (ACE) submarine fiber optic cable, which is entering the second half of its economic life and is incurring persistent damages and disruptions (as many as three in January 2021 alone). Recent concurrent breakages on an highly expensive terrestrial back-up route to Senegal, operated by a state-owned incumbent operator Gamtel (on the Gambian side) and Sonatel/Orange (on the Senegalese side) have acted as an aggravating factor, leaving the country cut off from the rest of the world and signaling the critical need for alternative redundancy networks. In the middle mile, the national fiber optic backbone network is relatively well developed but remains largely underutilized (due to mismanagement and quality issues), with only 5 percent of the population connected to it. The situation is rendered more difficult by an existing moratorium issued in 2018 by the GoTG on laying aerial and terrestrial fiber networks that private operators widely find to be restrictive especially in the context where the newly built National Broadband Network (NBN) remains under the exclusive use of Gamtel. Against this background, and despite a relatively competitive telecom market, mobile broadband experiences usage gaps, as 63.5 percent of those covered by the signal do not use mobile internet, while access to fixed broadband remains well below

the global average of 13.6 at 0.19 per 100 inhabitants (ITU, 2020). Importantly, there is a distinct gender dimension in the usage gap, with 44 percent of women versus 52 percent of men reporting a regular internet use¹³. 4G uptake is particularly low, as 4G data subscribers account for mere 4.5 percent of all data subscribers. This is partly linked to the fact that mobile broadband remains very expensive and slow, leaving The Gambia as the 159th out of 179 countries in the 2019 ITU's low consumption mobile-data-and-voice affordability ranking and the 165th out of 174 states in the 2020 Ookla Global Speed-test Index. While the sector's regulatory environment is, in many ways, sound, the regulator's independence is hampered by a public stake in the sector, highlighting the need to reinforce the GoTG's commitment to leverage state-owned supply assets more strategically, and to ensure non-discriminatory open access to existing wholesale infrastructure and strengthen independent regulatory oversight.

Digital Public Platforms. The GoTG has considerable scope for progress in the domain of online public services and e-government. MOICI oversees the design and implementation of the national e-government program under The Gambia's E-Government Strategic Plan 2020–2024, making considerable efforts to develop shared services available to other ministries, departments and agencies (MDAs) through a newly constructed Tier-3 data center, as well as operating and maintaining the existing government network infrastructure. However, the performance of the public sector in mainstreaming online services and back-office systems has been uneven. Progress has been hampered by a lack of common vision, as well as dysfunctions and limitations in the IT governance landscape and the absence of a National Enterprise

Architecture and interoperability framework. An exhaustive mapping of all platforms and data registers maintained by public entities is missing, while the proliferation of systems — implemented in various sectors in a partitioned manner — has created real, internal monopolies. Such a siloed approach appears incompatible with the whole-of-government concept that implies a horizontal, networked, and collaborative organization of exchanging data. Another critical challenge for digital public platforms in The Gambia is the country's low coverage of birth registrations (according to UNICEF, in 2018 more than 40 percent of children under five were still not registered at birth) and fragmented national digital ID systems, which impede citizens' access to basic services and keep the transaction costs of certain processes (such as the electronic tax filing) high. Against this background, The Gambia finds itself behind most of its peers in the 2020 UN E-government Development Index (EGDI), ranking 181st out of 193 countries. To address these challenges, it would be important to adopt a national interoperability framework, underpinned by an Enterprise Architecture, to allow for the use of common IT standards; expand the accessibility, quality, and functionality of existing digital public platforms, with a focus on e-ID, as well as improve transactional e-services through increased access points, embedded life journey/scenarios and data exchange.

In view of the persistent connectivity challenges mentioned above, as well as important other constraints in the enabling environment, the adoption and usage of DFS in The Gambia remains very low. Financial Services Providers (FSPs) can leverage DFS to offer basic financial services at greater convenience, scale and lower cost than traditional financial services. With almost 70 percent of the Gambian population

¹³ Afrobarometer, 2019. Africa's Digital Gender Divide May Be Widening, Afrobarometer Survey Finds. News Release of 4 November 2019. Available at: https://afrobarometer.org/sites/default/files/press-release/ab_r7_pr3_africas_digital_gender_divide_may_be_widening.pdf.

The Gambia Digital Economy Diagnostic

excluded from the financial sector, DFS could provide an opportunity to broaden citizen access to affordable finance, particularly for currently unserved and underserved segments of the population, for instance those in rural areas and lower income households, as well as to MSMEs. High mobile phone ownership (about 93 percent of Gambian households) means that mobile-based financial solutions could help overcome some of the barriers to financial inclusion. At present, mobile money penetration is very low, with only 2 percent of Gambian adults using these services, much lower than in peer countries. The penetration of other DFS is also limited. Beyond connectivity issues, key underlying obstacles that work both together and separately to keep DFS development and uptake low, include: (i) weaknesses and gaps in the current legal, regulatory and policy environment, which is focused on traditional financial services; (ii) high reliance on cash for most transactions, including those of the GoTG; (iii) lack of awareness and financial education; (iv) a nascent DFS sector with high perceived costs; and (iv) deficiencies in the enabling financial infrastructure (notably in payments' systems and credit infrastructure). Efforts to accelerate DFS development and growth will henceforth need to focus on: strengthening the policy and regulatory environment; enhancing financial infrastructure; providing financial education and literacy (including digital skills development); and introducing market support incentives.

Digital infrastructure bottlenecks also act as one of the main binding constraints for the digital business ecosystem in The Gambia which, given the number of local MSMEs (close to 90,000) and a fast-growing, young population, could play an important role in unlocking opportunities for economic growth and social inclusion. While still at a nascent stage, the ecosystem of digital businesses in The Gambia is home to a few young and promising digital start-ups, several incubators and donor-funded support programs specifically targeting tech enterprises,

and some investors (including a recently established angel investors' network). The country enjoys certain advantages conducive to business development, including an English-speaking population, being in the same time zone as the UK and having only a minimal difference with key European markets, as well as a relatively low unit labor cost that could be leveraged for business processes outsourcing. Despite these developments and their potential for growth, the infrastructure challenges related to high broadband prices, as well as low penetration rates of both internet and electricity throughout the country and their poor reliability, coupled with the lack of effective digital payment solutions and gateways, continue to act as binding constraints both to the digitalization of existing enterprises and to the development of innovative digital start-ups. Moreover, the growth of digital businesses in The Gambia is inhibited by a weak business regulatory environment (including in the domains related to taxation, private equity (PE) and venture capital (VC), crowdfunding and intellectual property protection), limited financing opportunities (particularly for early-stage start-ups), insufficiently developed and targeted support initiatives, and a critical lack of digital skills. Addressing these challenges would require concerted efforts by the GoTG, private sector and key development partners to, inter alia, design incentive-based regulations to promote innovation, expand funding opportunities for start-ups, boost the adoption of technology by enterprises, leverage strong links to the diaspora, and consider pursuing a vision of The Gambia as a hub for software developers.

Notwithstanding the growing demand for and importance of digital skills as a critical analog foundation of the digital economy, their development is significantly constrained by the limited educational curriculum and quality training programs currently available in The Gambia. Educational outcomes in foundational skills, such as reading and numeracy — both of which are critical for digital literacy —

are low in The Gambia. Digital skills development is further hindered by the lack of digital infrastructure in educational institutions and the high cost of internet connectivity, as well as by weak cross-sectoral coordination to address these challenges, which create a barrier to online and remote learning. These constraints appear to be even more pronounced in higher education that has traditionally relied on more technologically sophisticated teaching methods, labs, and equipment. At basic and secondary levels, digital literacy is low among teachers and teacher trainers, due in part to the extremely low availability and use of computers and other devices in classroom settings. Similarly, at home — another critical space to develop and practice digital skills — only 42 percent of boys and 36 percent of girls report having a computer and using it at least once a week¹⁴. Against this background, digital skills among school-aged children remain underdeveloped, with persistent gender disparities. UNICEF has demonstrated that only 10 percent of adolescent boys and 6 percent of adolescent girls (aged 15–18 years) in The Gambia are considered as having ICT skills¹⁵. In addition, little strategic emphasis has been placed on developing intermediate digital skills for general occupations by technical and vocational education and training (TVET) institutions and universities, while opportunities to acquire intermediate and advanced skills for ICT specific professions remain limited. Despite being narrow in scale, however, there have been some promising technology-enabled interventions to deliver learning in schools and enhance digital skills more effectively, including the Progressive Science Initiative-Progressive Math Initiative (PSI-PMI), a student-centered computer-assisted learning program for senior secondary students that has shown positive results and is currently being scaled up. It is

important that the GoTG support such initiatives, while establishing a comprehensive, multi-pronged digital skills policy and implementation plan to ensure its population becomes fully digitally literate and competent.

Several cross-cutting challenges have been identified throughout the analysis. Addressing them would enable The Gambia to strengthen its ability to deal with the challenges identified under the five pillars.

Improving strategic institutional coordination. Although The Gambia is making strides towards rolling out its digital vision, a whole-of-government approach is necessary to bring together various public constituencies, simplify governance architecture and strengthen strategic oversight. At the institutional level, the broad digital economy sector is characterized by a complex governance fabric, in which the multiplicity and instability of decision centers, as well as the lack of clarity over the roles and responsibilities of various institutions, result in initiatives that lack a shared vision, strategic steering or day-to-day advancement. Many of the key objectives, set by strategies and policies, lag in implementation, including enhancing access to broadband and boosting the use of ICT to increase efficiencies across all socioeconomic sectors, and improved digital literacy. This points to an underlying issue, related to overambitious strategy design and/or weak political buy-in. It also signals the lack of effective institutional coordination or the lack of access to resources adequate to support implementation. Revitalizing efforts to operationalize the ICT Agency, de jure established by the ICT Agency Act in 2019 but never implemented, could be an important step towards ensuring the effective coordination and

¹⁴ UNICEF, 2020. COVID-19 and Education: The Digital Gender Divide among Adolescents in Sub-Saharan Africa. Available at: <https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/>

¹⁵ Ibid.

The Gambia Digital Economy Diagnostic

rationalization of government policies and initiatives in the digital domain.

Enhancing regional integration. For a small country like The Gambia with a very narrow domestic market, fully enclaved by Senegal, it is hard to overestimate the importance of regional and international integration across all the five pillars of the digital economy analyzed here. Integration like this can take several forms. It includes, for example, fully implementing the electronic communications framework of the West African Economic and Monetary Union (WAEMU) and ECOWAS rules and regulations (the domestication of ECOWAS regulations on free roaming, expected in 2021, is a step in the right direction); exploring a connection to an additional submarine cable and regional spectrum auctions for broadband connectivity; strengthening links to regional and international markets and value chains to expand business opportunities, as well as access to finance, innovation and a larger customer base; establishing a regulatory framework facilitating cross-border payments; and ensuring that a national research and education network (NREN), when it is rolled out to connect major education and research institutions in the country, is connected to a regional West Africa REN (WACREN).

Fast-tracking the adoption and implementation of cybersecurity and data protection legislation. Overarching cybersecurity policy and strategy, a government cloud strategy, and a critical information infrastructure protection (CIIP) policy framework have been pending approval since 2020. The relevant

bills on cybercrime and national data protection and privacy have been drafted but not yet been passed into law; they remain pending Cabinet/Parliament approval. Adopting and effectively implementing these legislations, as underscored by the 2021 World Development Report on Data for Better Lives, will have ripple effects across the digital economy, including for the use of digital systems in social protection, e-ID, and e-commerce, shaping an enabling environment for a wider and safer adoption of digital technologies.

Overall, to tap into digital sources of growth and unlock digital dividends, The Gambia needs a mix of supply-side policies and investments to support affordable and reliable broadband and digital public services, as well as demand-side interventions, incentives and skills-boosting programs to stimulate their adoption and productive use by individuals and enterprises (including those in the informal sector).

Anchoring these in solid “analog” — legal, regulatory and institutional — foundations as well as regional integration efforts will be critical for success and sustainability. Based on the analysis of key strengths and weaknesses of each foundational pillar of the Gambian digital economy, the report offers a set of recommendations using an ecosystem approach, clustered by level of priority: (i) quick-wins – for actions that can be delivered quickly/short-term, with immediate tangible results; (ii) high-priority – for critical recommendations that can’t be relegated and could be adopted within a short to medium timeframe; and (iii) long-term – for actions spanning a wider timeframe that focus on consolidating results (Table A).

TABLE A: Summary of Key Strengths, Weaknesses and Recommendations Per Pillar

PILLAR	KEY STRENGTHS & ASSETS	KEY WEAKNESSES & ROADBLOCKS
Digital Infrastructure	<ul style="list-style-type: none"> • High mobile phone penetration at 135 percent (Telegeography, 2020); • High population density on a small territory coupled with a high urbanization rate (top 10 most urbanized SSA countries), conducive to achieving universal coverage and ensuring cost-effective provision of broadband services to customers; • Competitive telecom market with four MNOs and more than five active ISPs; • Strong 2009 Information and Communication (IC) Act, serving as a foundation for a pro-competitive market (albeit in need of updating); • Presence of local investments (among MNOs and not only). 	<ul style="list-style-type: none"> • Enabler: Insufficient availability, reliability and affordability of power (in some cases prohibitive to run sites 24/7); • First Mile: Dependence on one submarine cable (that experiences several disruptions a year) and overly expensive alternative terrestrial route to Senegal, requiring cost-effective solutions for international redundancy; • Middle Mile: Limited access to and poor maintenance of the wholesale national fiber optic backbone infrastructure (ECOWAN), resulting in its underutilization (mere 5 percent of population is connected to the backbone, as per PURA); • Last Mile: GoTG’s moratorium on laying last-mile fiber networks; low adoption and affordability of mobile broadband (particularly 4G); • Invisible Mile: Lack of specific holistic legislation / regulation covering all aspects/types of infrastructure sharing; pending cybersecurity and data protection regulations; lack of technological neutrality in the licensing regime; etc.
RECOMMENDATIONS		
<p>QUICK WINS (SHORT-TERM):</p> <ul style="list-style-type: none"> • Lift the existing moratorium on fiber roll-out in alignment with the IC Act and licensing regime; • Incentivize and enforce active and passive infrastructure sharing through holistic regulatory measures both within the sector and across sectors (including by exploring the availability of the excess fiber optic capacity of the public electricity company - NAWEC). 		

The Gambia Digital Economy Diagnostic

HIGH-PRIORITY (SHORT-TO-MEDIUM-TERM):

- Ensure adequate and cost-efficient international redundancy by acquiring access to the second submarine cable with a separate landing station, while concomitantly supporting an alternative terrestrial fiber link to the border with Senegal;
- Through increased private sector participation, complete wholesale network management reform to boost the utilization of this critical infrastructure and enable related debt payments, and leverage other state-owned digital infrastructure assets in a more strategic way;
- Strengthen sector governance to withstand potential political capture by further separating ICT policy from ICT regulations and reinforcing independence and accountability of PURA;
- Conduct a new set of market analysis that defines markets for regulatory consideration, identifies operators with significant market power and formulates regulatory remedies to address market failures;
- Accelerate adoption and ensure effective implementation of cybersecurity and data protection legislation.

LONG-TERM:

- Introduce service and technology neutral licenses;
- Review sector specific fees and taxes to promote development and technological innovation;
- Mobilize investment into the internet exchange point (IXP) and strengthen local expertise for its management as well as adopt a regulation to mandate its use.

Digital Public Platforms

- | | |
|---|---|
| <ul style="list-style-type: none"> • Recent adoption of a new and comprehensive E-Government Strategic Plan (2020-2024); • Important efforts to develop shared services available to other ministries, departments and agencies (MDAs); • Efforts to digitalize previously paper-based civil registration and vital statistics (CRVS) and merge it with MyChild immunization record system (with further impetus provided by COVID-19 vaccination campaign); • A fully digitalized Social Registry as a common gateway for household assessment for eligibility in social programs currently under development. | <ul style="list-style-type: none"> • Lack of a common vision and dysfunctions / limitations in the public IT governance landscape; • Lack of an exhaustive mapping of digital platforms and data registers (often siloed) maintained by public administrations; • Absence of an Enterprise Architecture, an interoperability framework and platform and a Public Key Infrastructure (PKI) • Fragmented national digital ID systems, impeding access of citizens and businesses to basic online services (digital trust); • Limited availability of ICT skills in the public sector needed to, inter alia, support digital platforms. |
|---|---|

RECOMMENDATIONS

HIGH-PRIORITY (SHORT-TO-MEDIUM-TERM):

- Improve efficiency and interoperability of core government operations and trust services by (i) developing and implementing an interoperability framework at the inter-ministerial level; (ii) adopting an Enterprise Architecture to allow for the use of common IT standards; (iii) introducing appropriate incentives to encourage the compliance with these standards;
- Facilitate strategic and coordinated leadership for digital platforms;
- Expand accessibility, quality, and functionality of existing public digital service delivery platforms, with a focus on e-ID;
- Improve access to and quality of public services through increasing access points, transactional e-services, implementing life journey/scenarios, and data exchange.

LONG-TERM:

- Increase citizen/government interaction and civic participation through CivicTech to enhance transparency and accountability of public services;
- Strengthen the capacity of public institutions for evidence-based policy making, leveraging the use of Big Data.

Digital Financial Services

- | | |
|---|---|
| <ul style="list-style-type: none"> • High mobile phone penetration; • Mobile money transactions growing at a good rate (20 percent growth between June and September 2020, when data collection started); • Growth in formal remittances (of the main drivers of financial inclusion) at a high rate during COVID-19, as informal remittance channels shut down; • Development of a National Financial Inclusion Strategy (NFIS). | <ul style="list-style-type: none"> • Lack of trust and awareness of DFS on both demand and supply sides; • High costs linked to cash-out of mobile money and fees charged on digital payments; • Weak infrastructure, limiting DFS development, including expensive and unreliable internet; • Underdeveloped ecosystem to support DFS, especially digital payments; • Low capacity to develop DFS products and services given: (i) limited data on the demand side (e.g., market surveillance surveys); and (ii) weak skills to develop them on the supply side; • Disproportionate regulations and supervision that impede financial innovation; • Small market size (limited scale-up opportunities); |
|---|---|

The Gambia Digital Economy Diagnostic

RECOMMENDATIONS

QUICK WINS (SHORT-TERM):

- Adopt draft regulations and guidelines that support DFS development, including “Know Your Customer” (KYC) Lite Framework, and clarify licensing as well as operation guidelines for e-money wallet providers;
- Finalize and adopt the NFIS;
- Boost electronic transactions volume by increasing the number of entities using the payment infrastructure and adopting policies to incentivize electronic payments.

HIGH-PRIORITY (SHORT-TO-MEDIUM-TERM):

- Strengthen the supervisory and oversight capacity of the Central Bank of Gambia (CBG) and foster cooperation amongst regulators and other relevant government entities;
- Enact a government directive that harmonizes and prioritizes digitization efforts, particularly government payments and collections;
- Ensure that the upcoming NDP includes a clear roadmap for DFS to highlight its development as a priority;
- Upgrade payments systems infrastructure (notably GAMSWITCH) and achieve full interoperability across all FSPs and products, particularly between digital wallets and bank accounts, which could boost DFS uptake and use;
- Enhance the functionality of current credit infrastructure to improve its usage, efficiency and effectiveness;
- Develop a National Financial Literacy Program to address issues related to the lack of awareness and financial education.

LONG-TERM:

- Establish a legal and regulatory environment that is conducive to the development of diverse DFS (including e-signature and fintech);
- Ensure full modernization of payment systems infrastructure to support a broader agenda for interoperability, going beyond agents;
- Promote the development of a large merchant acceptance network of DFS for payments in-store;
- Explore options for regional collaboration to address scale-up difficulties.

<p>Digital Businesses</p>	<ul style="list-style-type: none"> • A burgeoning and dynamic digital business ecosystem with a promising potential to offer employment opportunities to young people and solve local social problems; • GoTG's recognition of the importance of developing a strong National Entrepreneurship Strategy, and combining it with further support to digitalization of businesses; • Emerging support services, some financial stakeholders and networking opportunities in the digital business ecosystem; • Strong diaspora network that can offer knowledge and financial support to digital entrepreneurs back home. 	<ul style="list-style-type: none"> • Weak regulatory framework around digital business needs, rendering operating environment complex; • Insufficient access to finance, specially at early stages, compounded by regulatory uncertainty in PE / VC domain; • Limited and expensive internet connectivity hindering both the demand for and supply of digital services; • Lack of digital payment gateways / solutions, presenting a constraint to both digital businesses (particularly e-commerce) and consumers; • Lack of workforce with advanced digital skills combined with strong managerial capabilities.
----------------------------------	---	---

RECOMMENDATIONS

QUICK WINS (SHORT-TERM):

- Scale up the digital addressing solution (Google + Code) beyond the capital city of Banjul to unlock e-commerce potential;
- Continue reforming business regulations that enable digital businesses to operate efficiently, including by strengthening consumer protection and intellectual property rights regulations.

The Gambia Digital Economy Diagnostic

HIGH-PRIORITY (SHORT-TO-MEDIUM-TERM):

- Consider adopting a Start-up Act or similarly designed incentive-based provisions to promote innovation, implement suitable legal regimes for start-ups and offer stimulus packages;
- Expand funding opportunities for digital businesses, including through (i) the provision of pre-seed financing schemes for digital businesses at early stages of growth, (ii) the development of PE / VC regulations, (iii) the introduction of alternative collateral options for loans, and (iv) the support to business angel investor networks (risk sharing mechanisms and blended finance model);
- Strengthen the capacity of existing support organizations to provide tailor-made services to entrepreneurs as well as enabling large private sector companies and the diaspora to support local ventures.

LONG-TERM:

- Consider boosting equity funding for digital businesses in The Gambia through a VC tax incentive regime;
- Facilitate re-risking early-stage investment to enable the diaspora to invest in digital enterprises at home (through diaspora bonds or “patriotic discounts”);
- Develop and implement the vision of making The Gambia a hub for software developers.

<p>Digital Skills</p>	<ul style="list-style-type: none"> • Endorsed Education Sector Strategic Plan (ESSP) 2018-2030 that integrates ICT objectives; • Promising (potentially scalable) digital skills initiatives at multiple levels (within and outside GoTG), such as PSI-PMI; • Private sector engagement: Established links between TVET institutions and ICT companies that can be leveraged for the provision of better quality and higher relevance programs; 	<ul style="list-style-type: none"> • Low learning outcomes, hindering the development of foundational skills critical for digital literacy (only 1 in 5 students meets minimum reading threshold); • Weak current infrastructure acting as a major barrier, with many schools and education institutions still without access to electricity, and limited internet connectivity (including at the university level where low internet speeds are more pronounced);
------------------------------	--	--

	<ul style="list-style-type: none"> • Reform of teacher training at The Gambia College, offering an opportunity to ensure digital skills are embedded into the teacher training curriculum; • Youth entrepreneurship: The presence of a few but growing in number youth-owned startups focused on technology skills. 	<ul style="list-style-type: none"> • Most TVET and high education institutions lacking equipment and materials necessary for teaching ICT courses, or integrating intermediate digital skills into other subjects; • Curriculum Framework for Basic and Secondary Schools not adequately integrating ICT competencies; • Unmet demand for more advanced digital skills of firms driven in part by low capacity of tertiary institutions to prepare skilled graduates.
--	---	--

RECOMMENDATIONS

QUICK WINS (SHORT-TERM):

- Leverage a small, but vibrant ecosystem of youth start-ups / MSMEs support structures as well as private sector partnerships to expand digital skills trainings;
- Include ICT competencies in the ongoing Gambia College of Education Reform and basic and secondary curriculum revision process.

HIGH-PRIORITY (SHORT-TO-MEDIUM-TERM):

- Tackle critical connectivity challenges in education institutions at all levels, including by investing at the tertiary level in the NREN and connecting it to the regional network (WACREN);
- Develop a comprehensive national digital skills framework, covering all levels of education and grounded in a solid analysis / understanding of market needs and prospects;
- Enhance the breadth and quality of TVET offerings in the digital domain.

LONG-TERM:

- Expand options for Gambians to obtain tertiary degree-level qualifications in ICT.

The Gambia Digital Economy Diagnostic

Conclusion and Critical Next Steps

Suggested first order priority areas for action: The main findings of the report identify three areas that can be seen as the immediate priorities to driving digital transformation in The Gambia, with ripple effects on addressing challenges across all five pillars of the digital economy.

- **Priority 1 (mix of investments and reforms): Close digital access and usage gaps by improving the reliability and affordability of digital connectivity, and by attracting increased private sector investment in the sector.** Improving high-speed broadband connectivity across the country remains the most important foundational element in stimulating a dynamic digital economy. To achieve this, the GoTG would need to consider: (i) investing in a cost-effective manner in international redundancy to address a single point of failure status-quo; (ii) attracting private participation in the wholesale network as well as in the state-owned operators, Gamtel and Gamcel, to fully leverage the country's critical fiber optic backbone and reduce the fiscal burden of the telecom sector; (iii) stimulating infrastructure sharing and reinforcing market power regulation, while lifting the moratorium on fiber roll-out; and (iv) mobilizing additional investment in the IXP while strengthening local expertise for its management. Concerted efforts to achieve these measures are a necessary pre-requisite for the improved access and affordability of broadband services in The Gambia, which will lay a solid foundation for the downstream development of the digital economy and advancing the digital transformation agenda across other pillars.

- **Priority 2 (reforms): Strengthen digital economy enabling policy, legal, and institutional environment.** Despite the headway already made by the GoTG, diverging institutional interests, outdated or missing legal provisions, and limited resources and specialized skills hinder the effective implementation of the existing public strategies and plans. To remedy this, some key actions to consider include: (i) operationalizing the ICT Agency with a strong mandate and the resources needed to drive stakeholder coordination; (ii) rationalizing GoTG's digital policies and initiatives, while improving collaboration between regulators (CBG, PURA, Financial Intelligence Unit, etc.) and key MDAs; (iii) strengthening the capacity of the CBG and PURA; (iv) fast-tracking the adoption and implementation of cybersecurity and data protection legislation; (v) developing and implementing an interoperability framework at the inter-ministerial level, as a key pre-requisite to digitizing government processes and services; (vi) adopting and enacting regulations and guidelines that support DFS and fintech development; (vii) strengthening and ensuring the full enforcement of consumer protection and intellectual property regulations; and (viii) adopting an overarching legislation/regulation in the PE/VC domain.

- **Priority 3 (mix of investments and reforms): Strengthen digital literacy, including digital financial literacy, and skills both among civil servants and the population.** Weak digital literacy and digital skills act as both demand and supply side obstacles for digital economy development. There is a critical need to strengthen currently weak basic digital education and awareness to enable people to take advantage of digital



services, including by driving the uptake of DFS and trust in other products offered by digital businesses. There is also a scarcity of local ICT professionals with more advanced digital skills, both in the public and private sectors, who could boost digital platforms' development and support digital entrepreneurship. Measures in this domain could include: (i) conducting capacity building activities for key government entities;

(ii) developing and implementing a national financial literacy program to address issues related to the lack of awareness and financial education; (iii) developing special digital literacy programs for illiterate adults and small and informal MSMEs; and (iv) enhancing the breadth and quality of TVET offerings, while expanding options for Gambians to obtain tertiary degree-level qualifications in ICT.



Photo credit – Alhagie Manka

INTRODUCTION

Background on Digital Economy and DE4A Methodology

This assessment of the Gambian digital economy¹⁶ has been initiated as part of the World Bank Group’s (WBG’s) Digital Economy for Africa (DE4A) initiative, launched to accompany the operationalization of the African Union (AU) Digital Transformation Strategy for Africa (2020–2030). The strategy, developed by the AU with WBG support and adopted in February 2020, seeks to harness digital technologies and innovation to transform Africa’s societies and economies¹⁷. Prepared to advance the implementation of this strategy, the WBG DE4A Initiative has set an ambitious vision, underpinned by measurable goals and indicators (see Annex 1), to ensure that every African individual, business, and government is digitally enabled by 2030. The initiative rooted in five core principles (comprehensive, transformative, inclusive, home-grown, and collaborative) also seeks to ensure that the digital economy is truly inclusive and addresses emerging risks, such as cybersecurity, as well as the growing market concentration associated with a platform-based economy.

The related diagnostic is based on a broadly tested methodology focused on five foundational building-blocks of a vibrant, inclusive, and safe digital economy. These five pillars are as follows:

- **Digital Infrastructure**, consisting of affordable and reliable connectivity and data repositories¹⁸, instrumental to bringing people, businesses, and governments online;
- **Digital Public Platforms**, offered by public institutions, underpinning e-government services and supporting the efficiency of core government operations;
- **Digital Financial Services**, enabling paying, saving, borrowing, and investing through the digital means key to accessing digital services and expanding financial inclusion;
- **Digital Businesses**, including digital start-ups (early-stage ventures creating new digital solutions or business models) and established digital businesses that serve as a critical enabler for traditional “offline” businesses to adopt new technologies and business models; and
- **Digital Skills**, spanning from foundational digital literacy to the intermediate, advanced, and highly specialized digital skills, crucial to drive innovation and technology’s adoption.

¹⁶ Digital economy is defined as the part of economic output derived from ICT and digital technologies with a business model based on digital goods or services. The digital economy is made up of various components including platform economy, gig economy (based on flexible, temporary, or freelance jobs), industry 4.0 (trend towards automation and data exchange in manufacturing technologies), data analytics, robotics and Artificial Intelligence (AI), machine learning, 3-D printing and ecommerce amongst others. (Ernst & Young Nigeria, 2018).

¹⁷ African Union, 2020. The Digital Transformation Strategy for Africa (2020-2030). Available at: <https://au.int/sites/default/files/documents/38507-doc-dts-english.pdf>.

¹⁸ Connectivity includes mobile and fixed access networks, metro and backhaul networks, national backbone networks, and international connections. Data repositories include data centers and clouds. The digital infrastructure also includes active and passive infrastructure necessary to develop the digital economy downstream (sites, masts, towers, spectrum, etc.).

The Gambia Digital Economy Diagnostic

APPROACH PRINCIPLES

Comprehensive	Taking an ecosystem approach that looks at supply and demand and defines a narrow silo approach in defining the requisite elements and foundations for digital economy
Transformative	Aiming at a very different scale of ambition beyond incremental “islands” of success
Inclusive	Digital Economy for everyone, in every place, and at all times’ creating equal access to opportunities and dealing with risks of exclusions
Homegrown	Based on Africa’s realities and unleashing the African spirit of enterprise to have more homegrown digital content and solutions, while embracing what is good and relevant from outside the continent
Collaborative	Dealing with the digital economy requires a different flexible “mindset” requiring different type of collaboration among countries, among sectors and among public and private players, facilitations, retooling and encouraging risk taking.

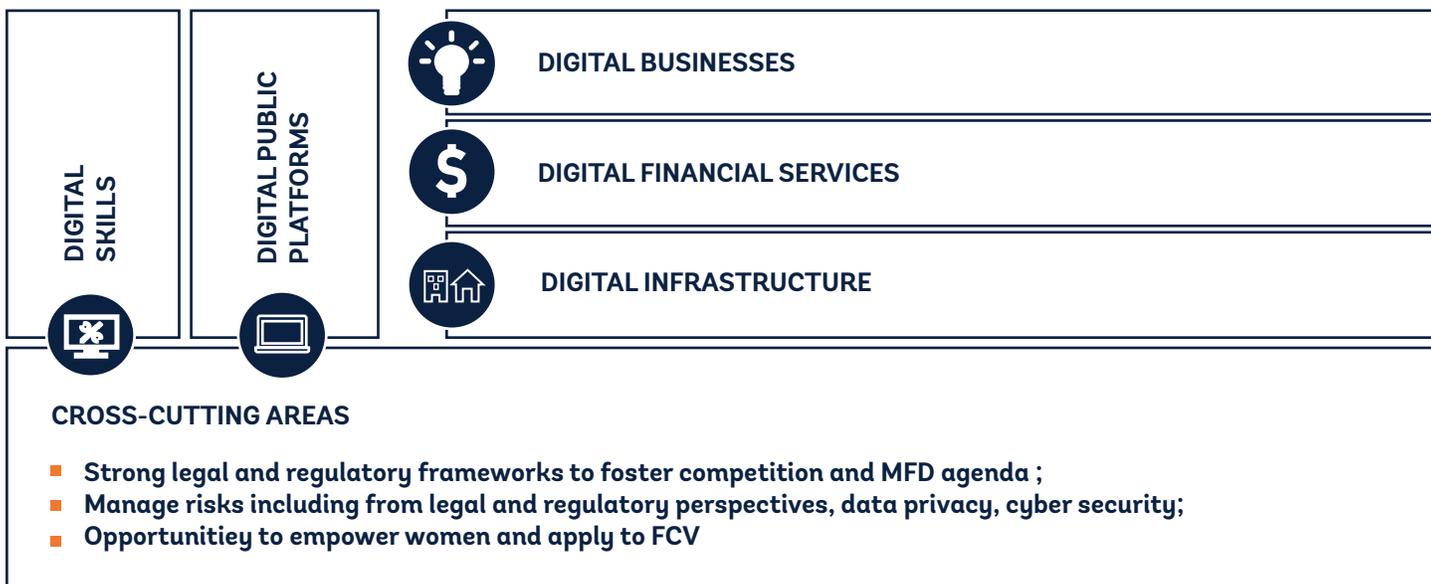
DIGITAL ECONOMY FOUNDATIONS / PILLARS

APPLICATIONS LIKELY TO DEVELOP ONCE THE FOUNDATIONAL ELEMENTS ARE IN PLACE

- GOVTECH applications
- ECOMMERCE adoption
- OPEN BANKING: non-banks offer tailored services
- DATA LOCKER to access selected services



USE CASES



Digital transformation offers The Gambia important opportunities for accelerated, inclusive and sustainable socioeconomic development and job creation. Digital technologies are expanding access to global markets, changing business models, fostering innovation, and delivering productivity gains. The Gambia could benefit from digital transformation, which has the potential to drive sustained, inclusive economic growth and provide its youthful workforce with much-needed jobs. The accelerating pace of technology diffusion could also provide an opportunity to unlock new channels to access quality public and private services. The public sector plays an important dual role in this new environment, both as a user of digital technologies to deliver key products and services as well as a regulator of the functions and activities associated with the digital economy. Therefore, the GoTG should step up its efforts to adopt the institutional, policy and regulatory reforms necessary to fully realize the benefits associated with digital transformation.

As governments worldwide seek ways to respond to the economic and social consequences of the COVID-19 pandemic, the need for seamless and reliable digital services has never been more important. In The Gambia, the pandemic has led to a sharp decline in economic growth at a time when the country was already facing deep economic and social challenges, with multiple fragility drivers. The ongoing pandemic and social distancing measures instituted to curb the crisis have brought to the fore the importance of digital connectivity and digital tools needed to

facilitate communication without physical interaction. Importantly, digital technologies not only provide the effective means to enable governments and businesses to switch to online modus operandi but also bring opportunities to boost productivity, create jobs, and build back in a more resilient manner¹⁹. This is in line with a global call to strengthen access to and use of digital technologies that have been playing a critical role in supporting the response to and the recovery from the COVID-19 crisis around the world through connectivity and essential digital solutions²⁰.

In this context, the report presents a timely diagnostic of The Gambia's digital economy, demonstrating key existing opportunities and gaps and focusing on policies that can help the country address its fragility as well as accelerate its post-COVID-19 economic recovery, job creation, and digital inclusion. Based on quantitative and qualitative assessments as well as extensive consultations with key public, private and civil society stakeholders in the country, the diagnostic provides a comprehensive assessment of the five foundational elements of the Gambian digital economy. Fully aligned with the overall objectives of the Government of The Gambia (GoTG), the report maps current strengths and weaknesses of each foundation and identifies challenges and opportunities for their future growth. Its findings provide practical, actionable recommendations to inform decisions in priority areas, proposing a mix of possible policy reforms, investments, and capacity-building interventions to harness the economic and social benefits of digital technologies and effectively mitigate associated risks.

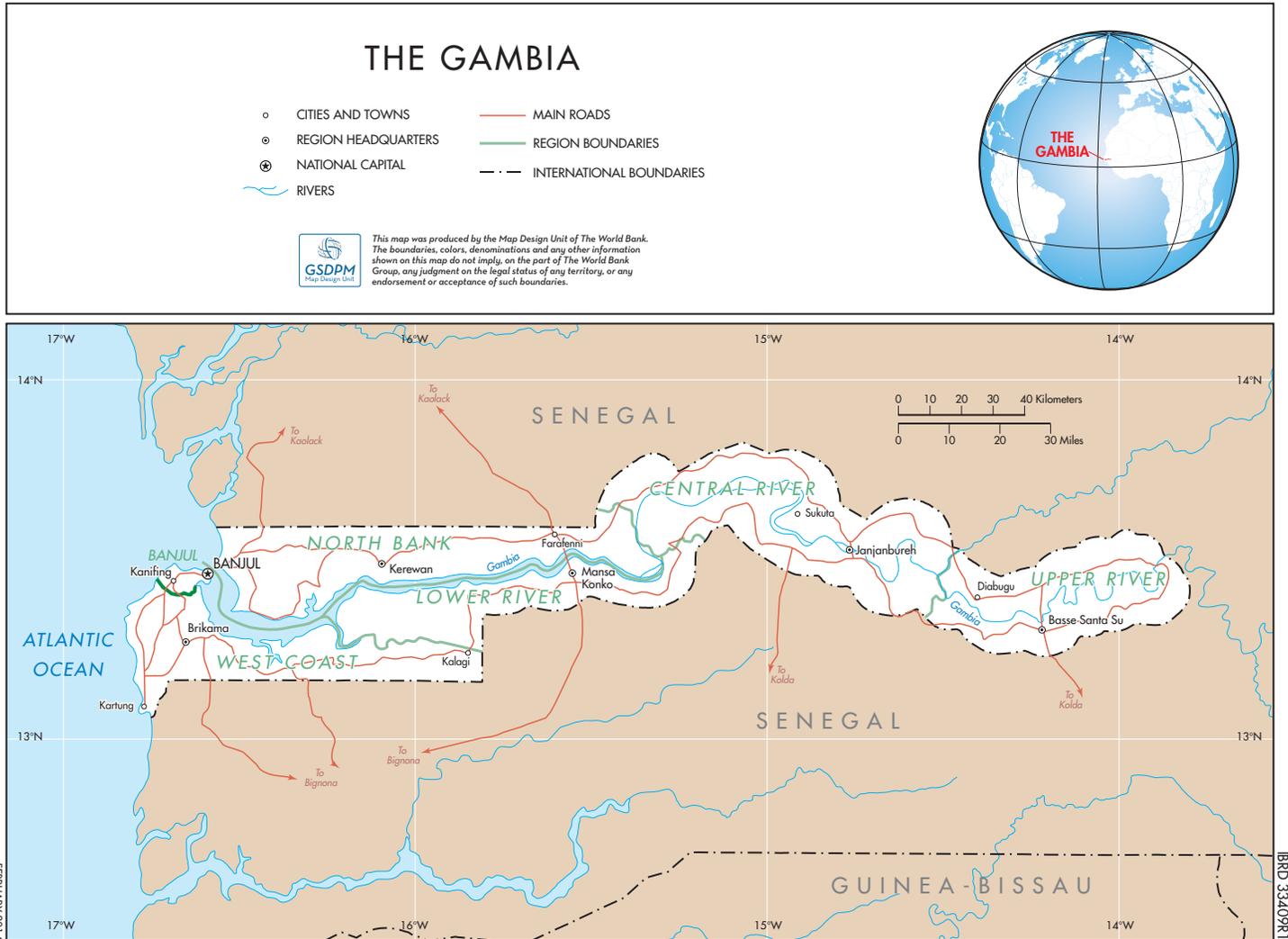
¹⁹ World Bank, 2021. Africa Pulse. Covid-19 and the Future of Work in Africa: Emerging Trends in Digital Technology Adoption. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/35342/9781464817144.pdf?sequence=10&isAllowed=y>.

²⁰ There is a global recognition that broadband connectivity and digital technologies play a crucial role in addressing the unique challenges the Covid-19 pandemic poses, particularly to developing countries. For instance, G-20 Ministers responsible for the digital economy issued a joint Covid-19 Response Statement, whereby they recognized the important role that digital technologies and relevant digital policies can play to strengthen and accelerate the global collective response to the pandemic.

The Gambia Digital Economy Diagnostic

The Gambia at a Glance

MAP 1: The Gambia Geographic Position



Nestled within Senegal along the winding course of the Gambia River, The Gambia is a small country in West Africa caught in an intricate web of fragility drivers and experiencing a major economic and political turnaround after 22 years of autocratic rule that left the country impoverished and highly indebted.

With an overall area of 10,689 square kilometers and a population of 2.4 million people, The Gambia is the smallest and one of the most densely populated countries in continental Africa²¹. It is also among the top 10 most urbanized countries in Sub-Saharan Africa (SSA) as 62 percent of its population live in urban areas²², driven there by food insecurity, extreme weather conditions and few economic opportunities in rural zones — some of the vulnerability factors the country faces. Overall, in the wake of a peaceful, albeit protracted political transition in 2017, subject to diplomatic and military pressure²³, and steps taken by the administration of President Adama Barrow to restore macroeconomic and political stability²⁴, The Gambia has markedly improved its fragility profile.

It now ranks 51st out of 178 countries in the 2020 Fragile States Index, an advancement of 14 positions vis-à-vis 2017²⁵. However, two decades of autocratic rule characterized by political repression, economic mismanagement, and the use of the security apparatus to control the opposition has left deep scars on the country's development. At the same time, gains in quality of life and public services have not come rapidly enough for a hopeful population amid the fraying of Barrow's political coalition and rising opposition, exacerbated by an abrupt economic contraction under the COVID-19 pandemic. Demographic pressures, economic constraints (particularly macro-fiscal imbalances), fractionalized elites, human flight and brain drain²⁶, as well as weak state legitimacy remain the country's worst scoring fragility indicators. Combined with persistently limited administrative capacity, the inequitable and poor quality of public services and the country's vulnerability to exogenous shocks, these factors constitute a fabric of complex and inter-connected fragility drivers.

²¹ The Gambia's population density of 225.3 people per sq. km, contrasts starkly against the average for Sub-Saharan Africa, which stands at 50.8 people per sq. km, as per World Development Indicators (WDI) for 2018. Available at: <https://data.worldbank.org/indicator/EN.POP.DNST?locations=GM-ZG>.

²² WDI for 2019.

²³ In January 2017, the Economic Community of West African States (ECOWAS) intervened militarily in the Gambian constitutional crisis that occurred as a result of President Yahya Jammeh refusing to step down after losing the December 2016 presidential election

²⁴ The new GoTG led by President Adama Barrow has allowed a free press, rejoined the Commonwealth, rebuilt relations with Senegal and international financial institutions, and established the Truth, Reconciliation and Reparations Commission. Furthermore, it has taken critical measures to restore independence of the judiciary, strengthen the governance and operational independence of the Central Bank, establish a single account for the Treasury as well as audit the civil service, uniformed services, and strategic state-owned enterprises (SOEs).

²⁵ Fund for Peace, 2020. Fragile States Index. Available at: <https://fragilestatesindex.org/country-data/>.

²⁶ Large-scale emigration drains the country of its most educated and productive workers. Sixty-five percent of workers with higher education emigrate, which is almost three times higher than in Senegal.

The Gambia Digital Economy Diagnostic

TABLE 1: The Gambia in Brief – Key Figures and Indicators

INDICATOR	VALUE	SOURCE
DEMOGRAPHY		
Population (thousands)	2,347.7	WDI based on 2019 data
Urban population (% of total population)	61.9	WDI based on 2019 data
Youth population (% of total population, aged under 25)	65	National census, 2013
Life expectancy at birth (years)	61.7	WDI based on 2018 data
Infant mortality rate (per 1,000 live births)	35.9	WDI based on 2019 data
Adult literacy rate (% of people ages 15 and above)	50.8	WDI based on 2015 data
Youth literacy rate (% of people ages 15-24)	67.2	Ibid.
Learning adjusted years of schooling	5.4	WB Human Capital Index 2020
Labor force participation (% of total population ages 15-64)	60.5	Modeled ILO estimate, as reported by WDI for 2019
Employment in agriculture (% of total labor force / estimated % of poor)	46 / 72	Integrated Household Survey (IHS), 2015/2016
ECONOMY & SHARED PROSPERITY		
GDP, 2020, market prices (GMB million)	97.9	GBoS
Real GDP per capita, 2020 (US\$)	680.9	WB calc. based on GBoS data
Real GDP growth, 2020 (%)	-0.2	GBoS
Poverty rate, international poverty line, 2015 (US\$1.9 per capita per day)	10.3	IHS, 2015
Poverty rate, national poverty line, 2015	48.6	Ibid.
Gini coefficient, 2015 (%)	35.9	WB estimate based on IHS 2015
Access to electricity, national / rural, 2018 (%)	62.1 / 24.7	DHS 2019-20

In this context, the incidence of poverty – associated with low endowment in human capital and assets – remains high, while non-monetary indicators paint a mixed picture.

Based on the latest available data²⁷, 10.3 percent of the population lived below the international poverty line²⁸ in 2015, with the proportion increasing to 48.6 percent using the national poverty line. Poverty in The Gambia is multi-dimensional and unequally distributed, standing at 70 percent in rural areas against 32 percent in urban zones. Marked improvements over the past decade have been achieved in literacy, especially among the youth (15–24 years), whose literacy rates doubled from 31.8 percent in 2010 to 67.2 percent in 2015, and in stunting among children under the age of five, which decreased from 25 percent in 2013 to 18 percent in 2019/2020²⁹. However, gender gaps persist, with literacy rates among women estimated at 47 percent versus 67 percent among men³⁰, one of the worst scoring sub-indicators for The Gambia in the 2021 Global Gender Gap Index, where the country ranks dismally at 127th globally and 29th in the SSA³¹. Overall, without further improvements in survival rates, nutrition, school enrollment and learning outcomes, the cohort of children born today will only achieve 42 percent of its productivity potential (compared to the scenario of complete education and full health)³². While this is slightly higher than the SSA average, it still serves as a brake on the country's socio-economic development. The situation is aggravated by considerable inequities in access to basic services, such as electricity, water, and sanitation. For example,

despite being well ahead of the SSA average nationally (62 percent for The Gambia versus 48 percent for SSA in 2018³³), access to electricity in rural areas is less than one-third of that in urban settings, at 25 and 79 percent, respectively. Moreover, the country is extremely vulnerable to climate change³⁴, being exposed to growing temperatures and rising sea levels, decreasing rainfall, and coastal erosion.

Socioeconomic vulnerabilities have been amplified by the COVID-19 crisis, which halted economic growth in 2020, with projected severe impacts on the poor and vulnerable populations, including women and the elderly.

GDP growth initially rose from 2.2 percent in 2016 to above 6 percent in 2018 and 2019, fueled by rebounding public confidence, low interest rates, and recovery in tourism, trade, and construction. However, largely due to the impact of COVID-19, GDP growth is estimated to have fallen to -0.2 percent in 2020, compared with a pre-COVID projection of 6.3 percent. The external factors contributing to this contraction include a reduction in tourist arrivals (a critical factor since tourism is the second largest contributor to GDP, representing roughly 20 percent of the economy), and trade disruptions. Domestically, private consumption fell amid GoTG's COVID-19 containment measures. On the positive side, official remittances reached record highs in 2020, bolstering international reserves, partly capturing the replacement of informal channels with official ones. The poverty rate (calculated based on the international poverty line) is estimated to increase

²⁷ The latest household survey was conducted in 2015. A new household survey was completed over 2020/2021 and the updated poverty data was expected to be available by March 2021.

²⁸ US\$1.9 (2011 PPP) per capita per day.

²⁹ World Development Indicators (WDI) for 2018 based on UNICEF, WHO, and the World Bank harmonized dataset (adjusted, comparable data) and methodology. Available at: <https://data.worldbank.org/indicator/SH.STA.STNT.ZS?locations=GM>. 2019-20 Demographic and Health Survey for The Gambia.

³⁰ 2019-20 Demographic and Health Survey, Government of The Gambia.

³¹ World Economic Forum (2021). Global Gender Gap Report. Available at: http://www3.weforum.org/docs/WEF_GGGR_2021.pdf.

³² World Bank, 2020. The Human Capital Project. Washington D.C. Available at: <https://www.worldbank.org/en/publication/human-capital>.

³³ WDI for 2018. Available at: <https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=GM-ZG>. 2019-20 Demographic and Health Survey for The Gambia.

³⁴ The ND-Country profile gives The Gambia the following rankings: overall vulnerability: 161/182 and food sector vulnerability: 170/192; adaptive capacity: 161/192.

The Gambia Digital Economy Diagnostic

from 8.4 percent in 2019 to 9.2 percent in 2020, with nearly 25,000 people pushed into extreme poverty.

GDP is projected to grow by 3.5 percent in 2021 (0.6 percent in per capita terms) and continue to gradually recover in the medium term. The economy is expected to gradually recover in 2021, as private consumption is less constrained by lockdowns and large public infrastructure projects are implemented, including projects for the Organization of Islamic Cooperation (OIC) summit in 2022. Remittance inflows continue to be strong, part of them typically directed to foreign direct investment (FDI), notably in the construction sector, which has seen sustained private credit growth. Nevertheless, remittance-financed private construction is expected to slow over time, given the subdued economic activity in 2020. Furthermore, the strong agricultural performance of 2020, driven by exceptionally high rainfall, is not expected to continue in 2021. Over time, growth will be supported by the

resumption of tourism, albeit slowly in the short-run due to repeated lockdowns in key markets, notably the UK and Europe. As a result, real GDP is projected to grow by 3.5 percent in 2021 and 5.5 percent in 2022, below the pre-pandemic growth rate. Over the medium-term, growth is expected to accelerate, spurred by services/tourism, increased industrial activity, the recovery of agriculture (mainly fishing and forestry), and the pandemic-induced absorption of technology. This projection assumes a renewed focus on implementing structural reforms, political stability, and normal weather conditions. The outlook is, however, subject to downside risks stemming from the depth and duration of the pandemic, the deployment of vaccines both in The Gambia and across key tourist markets, the pace of reform ahead of presidential elections (scheduled for December 2021) and climatic shocks. Upside risks are limited, originating from a faster pandemic recovery and tourism rebound.



Photo credit – Alhagie Manka

DIGITAL INFRASTRUCTURE

Importance

Accessible, reliable, and affordable broadband internet is a key foundation of a striving digital economy and digital inclusion. Although empirical work is ongoing to analyze the causal impact of digital connectivity on productivity and inclusion outcomes, a growing body of research already offers positive correlational evidence. Economic literature demonstrates that improved broadband penetration is associated with substantial socioeconomic benefits, contributing to productivity growth, information exchange and improved service delivery across the economy. Table 2 lists a range of studies that measure the macroeconomic effects of mobile broadband penetration, ranging from 0.8 percent to 2.46 percent of additional GDP growth for an increase of 10 percent in mobile broadband penetration (depending on a set of countries and analyzed period). The estimates for Africa are at the higher end, with 2.46 percent of additional GDP growth per 10 percent higher broadband penetration. In line

with these findings, reaching the AU’s 2030 “Digital Transformation for Africa” goal of universal and affordable internet coverage joint with appropriate human capital investment is estimated to raise real GDP growth per capita by 5 p.p. per year, while reducing the poverty headcount by 2.5 p.p. per year across SSA³⁵. This positive correlational link has been confirmed by country-specific studies based on historic data. For example, mobile broadband coverage in Senegal has been found to be associated with 14 percent higher total consumption for covered households (and a 26-percent higher non-food consumption), as well as 10 percent lower extreme poverty rates compared to households not covered by internet³⁶. At the enterprise level, firms using basic digital rather than analog technologies report 14 percent higher job growth rate, confirming that affordable digital infrastructure can be a potent enabler of productivity and employment growth³⁷.

³⁵ Choi, J., Dutz, M., Usman, Z. 2019. The Future of Work in Africa: Harnessing the Potential of Digital Technologies for All. Washington, DC: World Bank

³⁶ World Bank, 2021. Inclusive Digital Senegal: Opportunities for Jobs and Economic Transformation by Cruz, M., Dutz, M., and Castelan, C. World Bank, Washington DC (upcoming).

³⁷ Ibid.

TABLE 2: Impact of a 10-Percent Increase in Mobile Broadband Penetration on GDP Growth

GDP GROWTH, %	COUNTRIES	SOURCES/AUTHORS
0.9 - 1.5	OECD, 1996-2007	Czernich et al. 2009
0.82 - 1.4	OECD, 2002-2016	Koutroumpis 2018
1.1	EU countries, 1980-2009	OECD 2011
1.4	Low income countries, 1980-2006	Qiang et al. 2009
1.35	Low income countries, 1980-2011	Scott 2012
0.6 - 2.8	Global, 2000-2015	Endquist et al. 2018
1.5	Global	ITU 2020
2.46	Africa	

The size of the ICT sector and its contribution to GDP is still relatively modest in The Gambia, however the upside potential is significant. According to the Gambia’s Bureau of Statistics (GBOS), the communications sector³⁸ contributed 3.4 percent to GDP in 2019, though its importance in the economy via aggregate indirect effects and productivity gains is likely to go much further. Replicating the latest

ITU modelling for Africa (2020) suggests that a 10 percent increase in mobile broadband penetration in The Gambia could lead to US\$43 million in additional GDP and US\$4.1 million in additional tax revenues per year (Table 3). This growth is not a one-time gain but a continuous benefit for the country’s development with ripple effects across all socioeconomic sectors.

TABLE 3: Effect of 10-percent Increase in Mobile Broadband Penetration in The Gambia and Selected Peers³⁹

COUNTRIES	GDP 2019 (USD MILLION)	ADDITIONAL GDP (USD MILLION)	TAX TO GDP RATIO (%)	ADDITIONAL TAX (USD MILLION)
The Gambia 	1,764	43	9.4	4.1
Structural Peers				
Guinea	95,503	2,349	15.6	366.5
Guinea-Bissau	7,667	189	17.3	32.6
Togo	10,1226	249	13.5	33.6
Aspirational Peers				
Rwanda	34,387	846	11.6	98.1
Senegal	23,065	567	15.2	86.2
Uganda	34,387	846	11.7	99.3
SSA	1,755,011	43,173	18.9	8,159.7

Source: WDI 2020; ITU 2020; and authors’ calculations

³⁸ Defined as the production (goods and services) primarily intended to fulfil or enable the function of information processing and communication by electronic means, including transmission and display (based on ITU’s definition adopted in 2007).

³⁹ The selection of peers has been informed by the 2020 World Bank Systematic Country Diagnostic of The Gambia. Guinea, Guinea-Bissau, and Togo represent The Gambia’s structural peers (countries that share several features with The Gambia, such as rapid population growth, high level of urbanization, fragility, weak public administration capacity, a small and an undiversified economy and narrow export base, mainly in tourism and agriculture). Rwanda, Senegal, and Uganda represent The Gambia’s aspirational peers (as countries that are considered to have dealt successfully with a youth bulge, managed to strengthen the capacity of the public sector, and made progress towards higher levels of regional integration).

The Gambia Digital Economy Diagnostic

The global COVID-19 pandemic amplified the critical need to close existing digital infrastructure gaps and highlighted the importance of affordable digital access to ensure a continuous availability of vital services. In the context of various waves and forms of lockdowns and pandemic mitigation measures initiated in The Gambia (just like in the rest of the world) starting from March 2020, digital technologies have allowed the government, enterprises, and individuals to limit service disruption, while adhering to social distancing requirements. However, in The Gambia weak and uneven digital access and use, coupled with the unreliable quality of broadband services, underscored difficulties in ensuring the continuous provision of public and commercial services, distance education and economic activity, leaving the whole country having to face multiple internet blackouts over 2020–2021. While time series data on average download speeds is not available from Ookla for The

Gambia, according to some internet service providers (ISPs), with the onset of the pandemic the bandwidth usage has experienced roughly a 30 percent increase across the entire broadband network, reportedly resulting in congestion and decreased through-put capacity. In response to these challenges, an additional temporal spectrum was issued on a request basis to ensure increased capacity demand was met. This facilitated the introduction of “stay safe” and “double your GB” bundles by some mobile network operators (MNOs). As the pandemic continues to put pressure on the country’s digital infrastructure, it is becoming more and more urgent to address existing constraints. As highlighted by the World Bank’s 2020 Africa Pulse Report, urgent efforts across SSA, including in The Gambia, are required to ensure affordable, reliable and universal access to broadband and avoid further “exclusion of already marginalized segments of the population from the benefits of connectivity”⁴⁰.

Diagnostic Findings: Current State of Broadband Internet Development

This section provides diagnostic findings on the state of broadband infrastructure development in The Gambia. Key constraints along the broadband value chain are analyzed based on the framework of the 2016 World Development Report on Digital Dividends and of the 2019 UN Broadband Commission Report on Connecting Africa to Broadband⁴¹. The chapter starts with the first mile (the point where the internet connects a country to international networks) and

continues through the middle mile (national backbone and intercity network, including internet exchange points (IXPs)) to the last mile (reaching the end user through local access networks). The chapter also investigates the invisible mile (an enabling policy, legal and regulatory environment facilitating the intangible parts of the network, such as spectrum, licensing, taxation, cybersecurity, etc.), which could constrain or promote the broadband access.

⁴⁰ World Bank, 2020. Africa Pulse: Charting the Road to Recovery. Available at: <https://www.worldbank.org/en/publication/africa-pulse>.

⁴¹ Broadband Commission, Connecting Africa Through Broadband: A Strategy for Doubling Connectivity by 2021 and Reaching Universal Access by 2030. Available at: https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf.

First Mile: International Connectivity

The access to a high-speed fiber optic submarine cable – that, despite its location on the Atlantic Ocean, The Gambia has gained only in 2012 – is managed through a public-private consortium. Until 2012, the country had to rely for its international connectivity on terrestrial fiber connections to the border with Senegal, where Sonatel (Orange Group) has onward connections to the SAT-3 submarine cable landing in Dakar, or through costly satellite access via Intelsat. As a result, much of the international bandwidth was purchased at high prices through the provisioning of relatively small increments of capacity. With support from the World Bank West Africa Regional Communications Project (WARCIP), the country acquired a direct connection to the international broadband network through the Africa-Coast-to-Europe (ACE) submarine fiber optic cable that landed in Brusubi (close to capital Banjul) in 2011 and was ready for service in December 2012⁴². Subsequently, the GoTG established the Gambia Submarine Cable Company Limited (GSC), at least 51 percent of which is owned by the private sector, as a special purpose vehicle (SPV) or a member-owned cooperative form of a public-private partnership (PPP). The GSC acquired, owns, and operates the submarine cable landing station and provides ACE capacity and landing station access to its members⁴³.

The international gateway is now fully liberalized, however there is a need to continue ensuring the effective enforcement of open and fair access to ACE capacity by newer players that are currently not GSC members. International licenses were issued to all GSC

members on May 21, 2013, liberalizing the international data gateway market but not the international voice gateway market, which stayed under the effective monopoly of the state-owned incumbent operator, Gamtel, till mid-2019⁴⁴. In January 2021 all four MNOs – Africell, QCell, Comium and Gamcel (subsidiary of Gamtel⁴⁵) – had international voice gateway licenses. At the same time, while the Gambian international access regime complies with the regional ECOWAS directive (C-REG-06-06-12), stipulating conditions for accessing landing stations of international submarine fiber optic cables, the implementation of these conditions could be reinforced. Following instances of colluding behavior by existing GSC members, a full pricing model in relation to ACE was administered by PURA (with support from the World Bank-financed Fiscal Management Development Project (P166695)), facilitating the entry of several new ISPs over the last two years. However, some ISPs are still reporting challenges related to accessing ACE capacity. In this context, it is important to continue ensuring that access to ACE remains open and affordable without becoming a bottleneck for new and smaller players in the market. From the capacity viewpoint, this should be feasible, as, according to PURA, only around 18 percent of ACE capacity is currently used. The GoTG's capacity shares could also be sold to new market players, effectively making them members of the GSC.

In view of the reliance on a single submarine cable and its frequent disruptions, regularly leaving the country cut off from the rest of the world, there is a critical need for redundancy of international connectivity. Following the arrival of ACE, international bandwidth costs

⁴² Prior to that, for international access other than via satellite (Intelsat), Gambia was at the mercy of Senegal that provides access to its landing station for the SAT-3/WASC international fiber optic submarine cable (in service since April 2002) - Gamtel has two fiber connections from Banjul and Basse to the Dakar cable landing station via Sonatel's national fiber backbone.

⁴³ The GSC members and their percentage ownership in the subsequently established Trust are, from the private sector, Africell (15 percent), Comium (10 percent), QCell (16 percent), Netpage (5 percent) and Unique Solutions (5 percent), and, from the public sector, GoTG (19 percent), Gamtel (20 percent) and Gamcel (10 percent). Each member has ACE capacity rights corresponding to its percentage participation, which also establishes its share of responsibility for GSC's capital expenditures as well as operating and maintenance (O&M) expenses.

⁴⁴ International voice liberalization was supported by the Gambia First Fiscal Management, Energy and Telecom Reform Development Policy Financing operation of the World Bank (P164545).

⁴⁵ Gamcel was established in 2000 under the Gambia Companies Act as a wholly owned subsidiary of Gamtel.

The Gambia Digital Economy Diagnostic

for domestic operators have significantly decreased (with the wholesale price for international capacity dropping by 80 percent by 2015), which translated into a significant increase in the Gambian bandwidth usage⁴⁶. According to PURA, international bandwidth capacity increased from 10 Gbps in 2015 to 100 Gbps in 2019 and 220 Gbps in 2020. However, the cable is entering the second half of its economic life and, while it does provide sufficient capacity (Table 4), it is widely deemed to be unreliable in view of regular damage (on average five to six disruptions a year, according to some ISPs). These disruptions intensified in 2020/2021, culminating in three breakdowns in January 2021 (January 1, 18 and 28), the last enduring for 2.5 weeks. Most of the damage happens in the Gambian exclusive economic zone (EEZ) due to a combination of a very shallow and rocky seabed (with the feeding cable/branching unit not buried deep enough in one vulnerable location roughly 40 km from the shore) and frequent impairments caused by fishing vessels regularly cutting and displacing the feeding cable, in the context of an absent formal mechanism and limited resources to monitor their activities⁴⁷. To aggravate the situation, one of the recent ACE damages was accompanied by a concurrent disruption on the terrestrial back-up route to Senegal operated by Gamtel (on the Gambian side) and Sonatel/Orange (on the Senegalese side). The cost of this back-up route (of about 10,000 euros per 1 Gbps per month) is considered to be excessive. Against this background, redundant networks are critically needed not only to minimize disruption and lower the cost of back-up routes but to ensure national security and the continued functioning of the public and private sectors which, particularly in the COVID-19 era, strongly depend on digital connectivity.

Recognizing these challenges, the GoTG has undertaken several mitigation measures, however no definitive back-up solution has yet been ensured.

The GoTG has set up a public-private committee (comprising the Ministry of Information and Communication Infrastructure (MOICI), Public Utility Regulatory Authority (PURA), MNOs and the GSC) to discuss the prospects of connecting the country to a second submarine cable with a separate landing station. An initial technical proposal has been received from Google to link The Gambia the Equiano cable system, which connects Portugal to South Africa and has several branching units along the West African coast. Negotiations are ongoing and the cable could arrive in Banjul as early as the end of 2022. Parallel talks are ongoing with the Government of Cabo Verde and its main operator, Cabo Verde Telecom (CVT), to interconnect to the EllaLink, a submarine fiber optic cable between Brazil, Portugal, and Spain that landed in Praia, the capital of Cabo Verde, in January 2021. The Gambia could get access to it through a branching unit close to the maritime borders of Senegal. Another international cable that could be potentially considered is 2Africa, a 37,000km-long cable around Africa, the Middle East, and the Mediterranean, spearheaded by Facebook⁴⁸. A detailed feasibility study is warranted as the next step to evaluate the cost-effectiveness of a second cable, and a business case for it, particularly in view of current underutilization of the existing ACE capacity. In addition to pursuing alternative cable connections, the GoTG has been trying to minimize the damage inflicted to ACE by fishing vessels by declaring a 500-meter zone on either side of the cable within the Gambian EEZ a maritime protected area, while simultaneously strengthening the capacity to monitor

⁴⁶ Telegeography, 2020. Global Comms Database: Gambia.

⁴⁷ Confirmed by an interview with the ACE landing station and GSC management.

⁴⁸ The cable is expected to have 21 landings in 16 countries in Africa and, although The Gambia is not part of the list, the country could connect to the branching unit close to the territorial waters of Senegal, where 2Africa is expected to land. The cable is expected to go live in 2023/24, and with a design capacity of up to 180Tbps.

fishing activity⁴⁹. However, a decision by the Ministry of Justice and application decrees by the Gambia Maritime Administration related to the protected zone, are still pending and effective underlying regulation is required to ensure adequate monitoring. In the meantime, the management consortium of ACE has agreed to replace around 20km of the Gambian feeding cable with a stronger one (with the replacement expected to happen by end 2021).

Private sector operators are also working on examining options for a second back-up terrestrial fiber cable to connect to Senegal. Private-sector led negotiations have been ongoing with various operators

in Senegal to identify an alternative terrestrial link for a back-up IP transit by-passing the Gamtel-Sonatel route with the primary objective of lowering prices and increasing connectivity reliability. Several proposals received from Senegal’s MNOs in January 2021 are reportedly at least 50 percent cheaper than current Gamtel-Sonatel prices. These discussions have been initiated in the context of pressure exerted by PURA on MNOs and ISPs, forcing them to ensure network back-up capacity⁵⁰. The resolution of this issue will hinge upon either improving the reliability of Gamtel’s fiber backbone (as well as open, transparent, and equitable rules on its access) or allowing MNOs to lay an alternative link to the border with Senegal.

TABLE 4: Summary of Key First Mile Challenges

FIRST MILE INDICATORS	VALUE	CHALLENGE	POTENTIAL REMEDY
USAGE: Used International Bandwidth in Mbps per 10,000 population	129.50*	N/A	Not needed
ACCESS & RELIABILITY: Direct access to a submarine cable (51 percent private sector owned; 49 percent GoTG owned)	Available	ACE enters the second half of its economic life and breakdowns (on top of damages inflicted by fishing vessels) start to increase in frequency and duration, leaving the whole country in blackouts.	Ensure access to the second submarine cable with a separate landing station, avoiding shallow and rocky parts of the seabed and adequately insulated from fishing activities.
BACK-UP AVAILABILITY, RELIABILITY AND AFFORDABILITY: Terrestrial fiber route to Senegal operated by Gamtel.	Available	The backup route to Senegal is expensive and susceptible to systematic fiber cuts and power failures.	Explore alternative terrestrial fiber links to the border with Senegal.

*Source: Telegeography, 2020

⁴⁹ Navy is in the process of reinforcing its vessels fleet to be able to more effectively patrol the sea.

⁵⁰ PURA has even issued fines to MNOs and ISPs for absent back-ups but has subsequently dropped them.

The Gambia Digital Economy Diagnostic

Middle Mile: National Backbone and Supporting Infrastructure

The national fiber optic backbone network is relatively well developed; however, it remains largely underutilized due to mismanagement, weak capacity to commercialize services, and related quality issues.

The national fiber infrastructure comprises 817 km of the ECOWAS⁵¹ Wide Area Network (ECOWAN), 130 km of Gamtel's legacy fiber (incorporated into ECOWAN) and 420 km of the National Broadband Network (NBN) fiber launched in June 2019 (Table 5). Important to note that the ECOWAN network, interconnected to the international gateway, was funded primarily by debt financing from the Islamic Development Bank (IsDB), while the NBN project (that incorporates new fiber loops in major urban areas as well as a data center) was financed with a loan from the Export-Import Bank of China (Exim Bank), with a total sovereign debt amounting to around US \$58.3 million⁵². The ECOWAN, currently operated as a wholesale network by Gamtel with the total transmission bandwidth of 12.5 Gbit, offers fiber capacity, colocation, and dark fiber⁵³ under non-discriminatory terms. The PURA's 2019 intervention to adjust ECOWAN's prices based on a

cost-based model has facilitated operators' access to both lit and dark fiber. Nevertheless, while ECOWAN's dark fiber is generally found to be acceptably reliable, the management and quality of the lit fiber – linked to Gamtel's technical and financial capacity to adequately manage it – is considered persistently weak. With respect to the NBN, it is currently under an exclusive use by Gamtel. Overall, despite an extensive coverage (over 90 percent of the population live within 10 km of a fiber node, as demonstrated in Table 6), the national fiber backbone remains considerably underutilized, with only 27 percent of radio access network (RAN)⁵⁴ sites (mostly in urban areas) and 5 percent of the population connected to it, according to PURA. The rural routes are considered to be unreliable due to fiber cuts, maintenance works and high prices. As a result of inadequate price / quality characteristics, MNOs and ISPs continue to rely on a less efficient microwave network outside of major urban areas, with microwave accounting for 73 percent of RAN site connections (fiber routes are typically duplicated by microwave backhauling for corporate clients so that they have continuous internet connectivity). Recognizing these challenges, the GoTG has embarked on a reform of state-owned fiber optic assets (see para. 35 below).

⁵¹ Economic Community of West African States that consists of 15 members, including The Gambia

⁵² World Bank, 2019. Options Study for State-Owned Communications Infrastructure in The Gambia (unpublished).

⁵³ Dark fiber refers to unlit fiber-optic cables that are already installed in the ground and ready to be used but that haven't been taken advantage of yet. In other words, dark fiber is pre-existing underground infrastructure that does not yet have the hardware or software to enable it to run services. While fiber optic cables actively sending data via light wavelengths are considered lit, the rest of the unused fiber laying "in wait" is deemed dark.

⁵⁴ A Radio Access Network (RAN) connects individual devices to other parts of a telecommunications network through radio connections. A RAN resides between user equipment, such as a mobile phone, a computer or any remotely controlled machine, and provides the connection with its core network.

TABLE 5: Key National Fiber Infrastructure

NETWORK	LENGTH, KM	RELATED DEBT, US \$	COMPLETION	OWNERSHIP	MANAGEMENT	CURRENT USE	PERTINENT REGULATIONS
ECOWAN	(three concentric rings: Greater Banjul, West Bikrama and national)	27.32 mln from IsDB ⁵⁵	Early 2016	GoTG	Gamtel	Used by 6 operators	Open, non-discriminatory access principles, as defined by PURA
NBN⁵⁶	420 (fiber extensions from the ECOWAN rings to reach 107 communities and provide 358 fiber access terminals)	25 mln from China Exim Bank ⁵⁷	June 2019	Gamtel	Gamtel	Exclusive use by Gamtel	Not regulated

MAP 2: The Gambia's Fiber Backbone



Source: Africa Bandwidth Maps, Hamilton Research

⁵⁵ On 30 June 2011, GoTG and IsDB entered an Istisna'a Agreement and a Loan Agreement for the Gambia national component of the ECOWAN project. The Istisna'a Agreement established a US \$ 23.69 million facility, and the Loan Agreement established an additional USD 3.63 million facility to finance procurement of ECOWAN assets and cover related project management and implementation expenditures and expenses. The portion of the IsDB's debt (estimated between US \$3-5 million) covered wireless 4G fixed network assets for e-government purposes.

⁵⁶ Beyond wholesale backhaul and last mile access fiber, NBN project financed a national data center.

⁵⁷ On 27 June 2017, Gamtel and Huawei entered a Gamtel National Broadband Network Project Contract for the supply of the infrastructure components of the NBN project for a fixed price of USD 25 million. On 22 December 2017, GoTG and China EximBank entered into a Government Concessional Loan Agreement that established a USD 25 million facility to cover the costs to be incurred under the Huawei Contract.

The Gambia Digital Economy Diagnostic

BOX 1: Electricity Challenges as Digital Economy Binding Constraint

The GoTG has been pursuing an ambitious vision of universal access to affordable and clean energy. The Energy Sector Roadmap, approved by the Cabinet in October 2017, lays out a vision to modernize the energy sector and move towards 24/7 electricity access for all Gambians. The GoTG plans to shift the energy mix from 100 percent Heavy Fuel Oil (HFO) to lower cost and cleaner energy through imports from the West Africa Power Pool (WAPP) and private investments in the form of domestic Independent Power Producers (IPPs) in renewable energy, such as solar.

However, despite recent applaudable progress in improving electricity supply, efficiency and access in The Gambia, critical reliability and affordability issues remain. Available generation in the Greater Banjul Area (GBA) increased from 25 MW in October 2017 to 80 MW in November 2019, enough to meet peak demand of 70 MW. Jointly with measures taken in parallel by the National Water and Electricity Company (NAWEC) to improve grid stability, this has helped to increase power supply from 2-3 hours per day in October 2017 to almost 24/7 power in October 2019. With the help of WB-(co)financed projects, including, but not limited to the ECOWAS Regional Access Project (P164044) and Gambia Electricity Restoration and Modernization Project (P163568), electricity access rate rose from 56 percent in 2017 to above 60 percent in 2019. At the same time, however, average tariffs in The Gambia of \$0.22 per kWh in 2020 continue to be some of the highest in SSA (where the median tariff is around \$0.15 per kWh), and more than double the global average. The cost is set to come down, as the country interconnects with the WAPP over 2021-2023 (with the help of The Gambia River Basin Development Organization (Organisation pour la Mise en Valeur du Fleuve Gambie, OMVG) high voltage interconnection), allowing it to import much lower-cost electricity, and as it transitions to more renewable energy. In parallel, there are significant investments taking place to improve the stability of the grid, implying that over the medium term, businesses should enjoy better service quality and lower cost electricity.

These issues of expensive and unreliable electricity have been persistently highlighted as critical constraints by private sector players during extensive DE4A consultations. In this context, and as access to affordable and reliable electricity is one of the main drivers of broadband internet adoption, it will be critical to maintain the progress and solidify recent gains in the power sector to promote a vibrant downstream digital economy.

Sources: World Bank, 2020. The Gambia Electricity Restoration and Modernization Project – Additional Financing Project Document; The Gambia First Fiscal Management, Energy and Telecom Reform Development Policy Financing, Program Document

The situation is rendered more difficult by an existing moratorium on laying fiber, aimed at stimulating the use of publicly financed and managed backhaul infrastructure. As a result of the moratorium on the rollout of fiber networks (both aerial and terrestrial) adopted by MOICI in December 2018 as a temporary measure to protect significant public investment in ECOWAN and NBN infrastructure, only Gamtel and one ISP (Netpage⁵⁸) have existing fiber networks. All the other players were forced to put their fiber plans on

hold. This prohibition, which is in direct contradiction with MNOs' and ISPs' licenses and with national regulations (particularly the 2009 Information and Communications (IC) Act⁵⁹), allows for the preferential treatment of Gamtel, which has a majority market share in the retail fiber market segment, keeping national backbone access prices high and the quality of service low. It also slows 4G investment, which requires fiber backhauling to provide reasonable speeds to end users.

TABLE 6: National Fiber Routes in The Gambia and Selected Peers

COUNTRIES	POPULATION (million)	AREA (1,000 sq. km)	OPERATIONAL FIBER ROUTES			POPULATION WITHIN REACH OF A FIBER NODE		
			Km	per 1,000 sq. km	per million inhabitants	% within 10-km	% within 25-km	% within 50-km
THE GAMBIA 	2.3	10.1	1,356.70	134	578	94.3	100	100
Structural Peers								
GUINEA	12.8	245.7	5,295.90	22	415	66.8	67.4	94.8
GUINEA-BISSAU	1.9	28.1	111.8	4	58	22.4	29.5	54.8
TOGO	8.1	54.4	2,466.50	45	305	39.1	76	97.8
Aspirational Peers								
SENEGAL	16.3	192.5	11,923.40	62	732	59.8	86.5	97.7
RWANDA	12.6	24.6	4,796.50	195	381	61.3	99	100
UGANDA	44.2	200.5	15,095.50	75	342	30.7	65.3	92.6

Source: WDI, 2020 (data for 2019) - for population and area; Hamilton Research, 2020 - for fiber routes.

The Gambia's Internet Exchange Point (IXP) is under-resourced and insufficiently connected. Supported by the African Internet Exchange System (AXIS), a project of the AU implemented by the Internet Society, the GoTG launched the country's first IXP in July

2014 — registering it as a voluntary and non-profit charitable company — to boost the speed and security of internet services across the territory⁶⁰. The Gambian IXP is located at Gamtel's Serekunda Exchange and is referred to as Serekunda IXP or SIXP. It is currently run

⁵⁸ Discussions are ongoing between Netpage and MOICI on the possibility of the GoTG to buy out existing Netpage's fiber network.

⁵⁹ More specifically, the moratorium contradicts Section 9b of the 2009 IC Act ("fostering transparency and non-discrimination and protecting effective competition and a fair and efficient market between the organizations involved in the IC industry, duly taking into account the public interest and preventing distortion and restriction of competition") and section 9f ("promoting open network provision and effective competition among licensees in The Gambia") - 2009 IC Act. Available at: <http://www.pura.gm/wp-content/uploads/2018/01/IC-Info-Comms-Act-2009.pdf>.

⁶⁰ IXPs allow operators to internet-connect directly to each other, in the process improving quality of service and reducing transmission costs.

The Gambia Digital Economy Diagnostic

by a small team on a voluntary basis and has only 1 Gbps internet capacity through ACE, which is barely enough to keep Google's and Facebook's storage, called cache⁶¹, up to date. Africell, the largest mobile operator in The Gambia, is a member of the SIXP, but does not currently use it, due to its limited capacity and systematic technical difficulties. In fact, all operators that are GSC shareholders appear to have excess capacity on ACE and hence don't need to use the SIXP. However, multiple stakeholders have highlighted that

a well-functioning IXP would be beneficial and would result in reduced IP transit costs. Overall, for the SIXP to become more attractive to the industry and fulfill its role in international traffic optimization, it would need to at least double its current capacity and secure further investments to safeguard against technical failures. Moreover, for the SIXP to be fully leveraged by operators, the GoTG/PURA should adopt regulations mandating its use.

BOX 2: Lessons from Kenya and Nigeria's Internet Exchange Point Growth

Examples of well-managed, trusted by local stakeholders and widely used IXPs include those established in Kenya and Nigeria. The growth of the IXPs in each country was exponential, as were the cost savings from exchanging traffic locally rather than using expensive international transit. In Kenya, KIXP grew from carrying a peak traffic of 1 Gbps in 2012 to 19 Gbps in 2020, with cost savings quadrupling to US \$6 million per year. In Nigeria, IXPN grew from carrying just 300 Mbps to peak traffic of 125 Gbps in 2020, and the cost savings increased forty times to US \$40 million per year.

Getting to this point meant following a systematic path of stakeholder relationship building and infrastructure development. The IXPs transformed into multisite with at least one node in carrier-neutral data centers, while maintaining their roles in developing and sustaining trust and collaboration among their members. Each IXP also dropped mandatory peering requirements to encourage new members to join and make selective peering agreements. As a result, all large international content providers added at least one edge cache in the country, and many also added a point of presence (PoP). The respective governments also played a role by developing the Internet sectors and adopting data-protection policies, thereby reinforcing an environment of trust and welcoming further local-content hosting.

Sources: Internet Society, 2020. Anchoring the African Internet Ecosystem: Lessons from Kenya and Nigeria's Internet Exchange Point Growth by Kende, M. Available at: <https://www.internetsociety.org/wp-content/uploads/2020/06/Anchoring-the-African-Internet-Ecosystem-Lessons-from-Kenya-and-Nigeria.pdf>

⁶¹ Cache, being a type of repository or a storage depot, is a hardware or software component that stores data so that future requests for that data can be served faster. In other words, it is a reserved storage location that collects temporary data to help websites, browsers and apps load faster.

Under the auspices of MOICI, the GoTG has recently constructed a Tier-3 data center for storing government data but its usage appears limited. The data center, built on a loan from the Exim Bank and managed by Gamtel (with capital and operational expenses covered by the country’s national budget), was mainly intended to improve the government’s delivery of electronic services by hosting online portals

and providing a set of cybersecurity solutions. The data center is yet to be systematically used by all public entities, as some of the back-up systems required for its functioning have not yet been put in place, with MOICI currently seeking additional financing for associated procurement. The GoTG at this stage is not partnering with any private sector entity in managing the center and/or offering shared systems.

TABLE 7: Summary of Key Middle Mile Challenges

MIDDLE MILE INDICATORS	VALUE	CHALLENGE	POTENTIAL REMEDY
Population within 25km reach of a fiber node	100%*	Expensive access to and unreliable quality of the ECOWAN national backbone (while NBN continues to be under the exclusive use by Gamtel), with most MNOs continuing to use less efficient microwave technology for RAN site backhaul outside of major urban areas.	<ul style="list-style-type: none"> • Increase private participation in the national backbone and effectively ensure non-discriminatory open access to it; • Explore excess fiber optic capacity of NAWEC’s infrastructure • Consider allowing operators to choose from prequalified contractors relating to civil works for ECOWAN
Km backbone fiber per million inhabitants	578 km*		
IXP <ul style="list-style-type: none"> • Facebook cache • Google cache 	1 (present)	Insufficient international capacity of the IXP (barely enough to keep Facebook and Google caches up to date).	Attract additional investment into the SIXP through private participation.

Note: *date from Hamilton Research, 2020.

Last Mile

Competition & Market Structure

The Gambia has a relatively competitive telecom market. There is one fixed line operator (state-owned Gamtel) and four MNOs with GSM licenses – state-owned Gamcel (Gamtel’s subsidiary) and privately-

owned Africell, Comium and QCell⁶². Africell is by far the largest mobile service provider with over 60 percent of market share in terms of subscribers (Table 8). There are signs of possible market consolidation, as Gamcel is underperforming and Comium is facing financial challenges. As of January 2021, there are also five licensed ISPs in the market (on top of four MNOs), including Unique Solutions, Netpage, InSIST Net, DK

⁶² Africell, a subsidiary of the Lebanon-based Lintel Group, operates mobile networks in The Gambia (launched service in 2001), Democratic Republic of Congo, Sierra Leone, and Uganda. Comium is a fully owned subsidiary of a Lebanese-owned and Luxembourg based telecom company, Comium Group, founded by former LibanCell shareholders and operating in The Gambia (licensed in August 2006 and launched in May 2007), Cote d’Ivoire, Liberia, Sierra Leone, among other countries. QCell is a subsidiary of QuantumNet Group founded by the Gambian entrepreneur Muhammed Jah and privately owned (licensed in August 2008 and launched in July 2009).

The Gambia Digital Economy Diagnostic

Telecom and Leap GM. Another ISP, XOOM, was licensed by PURA and subsequently entered arrangements with Orange to sell its shares and transfer the license in 2019. However, amid delays the license transfer arrangement is yet to be approved by MOICI.

TABLE 8: Retail Mobile Broadband Market in The Gambia

OPERATOR	ACTIVE SIM CARDS	MARKET SHARE	4G SIM CARDS	3G SIM CARDS	GPRS ⁶³ SIM CARDS	TOTAL DATA SIM CARDS	SHARE OF DATA USERS*
AFRICELL	1,591,509	60.6%	42,130	610,774	566,860	1,219,764	76.6%
QCELL	710,751	27.0%	37,049	255,211	48,486	340,746	47.9%
COMIUM	185,968	7.1%	N/A	N/A	82,357	82,357	44.3%
GAMCEL	139,572	5.3%	N/A	103,867	N/A	103,867	74.4%
TOTAL	2,627,800	100%	79,179	969,852	697,703	1,746,734	66.5%
SIM CARDS SHARE			4.5%	55.5%	39.9%		

Sources: PURA, 2020 (Q1); *Note: Share of data users = total data SIM cards / active SIM cards.

Broadband Access & Usage

Despite recent progress, mobile broadband experiences a persistent usage gap, whilst access to fixed broadband remains meagre. In line with broader African trends, the broadband market in The Gambia is overwhelmingly mobile, with fixed broadband penetration remaining at very low levels – 0.19 per 100 inhabitants (ITU, 2020), well below the global average of 13.6⁶⁴. Mobile penetration is high, with the country ranking 7th on the continent in terms of mobile tele-density. At the same time, while the number of active sim cards per 100 inhabitants has reached 136 (ITU, Dec 2020), only 66.5 percent of them use data (PURA, Q1 2021). In fact, GSMA estimates that there are only 580,000 unique internet subscribers in the

country, against the background of 1.8 million active data sim cards. Broadband 3G+ covers 88 percent of the population but 63.5 percent of those covered do not appear to be using broadband services, the second highest level among benchmarked countries (Table 9). This usage gap highlights the existence of underlying factors other than coverage hindering people from using internet, such as broadband affordability, quality, content relevance and security (on the supply side) as well as literacy and digital skills (on the demand side). Indeed, the 2020 Network Readiness Index ranked The Gambia 122nd out of 134 countries in terms of online content, which includes mobile app development sub-indicator, where the country ranks 120th, reflecting the scope to improve local content, app development and hosting options⁶⁵.

⁶³ GPRS, General Packet Radio Service, is the result of the evolution of 2G GSM to provide packet switched data at rates of up to a maximum of 172 kbps. It was developed to enable data to be handled and provided a stepping stone on the path to 3G, which is why it is sometimes referred to as 2.5G.

⁶⁴ Broadband Commission, 2019. Connecting Africa To Broadband: Strategy for Doubling Connectivity by 2021 and Reaching Universal Access by 2030.

⁶⁵ Portulans Institute, 2020. The Network Readiness Index 2020: Accelerating Digital Transformation in Post-COVID Global Economy. Available at: https://networkreadinessindex.org/wp-content/uploads/2020/11/NRI-2020-V8_28-11-2020.pdf.

TABLE 9: Mobile Internet Usage and Coverage Gaps in The Gambia and Selected Peers

COUNTRIES	UNIQUE MOBILE INTERNET SUBSCRIBERS (million)	POPULATION (million)	3G POPULATION COVERAGE (%)	USAGE GAP (covered by a mobile broadband network but don't subscribe to mobile internet services)	
				million	%
THE GAMBIA 	0.58	2.3	88	1.5	63.5
Structural Peers					
GUINEA	2.8	12.8	75	6.7	52.8
GUINEA-BISSAU	0.4	1.9	90	1.3	69.2
TOGO	2.0	8.1	66	3.4	41.7
Aspirational Peers					
SENEGAL	4.1	12.6	90	7.3	57.6
RWANDA	5.6	16.3	95	9.8	60.4
UGANDA	12.1	44.3	85	25.5	57.7

Sources: GSMA Q4 2020; WDI 2020 for population (2019 data); GSMA Mobile Connectivity Index 2019 for 3G coverage.

Importantly, there is a distinct gender dimension in the usage gap. According to the 2016/2018 Afrobarometer surveys, 44 percent of women versus 52 percent of men report regular internet use⁶⁶. While this 8 p.p. gap is smaller than in Kenya and Senegal (with 11 and 12 p.p. divergence, respectively), it is still bigger than that registered in Uganda and Guinea (7 and 6 p.p., respectively). This digital divide between men and women is symptomatic of a broader gender gap, as highlighted by The Gambia's low rank in the 2021 Global Gender Gap Index, where the country scores particularly dismally on educational attainment (135th globally) and economic participation (116th globally). Indeed, women account for only 22.5 percent of professional and technical workers and exhibit a 41 percent literacy rate (versus 77.5 and 61.8 percent registered for these two indicators for men, respectively)⁶⁷.

The uptake of 4G remains particularly low. LTE or 4G was launched in 2017 by QCell and in 2018 by Africell. Moreover, one of the ISPs is currently rolling out its 4G network with hopes to have it operational by end 2021. Nonetheless, only 4.5 percent of active data SIM subscriptions use this technology, even though by now Africell covers 66 percent of the population⁶⁸ with a 4G signal (Map 3). While the availability and prices of internet capable handsets reportedly can't fully explain such low 4G adoption as uncostly handsets appear to be available on the market, the 2020 GSMA State of Mobile Internet Connectivity Report notes that the affordability of broadband-capable phones generally remains a challenge for the poorest segments of society despite falling prices. According to the 2016/2018 Afrobarometer surveys, only 56 percent of men and 44 percent of women in The Gambia report having a

⁶⁶ Afrobarometer, 2019. Africa's Digital Gender Divide May Be Widening, Afrobarometer Survey Finds. News Release of 4 November 2019. Available at: https://afrobarometer.org/sites/default/files/press-release/ab_r7_pr3_africas_digital_gender_divide_may_be_widening.pdf.

⁶⁷ World Economic Forum (2021). Global Gender Gap Report. Available at: http://www3.weforum.org/docs/WEF_GGGR_2021.pdf.

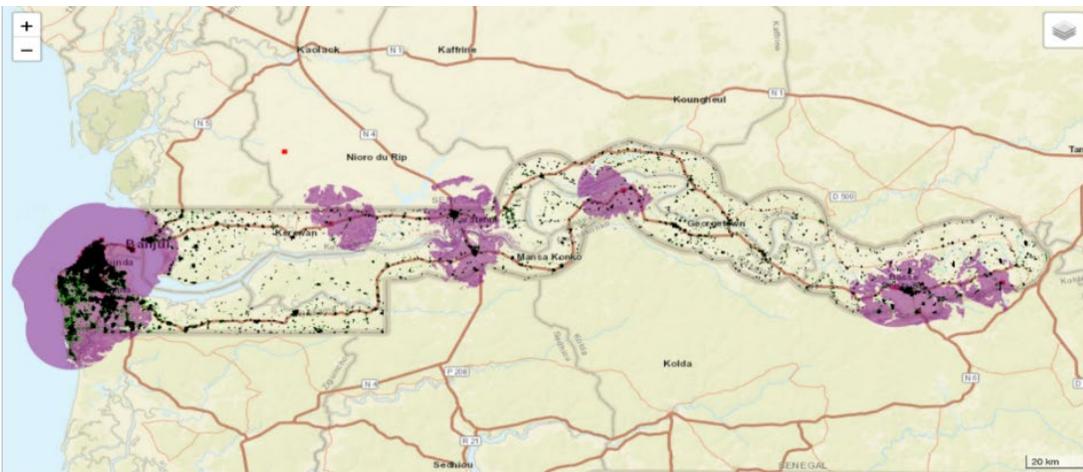
⁶⁸ Banjul – 100 percent; Basse – 45 percent; Brikama – 89 percent; Janjanbureh – 15 percent; Kanifing – 100 percent; Kerewan – 37 percent; Kuntaur – 5 percent; Mansa Konko – 37 percent.

The Gambia Digital Economy Diagnostic

mobile phone with internet access. Interestingly, as many as 74 percent of female respondents report using the phone, owned by somebody else, versus only 26 percent of men⁶⁹, raising issues of women’s agency. Overall, in The Gambia, the low adoption of 4G services is likely largely linked to low data use and device affordability, compounded by a weak purchasing

power (as close to 50 percent of the population lives in poverty, as measured by the national poverty line) as well as the above-mentioned insufficient local content and digital illiteracy. This may be compounded by trust issues between operators and consumers, with the latter having a perception of their data usage being overestimated⁷⁰.

MAP 3: Africell’s 4G Population Coverage



Source: RIS Radio Propagation Model Based on Africell’s Network, 2021.

In this context, a follow-up analysis would be warranted to shed more light on the usage gap. A detailed demand analysis, including of the type of broadband customers, their spread/concentration across the country and their current and estimated

future consumption needs, would be an important next step to inform decisions as to what kind of technology mix (fiber, wifi, satellite, etc.) could best satisfy demand and its projected growth.

⁶⁹ Afrobarometer Online Data Analysis Tool. Available at: <https://afrobarometer.org/online-data-analysis/analyse-online>.

⁷⁰ PURA, 2019. Annual Report.

TABLE 10: Analysis of Broadband Supply in The Gambia

	MARKET STRUCTURE	CAPACITY	QUALITY OF SERVICE (QOS)	WHOLESALE PRICES
Urban Fiber Backhauling	De facto monopoly (due to the moratorium)	Sufficient	Reasonable	Reasonable
Rural Fiber Backhauling	De facto monopoly (partly due to the moratorium); further analysis is warranted to better understand the impact of duplication in a small market of The Gambia	Over capacity	Poor: Frame-rate loss due to multiple fiber cuts and frequent power outages	Currently too high compared to alternative microwave backhauling
International terrestrial connectivity to Senegal		Alternative route required in case of disruptions	Prone to disruptions due to fiber cuts and power outages	Currently too high
Fixed end user access (FTTX and wireless)	Monopoly due to the moratorium	Rollout slow		N/A

Source: Authors' analysis.

Affordability & Quality

Mobile broadband is excessively expensive and slow in The Gambia, acting as a major barrier to internet uptake for productive use. In Africa, 32 countries are cheaper for a usage of 300 MB per month, while as many as 40 counties offer cheaper rates for 20 GB per month (Table 11). Gambians need to spend an excessive 47 percent of their average monthly gross national income (GNI) to consume 20 GB, and even 300 MB per month (10 MB per day) is above the 2 percent affordability target set by the International Broadband Commission⁷¹. Prices for mobile broadband are 2 to 3 times higher in The Gambia than in Senegal that generally outperforms its enclaved neighbor across the entire digital infrastructure value chain (Table 12).

Such prohibitively high prices remain out of reach for an average consumer, leaving The Gambia with the 159th rank out of 179 countries in the 2019 ITU's low consumption mobile-data-and-voice affordability ranking⁷². Moreover, the quality of connections is persistently poor, with the average speed of mobile broadband much lower than the rest of the continent. Indeed, 44 African countries have faster average download speeds. This is corroborated by Ookla that ranks The Gambia 165th out of 174 countries in the 2020 Global Speed-test Index⁷³. This is likely caused by the high share (nearly 40 percent) of GPRS data users. In this context, PURA is planning to upgrade its quality of service (QoS) system and capabilities to publish the actual rather than advertised speeds and ensure adherence to quality by operators.

⁷¹ Broadband Commission, 2020. Target 2: Affordability. Available at: <https://www.broadbandcommission.org/Pages/targets/Target-2.aspx>.

⁷² ITU, 2019. Measuring Digital Development: ICT Price Trends 2019. Available at: https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2019/ITU_ICTpriceTrends_2019.pdf.

⁷³ Ookla, 2020. Global Speeds (as of June 2020). Available at: <https://www.speedtest.net/global-index>.

The Gambia Digital Economy Diagnostic

TABLE 11: Summary of Key Last Mile Challenges

LAST MILE INDICATORS		VALUE	AFRICAN RANK	CHALLENGE	POTENTIAL REMEDY	
Affordability	Price of 300MB data use per month*	USD	1.60	33	High costs of inputs (including electricity), limited economies of scale as compared to larger countries, limited infrastructure sharing, exacerbated by poor quality / cost ratio in the context of an effective Gamtel's monopoly on the national backbone, translate into prohibitive consumer prices, contributing to slow broadband adoption and low usage	Making national backhaul competitive is likely to increase last mile competition and drive down prices; Attracting private investments into Gamcel's assets could provide another impetus to boost competition and improve affordability.
		% GNI per capita per month	2.6%	31		
	Price of 20GB data use per month*	USD	28.98	41		
		% GNI per capita per month	47%	39		
Price of 1GB data use per month*	USD	1.80	9			
	% GNI per capita per month	1.5	16			
Adoption	SIM per 100 inhabitants**		136	7	N/A	Not needed
	Fixed broadband per 100 inhabitants**		0.19	31	The moratorium slows the rollout	Lifting the fiber roll-out moratorium; Stimulating infrastructure sharing, including with NAWEC.
Infrastructure	3G Population Coverage**		88%	19	N/A	N/A
	4G Population Coverage**		66%	N/A	N/A	N/A
	Average Mobile download speed (Mbps)***		1.6	45	Poor QoS offered by operators in view of the limited scale of RAN for backhauling versus fiber; the low average download speed could also be a result of GRPS and 3G data use.	Supporting PURA to monitor the 3G / 4G QoS and set minimum download speeds for 3G/4G; Lowering prices through competition and reconsidering ICT sector-specific taxes.

Source: *RIS based on the prices of the largest operator in Q4 2020; **ITU Dec 2020 (value and rank based on 2019 data); *** Worldwide Broadband Speed League 2020.

TABLE 12: The Gambia Vis-a-Vis Senegal: Benchmarking First-to-Last Mile Indicators

INDICATOR		 THE GAMBIA	SENEGAL	DIFFERENCE	SOURCE	
First Mile	Used International Bandwidth in Mbps per 10,000 population	129.50	194.8	-34%	Telegeography 2020	
	Sub-marine cable access	1	4	-75%	PURA	
Middle Mile	Population within 25km reach of a fiber node	100%	86.5%	16%	Hamilton Research, 2020	
	Km backbone fiber per million inhabitants	578	732	-21%		
Last Mile	Affordability (cheapest offer available in country)	100 MB	0.77	1.8	-57%	RIS, Q4 2020
		500 MB	2.55	1.8	42%	
		1 GB	4.14	1.8	130%	
		2 GB	8.00	1.8	345%	
		5 GB	12.42	3.6	245%	
		10 GB	21.11	7.2	193%	
		20 GB	28.98	8.91	225%	
	Adoption	SIM per 100 inhabitants	136	109.7	24%	ITU, Dec 2020 (values based on 2018-2019 data)
		Fixed broadband per 100 inhabitants	0.19	0.93	-79%	
	Infrastructure	3G Population Coverage	88%	92.2%	-5%	RIS and GSMA, Q3 2020
4G Population Coverage		66%	75%	-12%		
Average Mobile download speed (Mbps)		1.60	5.93	-73%	cable.co.uk Oct 2020	

The Gambia Digital Economy Diagnostic

Invisible Mile: Sector Policies and Regulations

Sector Governance

The Gambian telecommunications sector is under the responsibility of MOICI charged with sectoral strategy and policy elaboration. The sector operates under the Gambia ICT for Development (ICT4D) Policy Statement 2018–2028, validated in December 2016 and revised in December 2018. In March 2020, based on a thorough review of ICT4D 2018–2028 provisions in relation to broadband, MOICI presented a Broadband Policy and a Broadband Strategic Plan 2020–2024 (in essence an implementation roadmap), which includes (inter alia) the following ambitious objectives for the country:

- Accessible, high-speed, and reliable broadband networks, supporting the broadband target of 5 Mbps for all subscribers and users⁷⁴;
- Increasing broadband coverage to more than 90 percent of the population by 2024, including all local government districts;
- A realistic governance structure for the delivery of the broadband strategy, including a collaborative delivery framework and no less than 80 percent digital literacy within the government workforce
- Conducive environment for local content and applications creation, as well as ensuring digital literacy for no less than 95 percent of school students.

⁷⁴ More specifically, 75 percent of homes having affordable access to fixed or mobile download/upload speeds of 5Mbps-plus by end-2022 (increasing to over 90 percent by end-2024); all public institutions (including schools, hospitals and government buildings) having affordable access to 5Mbps-plus services by end-2024.

TABLE 13: Key Policies, Regulations and Legislations Related to ICT/Digital Infrastructure in The Gambia

YEAR	NAME OF POLICY AND LEGISLATIONS
2001	The Gambia Public Utilities Regulatory Authority Act – establishment of the regulator
2007	Competition Act
2009	Information and Communications Act (IC Act) - to be succeeded by a new IC Act under development
2010	The Gambia E-Government Implementation Strategy and Action Plan
2010	Enforcement Regulations
2010	Tariff Approval Guidelines
2012	Registration of Telephone Subscribers Regulations
2013	Gambia Universal Access and Service Policy - succeeded by the 2020 National Broadband Policy
2014	Consumer Protection Act
2016	Broadband and Demand Simulation Study for The Gambia - succeeded by the 2020 study
2016	Gambia National Cybersecurity Strategy - succeeded by National Cybersecurity Policy & Strategy 2020-2024
2016	National Information and Communication Infrastructure policy (NICI II) Policy Statement and Action Plan (2017-2025) - succeeded by the ICT4D Policy Statement 2018-2028
2017	The Gambia ICT for Development (ICT4D) Policy Statement 2018-2028
2017	National Numbering Plan Regulations
2019	Wireless Telegraphy (Regulatory Charges for Communication Facilities and Services) Regulations
2019	The Gambia Information & Communication Technology Agency (GICTA) Act 2019
2019	Per Second Billing Determination No 0001
2020	The Gambia Broadband Policy 2020 and National Broadband Strategic Plan 2020-2024
2020	Gambia E-Government Strategic Plan 2020-2024
2020	Data Protection and Privacy Policy and Strategy - no Act / law yet adopted
2021 (exp.)	National Cybersecurity Policy and Strategy 2020-2024
2021 (exp.)	Cybercrime Bill
2021 (exp.)	National Data Protection and Privacy Bill
2021 (exp.)	Government Cloud Policy and Strategy
2021 (exp.)	Critical Information Infrastructure Protection (CIIP) Policy Framework
2021 (exp.)	Universal Access and Service Policy 2020
2021 (exp.)	Domestication of the ECOWAS Regulations on Free Roaming

The GoTG has scope to further enhance its telecom regulatory environment and institutional arrangements, particularly by strengthening the role of the regulator as a neutral referee to ensure a level playing field in the sector. The telecommunications sector is regulated under the Public Utilities Regulatory Authority Act 2001, which established PURA to

regulate the activities of telecommunications providers and other public utilities. PURA remains largely an advisory body, and both its board of governors and the managing director are appointed by the President on the recommendation of the Minister of Finance and Economic Affairs, in effect undermining the body's independence⁷⁵. Moreover, while PURA's line ministry is

The Gambia Digital Economy Diagnostic

MOFEA, it receives policy guidance from MOICI, with key decisions on the telecommunications sector ultimately concentrated at the level of the Minister of Information and Communication Infrastructure. For example, it is MOICI that is responsible for issuing telecom licenses and taking final decisions on spectrum use, thus playing an active role in shaping the market structure of the ICT sector. This, subject to policy objectives set by MOICI, should be the prerogative of PURA in line with good international practice that separates ICT policy from ICT regulation through independent regulators that are well positioned to mitigate political capture and state interference. Indeed, the joint ITU-World Bank Digital Regulations Handbook states, “in traditional, converged, and digital regulatory settings, an independent regulator is crucial to promoting objective, well-reasoned, and predictable decision-making”⁷⁶, in turn critical for thriving competition and sector development. Another example of a market-distorting interference is the 2018 moratorium on fiber rollout issued by MOICI against the advice of PURA and in direct contradiction with the licensing regime and the national regulation. More specifically, the moratorium contradicts section 9b of the 2009 IC Act (“fostering transparency and non-discrimination and protecting effective competition”) and its section 9f (“promoting open network provision and effective competition among licensees”). Amid repeated calls for reform, the GoTG has initiated the process of revising and updating the IC and PURA Acts. It is important to ensure this process is based on public consultations

with all sector players and provides for an effective separation of policies from regulations in order for PURA to more effectively play its role of a neutral sector referee and withstand political interests. Moreover, in the context, wherein PURA’s decisions, activity reports, and operators’ licenses are not published on the regulator’s website, further strengthening the regulator’s accountability (through the publication of pertinent legal documents and market observatory online) would also be warranted.

These weaknesses are reflected in The Gambia’s low position in key international regulatory indices.

According to the 2019 ITU Regulatory Tracker, The Gambia is among 17 countries in SSA, where telecom regulations are considered to have evolved to Generation 3 that support investment, innovation, and access⁷⁷ (Figure 1, upper panel). However, regulatory regime cluster⁷⁸ continues to be the country’s lowest marked composite indicator in the Tracker (scoring 16 in The Gambia versus 19 in Rwanda, 21 in Togo, 22 in Uganda, and 26 in Senegal). This is corroborated by the Regulatory Watch Initiative (RWI)⁷⁹ benchmarking, where the country’s attainment levels are particularly low in the regulatory governance category (that captures the ability of the regulator to make independent decisions)⁸⁰ — the lowest among selected structural and aspirational peers and third lowest among 27 analyzed countries (Figure 1, middle panel). Improving these regulatory aspects would be important to enhance the sector’s performance (Figure 1, lower panel).

⁷⁵ Freedom House (2019). The Gambia: Freedom on the Net 2019 Country Report. Available at: https://freedomhouse.org/country/gambia/freedom-net/2019#footnote2_p9dador.

⁷⁶ ITU and World Bank (2020). Digital Regulation Handbook. Available at: <https://www.itu.int/en/myitu/Publications/2020/08/31/09/09/Digital-Regulation-Handbook>.

⁷⁷ Based on the scores in the ITU’s ICT Regulatory Tracker, countries have been grouped into “generations” of regulations reflecting the maturity of their regulatory framework. Generation 1: Regulated public monopolies / Command and control approach; Generation 2: Opening markets/Partial liberalization and privatization across the layers; Generation 3: Enabling investment, innovation and access with a dual focus on stimulating competition in service and content delivery, and consumer protection; Generation 4: Integrated regulation, led by economic and social goals; Generation 5: Collaborative regulation based on inclusive dialogue and harmonized approached across sectors. ITU (2019). The State of Broadband: Broadband as a Foundation for Sustainable Development. Available at: https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.20-2019-PDF-E.pdf.

⁷⁸ ITU’s regulatory regime cluster consists of 15 indicators, including scores for the licensing regime, QoS monitoring, interconnection prices, infrastructure sharing permitted and mandated, permission for secondary spectrum trading, VoIP usage, etc.

⁷⁹ The RWI Initiative, led by the World Bank and built on the conclusions of the 2016 World Development Report on Digital Dividends, focuses on the analog complements of the digital transformation, aiming to help countries optimize their regulatory frameworks. Phase 2 analyzed issues in five domains (licensing, fair markets, international access, spectrum management, regulatory governance) across 27 countries in ECOWAS, East Africa and MENA. The country’s profile presented is based on the RWI “attainment level”, which measures the extent to which the best practice has been achieved in a particular regulatory domain.

⁸⁰ RWI regulatory governance cluster looks at the questions of the national regulator’s independence (based on the procedure for nominating Board members), financing, transparency, and Universal Service Fund provisions.

The Gambia Digital Economy Diagnostic

Significant Market Power (SMP) Regulation

Despite the existence of the market analysis mechanism provided by the 2009 IC Act, it seems that a full regulatory framework has not yet been fully implemented. In view of reported lingering challenges of accessing ACE by younger and smaller ISPs that are not GSC members, it is important to continue emphasizing open and fair access to the international capacity and ensuring open and transparent terms and conditions of access to the national backbone. Cognizant of this, PURA intends to conduct a new set of SMP analysis, taking into consideration the evolving market structure (i.e. pending consolidation in the mobile segment, increase in number of ISPs requiring open access to international capacity, etc.).

Infrastructure Sharing, Spectrum Management and Licensing Regime

While infrastructure sharing, critical for a small country like The Gambia to improve broadband affordability and uptake, is available as a potential tool to enhance fair competition, it could be more effectively stimulated or enforced through incentive-based holistic regulation. Section 38 of the 2009 IC Act stipulates that “licensees shall promote among themselves the conclusion of agreements aimed at sharing property or facilities, either installed or to be installed”. There is also a clause stating that in case of absent “viable alternatives to the installation of new infrastructure <...>⁸¹, the Authority may, following a consultation period of interested parties, determine the sharing of facilities, including ducts, masts and

other installations in the property”. Despite these provisions, infrastructure sharing doesn’t appear to be widely practiced. In this context, compounded by the small market size of The Gambia, it appears critical to ensure open and non-discriminatory access to the state-financed and managed wholesale backhaul infrastructure (as is already the case with ECOWAN but not with NBN), while concomitantly providing additional incentives for infrastructure sharing among operators, based on economic efficiency. This could help players, particularly smaller ones, to avoid unnecessary infrastructure duplication and associated costs. Indeed, as noted by the ITU, “infrastructure sharing contributes to improved competition and increased economies of scale, which, in turn, accelerate affordable access for digital transformation”⁸². Moreover, this practice gears investment towards underserved areas, product innovation, and improved customer service, as demonstrated by multiple examples around the world⁸³. In addition, it would be worthwhile to explore possibilities of harnessing existing utility infrastructure, particularly that of NAWEC. There is limited information on the extent to which such opportunities have been explored, but one ISP has indicated that, despite sending a request letter to NAWEC, the utility company has refused to give permission to access its infrastructure based on safety issues. In this context, further analysis (similar to the ongoing feasibility study for marketing the excess fiber optic capacity on the OMVG⁸⁴) is recommended to see whether NAWEC has any excess fiber optic that could be monetized, based on global best practice. This would present opportunities for operators to lower the cost of network deployment, speeding its development.

⁸¹ Due to environmental protection, public health, public security, cultural heritage, country planning and town and country landscapes preservation, without prejudice to the powers of local authorities, as per section 38 (2) of the 2009 IC Act. Available at: <http://www.pura.gm/wp-content/uploads/2018/01/IC-Info-Comms-Act-2009.pdf>.

⁸² ITU, 2018. All About Infrastructure Sharing. Available at: https://www.itu.int/en/ITU-D/Regulatory-Market/Documents/Infrastructure_portal/All_About_InfrastructureSharing_2018.pdf.

⁸³ Boog Allen Hamilton, 2009. Telecom Infrastructure Sharing: Regulatory Enablers and Economic Benefits. Available at: https://web.archive.org/web/20090824043657/http://www.boogallen.com/media/file/Telecom_Infrastructure_Sharing.pdf.

⁸⁴ The study is ongoing to assess how excess fiber capacity to be installed through the OMVG interconnection project could be monetized. Findings are expected by mid-2021.

BOX 3: Evaluating Options for Achieving Universal Access in The Gambia

Emerging evidence suggests that instead of progressing through cellular generations sequentially, it might be more cost-efficient to ‘leapfrog’ to providing 4G or 5G connectivity in underserved areas. The analysis conducted for the purposes of this report to estimate social cost of providing universal broadband access in The Gambia based on different technologies (factoring both private sector investments and public subsidies) demonstrates that as more spectrally efficient technologies become available, the cost per bit provided decreases, as fewer sites are required for newer generations relative to older ones (e.g. 5G relative to 3G). Moreover, the model evidences that the cost of deploying fiber is much higher than that of a wireless backhaul, making the latter a more cost-effective way for reaching universal broadband coverage. An important caveat, however, is that to benefit from this more advanced connectivity, users would need to have 4G- or 5G-enabled smartphones, the affordability of which remains a significant adoption barrier.

Infrastructure sharing has a very large impact on the cost of delivery, especially in helping to serve hard to reach areas. Average savings from different infrastructure sharing arrangements⁸⁵ are estimated as follows (using 4G with a wireless backhaul as the common deployment strategy):

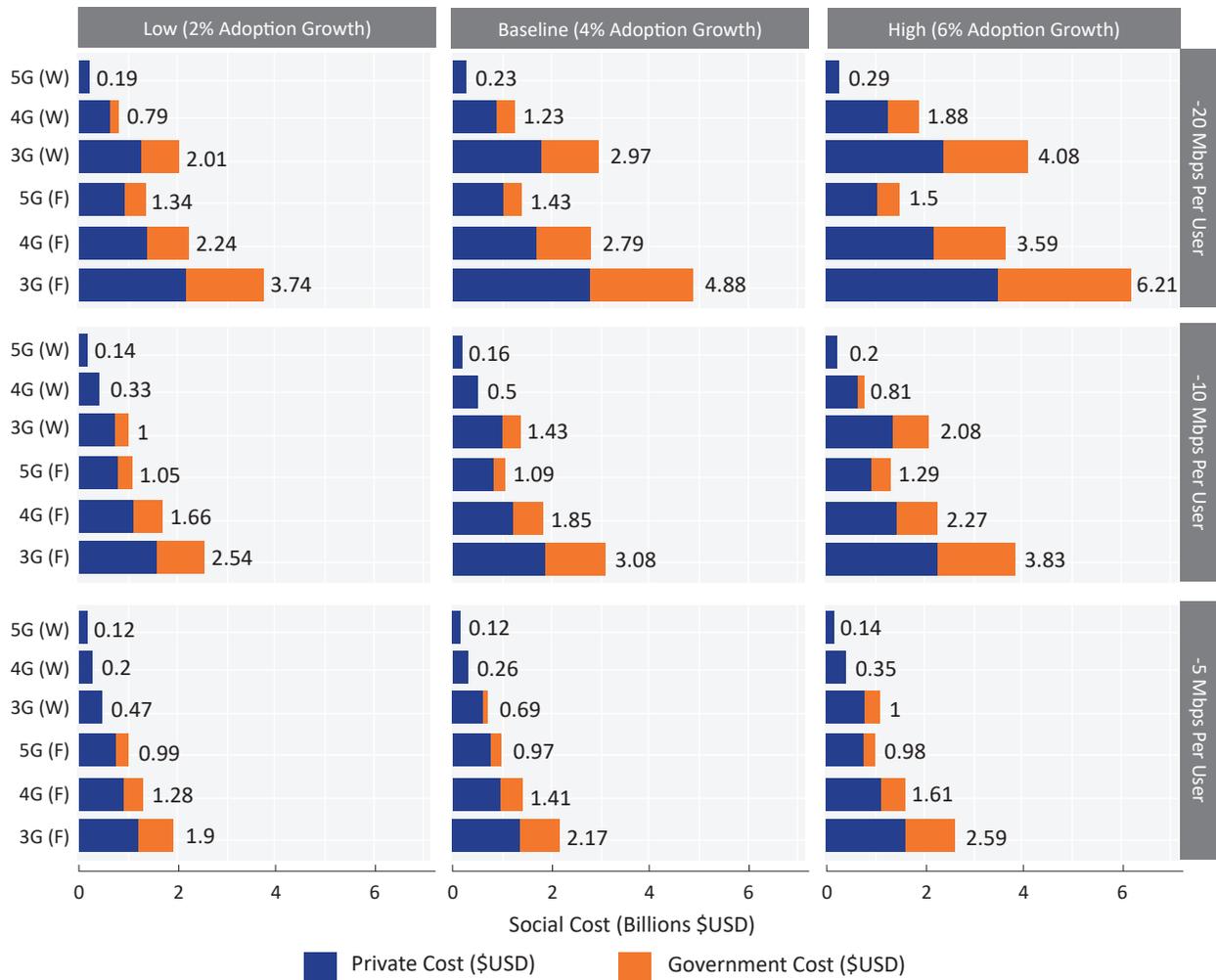
- Passive infrastructure sharing: 36% for 10 Mbps and 31% for 5 Mbps;
- Active infrastructure sharing: 62% for 10 Mbps and 59% for 5 Mbps;
- Shared Rural Network (SRN): 62% for 10 Mbps and 59% for 5 Mbps;

The caveat to these aforementioned strategies is that they could end up compromising the level of market-based infrastructure competition between MNOs, which is well documented to provide beneficial effects. The aim of the SRN is thus to try to balance out these benefits by retaining market-based infrastructure competition in urban areas, while reducing the deployment costs in rural areas.

⁸⁵ Under a passive infrastructure sharing multiple MNOs use the same site compound, tower and backhaul connection (thus non-electronic components). With active infrastructure sharing, a Multi-Operator Radio Access Network (MORAN) is introduced, where the active electronic radio equipment is shared simultaneously along with the passive infrastructure assets. Finally, as both passive and active sharing strategies are nationally homogenous in their level of sharing across urban and rural markets, a Shared Rural Network (SRN) focuses on deploying an actively shared MORAN, but only in rural areas, where deployment is generally more challenging.

The Gambia Digital Economy Diagnostic

SOCIAL COST OF UNIVERSAL BROADBAND BY TECHNOLOGY
Reported for all scenarios and capacity per user targets



Note: Scenarios are based on different cellphone and smartphone adoption growth rates (2%, 4%, and 6%). Moreover, three capacity per user targets are used - 5 Mbps (set by the Gambia Broadband Policy 2020-2024), 10 Mbps (considered by the UN Broadband Commission for the universal target), and 20 Mbps based on mean speeds available for the busiest hour of the day.

Source: Edward Oughton, 2021. Quantified Universal Broadband Investment by Country: Country Assessment for The Gambia.

The Gambia's spectrum management and licensing regime is generally solid; however, weaknesses exist, and recently launched IC Act revision provides an opportunity to address them.

The radio frequency spectrum is a scarce national resource that should be utilized in an efficient and effective manner to realize the national spectrum mission and policy objectives. As mentioned above, frequencies in The Gambia are allocated/approved by MOICI and managed by PURA, notably through the Gambia National Table of Frequency Allocations. The 2009 IC Act refers to "Spectrum Guidelines", which appear to be a "high level" explanation of the main objectives of PURA when assigning frequencies without providing specific details on the assignment proceedings and criteria⁸⁶. The recently launched revision of the IC Act offers an opportunity to provide more clarity on frequency assignment and strengthen PURA's mandate in spectrum allocation and management. Importantly, this process could be used to consider 2G/3G spectrum reallocation and spectrum re-framing as part of the digital switch-over process⁸⁷, as well as to lay the groundwork for future 5G rollout. As for the licensing regime, there appear to be some inaccuracies or even contradictions in the PURA Act or between the PURA Act and its Guidelines. Moreover, the regime provides for technological neutrality, but in view of consumer protection there is a need to obtain prior approval from PURA to deploy new technologies. While this ensures that new technologies deployed conform with regulatory requirements, it might not be conducive to a fast-paced sectoral development. A new IC Act could

thus pave the way for service and technology neutral licenses that would increase competition in the fixed, fixed-wireless, and mobile end-user access markets⁸⁸. It would also allow ISPs to provide voice services.

Taxes & Parafiscal Fees

ICT sector specific taxes and parafiscal fees are considered by the operators as a stumbling block to investment and broadband adoption. Many African governments, including GoTG, are increasingly levying sector-specific taxes on consumers of mobile services and devices and on mobile operators. As underscored by the 2021 World Bank Africa Pulse report, if these taxes are not adequately designed, they can hamper the growth of services among citizens, limiting social and economic benefits associated with digital technologies⁸⁹. The VAT rate for the ICT sector in The Gambia is 15 percent with an additional 5-percent excise duty, amounting to a total of 20 percent in lieu of the 15 percent applied to other sectors. In terms of customs, the GoTG levies 10 percent on the imports of mobile telephones, base stations, and communication apparatus, with these duties perceived as a barrier to investment in networks, particularly in rural and remote areas⁹⁰. There is also a national education and technical training levy, imposed by the 2005 National Education Levy Act, in the amount of 0.75 percent on annual gross revenue (turnover) with a maximum limit of GMD100,000 per year. In addition, a new sports levy (amounting to (i) US\$0.02 per minute on all international incoming calls, and (ii) GMD 0.50

⁸⁶ World Bank (2021c). Regulatory Watch Initiative Phase 2. Thorough Legal, Regulatory and Competitive Analyses of Issues Related to Licensing, OTTs, International Gateways, Spectrum Management and Regulatory Governance (forthcoming).

⁸⁷ In 2006, African countries agreed to participate in a digital switchover process to transition from analog to digital terrestrial broadcasting, intended to free up spectrum in the ultra-high frequency (UHF) bands, as per ITU, 2006. Digital Broadcasting Set to Transform Communication Landscape.

⁸⁸ By creating technology-neutral spectrum licenses, operators are at liberty to adapt and upgrade to new technologies without having to apply for special permission or even applying for a new license. Across the region, there is a general trend towards technology neutral licenses.

⁸⁹ World Bank, 2021. Africa Pulse. Covid-19 and the Future of Work in Africa: Emerging Trends in Digital Technology Adoption. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/35342/9781464817144.pdf?sequence=10&isAllowed=y>.

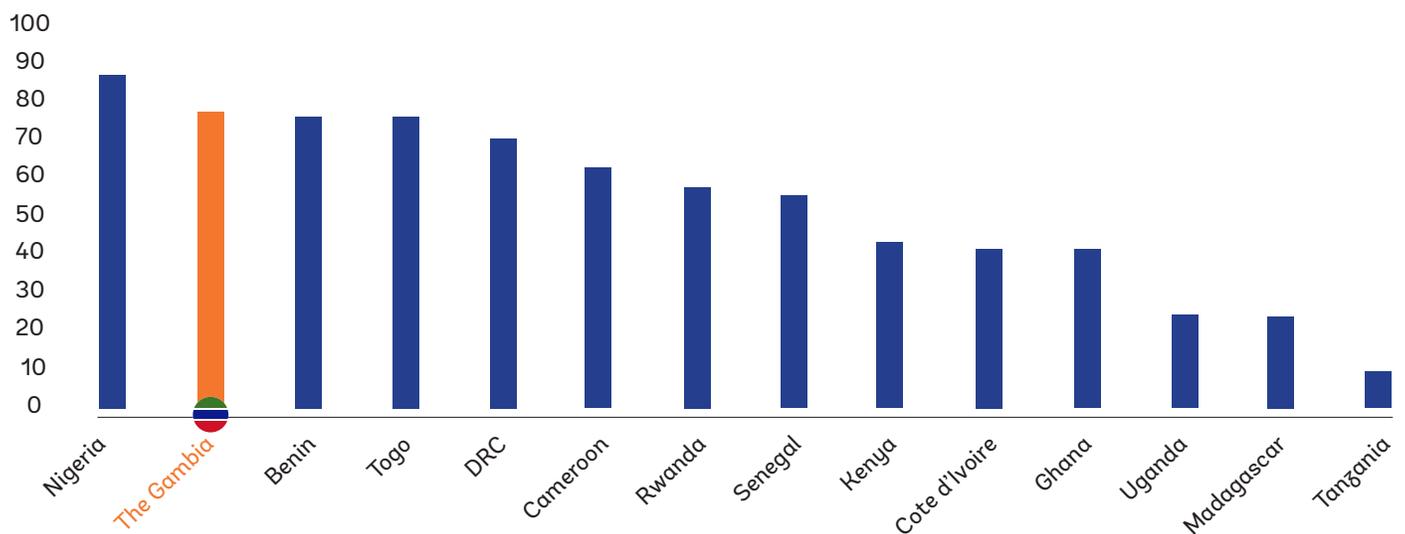
⁹⁰ World Bank, 2021. Taxes and Parafiscal Fees of the Telecom Sector in Africa (forthcoming).

The Gambia Digital Economy Diagnostic

per minute on all local calls or 1 percent on airtime purchase) was introduced in 2019, effective from June 10, 2019, to support youth and sports' development. Moreover, municipal rates are collected per base station in some localities, hampering the deployment of new infrastructure, particularly in rural areas. Overall, consultations with MNOs and ISPs underscored that the mobile tax burden, which is relatively heavy in The Gambia compared to its peers (Figure 2), acts as one of the constraints to lower consumer prices, hence hindering the overall digital development in the country. In this context, a deliberate and strategic reform of telecom sector taxes and fees, in line with best-practice tax principles of efficiency, fairness and

simplicity, might be warranted to support the sector's continued growth, while allowing more people to gain access to broadband. This reform could be beneficial, despite the tightening fiscal space and the telecom industry being perceived as an effective channel for tax collection, given its high degree of formality. In carrying it, the GoTG would need to consider the trade-off between taxing the sector and providing incentives and subsidies in unviable locations to achieve universal access. As demonstrated in Rwanda, due to network externalities of connecting to mobile phone networks, the social welfare cost of taxing the telecom sector may be as much as three times the fiscal revenue raised⁹¹.

FIGURE 2: Mobile Taxes in The Gambia and Selected Peers



Source: World Bank, 2021e (forthcoming).

⁹¹ Björkegren, D., 2019. Competition in Network Industries: Evidence from the Rwandan Mobile Phone Network (SSRN Scholarly Paper No. ID 3527028). Social Science Research Network, Rochester, NY. Available at: <https://doi.org/10.2139/ssrn.3527028>.

Universal Service

Despite being legally provided for, a universal service policy has not been effectively implemented in The Gambia, with the revision of the 2009 IC Act offering an excellent opportunity to reexamine the situation and develop most suitable implementation modalities.

Articles 112, 116 and 117 of the 2009 IC Act include provisions related to “ensuring the implementation of universal access or service”, including by means of establishing a Universal Service Fund (USF), organizing competitive minimum subsidy auctions or designing public access projects. However, none of these provisions have been de facto implemented. There seem to have been a consensus that in The Gambia with a very small territory, where 94 percent of population lives within 10 km from a fiber node, and an already very heavy fiscal burden on the telecom sector, getting the market structure right would be critical before taxing the sector more. While a USF mechanism (generally financed by obligatory contributions from telecom operators) has been widespread in closing broadband access gaps in underserved areas around the world, emerging evidence suggests its mixed performance due to, inter alia, disbursement challenges and misuse of funds, particularly widespread in the contexts of weak administrative capacity. The 2014 GSMA study examined USF performance in 23 SSA countries and documented “significant deficiencies in fund structures, management and operations”, highlighting the gap

between the contributions gathered and the funds actually disbursed (more than a third of studied USFs haven’t disbursed anything and none have disbursed everything)⁹². This is corroborated by 2018 ITU report that found that only 21 per cent of the money collected has been disbursed by USFs in eleven least developed African countries. Pockets of successes do exist. For example, in Lesotho USF has been effectively used to establish and support an IXP, while in Uganda, almost all public secondary schools have been provided with Internet access using USF funding⁹³. Another option for is a so called “pay or play” mechanism, wherein policymakers give operators an option to either serve unprofitable locations (i.e. “play”) or provide resources to create traditional tenders for others to serve such locations (i.e. “pay”), as they usually do in most USFs. Besides creating incentives for the private sector to serve remote zones (probably those closer to the market efficiency gap), this approach – considered more flexible and agile and implemented in a range of countries, as per Box 4 below – has an additional benefit in terms of reducing the time when resources with high opportunity costs are kept idle by the government⁹⁴. In this context, it would be important to reexamine different options for achieving universal service objectives in The Gambia, and the process of updating the 2009 IC Act (supported by the WB-financed Fiscal Management Development Project - P166695) offers a good opportunity for this.

⁹² GSMA, 2014. Sub-Saharan Africa – Universal Service Fund Study. Prepared for GSMA by Ladcomm Corporation.

⁹³ ITU, 2018. ICTs, LDCs, and the SDGs: Achieving Universal and Affordable Internet in Least Developed Countries. Thematic Report.

⁹⁴ World Bank, 2010. Options to Increase Access to Telecommunications Services in Rural and Low-Income Areas. Working Paper No 178 by Muenta-Kunigami, A. and Navas-Sabater, J.

The Gambia Digital Economy Diagnostic

BOX 4: Universal Service Policy in Morocco

The ‘pay or play’ mechanism adopted in Morocco is one of a few examples of an attempt to motivate operators to identify, help plan and ultimately deliver the facilities and/or broadband services to underserved areas. Since 2004, MNOs in Morocco can either carry out activities to comply with universal service obligations provided for in their licenses (i.e. “play”) or free themselves from them by paying the related contribution (in the amount of 2 percent of their annual turnover) into a special allocation account of the USF (i.e. “pay”). Operators who carry out universal service programs (to extend network coverage in underserved areas), validated in accordance with the terms set by regulator, for the amount exceeding their annual contribution to the USF may then receive the difference between the amount spent and the amount for which they are liable. Likewise, in the event of incomplete performance of the universal service program, operators have to pay the remaining difference to the USF and can be subject to a fine. In practice this mechanism adopted in Morocco stimulated existing operators to deploy networks that they would not have otherwise deployed if they had not been compensated by a reduction in their contribution to the USF (“play” mechanism). According to the regulator, nearly 11,000 out of 14,000 localities eligible for mobile broadband coverage under the universal service policy and the National Broadband Plan have been connected by the operators by 2021.

Since its inception, the USF in Morocco has financed multiple projects that not only allowed to improve broadband connectivity in the country but contributed to broader digital transformation of the public sector. More specifically, Moroccan USF financed projects to connect certain localities to internet by satellite links; create community access centers, facilitating the access of young people to ICT; dematerialize the process of issuing birth certificates and modernize and progressively computerize of civil registration; strengthen emergency call services; promote the use of electronic signatures; etc. Nevertheless, the Fund still has significant undisbursed balances, although the mobilization and utilization of funds has significantly accelerated since 2016. In fact, the Fund’s income and expenditure recorded an average annual increase of 8.5 percent and 132.1 percent respectively for the period 2016-2018.

State-owned Assets

The GoTG’s existing supply-side telecom investments are extensive and intertwined. However, a market assessment has identified four distinct supply-side markets, in which the GoTG has separate or separable business units. They are as follows.

- Wholesale national fiber infrastructure (100 percent owned by GoTG), comprising ECOWAN,

NBN and Gamtel’s legacy fiber, which competes with microwave and rival overbuilds in the wholesale backhaul transmission facilities and services market;

- Gamtel’s core retail fixed voice and data business (99 percent owned by GoTG directly and 1 percent through the Gambia Ports Authority), which competes against MNOs and ISPs in the retail fixed market;

- Gamcel's core retail mobile voice and data business (100 percent owned by GoTG through Gamtel), which competes against MNOs in the retail mobile market; and
- GSC's wholesale international bandwidth business (19 percent stake of GoTG; 20 percent stake of Gamtel and 10 percent stake of Gamcel, i.e., 49 percent total public ownership), which comprises a cooperative of most facilities-based operators in the market.

As in many other countries, and to the acknowledgement of the GoTG, the strategy of empowering state-owned enterprises (SOEs) on the supply side of telecommunications has not born expected fruit, but long-lasting reform effort is yet to materialize in a concrete resolution. The reform of the supply-side public sector telecom investments, including Gamtel and Gamcel, has been on the GoTG's agenda since the 1990s. After experiencing financial problems, Gamtel was partially privatized in 2007 through the sale by the GoTG of a 50 percent equity interest to the Spectrum Group, which entered into a contract to manage Gamtel. In 2008, the GoTG announced plans to sell an 80 percent stake in Gamcel but no transaction was concluded, while the partial privatization of Gamtel was reversed, with GoTG repurchasing the shares sold to Spectrum and deciding not to renew the management agreement. Subsequently, both Gamtel and Gamcel have consistently underperformed in an increasingly competitive telecom market. Today, both enterprises continue to present fiscal risks and are reportedly in precarious financial positions, right behind NAWEC in terms of financial losses incurred since 2010. Gamcel didn't make a profit over 2012–2018, for which audited financial statements are available. Its shareholders' equity has been negative since 2014, reaching GMD554 million in 2018 (Table 14). Its main source of revenue, which used to accrue from the international voice gateway, has shrunk drastically over the years for various reasons, including the increasing use of over-

the-top (OTT) services, such as Whatsapp, Skype, Zoom and others. The company would require an estimated US\$15–20 million to upgrade its mobile network to catch up with other MNOs. As for Gamtel, its shareholders' equity rose despite collapsing revenues over 2016–2018 (analysis of Gamtel's audited financial statements is provided in Annex 3). This is mostly due to a rapid increase in receivables, although it is not clear how much of that is recoverable. Overall, the restructuring and privatization of Gamtel and Gamcel is likely to require additional public funds, given the likelihood that their financial positions have worsened since 2018. However, the longer it is postponed, the more expensive it is going to be — both for the GoTG and the entire economy -- especially in the context of servicing sizeable telecom-related loans, amounting to 3.6 percent of GDP⁹⁵.

Recognizing this, the GoTG has taken important steps to continue liberalizing the market and reform its supply-side market participation, but progress has been slow. The GoTG has taken a decision to withdraw from the supply-side retail telecom markets and restructure its supply-side wholesale market investments to shift some of its financial burdens and risks to the private sector. To this end, in August 2019, the Cabinet endorsed the establishment of an SPV to ring-fence the wholesale network currently managed by Gamtel and incorporated it in April 2021 (as the Gambia Fiber Optic Company Limited) to ensure future private participation in the ownership and management of the wholesale fiber optic assets. Furthermore, the GoTG decided to recruit transaction advisors (a team of legal, financial and technical experts) to conduct the due diligence and assess investors' interest in ECOWAN as well as in Gamtel's/Gamcel's assets (i.e., carry out a market test). However, the process has registered delays and might not be completed before the presidential elections due in December 2021 that might further defer this difficult reform.

⁹⁵ The debt servicing schedules will require on average 0.3 percent of GDP each year during 2018–2038

The Gambia Digital Economy Diagnostic

TABLE 14: Gamcel Audited Financial Statements

	2012	2013	2014	2015	2016	2017	2018
Revenue (GMD million)	683	702	613	492	407	387	399
Net after tax profit (GMD million)	-167	-244	-151	-108	-70	-132	-69
Assets (GMD million)	800	680	530	466	620	546	463
Liabilities (GMD million)	527	650	650	702	881	1,032	1,016
Shareholder Equity (GMD million)	274	30	-200	-237	-262	-486	-554
Return on Equity (ROE), (%)	-61%	-814%	76%	46%	27%	27%	12%
Asset Turnover (#)	0.85	1.03	1.16	1.06	0.66	0.71	0.86
Profit Margin (%)	-24%	-35%	-25%	-22%	-17%	-34%	-17%

Sources: PURA.

Cybersecurity & Data Protection

Important regulatory and legal provisions related to cybersecurity and data protection are currently under approval; their prompt adoption and effective implementation would be critical to ensure an enabling environment for the broader adoption of digital solutions. According to the 2019 Cybersecurity Capacity Review⁹⁶, the country's cybersecurity capacity is relatively weak and in need of strengthening measures. This is particularly critical in light of the COVID-19 pandemic, throughout which cybercriminals and state-sponsored actors have been successfully targeting critical digital infrastructure globally. Important initiatives have been launched or are ongoing in The Gambia. For example, the national Computer Security Incident Response Team (CSIRT)⁹⁷ has been established and is operational, while key regulatory and legal provisions are pending approval/enactment, including Cybersecurity Policy and Strategy 2020–2024 (expected to be approved by mid-2021), Cybercrime Bill (expected to be enacted by mid-2021) and Data Protection and Privacy Bill (under validation). Without these important regulatory and legislative measures designed in line with international

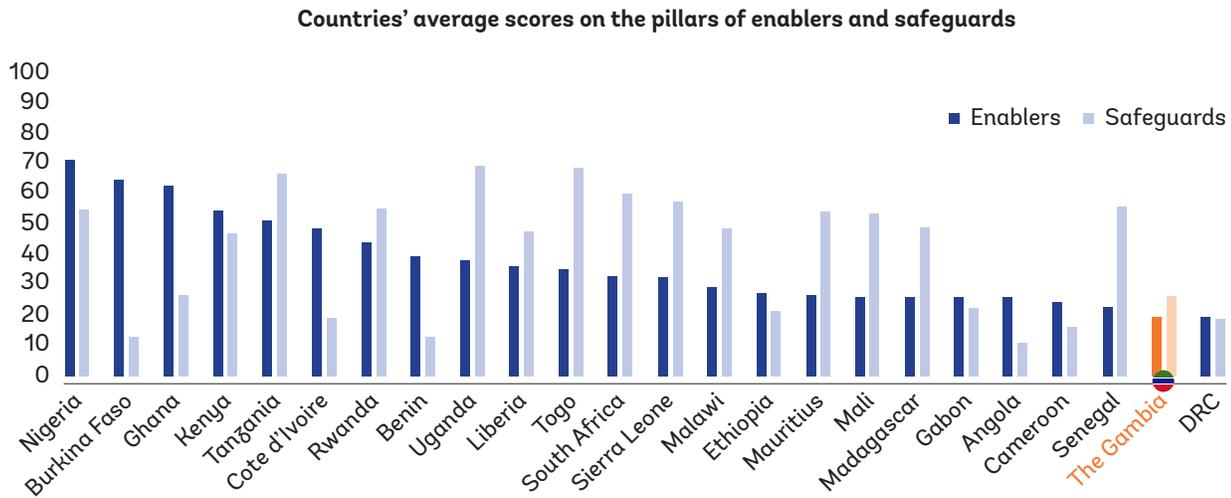
standards (for example, Cybercrime Bill aligned with Council of Europe's Budapest Convention) and promptly adopted / enacted, important regulatory gaps remain unaddressed. They were evidenced by WDR 2021 Data Regulation Diagnostic that looked at key enablers and safeguards of data use across 80 countries⁹⁸ and found significant room for improvement in The Gambia (Figure 3). In the meantime, The Gambia is in the process of executing the 2010 ECOWAS Supplementary Act A/SA.1/01/10 on Personal Data Protection that requires each ECOWAS member state to establish a Data Protection Authority entrusted with the mission of ensuring that personal data is processed in compliance with the provisions of the Act. The Gambia has yet to transpose this law domestically and to establish a Data Protection Authority. In addition, the need for Open Data Legislation and Online Child Protection Policy/Legislation has been voiced by various stakeholders in the ICT sector. The successful adoption and implementation of all these provisions would be critical for protecting digital infrastructure and ensuring the adoption of digital public platforms, including those critical for social protection transfers, as well as for a wider and safer use of digital technologies by enterprises and people.

⁹⁶ The review was conducted at the request of MOICI by the Global Cyber Security Capacity Centre in collaboration with the WB based on the cybersecurity maturity model (CMM). Final Report is available at: https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3658442.

⁹⁷ CSIRT is a term that refers to an entity uniting IT experts that provides services and support surrounding the prevention, management and coordination of potential cybersecurity-related emergencies. It is sometimes used interchangeably with the historic term "computer emergency response team" (CERT).

⁹⁸ The WDR21 Data Regulation Diagnostic conducts a detailed assessment of domestic laws, regulations, and administrative requirements focusing on two pillars: Data Enablers and Data Safeguards. Enablers include e-commerce/transactions, public intent data and private intent data; Safeguards include personal data, non-personal data, cybersecurity, and cybercrime as well as cross-border data transactions/flows. Each dimension comprises questions designed to determine if a country has adopted certain good regulatory practices. Responses are scored and averaged under each dimension to provide an overview of how a country performs in the corresponding regulatory and legal dimension.

FIGURE 3: Data Regulation Diagnostic Across Selected SSA Countries



Sources: WDR2021.

TABLE 15: Summary of Key Invisible Mile Challenges

AREA	CHALLENGE	POTENTIAL REMEDY
ICT sector governance	Licensing is the responsibility of MOICI, which limits PURA's ability to shape the market structure and establish and maintain fair competition.	Effectively separating ICT policy from sector regulation by strengthening PURA's independence and accountability.
Infrastructure sharing	The 2009 IC Act encourages, but doesn't mandate infrastructure sharing, and there is no specific holistic legislation/regulation, covering all aspects/types of infrastructure sharing.	Adopting and enforcing effective infrastructure sharing regulation.
Market Analysis	The regulatory framework for the market analysis mechanism has not been fully implemented. The market analysis conducted in 2016 needs to be updated and adequate SMP obligations for international access need to be considered for dominant operators.	Conducting a new set of market analysis and publishing its decision; reenforcing open access principles to broadband infrastructure, ensuring timely publication of reference access offers, etc.
Licenses	Licenses are not service neutral.	Introducing service and technology neutral licenses, which can reduce bureaucratic burden and increase competition.

The Gambia Digital Economy Diagnostic

License fees	<p>Fees are not service neutral, constraining investment:</p> <ul style="list-style-type: none"> • Mobile – GMD 40 million • Fixed-wireless – GMD 20 million • MVNO – GMD 10 million • VAS – GMD 450,000 • Fixed-line – GMD 2.25 million • International Data Gateway – GMD 450,000 • International Voice Gateway – GMD 1.25 million 	Reconsidering annual license fee, as PURA is financed by the 1.5-percent regulatory fee.
Regulatory fees	Regulatory fees are up to 1.5 percent of operators' annual turnover (determined each year based on PURA's budget needs but not exceeding 1.5 percent).	Not needed.
ICT sector specific taxes	<ul style="list-style-type: none"> • 15 percent VAT • 5 percent excise duty • 1 percent airtime sports levy (for youth & sports development) • 0.75 percent (on annual gross revenue) national education and technical training levy • 10 percent import customs duty on mobile tele-phones, base stations, communication apparatus 	Reviewing ICT sector specific taxes (including potentially removing the sports levy considering indirect bearing on the sector) with the objective of leveraging ICT sector as a growth engine for the economy.
Termination rates	Voice and SMS termination is GMD 0.50 (equivalent to USD 0.0097).	Not needed.
Universal service policy	Articles 112, 116 and 117 of the 2009 IC Act have universal service provisions (including those related to the USF), which, however, have never been implemented.	Reexamining the situation and effectively implementing most suitable modalities for achieving universal service (already ongoing with the IC Act revision process).
Spectrum	Spectrum allocation seems effectively managed according to MNOs and ISPs; however, further clarity on frequency spectrum assignment and strengthening PURA's mandate in its allocation and management are warranted .	Further strengthening and optimizing in the process of revising the IC Act.
Cyber Security	According to PURA, National Cybersecurity Policy and Strategy 2020-2024 will be adopted in 2021; GmCSIRT has been established and is operational; a Data Protection Bill is being formulated, while Cybercrime Bill is to be adopted in 2021.	Ensuring effective implementation of mentioned legislations and regulations.

Recommendations

The Gambia has all the ingredients for a flourishing ICT sector; however, the broadband market continues to be significantly constrained by several factors, including unresolved issues of state-owned supply-side telecom assets, especially the national backbone infrastructure, its poor management and high access costs.

The GoTG could consider the following recommendations to improve digital infrastructure provision across the country in the short, medium and long-term. Recommendations are classified by the level of priority: (i) quick-wins (or “low hanging fruit”) - for actions that can be delivered quickly / short-term with immediate tangible results; (ii) high-priority - for critical recommendations that can’t be relegated and could be adopted within a short to medium timeframe; and (iii) long-term – for actions spanning a wider timeframe that focus on consolidating results.

R 1.1 [Quick Win] Lift the moratorium on the fiber rollout in alignment with the IC Act and existing licensing regime. This is not only critical to increase market predictability for existing and future investors, including those potentially interested in state-owned assets, but also essential to decrease national backbone access prices, improve the quality of service and boost 4G investment that requires fiber backhauling to provide reasonable speeds to end users.

R 1.2 [Quick Win] Incentivize and enforce active and passive infrastructure sharing through holistic regulatory measures. The lack of a coordinated approach to infrastructure buildout, in the absence of a “dig once” policy and effective and holistic infrastructure sharing regulation, can lead to the unnecessary duplication of assets and increased costs, particularly burdensome for smaller market players. Regulation should include infrastructure sharing provisions within the sector

(among telecom operators and ISPs) as well as across sectors (including by exploring the availability of excess fiber optic capacity of the NAWEC’s infrastructure and the feasibility of its monetization) to improve access and affordability. Utilizing NAWEC assets to densify last mile fiber infrastructure should be made a priority. Moreover, a “dig once” policy, relying on real time information of the existing infrastructure (digital infrastructure maps), guidelines for rapid deployment and a coordinated method of accessing right of way should be considered.

R 1.3 [High Priority] Ensure adequate and cost-efficient international redundancy. This is critical in view of increasing frequency of ACE damages, combined with the expensive backup route to Senegal being susceptible to systematic fiber cuts and power failures. The solution could include either ensuring access to the second submarine cable with a separate landing station, or supporting an alternative, ideally private sector owned/operated terrestrial fiber link to the border with Senegal. As the next step, it would be important to conduct detailed feasibility studies and a cost-benefit analysis to evaluate various options and undertake investment in the most suitable and cost-effective solutions. It would also be important to ensure an open and fair access regime in the international bandwidth capacity market (especially for smaller ISPs, which are not GSC members), thus bringing the country in full compliance with the regional ECOWAS directive (C-REG-06-06-12) stipulating conditions for accessing landing stations for international submarine fiber optic cables.

R 1.4 [High Priority] Through increased private participation, complete the wholesale network management reform and leverage state-owned digital infrastructure assets in a more strategic way. In line with its commitment to hand over the management

The Gambia Digital Economy Diagnostic

of ECOWAN and NBN to a qualified private operator in the context of restructuring its supply-side telecom holdings⁹⁹, the GoTG should reinvigorate efforts to attract private investment by divesting its state-owned assets and companies (Gamtel and Gamcel), while ensuring non-discriminatory open access to the national backbone. Broadband price reductions should then be a natural product of effective market competition.

R 1.5 [High Priority] Strengthen sector governance to withstand potential political capture by further separating ICT policy from ICT regulations and reinforcing the independence and accountability of PURA. Effectively separating ICT policy, under the prerogative of MOICI from ICT sector regulation under the responsibility of PURA through a review of institutional arrangements, could be reflected in the new IC Act under elaboration. More specifically, PURA should be responsible for issuing telecom licenses and taking final decisions on spectrum use, thus playing an active role in shaping the market structure of the ICT sector. In addition, it is warranted to further strengthen the regulator's accountability by ensuring the timely publication online of all PURA's decisions, activity reports, operators' licenses, reference offers as well as the market observatory.

R 1.6 [Long-term] Conduct a new set of market analysis that defines markets that may require regulatory consideration, identifies operators with significant market power, and formulates regulatory remedies to address market failure.

R 1.7 [High Priority] Accelerate the adoption and ensure the effective implementation of cybersecurity and data protection legislation. It is important to ensure the adoption (planned in 2021) and effective implementation of the Cybersecurity Policy and

Strategy 2020–2024 and Cybercrime Bill and Data Protection and Privacy Bill, as well as the Critical Information Infrastructure Protection (CIIP) Policy Framework. It is also important to establish the Data Protection Authority and develop comprehensive Open Data Legislation and an Online Child Protection Policy/Legislation.

R 1.8 [High Priority] Introduce service and technology neutral licenses that would increase competition in fixed, fixed-wireless, and mobile access markets and would allow ISPs to provide international voice services, while reducing the bureaucratic burden.

R 1.9 [Long-term] Review sector-specific fees and taxes. An assessment of the overall fiscal burden across main sectors of the economy in The Gambia is warranted, with view of recommending potential adjustments that would more evenly distribute the burden. Based on the results of this assessment, the GoTG could consider rationalizing sector specific taxes (including VAT) and parafiscal fees (including the sports levy) in line with international best practices.

R 1.10 [Long-term] Mobilize investment into SIXP, strengthen local expertise for its management, and adopt a regulation to mandate its use.

Finally, spurring the adoption and use of broadband services will also require significant efforts to drive demand and build digital skills. Specific interventions should be designed to promote the use of services that are attractive to potential consumers, such as e-Government services, digital payments, and social media. Likewise, it is important to invest in the development of digital skills needed to use technology efficiently, targeting especially those parts of the population with less formal education. These will be elaborated in more detail in the forthcoming chapters of this report.

⁹⁹ As expressed in the Letter of Intent sent by the Minister of Finance and Economic Affairs and the Governor of the Central Bank of the Gambia to the Managing Director of IMF on 18 June 2018.



Photo credit - Alhagie Manka

DIGITAL PUBLIC PLATFORMS

Importance

This chapter covers digital public platforms offered by the government and public institutions that have the potential to transform the way people, the public sector and civil society interact with each other.

Digital platforms developed for the public sector and as a public good can connect people and things as well as facilitate digital transactions, including the exchange of information, goods, and services. Digital public platforms leverage shared services and follow a “whole-of-government” approach to digital transformation. This approach, also referred to as “GovTech”, has the potential to revolutionize governments’ internal processes and government-to-government (G2G), government-to-people (G2P) and government-to-businesses (G2B) services that build on interoperable systems. These platforms are heavily dependent on ID systems, trust services and data exchange, with their shared repositories to increase transparency and reduce leakage and fraud by ensuring that public services reach their intended beneficiaries or suppliers.

The objective of enhancing such platforms is to enable the GoTG to increase the efficiency and effectiveness of core government functions and services; reduce the unnecessary duplication of systems; combat fraud and corruption by increasing the security and traceability of transactions; facilitate the access of non-state actors (not only individuals but private

sector representatives as well) to administrative and public services; and, ultimately, encourage the growth of a digital marketplace. Beyond service delivery, digital public platforms provide new channels for public engagement, feedback, and information sharing, including the use of CivicTech tools that can increase civil engagement, transparency and accountability of the government.

The growth of the digital economy and increasing reliance on digital platforms have the potential to address fragility issues but can also exacerbate the marginalization and exclusion of vulnerable population groups. The World Bank’s Strategy for Fragility, Conflict and Violence 2020–2025 highlights the powerful impact of digital technologies and platforms in fragile settings, such as The Gambia’s, as they strengthen local and national public services, promote private investment, and help civil society build community networks. Given the significant role connectivity can play in reducing socio-economic exclusion and polarization, developing an enabling environment and promoting the growth of digital platforms (while ensuring equitable benefits to vulnerable groups) could play an important role in helping the country address many of its fragility drivers, including corruption, inequality and youth marginalization.

Diagnostic Findings: Current State of Digital Public Platforms

Policy Underpinnings

In line with the high-level NPD vision, a new ICT policy was developed that articulates strategic objectives pertaining to public digital platforms, a high priority for the GoTG. The Gambia ICT for Development (ICT4D) Policy Statement 2018–2028 fully recognizes the country’s digital transformation aspirations. The main purpose of the policy is to reinforce the GoTG’s priorities set in the NDP, particularly the fifth objective to “Make The Gambia a Digital Nation and create a modern information society” by harnessing the benefits of ICT in all economic sectors. ICT4D is a clear government-wide IT policy and MOICI has the mandate to implement and enforce it. Strengthened e-government is considered central, as it can help the GoTG achieve its high-level national targets:

(i) revenue generation of 20 percent of GDP; (ii) at least 80 percent of financial transactions (budget execution and payments) captured within the Integrated Financial Management Information System (IFMIS); (iii) at least 75 percent of citizens and residents registered in the National Biometric ID database; and (iv) an e-procurement system linked to IFMIS and deployed by 50 MDAs. The objectives cover connectivity for government, citizen-based services, and the use of ICT for inclusion and skills development, while underscoring transparency and good public sector governance through the expanded application of digital technologies. Key elements of the policy environment for digital public platforms are as follows (for the full list of pertinent policies and regulations refer to Table 12 in Chapter 1):

- E-Government Strategy 2021–2024
- ICT4D Policy Statement 2018–2028
- Information and Communications Act 2009
- Universal Access and Service Policy 2020.

Importantly, in terms of the legal and regulatory framework, there are currently no laws that regulate the activity of users with respect to electronic documents and their exchange between different entities. While the 2009 IC Act considers electronic records, these provisions could be reinforced. In this context, a Law on Government Electronic Registers would be useful to unify the criteria and requirements for all state registers. Such a law would provide the legal framework for the establishment and maintenance of electronic registers, data exchange and an interoperability framework. The exchange of data would be based on the principle of “once only” and a unique identification number to exclude the duplication of personally identifiable data in all state registers. Moreover, the current legal and regulatory framework does not have provisions that establish the need and obligation to safeguard information and have business continuity procedures in place for institutional systems and processes.

Digital Identification & Trust Services

Amid persistently low birth registration statistics, efforts are ongoing to improve and digitalize civil registration. A functioning civil registration and vital statistics (CRVS) system ensures the registration

The Gambia Digital Economy Diagnostic

of all critical life events, including births, marriages, and deaths, promoting efficient government planning and the more effective use of resources. Since a birth certificate may be required for the issuance of a formal ID for accessing public health, education and social protection services, financial services, and voting, it is essential that all Gambians have a birth certificate and are registered in the CRVS to realize their rights and access to services. The Registrar of Births and Deaths within the Ministry of Health is responsible for birth and death registration in The Gambia. According to UNICEF, birth registration has slightly improved in the country in recent years, increasing from 53 percent in 2010 to 58 percent in 2018 (MICS 2010 & 2018), but still leaving 42 percent of children under five without birth certificates (MICS 2018)¹⁰⁰. The centralized system of birth registration and the distance from the registrar's office, as well as costly and time-consuming processes, are some of the barriers. In an effort to decentralize the process and involve reproductive and child services, the GoTG began requiring health professionals to function as civil registrars on top of their usual work. Moreover, the records of births, deaths, and marriages, which for a long time were documented in large paper books, have recently been digitalized and are now merged, with support from the World Bank-financed Gambia Essential Health Services Strengthening Project (P173287), with MyChild immunization records into an electronic government-wide CRVS system, enabling an effective authentication of an individual's identity.

In the domain of identification, successive governments have tried to address service-delivery issues by designing ad hoc functional identity credentials or by launching various enrolment campaigns but have been challenged technically and financially to achieve universal coverage objectives. The Gambia has had a

series of national ID cards over the past decade. The latest, launched in 2018 as The Gambia Biometric Identification System (GAMBIS), provides a card with a biometric chip and is mandatory for all persons over 18. The card contains a picture, thumbprints, encoded chip, name, address, signature, and the National Identification Number (NIN), a unique, 11-digit number, matched with the cardholder's thumbprint, that must be provided during various transactions with public and private organizations. The rollout of the latest national ID card is managed by the Gambia Immigration Department under the Ministry of the Interior and is undertaken in partnership with a private company. The implementation had some delays amid concerns about cards' high cost (initially D450 (equivalent to US\$ 10) but now D850 (or US\$ 17) for residents of The Gambia and ECOWAS) as well as substantial and burdensome documentation requirements that may prevent full coverage. Other common ID cards have included a biometric voter registration system or Voter's ID card, issued widely prior to the presidential election in December 2016, and a Tax ID number. However, the systems have been fragmented and non-interoperable, impeding access to basic services. Their roll-out has been conducted without any legislation pertaining to personal data protection or dedicated data protection agency.

The need for the nationwide vaccination against COVID-19 provides an opportunity for a mass registration in the eCRVS system. Following a mass communication and sensitization campaign, each vaccination center will have two distinct booths/areas, one for electronic registration process and another for the actual vaccination. The records will be linked to the information from other ID sources already in the eCRVS and cross-checked with the census-based

¹⁰⁰ UNICEF Global Database, 2020. Percentage of Children Under Five Whose Birth Are Registered (based on Multiple Indicator Cluster Survey (MICS) 2018 in the Gambia). Available at: <https://data.unicef.org/topic/child-protection/birth-registration/>.

Social Registry, whose data is under collection in 2021. For people under the age of 18, a NIN will be assigned to their birth record; for those above 18, an existing NIN will be attached to their birth record or, if none exists, a new NIN will be generated. Civil Registrars will review the electronic birth registration records and approve birth certificates to be printed with the assigned NIN for people born in The Gambia. The certificates will be then handed over to individuals when they go for their second vaccine dose.

Despite these promising initiatives, the legal and institutional framework for identification in The Gambia remains incomplete, while the Public Key Infrastructure (PKI) to underpin trust services and provide digital certification services is absent. Fundamentally, the legal and institutional framework should guarantee data protection, individual privacy, non-discrimination and inclusion. There is legislation requiring birth registration, including the African Charter on the Rights and Welfare of the Child (Children’s Charter) and the Births, Deaths and Marriages Registration Act (1990). Furthermore, a Data Protection and Privacy Policy was endorsed by The Gambian Cabinet in February 2020 and a Personal Data Protection and Privacy Bill has been drafted with the intention that it be tabled with the National Assembly in 2021. A law is only as strong as its enforcement and the ownership of different ID initiatives currently lies with different government departments (birth registration and CRVS with the Ministry of Health, ID issuance with the Ministry of Interior), with no specialized central agency to oversee identification initiatives. The establishment of a Data Protection Supervisory Authority would be an important bulwark for a new data protection and

privacy legal regime. Importantly, since there are no public or private providers in the country for digital certificates, e-signatures are difficult to obtain for an individual. There are no plans in the current ICT4D strategy to put in place digital authentication and e-signature capability in the country. Likewise, mobile ID solutions are neither available nor planned.

Digital Systems in Social Protection

A fully digitalized Social Registry, containing socio-economic data on households as a common gateway for household assessment for eligibility in social programs, is under development in The Gambia. The effort is led by the National Social Protection Secretariat under the Office of the Vice President, with support from the World Bank and GoTG-funded Social Safety Net Project (P167260).¹⁰¹ The Social Registry can facilitate service delivery by allowing service providers to identify potential beneficiaries directly from the database, without having to undergo a lengthy beneficiary assessment process. In addition, the information on beneficiaries already enrolled and receiving benefits is also captured in the Social Registry, thus ensuring a more coherent and equitable provision of services. These features of the digital platform can ensure cost-efficiency and ease of service delivery. The GBOS is currently collecting data for the Social Registry across 36 of the 43 districts in The Gambia¹⁰², following a census approach¹⁰³. It collects more socio-economic household data than many other surveys since this information can be used to target and prioritize programs for those that need them most. Nonetheless this raises personal data protection and privacy concerns that should be addressed by the pending

¹⁰¹ An additional Technical Assistance task (P174410) funded by the State and Peacebuilding Fund.

¹⁰² The data collection effort is intended to be completed within the first quarter of 2021 and the Social Registry should become operational in the second quarter of 2021.

¹⁰³ Unlike other big surveys, such as the Integrated Household Survey, Multi-Indicator Cluster Survey (MICS) or the Demographic and Health Survey, the Social Registry takes a census approach, since it is important that each household and individual is known and provided services in future.

The Gambia Digital Economy Diagnostic

data protection legislation. Moreover, the World Food Program (WFP) is supporting the development of Data Sharing Protocols that would govern the use of Social Registry data by any service provider hoping to use the data for prioritization of programs.

A key challenge of the Social Registry is keeping the information updated. Large-scale, census-type surveys are expensive to undertake but there is currently no network of welfare offices at the local level in The Gambia that would allow for a continuous process of updating. Therefore, from the outset, it was planned that the Social Registry be linked to the eCRVS, developed by the Ministry of Health, such that basic information on household composition can be updated, when births and deaths are registered. An update request can be filed by households when their circumstances change. Overall, though another survey sweep will be needed in about five years.

created internal monopolies that seek to protect themselves from outside interference and fight to safeguard and strengthen their position within the State. This siloed organization is incompatible with the idea of a government-wide platform that relies on a solid interoperability framework to move from vertical structures, relatively impervious to each other, to a horizontal, networked, and collaborative organization with reliable, transparent data exchange between systems. To address these challenges, MOICI is finalizing the set-up and implementation of the national data center with the aim of hosting all the critical government platforms over time. In addition, a Cloud Strategy is under elaboration to help guide the transition to the new infrastructure. In this process it is important to consider using a hybrid cloud¹⁰⁴ model to ensure cloud-based functionalities and higher-level data security at much lower costs.

Interoperability & Shared Systems

The performance of the public sector in mainstreaming online services and back-office systems has been uneven. More specifically, the proliferation of systems implemented in a compartmentalized manner has

¹⁰⁴ The hybrid cloud is a combination of an internal private Government cloud with public cloud solutions offered by external providers of commercial cloud services, such as Amazon Web Service, Microsoft Azure, Google Cloud Platform, IBM Cloud, etc. (or eligible internal cloud providers, if such exist). Following private sector examples, governments around the world are adopting the Hybrid Cloud model to store, process and interact with protected, extremely sensitive, or regulated data on a Private Government Cloud, while continuing to leverage cloud-based functionalities and resources from Public Cloud services. The Hybrid Cloud does not refer to a single cloud with public and private features, but rather represents a technological symbiosis of the two approaches, aimed to create a reliable, easily available, and protected virtual environment, which can be scaled up quickly and flexibly at the government's demand at a much lower cost.

BOX 5: Singapore Government's Transition to Hybrid Cloud model

As an early adopter of technology, Singapore faced a need to revamp its legacy IT infrastructure to leverage the benefits of advanced technologies. Such legacy systems limit economies of scale, interoperability, and agility in a new data-driven age. There was a need to leverage the benefits of the cloud technology and to transform the way applications and services are development, ensuring that instead of every agency building their own bespoke systems, technologies are re-used to achieve greater interoperability and agility. In this context, the Government of Singapore decided to move to the public cloud, adopting in June 2018 a commercial Cloud-First Policy, in accordance to which all new unclassified systems were required to be hosted on the public cloud by default. The Government announced a five-year plan to migrate most of its IT systems from its on-premise government data center to the public cloud to speed up the delivery and improve the quality of services for citizens and businesses. One of the key benefits of the cloud is its ability to connect government agencies to a wider ecosystem of partners, including users and developers. MDAs can thus tap into commercial cloud solutions to incorporate advanced functionalities into their digital services instead of trying to reinvent the wheel, thus lowering costs and improving service delivery. Application testing and deployment can also be automated and done in real-time, which is especially useful and critical during and post-COVID-19. Leveraging the cloud capabilities and services of public cloud systems helped the Government develop applications and services for citizens more quickly and in a more scalable way.

Adopting the Cloud Policy was supported by a user-friendly guide for the Classification of Government Data. A smooth transition to the cloud was made possible partly by a shift in approach to how the Government classified its data. The Government found that at least 70-80 percent of all the data had negligible national security implications. Henceforth, through an easy to use guide for agencies, more than 150 systems classified as "restricted" and below were moved to the public cloud. This also allowed agencies to utilize cloud-native security services to enhance security, while achieving higher resiliency through cloud-native auto-scaling capabilities. In 2020, the Government announced over US\$650 million of contracts earmarked to double the number of systems on the public cloud. Agencies can also refer to a Government Commercial Cloud implementation playbook for guidelines and best practices on how to migrate, develop and implement applications on the cloud.

Since then multiple government services migrated to the public cloud. One key example is Singapore's inland revenue system, which supports tax administration and revenue collection service. By moving to the public cloud, the system enabled taxpayers to complete their tax obligations, from assessment to payment, in a single sitting. Other systems slated to move to the public cloud are Infocomm Media Development Authority's Integrated Regulatory Info System (IRIS) and PUB's smart water meter initiative. The latter is expected to be rolled out in 2021, marking the country's first smart water meter system that will be able to capture household water usage readings wirelessly and push information to households on water-saving measures via a customer portal.

The Gambia Digital Economy Diagnostic

Data registers maintained and kept by the various public administrations in The Gambia are neither mapped nor listed exhaustively. There are several administrative and functional registers maintained within the GoTG. These include the population register, the pension register, the payroll database, the electoral register, the business register, and various other registers that are in the process of being created (cash transfers, health insurance, etc.). As a result, the user is obliged to provide personal data and information on several occasions to various public entities that sometimes already have this information. Ideally, government entities in possession of documents, data or information needed for the provision of administrative services should be required by law to provide or make available, free of charge, all data, documents or information to other services that request it.

The problems related to the lack of interoperability of public sector platforms are not recalled in existing e-Government policy documents. There is no interoperability framework for data exchange between public platforms in The Gambia. The GoTG ensures data exchange between different digital government platforms by building individual interfaces on an ad hoc basis. In the same vein, there is no interoperability across government agencies at central, regional, or local levels. The lack of related policy and regulations; a low level of interaction and coordination between public administrations and users especially with respect to the provision of electronic services and access to open data; and the lack of means for appropriate identification and authentication of users in their interactions with public authorities are among the most cited underlying causes of this situation. The recent implementation of the IFMIS, and the need to integrate it with other public finance systems, has shown the urgent need for the GoTG to define and set up an interoperability system based on open standards that will enable the secure exchange of data between public administrations and physical and legal

entities. As there is no open-source policy or guidance available at a government level, there is no clarity on the number/percentage of government services and solutions that have been developed using open source. The technological choices are not regulated, and each entity can use the technology they want.

The current legal and regulatory framework does not include provisions establishing the principles of “single entry” and “re-use of public information”. An entity providing services should be capable of receiving the information needed for the provision of services (without the participation of the user) through access to the information systems or databases of the other entities providing administrative services using the interoperability system. The “one time only” principle is an e-Government concept that aims at ensuring that citizens, institutions and businesses must provide certain basic information to authorities and administrations once and only once. The main objective of the principle is to reduce the administrative burden on users and businesses by reorganizing internal public sector procedures. It assumes that collecting and storing information is more costly and burdensome than sharing information already collected. The lack of an interoperability framework means that most administrative units capture and maintain their own basic user data. The multiplication of these registers necessarily leads to a multiplication and thus degradation of the quality of the data, which results in a loss of its intrinsic value.

A pre-requisite for the establishment of an e-Government is the development of a National Data Governance Strategy. The interoperability platform should use the NIN allocated by the GAMBIS to facilitate data exchange between different national registers and databases. A framework will be needed for classifying data and information by sensitivity to determine the level of protection required and the access control policy to be implemented.

Government Back-Office Systems (G2G)

Digitizing government services boosts the digital economy. This assertion is based on efficiency gains derived from public sector automation and its spillover effects to the private sector, and the economic growth associated with the development of local private sector digital platforms. The Government's back-office systems are expanding in functionality, thanks to increased investments by the GoTG and its development partners. Ensuring that the GoTG leverages all the benefits of these public platforms, however, requires several critical prerequisites: public sector ICT skills, sufficient resources earmarked for recurrent costs (such as licenses and systems' maintenance), and digital infrastructure and interconnectivity. Several digital public platforms in The Gambia have been designed, implemented, operated, and maintained by internal IT staff within the relevant ministry department or agency. Nevertheless, major challenges with the understaffing and underfunding of public IT functions persist.

Despite these challenges, the implementation of digital public platforms has made some progress in The Gambia. Several initiatives have been launched to digitize some administrative procedures and many other procedures are in the process of being digitized. The Accountant General's Office is finalizing the implementation and rollout of IFMIS. This system supports the budget preparation and execution, accounting and financial analysis, payroll and pensions calculations, and other payments using electronic fund transfers (ETF). The Office of the Prime Minister is also implementing a human resources system as part of the IFMIS platform to better manage the civil service. In addition to this platform, a government-wide Electronic Records Management System has been implemented at the National Records Service Office and will be put

in place in all government entities. The GAMTAXNET is being replaced with a state-of-the-art Integrated Tax Management System (ITAS) at the GRA where the ASYCUDA++ system is being upgraded to an ASYCUDA web version to be rolled out to all custom offices. The new ITAS system will provide e-services, such as e-filing, e-declaration and e-payments, to bring the tax administration closer to taxpayers.

The GoTG is also planning to digitize public procurement procedures. With support from the World Bank-financed Fiscal Management Development Project (P166695), the GoTG is developing plans to modernize and automate its public procurement system. The Directorate of Public Procurement (DPP) has developed a data management portal to display and track the procurement and concessions plans of all MDAs, as well as all active procurement contracts awarded to suppliers to boost transparency, accountability, and competition. The DPP, in collaboration with the World Bank, is developing a roadmap to design and implement an integrated, e-procurement system that will support the online publication of tenders, the solicitation of bids and the enhancement of vendor registration. Capital expenses for the development and implementation of this platform are covered mainly by development partners (World Bank and African Development Bank), while day-to-day operating expenses are supported through the national budget. It is important to note that there are no mechanisms yet in place to regularly monitor and evaluate the level of usage or the quality of service of such digital back-office systems.

Digital Service Delivery (G2B And G2C)

The GoTG has a limited but increasing presence online. Many MDAs are now operating websites; however, they are often down and/or provide outdated information. Most of these websites are characterized by a one-

The Gambia Digital Economy Diagnostic

way information flow. None appear to integrate the functionality of interactive/transactional requests for services or the online provision of services (except for the e-filing of taxes, mentioned above). The unique format for all government websites developed by MOICI is not used uniformly as its PMO has had trouble coordinating and harmonizing the GoTG's web presence. Added to this, there is no official repository of The Gambia's laws, complicating citizens' ability to hold officials accountable; challenge or contest wrongful actions by officials; or protect their rights, assets and access to basic state services and benefits.

MOICI has set up a National Portal that centralizes all digitized public services, which has scope to be further enhanced. At this stage, the portal is merely descriptive, providing information on procedures to be followed for a given service. According to the concept of e-service development, services are provided in accordance with a web-based e-Government model. The "interaction" level of the conceptual model should be based on a single National Portal for administrative services, including the integrated platforms of all executive bodies and local authorities that operate and interact according to unified requirements. The "interaction" level should ensure the implementation of a "Single Window" principle and the use of a single electronic reference entity box and unified electronic identification, authentication, and registration systems. The portal should provide:

- A single point of entry, that is access to all electronic services from a single location
- A harmonized human-machine interface in the form of unified and harmonized graphical charters for the provision of electronic services
- Traceability of all activities by demonstrating a complete history of a specific user's interactions
- Help and support tools for users, offering the possibility of automated planning/reminders of the need for administrative services; and

- Monitoring and evaluation functionality, ensuring the adequate quality control of e-services provision.

From a G2C perspective, the search for instruments that promote transparent governance is a constant effort to update procedures. Digitization does not mean automation of existing procedures and processes but a real reengineering of existing processes and, sometimes, the optimization of them. Moreover, change of political paradigms and implementation of new strategies are critical. A limited coordination of the activities supported by donors and development partners in the sector seems to have complicated the GoTG's reform efforts. Requests for collaboration and support from partners have been sporadic and uncoordinated, increasing the fragmentation and complexity of implementation.

The procedure and modalities for the provision of public services are not defined by an administrative services law. As previously indicated, there is no specific law governing the provision of administrative services. Most public services are provided to the users in a centralized manner. This applies to such common services as the preparation of civil registration documents, requiring the applicant to visit in person the responsible registrar, where the birth declaration was made, in order to obtain a birth certificate, for example. This is also true for the criminal record extract.

Civitech & Transparency

Civitech has not yet taken hold in The Gambia. While the National ICT Policy flags citizen participation as key, GoTG has taken limited steps to date to ensure broader consultation and more inclusive decision making through digital platforms. As of now, the GoTG does not have a published policy on open data based on international best practices nor does it have an adopted international data standard (including

metadata standards). Its efforts to operate an open data initiative covering the collection, storage and sharing of publicly available information are embryonic. In fact, no clear and specific processes are in place across government agencies to undertake these data tasks in a standardized and readable/reusable manner. In addition, there is no clarity on which agency oversees open data and whether it has the appropriate mandate needed for enforcement. No digital platforms are therefore available either for citizens to voice grievances or for the government to address them.

Institutions

A newly established, albeit not yet operational, Gambia ICT Agency has a potential to play a leadership role in intersectoral coordination on the digital agenda, which is currently lacking. The agency, established by the ICT Agency Act adopted in 2019, is meant to play a leading and facilitating role in the digital transformation agenda of the GoTG with a very broad and ambitious mandate. Some of its functions stipulated by the Act include accelerating The Gambia's transition to a sustainable e-government environment; ensuring high standards of digital public services; promoting standardization in the planning, acquisition, implementation and delivery of ICT equipment and services used by the government; supporting cooperation, coordination and rationalization of digital public initiatives; promoting local content and applications development; facilitating and encouraging innovation and entrepreneurship; etc. The agency is meant to be governed by the Board that would include a Director from MOICI and a Permanent Secretary from MOFEA, as well as three private sector representatives, with the chairperson appointed by the President and meetings held each quarter. However, this Agency has never been implemented and renewed concerted efforts (including funding) are required to ensure its operationalization. Moreover, the Agency should be

provided with adequate human and financial resources to effectively and efficiently oversee the design and implementation of public platforms within the GoTG.

Many other public stakeholders are involved in shaping and implementing the digital agenda; however, teams remain understaffed and underfunded. Some of the MDAs that play an important role in the digital transformation initiatives of the GoTG are MOICI, MOFEA, the Ministry of Interior, PURA, gmCSIRT and IT/ICT units in other line ministries. Most of these agencies don't have a CIO, CTO or permanent official positions dedicated to data management. IT/digital transformation teams within MDAs are still embryonic. A few full-time staff are employed for the development or management of digital public platforms and shared services, either centrally or across government agencies. Fiscal funds used for developing or managing digital public platforms and shared services are allocated on a yearly basis within each entity's budget. However, these resources are far from sufficient and most investments continue to be donor funded. Moreover, there is no cost recovery/charge back mechanism used by the lead agency to re-coup the costs of the development of shared services. There are, however, plans to implement such a mechanism in the future.

ICT skills in GoTG and among civil servants are rather weak. The GoTG does not appear to have plans to support the development of fit-for-purpose ICT skills, including specialized IT skills and general IT skills among civil servants. Ad hoc trainings are organized whenever a platform is being deployed. Against this background, critical skills in domains such as cybersecurity, IT project management and IT governance remain very scarce. Moreover, existing GoTG's procurement policies and regulations do not incorporate specific provisions to favor local ICT firms and SMEs and most of the platforms implemented are commercially available off-the-shelf (COTS). Because of this, the GoTG does not

The Gambia Digital Economy Diagnostic

own the source code of its systems, even when this impacts its ability to conduct maintenance and/or contract services freely and competitively for upgrade.

Moreover, weak digital literacy and skills among general population contribute to low usage rates of existing digital platforms. There are many intertwined reasons for the low uptake of the country's existing digital platforms and public services but the two most important factors appear to be insufficient ICT literacy among the population on the demand side and the absence of a holistic, whole-of-government change management plan aimed at promoting the uptake of the e-Government agenda on the supply side. Such a plan could start by building a shared understanding, among users and public servants, of the need for reform and include regular, well-designed communication campaigns and capacity building activities.

Data Management, Sharing & Secure Access

A comprehensive vision and policy regarding the management of the data infrastructure is yet to be developed. As mentioned above, a Data Protection and Privacy Policy was endorsed by The Gambian Cabinet in February 2020 and a Personal Data Protection and Privacy Bill has been drafted and is expected to be adopted in 2021. A bill on Freedom of Access to Information is also pending enactment. However, the policy framework for data security, data archiving and digital preservation (collection, storage, processing, analyzing, archiving, and destroying data) is not available yet, although it is well embedded in the bill. Similarly, policies or standards for data quality, including its provenance, accuracy, timeliness, and completeness, as well as policy on the ownership and licensing of government data, are missing. In this context, the processes of data archiving and preservation currently used do not conform to

international standards and best practice. The GoTG is generating a wealth of financial data from its existing platforms (IFMIS, GAMTAXNET, ASYCUDAA, etc.) but is not using digital analytics tools to regularly analyze data and use it for policymaking, governance, and private sector development. There are no common data frameworks/data sharing protocols in place yet and data is not hosted centrally, with each MDA keeping its own data within their databases. Data back up and disaster recovery arrangements are not centralized.

Public data are considered a collective resource of which no administration can claim ownership. The GoTG, similar to governments elsewhere, has long been a producer and consumer of data for its own needs and those of the society. The governance of data is therefore of paramount importance in the context of a series of transformations: (i) transformation in the nature of the data produced or held by the administration; (ii) transformation in the tools and methods for processing these data; and (iii) transformation of the actions and strategies developed based on these new data and methods. Existing legislation remains silent on the implementation of the principles of "single reuse" and the "reuse of public information". In other words, an entity providing administrative services receives the information necessary for service provision (without a user's participation) through access to the information systems or databases of other entities or through technical interoperability. A policy aiming at concrete, secure interoperability, while respecting informational self-determination, is necessary.

The optimal use of data produced by administrations, and of modern technologies, such as Data Analytics, is essential to enhance effectiveness and efficiency in the public sector. According to the OECD DGT principles, to take full advantage of information produced by the public sector, governments should make better use of data analysis tools and technologies (Business Intelligence and Data Science) to better understand

#DE4A

the needs of citizens. To this end, data governance arrangements (structures and processes) should ensure the responsible and consistent use of data that benefit citizens and build public trust. The use of data and the resulting analysis should be integrated throughout the public policy cycle. The new ICT Agency should play a central role in the data governance structures, processes and practices, and promote a culture of data analysis and its use in the public sector. Such practices and culture should be developed through comprehensive

training for civil servants to help anticipate new needs and trends. Advanced data-based culture requires a sustainable model of data production and free access and reuse across government. The free exchange of information between registers via the interoperability platform can significantly improve the provision of data, while data collected through government portals can promote the engagement of civil society and the private sector in policy development.

BOX 6: E-Government Success of Singapore

Singapore is widely considered as one of the global leaders in GovTech. In Singapore, the Government Technology Agency (GovTech Singapore) is responsible for the implementation of national digital government strategies and services using a whole-of-government approach. In 2014, Singapore launched the Smart Nation initiative, of which digital government is an integral part. The Smart Nation website presents the details of strategic national projects, including Core Operations Development Environment and eXchange (CODEX), National Digital Identity (NDI), Smart Nation Sensor Platform, e-Payments, etc. In 2018, the Government Data Office was established, and the Digital Government Blueprint was developed to better leverage data, harness new technologies, and drive broader efforts to build a digital economy and digital society. The city-state has a one-stop-shop government portal (Gov.sg) that provides access to specialized portals for e-services, open data, e-participation, and public procurement. The government has also created digital platforms for citizens to plan and monitor their social security savings or report issues with government services. Singapore is using predictive systems and services in health sector, tax administration, business registry, smart city applications and more. Another example of leveraging advanced technologies is Open Certs, which is a blockchain-based platform offering an easy and reliable way to issue and validate academic certificates that are tamper-resistant.

Constraints to Digital Platforms Development

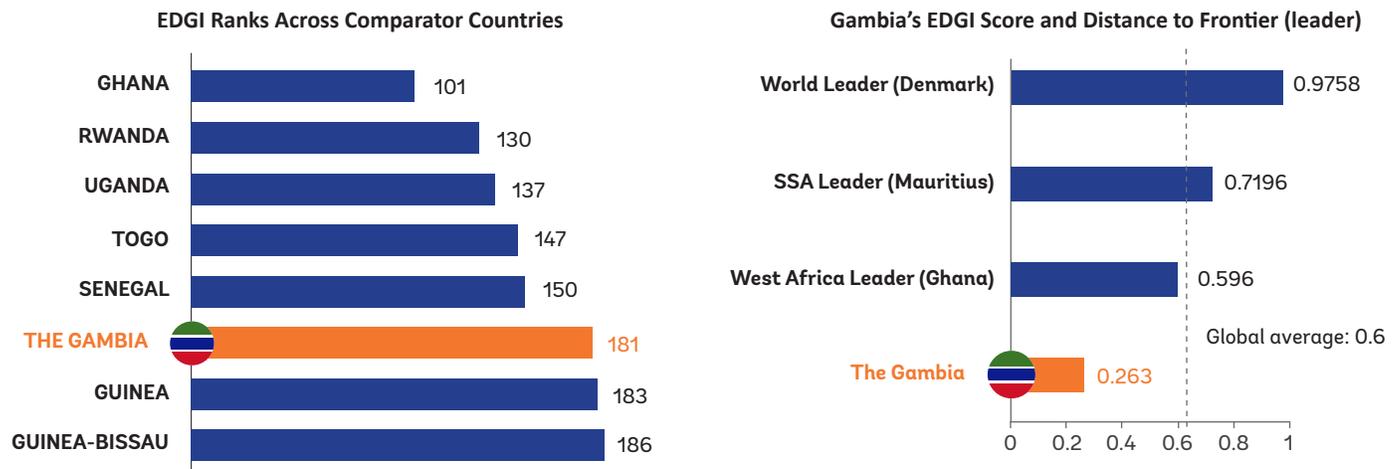
To conclude, the enabling environment — particularly the legal framework, interoperability framework, capacity, and change management — is a major obstacle to the development of digital platforms in The Gambia. Despite a strong commitment from the

GoTG, there is a need to reinvigorate efforts to foster an enabling environment for The Gambia's digital transformation. Lack of leadership and coordination has contributed to a landscape wherein public digital platforms are limited in number, developed mainly in silos and are most often present in the pockets of strong leadership, budgets, and skills. The key constraints to digital platforms development are summarized below.

The Gambia Digital Economy Diagnostic

- **Underdeveloped policy and legal framework for digital platforms:** As mentioned above, several significant legislative gaps are to be filled.
- **Absent digital government operational action plan to guide the policymaking and complex institutional arrangements:** There are no clear institutional and operational roles and mandates, nor is there a comprehensive plan to allocate resources and capacities across government entities. MOICI, which acts de facto as the lead agency for e-government, is often unable to provide strategic guidance across multiple institutions with different needs and priorities, and coordination between MOICI and other MDAs is deemed weak. In view of this, it is envisioned that the Gambia ICT Agency would take a leadership role in coordinating e-Government agenda.
- **Absence of a coherent change management strategy to support the uptake of digital services, coupled with limited ICT skills needed to support them.** By-and-large, these competencies are not present or are extremely difficult to attract and retain in the public sector. Government capacity is viewed as insufficient, resulting in overreliance upon international technical expertise.
- **Absent national interoperability framework to support The Gambia's digital platforms data/information exchange.** As discussed above, numerous platforms are housed in different MDAs and developed separately, mostly without utilizing standardization protocols or considering linkages with external platforms.
- **Overall, The Gambia is not yet able to leverage shared services to deliver platforms across MDAs.** While MOICI manages the existing government network and aims to centralize the hosting of government IT systems and data, at present many MDAs operate their own infrastructure and data centers. The central data center is not fully operational (under migration) and there are no service-level agreements in place to ensure operational efficiency. Yet MDA-specific data centers are not designed to ensure data security, data archiving and digital preservation, increasing the risks to government's digital data.
- **In this context, The Gambia is left with a dismal 181st rank in the 2020 UN e-Government Development Index (EDGI).** The Gambia's composite score is well behind SSA leaders such as Mauritius and South Africa (ranking 63rd and 78th, respectively) but also behind most of the peers, such as Ghana, Togo, and Senegal (Figure 4).

FIGURE 4: E-Government Development Index (EDGI) for The Gambia and Selected Peers



Recommendations

While there are multiple reasons why the development of digital platforms in The Gambia is characterized by nascency and disjointedness, critical constraints appear to be linked to the gaps in the current enabling environment, which the recommendations below seek to address.

R 2.1 [High Priority] Improve efficiency and interoperability of core government operations and trust services. Developing and implementing an interoperability framework at the inter-ministerial level is pre-requisite to digitizing government processes and services. The adoption of an Enterprise Architecture would allow the use of common IT standards and interoperability would, therefore, be enforced. Incentives would need to be in place to encourage compliance with these standards.

R 2.2 [Long Term] Facilitate strategic and coordinated leadership for digital platforms. The GoTG could benefit from pursuing a whole-of-government approach to digitizing its public sector. This would require reviewing the current IT governance mechanisms to harmonize procurement practices; improving the efficiency in design, rollout and maintenance of related policies; and facilitating the identification of use cases from which best practices can be applied to other platforms. The newly enacted Gambia ICT Agency could be given the authority to oversee the development and implementation of the ICT4D National Policy. The agency would need to be adequately funded, staffed, have strong leadership and the degree of political empowerment needed to carry out its mandate.

The Gambia Digital Economy Diagnostic

R 2.3 [High Priority] Expand the accessibility, quality, and functionality of existing digital public service delivery platforms, with the focus on the e-ID. The national ID system is not sufficiently inclusive to be a true foundational ID system. A lack of inclusiveness impedes the ability of the ID system to link different functional databases together. For a foundational ID system to truly unlock the digital economy, it must be inclusive and enable all functional registries relying on it to become subsets of the foundational registry. With the interoperability platform in place, the GoTG can start developing other platforms built on the national ID system and develop an Action Plan for integrating digital signatures into key public and services and providing capacity building for their future users. Adopting a Cabinet resolution to implement this plan would be required.

R 2.4 [High Priority] Improve access to and quality of public services through increasing access points, transactional e-services, implementing life journey/scenarios, data exchange and interoperability. With the constraints in connectivity, the GoTG could implement citizen service centers (service kiosks) or one-stop shops that would provide access to e-service platforms in remote areas. These service centers can also play a critical role in capacity building for citizen centered service ethos and change management. Along with this, the GoTG should create a comprehensive communications strategy to boost an uptake of digitized services.

R 2.5 [Long term] Increase citizen/government interaction and civic participation through CivicTech to enhance transparency and accountability of public services. This would imply developing robust

citizen feedback mechanisms within all public digital platforms to improve public service delivery and assist in soliciting feedback from citizens and businesses. The GoTG should formulate a comprehensive and targeted CivicTech strategy, focusing on developing dedicated platforms for citizens to engage with the state beyond mere information sharing and social media. Ideally, the GoTG should aim to implement a government-wide Citizen Relationship Management system (CRM) for case management and complaints handling, develop citizen engagement mechanisms for selected services, and make key public information and data easily accessible in an open data standard format, etc.

R 2.6 [Long Term] Strengthen the capacity of public institutions for evidence-based policy making, leveraging the use of Big Data. The GoTG will benefit from the introduction of new technologies and the scaling up innovations in the collection, management and dissemination of disaggregated data to guide policies that seek to promote welfare and inclusion. Adopting a policy framework for big data based on data governance principles to regulate the use of new technologies for the collection, management and the dissemination of disaggregated data is necessary. Improving the targeting of government services to vulnerable groups and geographic areas by better defining the use of new sources of data for policymaking is also warranted. This could be achieved by setting up technical committees for the quality review of such models.



Photo credit – Alhagie Manka

DIGITAL FINANCIAL SERVICES

Importance

Digital Financial Services (DFS) play a critical role in the development and growth of the digital economy.

These are financial services that rely on digital technologies for their delivery and use by consumers.¹⁰⁵

DFS encompass a broad range of financial products and services, including payments, remittances, savings, credit, insurance, and investments, delivered using a mobile phone or other digital technology. DFS include established instruments (for example, debit and credit cards) offered primarily by banks, as well as new solutions built on cloud computing, digital platforms, and distributed ledger technologies (DLT), spanning mobile payments, crypto-assets, and peer-to-peer (P2P) applications¹⁰⁶. Digital financial inclusion promotes efficient interconnection among participants in economic activities¹⁰⁷. Shifting cash into digital accounts for government payments, remittances, micro, small and medium enterprise (MSME) payments, and agricultural value-chain payments can enable broad-based participation in digital economy.

Powered by digital technologies, DFS have a significant potential to lower costs and increase financial inclusion, while enabling significant productivity gains across the economy. Characterized by low marginal costs and greater transparency, DFS can respond to both the supply-side barriers to access to financial services, such as high operating

costs, limited competition, as well as the demand-side barriers, including volatile and small incomes for the poor, lack of ID, trust and formality and geographical barriers¹⁰⁸. DFS can provide individuals and households, particularly those without access to traditional financial services, with convenient and affordable channels to submit and receive payments as well as to save and borrow. Leveraging DFS, firms can more easily transact with their customers and suppliers as well as build digital credit histories and seek financing. Governments can use DFS to increase efficiency and accountability in various payment streams, including for the disbursement of social transfers and the receipt of tax payments.

For The Gambia, DFS provide a significant opportunity to broaden access to affordable financial services.

Almost 70 percent of the Gambian population is excluded from the financial sector¹⁰⁹ given several factors that, separately and together, impede financial inclusion. They include: (i) structural factors¹¹⁰, such as high poverty prevalence (almost half the population lives in absolute poverty), insufficient physical connectivity (both roads and ferry services), and weak literacy; as well as (ii) financial sector specific deficiencies and barriers on both the supply and demand sides, such as high operating costs, limited outreach of financial institutions, and low levels of financial literacy. Financial

¹⁰⁵ Pagarbasioglu, C., A. Garcia Mora, M. Uttamchandani, H. Natarajan, E. Feyen, and M. Saal. 2020. "Digital Financial Services." <http://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>

¹⁰⁶ Agur, I., S. Martinez Peria, and C. Rochon. 2020. "Digital Financial Services and the Pandemic: Opportunities and Risks for Emerging and Developing Economies," IMF Research: Special Series on COVID-19.

¹⁰⁷ Dara, N. R. 2018. "The Global Digital Financial Service: A Critical Review to Achieve for Digital Economy in Emerging Markets." International Research Journal of Human Resources and Social Sciences, 5(1): 141-163.

¹⁰⁸ Pagarbasioglu, et al. (2020), op cit.

¹⁰⁹ Finscope Consumer Survey Gambia 2019.

¹¹⁰ World Bank. 2019. "Systematic Country Diagnostics for the Republic of The Gambia: Overcoming a No Growth Legacy". © World Bank

Services Providers (FSPs) can leverage DFS to offer basic financial services at greater convenience, scale, and lower cost than traditional financial services. As such, DFS can be more accessible for currently unserved and underserved population segments, for instance those in rural areas, lower income households, as well as MSMEs. Basic DFS (notably mobile money services) are already delivering significant financial inclusion benefits in SSA, where the share of adults with a mobile money account grew by 9 p. p. between 2014 and 2017 compared to a modest growth of 4 p. p. for those with a financial institution account¹¹¹. Further, with 93 percent of Gambian households owning a mobile phone, mobile based financial solutions could help to overcome some of the barriers that unbanked adults say prevent them from accessing financial services, e.g., large distance to the nearest FSP or high cost of services.

The COVID-19 pandemic and ensuing public emergency containment requirements have highlighted the importance of DFS. These services facilitate social

distancing, allowing governments to disburse funds to those in need quickly and effectively, while helping households and firms rapidly access online payments and financing. As such, interest in accelerating the development and use of DFS has intensified in The Gambia, like in many other countries.

Boosting DFS growth is well aligned with The Gambia's development objectives. The 2018-2021 NDP identified the financial sector as one of the main drivers for transforming country into a middle-income economy. Importantly, the NDP highlighted improving access to finance as a key component of the strategic priority related to private sector development, specifically “to make the private sector the engine of growth, job creation and transformation”. In addition, the development of DFS has the potential to accelerate the achievement of WBG engagement support objectives identified in the upcoming 2021 – 2026 Country Partnership Framework (CPF) with a focus on increasing access to finance and supporting MSMEs.

BOX 7: DFS and Climate Change Adaption

Climate change concerns are growing in The Gambia. The 2019 World Bank Systematic Country Diagnostic of The Gambia highlighted the problematic of increased extreme weather events and climate change. Key economic activities, such as agriculture, fishing, and tourism, are all challenged by these weather changes. Agricultural output varies widely as reduced annual rainfall has increased the frequency of droughts and contributed to depleted soil quality. Coastal degradation and erosion have a detrimental impact on natural tourism assets (such as beaches and wildlife habitats) and have resulted in increased salinity in the Gambia River's estuary, affecting fishing and rice production.

DFS offers opportunities to manage these climate risks. Using digital micro-insurance, small holder farmers can protect themselves against crop or livestock losses, while digital micro-credit can be used to ensure sufficient capital to obtain climate-smart agricultural inputs and tools. For instance, ACRE Africa has partnered with MNOs to deliver their insurance products in Kenya, Tanzania, and Rwanda. As another example, digital microloan schemes in Kenya, such as Agri-Wallet offered by Rabo Foundation and Kilimo Booster by Grameen foundation and a local microfinance institution (Musoni Kenya), have found success in targeting small holder farmers.

¹¹¹ Demirgüç-Kunt, A., L. Klapper, D. Singer, S. Ansar, and J. Hess. 2018. “The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution”. Washington, DC: World Bank. doi:10.1596/978-1-4648-1259-0.

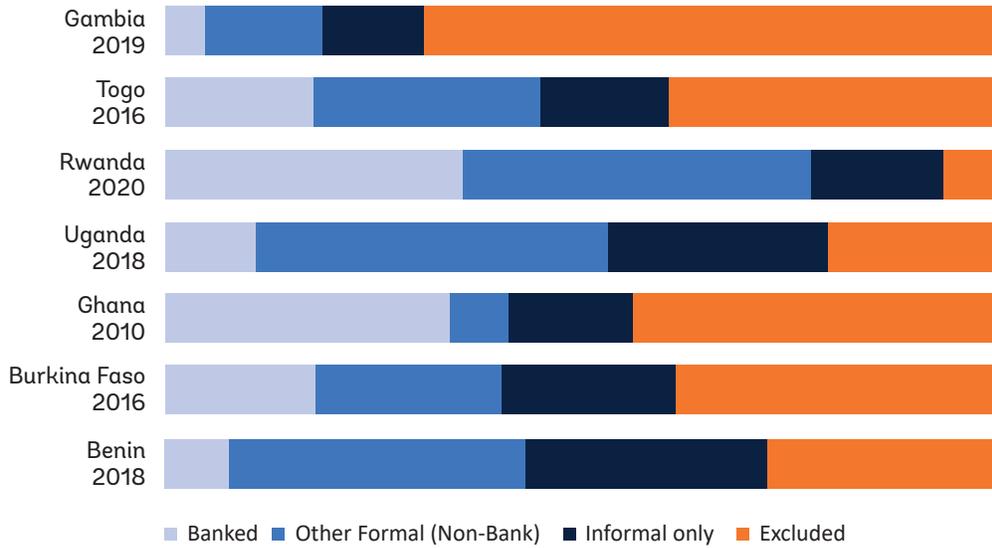
The Gambia Digital Economy Diagnostic

Diagnostic Findings: Current State of DFS

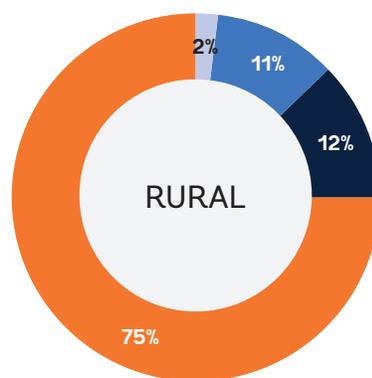
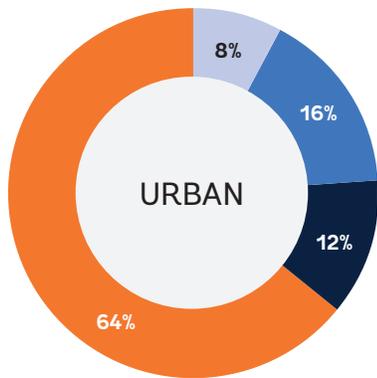
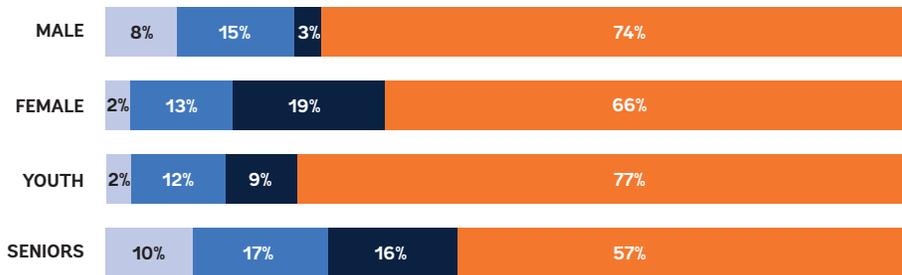
The Gambia has one of the lowest levels of access to formal financial services in SSA. According to the 2019 FinScope Survey, only 19 percent of Gambian adults are formally served by the financial sector (Figure 5). This is much lower than comparison peer countries such as Togo, Benin and Burkina Faso which report 45, 43, and 40 percent of adults with access to formal financial services, respectively. Gambia's access indicator also significantly lags behind aspirational peers, such as Rwanda, Uganda, and Ghana that report 77, 53, and 41 percent of adults with access to

formal financial services, respectively. The breakdown of the access indicator shows that access to formal financial services is much lower for those in rural areas (13 percent versus 24 percent in urban areas), women (15 percent versus 23 percent of men) and youth, aged between 15 and 35 years (14 percent versus 27 percent of those older than 35). Further, among the adults who use formal financial service providers, a very low share uses more sophisticated formal financial services, such as credit (2 percent), savings (3 percent), and insurance (0.5 percent).

FIGURE 5: Share of Adults with Access to Financial Services in The Gambia and Selected Peers



Gambia Access Indicators by Location, Gender and Age



Sources: WB FinScope Surveys, 2016-2020.

The Gambia Digital Economy Diagnostic

Compared to comparator countries, The Gambia has many adults that are financially excluded. Almost 70 percent of Gambian adults do not use financial services and products from formal and informal services, much larger than comparison and aspirational peer countries (Figure 5). The share of Gambian adults excluded from the financial sector is more pronounced for those in rural areas (75 percent) and for youth (77 percent). Meanwhile about 12 percent of adults use financial products and services from informal financial mechanisms that are not regulated, for instance *osusus*¹¹², *tekla*¹¹³,

local shopkeepers and money lenders. More Gambian women (19 percent) rely on informal financial channels compared to the overall adult population. As a result, women (34 percent) tend to be more financially included than men (26 percent). These indicators highlight that formal financial services have scope to expand and grow by better targeting women, youth and those living in rural areas. DFS offer opportunities to address obstacles that these underserved population groups face in accessing formal finance.

BOX 8: Overview of the Financial Sector in The Gambia

The formal financial sector is dominated by the banking sector, which accounts for about 84 percent of total financial sector assets and is the main form of financial intermediation in the country. The rest of the financial sector is comprised of other deposit-taking financial institutions, other financial corporations, MNOs providing mobile money services, and other financial service providers (FSPs):

- **Banks:** There are 12 commercial banks (including 1 Islamic Bank), most privately owned. Although all banks are domestically incorporated, eight are foreign subsidiaries of mainly Nigerian, but also of Togolese and UK origin.
- **Other deposit-taking financial institutions** include 3 deposit taking finance companies (FCs) that mostly use a microfinance business model, 54 credit unions (CUs), and 10 active Village Savings and Credit Associations (VISACAs)
- **Other financial corporations:** include 4 pension funds (which have the second largest share of financial sector assets) are administered by the state-owned Social Security and Housing Financing Corporation (SSHFC) and 12 insurance companies. There is no capital market.
- **MNOs:** Q-cell and Africell are the only MNOs licensed to provide mobile money services.
- **Other FSPs:** include 118 foreign exchange (FX) bureaus (many offering money transfers and remittances services) and a multitude of money transfer operators.

Digital payments are yet to become a large part of the Gambian economy that remains predominantly cash based. Some corporates use electronic direct credit to make their payments, but most use cheques despite

higher costs. The lack of awareness of electronic payments as well as the lack of knowledge of different electronic payments channels was largely the reason provided by firms for not using electronic payments.

¹¹² Osusus are communal thrift associations into which members contribute a set sum of money each week that is then allocated to one person. This is then repeated until each member collects.

¹¹³ Teklas are more formal collective savings associations, where participants save towards a common agenda. Unlike osusus, tekla do not allocate money to one individual.

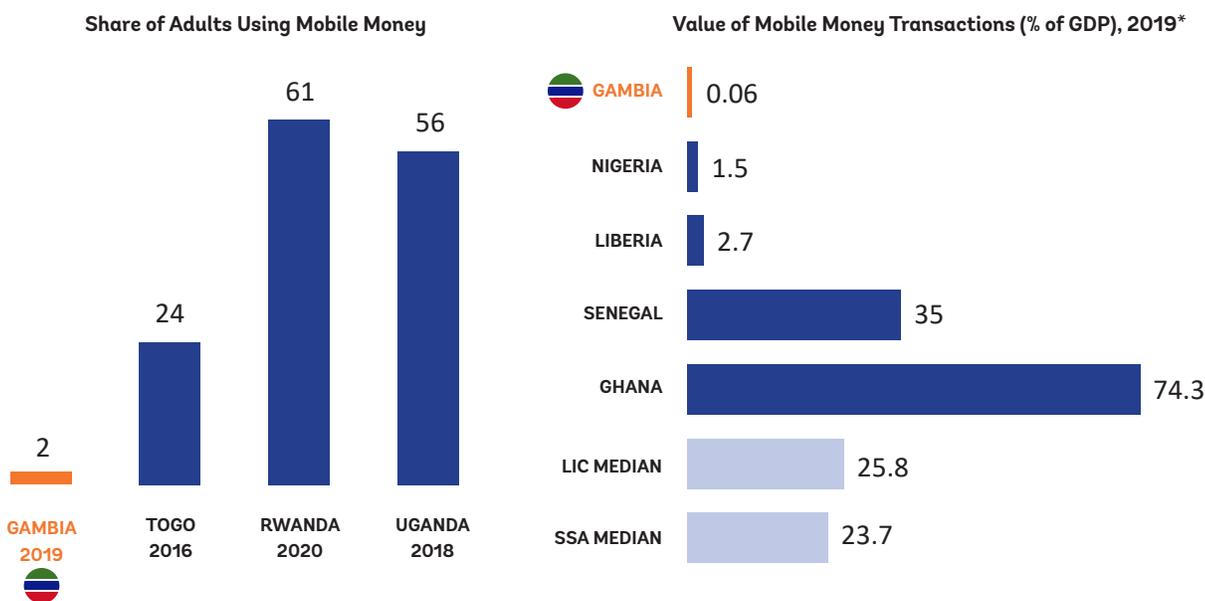
#DE4A

Most card payments (for example, debit or credit cards) are made by tourists. Only three banks in The Gambia provide debit cards (VISA or Mastercard) that can be used for digital payments while all other banks only provide debit cards for ATM withdrawals. All these cards are provided at a fee in The Gambia. Digital payments of utility bills, schools and some merchant payments are available through internet banking, mobile phones, ATMs, and other devices, but usage remains low, though it is growing in urban areas. As highlighted by the 2019 FinScope survey, only 5 percent of Gambian adults use banks and only 3 percent use microfinance institutions (which are mostly finance companies). As a result, only a small number of Gambians are able to receive wages or salaries through financial accounts. Even fewer receive their earnings through mobile money. Similarly, the receipt of remittances digitally (through accounts with formal financial institutions) remains low but has grown significantly during the COVID-19 pandemic as informal channels were affected by boarder closures and social distancing measures. However, under the

current regulatory regime, paying out international remittances through mobile wallets is not permitted.

Currently, mobile money usage remains very low compared to peer countries. Mobile money is provided by two operators, QMoney and AfriMoney that launched in 2016, a much later start than in many peer countries. Mobile money penetration is very low, with only 2 percent of adults using these services in The Gambia, much lower than among peer countries (Figure 6). Data on transactions is limited, as it has only recently started to be collected. As of 2019, the value of mobile money transactions as a share of GDP was 0.06 percent, significantly lagging key comparators as well as medians for SSA and low-income countries (LICs). However, these transactions are growing fast, likely due to the COVID-19 containment measures, which still mandate social distancing. Total transactions, as measured by deposits and withdrawals from mobile money wallets, increased by 66 percent year-on-year in September 2020, according to IMF data.

FIGURE 6: Mobile Money Indicators in The Gambia and Selected Peers



Source: FinScope Surveys, 2016-2020.

Source: IMF Financial Access Survey, 2020.
*Data for Ghana and Nigeria is as of 2018.

The Gambia Digital Economy Diagnostic

Mobile money products are primarily first-generation transactional products, including cash-in-cash-out, bills payments, person-to-person (P2P) domestic transfers, airtime, merchant payments (very low) and some bulk payments. Several banks are working on bilateral agreements with one of the mobile money operators to increase account-to-mobile money account interoperability. However, only one bank currently offers “bank-to-wallet” services primarily because it is owned by the same group that owns one of the MNOs.

The penetration of other DFS is also limited. Except for mobile money, there is limited or no data available on other DFS in The Gambia, particularly more sophisticated services, such as digital credit, savings, investment or insurance as well as more innovative digital instruments¹¹⁴. Information from meetings with key financial services providers noted that most of these other DFS are non-existent. The few available are either in the pilot form (diaspora P2P applications) or have low usage (mobile and internet banking).

Government payments are still in the process of being digitized. Meetings with the Accountant General’s office revealed that about 90 percent or more of government payroll is paid via financial accounts, with a small portion of staff receiving payments through QMoney. Other payments, including pensions and social payments¹¹⁵, are effectuated primarily in cash. Meanwhile, the bulk of government collections are made in cash and cheques at public administrative/pay offices, including tax obligations. Given the high costs and inefficiencies (including leakages) of using cash, the GoTG has highlighted the digitalization of payments

as a priority, particularly for programs, such as social protection, with outreach to the most vulnerable population groups. Efforts to have a comprehensive and government-wide program to digitalize payments and other processes, for instance developing an electronic government portal are yet to materialize. However, some line ministries have taken it upon themselves to digitize their payments and receipts as well as their procedures.

Enabling Environment for DFS

Regulation and Policy Environment

The Central Bank of the Gambia (CBG) has a broad mandate to regulate and supervise the financial sector, including financial aspects of mobile money. The main legislation governing the regulatory and supervisory framework of The Gambia falls under four main Acts: the CBG Act (revised in 2018), the Banking Act of 2009, the Insurance Act of 2003, and the Non-Bank Financial Institutions (NBFIs) Act of 2016. DFS provided by licensed financial institutions are authorized and supervised by the Financial Supervision Department for banks and the Microfinance Department for NBFIs. Mobile money products and other electronic money (e-money) products are authorized and supervised by the Financial Supervision Department in accordance with the “Regulation for the Provision of Mobile Money Services” enacted in 2011. This regulation also stipulates that mobile network operators and other electronic money issuers need to obtain a license from the CBG to conduct mobile money and other digital payment services. In addition, this regulation specifies that the supervision and regulation of these

¹¹⁴ It should be noted that commonly used, globally comparable financial inclusion surveys have not been compiled for the Gambia, e.g., the World Bank Financial Inclusion Database/Global Findex or are missing key financial inclusion indicators for the Gambia, e.g. the IMF Financial Access Survey.

¹¹⁵ The Nafa Program of Cash Transfers and Social and Behavioral Change is supported by an ongoing World Bank project to support 15,000 extreme poor rural households with cash transfers delivered to women over a period of 18 months to smooth consumption. During project preparation, surveys were conducted to determine whether cash transfers could be distributed using mobile money. The overwhelming finding was that cash transfer beneficiaries preferred to receive cash in hand as opposed to using digital channels.

activities lies with the CBG and not with the utilities regulator (PURA). There is however a Memorandum of Understanding (MOU) between the CBG and PURA that guides information sharing and allows for joint onsite supervision examinations of MNOs.

The current legal and regulatory framework adequately covers traditional financial services, but it does not appear to sufficiently support innovative developments in financial services, for instance fintechs. The Banking Act and NBFi Act cover basic transactional DFS offered by banks and NBFIs, while the mobile money regulation covers basic transaction accounts offered by MNOs. While the regulations are clear for licensing and operating mobile money services, it is not clear that other electronic money (e-money) issuers can rely on the same regulations to establish themselves. For instance, a few money transfer operators (MTOs) have expressed interest in obtaining e-money issuer licenses, but they have yet received a greenlight from the CBG. As such, despite the demand and the need for more competition in this sector, e-money issuers (except for MNOs) are yet to begin operations in the country. The authorization and supervision of fintechs also remains unclear. Recommendations from the ongoing reviews of the Banking Act and NBFi Act are expected to address the gaps related to DFS. Reviews of the payment system regulation and the mobile money regulation is required to ensure adequate coverage of more innovative DFS as well as to facilitate their development.

The development and growth of DFS also depends on the rollout of less stringent “Know Your Customer” (KYC)¹¹⁶ requirements. Current KYC requirements are detailed and typically require customers to provide

this information in-person at an authorized branch or headquarters of financial institutions. Mobile money and other e-money operations are required to comply with these KYC requirements. The CBG has worked with the MNOs to develop a KYC Lite framework to reduce the due diligence burden on basic transactional account holders. The issuance of this directive has been delayed by pending agreements over transactions limits that will be applied to “lite” accounts in comparison to “full” accounts.

Gaps in the consumer protection and empowerment framework impact building confidence and trust in innovative financial services, such as DFS. There is a consumer protection framework in place governed by the 2014 Consumer Protection Act. This legislation established the Gambia Competition and Consumer Protection Commission (GCCPC) as the agency with oversight over consumer protection and empowerment issues. However, the law’s provisions are generic and lack the specific requirements needed for the financial sector and FSPs, i.e., the lack of a market conduct framework. In addition, the GCCPC lacks the technical capacity to fully oversee sector-specific issues while weak enforcement capacity undermines its authority. As four regulatory agencies¹¹⁷ have a purview over Gambian FSPs, it is unclear which regulatory agency has jurisdiction over consumer protection issues related to the areas that each agency oversees. The CBG has signed a MOU with GCCPC and the Financial Intelligence Unit (FIU) to share information and to conduct joint examinations with FIU. However, de facto, there is limited coordination between these agencies which complicates the policy environment as well as the handling and resolution of these matters. MOUs are needed between all these entities to ensure the

¹¹⁶ These requirements require financial institutions to collect detailed due diligence information on their customers as part of the broader effort to enforce Anti-Money Laundering (AML) policies.

¹¹⁷ In addition to the CBG, the PURA has a role in the financial sector through its oversight over MNOs that provide mobile money services. The Financial Intelligence Unit (FIU) handles all anti-money laundering and counter terrorism financing (AML/CFT) efforts within the financial sector. Lastly, the GCCPC is tasked with all consumer protection issues, including those in the financial sector.

The Gambia Digital Economy Diagnostic

necessary collaboration to address these issues. Lastly, complementary frameworks on cybersecurity need to be developed while the data protection framework is not sufficiently robust to build confidence in DFS. The CBG is in the process of developing a comprehensive cybersecurity framework, with support from the IMF regarding cybersecurity supervision of financial institutions.

At the policy level, the CBG is working on developing a national financial inclusion strategy (NFIS). This strategy will provide a comprehensive and coherent approach to addressing the country's financial inclusion agenda. In addition, previous financial inclusion interventions have been ad-hoc and fragmented, with no clear targets and mechanisms to track progress as a result little progress has been made. Further, there is a lack of comprehensive data and diagnostics to inform the efficient formulation and implementation of policies to improve financial inclusion. Through the NFIS development process, the CBG was able to work with development partners to conduct the FinScope survey in 2019, which was the first effort to collect comprehensive data on financial inclusion. Additional steps in the NFIS preparation process will also yield more detailed data points regarding the underlying factors inhibiting the expansion of financial inclusion.

Role of the Different Actors in Provision of DFS

Banks: As the primary providers of financial services in The Gambia, banks have started to invest more heavily in digital channels, but more needs to be done. All banks have developed a strategy to deliver services using their web platforms, but only half have developed or have plans to increase their outreach via mobile devices or other digital channels. Ecobank is the pioneer bank in this area with a deliberate strategy to transition from traditional service provision to

digital, e.g., the development of a mobile app, a digital payment platform for SMEs, and is actively working to develop its "bank-to-wallet" services. Three other banks have developed mobile apps for users with smart phone and 2 banks have launched USSD codes to offer mobile banking including payments, for those without smartphones or a data/internet connection.

NBFIs: These institutions are the main driver of formal financial inclusion in The Gambia and can play a critical role in the growth of DFS. According to the FinScope survey, formal NBFIs are the most utilized form of formal FSPs, serving 14 percent of Gambian adults. It should also be noted that Reliance Finance, the largest finance company, is also larger than most small banks with a loan portfolio of more than US \$4 million. In addition, these NBFIS tend to be the only financial institutions with presence in rural areas, either through physical or mobile branches. As a result, these entities are critical to increasing access to financial services for unserved and/or underserved segments of the population.

MNOs: Afrimoney and Qmoney are essential for developing mobile payments. As the current providers of mobile money, many FSPs need to work with these MNOs to increase their mobile payments footprint or even develop this footprint. Going forward, both MNOs have placed growth of mobile money at the heart of their expansion strategies, growing their agent networks, broadening their services offerings namely international remittances, and increasing merchant payments, and pursuing integrations with FSPs.

Fintechs: The fintech sector remains underdeveloped with most of the operations in the start-up or pilot phase. There are several fintechs that have emerged through various entrepreneurship programs and other services supporting start-ups. However, these entities have yet to grow and demonstrate disruptor potential in the financial sector. Low levels of innovation keep the

costs of DFS high, while subduing the uptake of these services and competition, contributing to continued over-reliance on traditional banking delivery channels. The absence of explicit provisions in the current regulations in support of such developments or a fintech strategy delays licensing and authorization, as regulators seek clarity and certainty. The lack of venture capital, a dedicated fintech hub, and limited locally based funds supporting innovative entrepreneurs also restricts the growth of fintechs.

Payment infrastructure: The Gambian payments system is comprised of essential building blocks to facilitate DFS, however this infrastructure is yet to realize its full potential. The payments system consists of the following: (i) an Automated Clearing House (ACH) that clears cheques and direct credits of 100,000 GMD or less; (ii) a Real Time Gross Settlement (RTGS) system that clears direct credits larger than 100,000 GMD; and (iii) a national card switch that clears locally issued debit/credit card transactions. At present, most transactions are cleared by the ACH given the high prevalence of cheques. Meanwhile, the national switch does not process Visa/Mastercard transactions that represent the largest volume of card transactions in the country. Lastly, The Gambia does not participate in a regional cross border payment system that can play a key role in reducing the cost of cross-border transactions and remittances. The West African Monetary Zone (WAMZ) is working to develop a regional system with support from the African Development Bank (AfDB). In addition, the CBG working with the African Export-Import Bank (Afreximbank) to join the Pan-African Payment and Settlement System (PAPSS).¹¹⁸

Electronic payments acceptance infrastructure is limited and is affected by connectivity constraints.

ATM coverage compares well against peer countries with about 8.2 ATMs per 100,000 adults in 2019, higher than Senegal (6.1) and Liberia (3.7). However, most ATM transactions are cash-out, although electronic payments from ATMs to utilities and a few other merchants are growing. As of June 2019, there are only about 135 point-of-service (POS) terminals installed in merchants for accepting card payments around the country, with most of them concentrated in the Banjul area (primarily those frequented by tourists). The fees linked to POS devices as well as their cost are perceived to be high and prohibitive by merchants. Connectivity issues further exacerbate the usage of the limited acceptance infrastructure and further discourage uptake of card payments. Only one bank and one MNO have deployed light electronic payments infrastructure (i.e. QR codes), which is lower cost and easier to use than traditional POS terminals.

Credit infrastructure is in place, although these systems are not fully operational.

The CBG set up a Credit Reference Bureau (CRB) in 2008 and is accessible by all banks. All reporting to the bureau is based on the Tax Identification Number (TIN) and both positive and negative information is reported. The Security Interests in Moveable Property Act of 2014 paved the way for the establishment of a centralized notice based collateral registry. This law provides for the use of moveable property as security for credit and other obligations. It has also put in place an electronic system for the registration of securities created over movable property. Both systems suffer from issues caused by manual (rather than automated) updating/uploading of the data, lack of capacity to fully attend them, and the need for upgrades.

¹¹⁸ PAPSS is a centralized payment and settlement infrastructure for intra-African trade and commerce payments. This project aims to facilitate payments as well as formalize some of the unrecorded trade due to prevalence of informal cross-border trade in Africa. It will also provide an alternative to current high-cost and lengthy correspondent banking relationships needed for trade payments and other cross border economic activities.

The Gambia Digital Economy Diagnostic

Remittances

The Gambia is one of the top recipients of international remittances in SSA. As a share of GDP, international remittances to the Gambia are ranked the third highest in SSA, at 15.5 percent in 2019¹¹⁹ and 14.9 percent in 2020¹²⁰. According to the 2019 FinScope survey, most adults are net receivers of remittances, with 85 percent receiving international remittances and 82 percent sending remittances domestically. Remittances are a critical component of household incomes and are also channeled into economic activities, particularly in the construction sector.

Despite a large network of FSPs in the remittances space, the cost of remittances remains relatively high given low overall volumes, limited competition between providers, and limited innovation in service delivery. Remittance providers in the Gambia include Banks, NBFIs, forex bureaus, MTOs, which together create a large provider network with good coverage of much of the country. Most remittances are received as cash payouts from physical outlets/agents of service providers. Only 1 or 2 providers offer mobile money as an alternative method of remittance receipt. The cost of sending US \$200 in remittances through traditional channels (for example, through banks) is on average 12 percent and about 10 percent on average through non-bank services such as MTOs and forex bureaus. These costs are higher than the average 8.5 percent cost for SSA (as of Q3 2020). Relatively high remittance costs is explained by a number of issues, including low volume of transactions (although remittances are high as a share of GDP, volumes are small compared to other countries in SSA), the proliferation of informal remittance channels, limited competition amongst

providers, and limited innovation in service delivery (end-to-end digital remittance services are very limited particularly on the receiving end in The Gambia). As mentioned, earlier remittances via mobile money are not allowed by the current regulatory regime.

Remittance trends during the COVID-19 pandemic were unusual. As widely expected, given public emergency containment measures that heavily restricted movements and adversely impacted employment, remittances declined by 4 percent as a share of GDP¹²¹. This is further confirmed by the WB household survey conducted between March and August 2020 which found that about 85 percent of households reported a decline in international remittances. However, Balance of Payments (BOP) data seemed to contradict this finding by reaching record highs of US \$588 million in 2020, a sharp increase of 78 percent from 2019. The leading rationale for this conundrum is that BOP data only captures formal remittances while other measures of remittances include informal remittances. So, during the pandemic, the Gambian diaspora seems to have increasingly relied on formal channels to send remittances, while avenues for informal remittances were impacted by border closures and other movement restriction. If this switch to using formal channels to remit is sustained post-COVID, then transaction volumes in formal remittance corridors to The Gambia will increase and should help to drive remittance costs lower.

Remittances are the main driver of financial inclusion, which presents a lever that can be used to not only enable broader inclusion within the population, but also drive access and usage of DFS. The FinScope survey finds that remittances are the service or product most used by those that are financially included, specifically

¹¹⁹ Ratha D., S. De, E. J. Kim, S. Plaga, G. Seshan, and N. D. Yameogo. 2020. "Migration and Development Brief 32: COVID-19 Crisis through a Migration Lens." KNOMAD-World Bank, Washington, DC.

¹²⁰ Ibid.

¹²¹ Ibid.

47 percent of financially included adults. This indicates that most adults seek financial services in The Gambia to receive or send remittances. Therefore, developing or improving remittance services, particularly in using digital technology, can play an important role in initiatives to enhance financial inclusion.

Constraints to Digital Financial Services Development

Legal, Policy, and Regulatory Constraints

1The current framework focuses on mobile money and provides insufficient support for other DFS despite their benefits. The fintech sector, in particular, needs guidance even though it is at a nascent stage.

Gaps and weaknesses in the current policy, legal, and regulatory framework constrain the development and growth of DFS. This includes missing guidelines on the KYC “Lite” framework and e-money issuance as well as legislation on electronic signature, among others. The consumer protection and empowerment regime needs significant strengthening, including complementary frameworks on data protection and cybersecurity to build confidence and trust in DFS.

High reliance on cash for government-to-person (G2P) transfers (except for wages) limits the usage of DFS. The public sector can play a key role in promoting digital payments, and G2P disbursements can be a strong driver for the rapid adoption of DFS.

Limited collaboration between the government and regulatory agencies that have a role to play in the

financial sector. Not all the relevant government ministries (primarily Ministry of Finance) and regulatory agencies (CBG, PURA, GCCPC, FIU) have a formal collaborative framework to facilitate cooperative efforts needed to address issues in the financial sector. As mentioned earlier, there are MOUs between some but not all the entities that enable some collaboration. Increased engagement between other key stakeholders, both private and public sector, is also needed to ensure clear understanding of financial sector issues.

Lack of a comprehensive strategy to align, sequence, and incentivize the multiple efforts needed to develop and grow DFS. The NFIS under preparation has a pillar that focuses on financial innovation (developing inclusive products and services), including DFS. Finalizing this strategy and ensuring its quick adoption will go a long way to providing the necessary policy focus and a clear roadmap to coordinate DFS development initiatives.

Product and Market Level Constraints

Lack of awareness of financial services keeps the adoption and usage of available DFS low. The main barriers to using mobile money are related to lack of information and education on the service, with about 43 percent of adults citing these reasons in the 2019 FinScope survey (Figure 7). A recent randomized study on mobile money in The Gambia also found evidence that low adoption and usage of these services is linked to a lack of information on the platform at large¹²². The UNCDF women’s economic empowerment report found that there was a gender gap regarding awareness and understanding of DFS¹²³. Meanwhile

¹²² Cruces, G., H. Jawara, A. Touray, F. Singhateh. 2020. “Information, Price, and Barriers to Adoption and Usage of Mobile Money Evidence from a Field Experiment in the Gambia” Partnership for Economic Policy Working Paper No. 2020-17, Available at SSRN: <https://ssrn.com/abstract=3673541>

¹²³ UNCDF, 2019. PoWER assessment of Women’s Economic Empowerment in The Gambia. Financed by EU. Available at: <https://www.uncdf.org/article/5043/power-assessment-of-womens-economic-empowerment-in-the-gambia>.

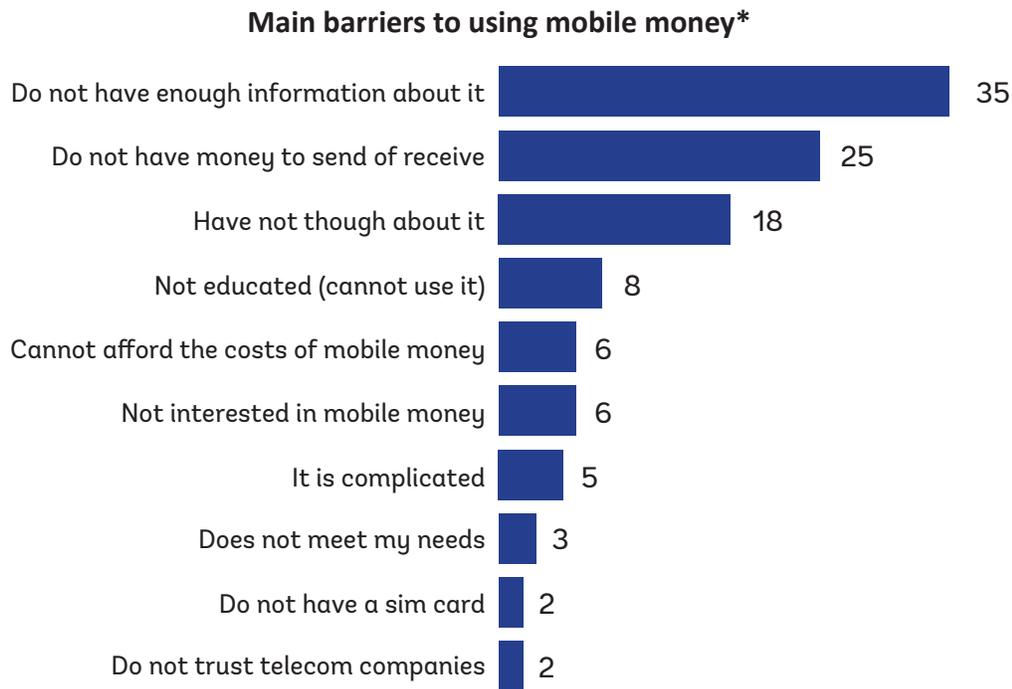
The Gambia Digital Economy Diagnostic

another UNCDF study focused on youth found that most young Gambians were aware of mobile money, but most did not use it given the lack of knowledge or skills to use the service¹²⁴. Moreover, low financial literacy and education further subdue demand – 99 percent of adults surveyed by the FinScope survey

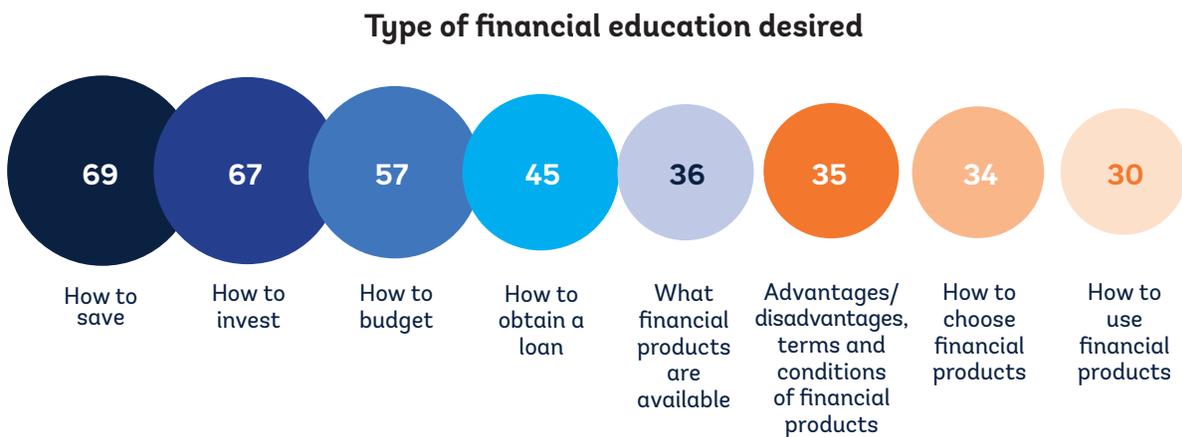
indicated a need for financial education, with many looking to develop their financial literacy. Currently, there is no national financial literacy program and financial literacy/ education is not part of the primary or secondary school curriculum.

¹²⁴ UNCDF, 2017. Demand-side Research for Youth Financial Services in the Gambia. Available at: <https://www.uncdf.org/download/file/127/6608/demand-side-research-for-youth-financial-services-december-2017-vfpdf>.

FIGURE 7: Awareness of Financial Services in The Gambia



* out of 98 percent of adults who do not use mobile money



Sources: FinScope Survey, 2019.

The Gambia Digital Economy Diagnostic

Low literacy and education levels further exacerbate issues of awareness and complicate DFS promotion initiatives as well as effort to build digital financial literacy. The most recently available data shows that the adult literacy rate is about 51 percent in The Gambia, which is lagging average levels in SSA and low-income countries globally, about 64 and 59 percent respectively during the same period¹²⁵. Education levels are also low within the adult population with 77 percent with primary school education or less¹²⁶.

Lack of trust in DFS affects uptake. As customers often experience technical and network issues while using regular mobile phone and internet services, they expect these issues to affect DFS. According to the UNCDF Youth study 2017, only one out of the 90 study participants opened a mobile money account because she felt the money was safer from theft. In addition, issues with mobile money agents (detailed below) resulted in poor customer experience with mobile money services, impacting critical word-of-mouth marketing.

High costs associated with DFS usage also limit adoption. Only 6 percent of those not using mobile money found it to be costly (Figure 7). Although fees on mobile money services are not excessive, they can be high for users¹²⁷. For instance, cash-out fees with Qmoney range from 6 GMD for 10-25 GMD cash-outs to 450 GMD for 22501-25000 GMD cash-outs. For individuals living in extreme poverty (about 48 percent of the population), cash-out fees can amount to about 4 percent of their monthly income. While there are no fees associated with person-to-person (P2P) transactions, most people opt to cash-out their mobile money as the economy is primarily cash-based. Meanwhile, efforts to increase DFS awareness and its benefits also increased awareness of the relatively high fees associated with mobile money services, which in turn affected usage¹²⁸.

The digital payments ecosystem is at a very nascent stage. Few establishments accept mobile money or electronic payments, most are in the tourist sector and catering to international tourists. Although the main utility accepts digital payments (including mobile money), there is a perception that these forms of payment are rather costly, compared to cash, as merchant fees are typically passed onto consumers which increases the cost of goods and services. On the supply side, merchants lack financial education and (incorrectly) consider cash to be free. Moreover, as mentioned earlier, the fees linked to accepting DFS are perceived to be high, while the cost of POS devices disincentivizes merchants. In addition, accepting digital payments in store is time-consuming and potentially confusing and it creates a paper trail with unwanted tax implications.

Agents are a key component of the DFS ecosystem and weaknesses in the current network affect DFS adoption and usage. While regulated financial institutions are permitted to practice agent banking in accordance with the relevant regulations, the reach of these agent networks continues to be limited and constrained by exclusivity arrangements. Unfortunately, there is limited data available on agent networks of financial institutions. Meanwhile, as of 2019, there are 50 active mobile money agent outlets per 100,000 adults - about half of the registered number (Figure 8). This translates to about 65 active mobile money agent outlets per 1000km² (also about half of the registered number). Both these indicators highlight that The Gambia rates poorly when compared to peer countries as well as SSA and LIC medians. The low number of active agents in Gambia is mostly driven by low usage/uptake as well as limited MNO investment to ensure a well-functioning broad network. As mentioned earlier, the MNOs have now prioritized developing and growing these networks as part of their

¹²⁵ WDI. The most recently available data for the Gambia is from 2015. Peer benchmarks for 2015 were used for comparison.

¹²⁶ FinScope Survey 2019.

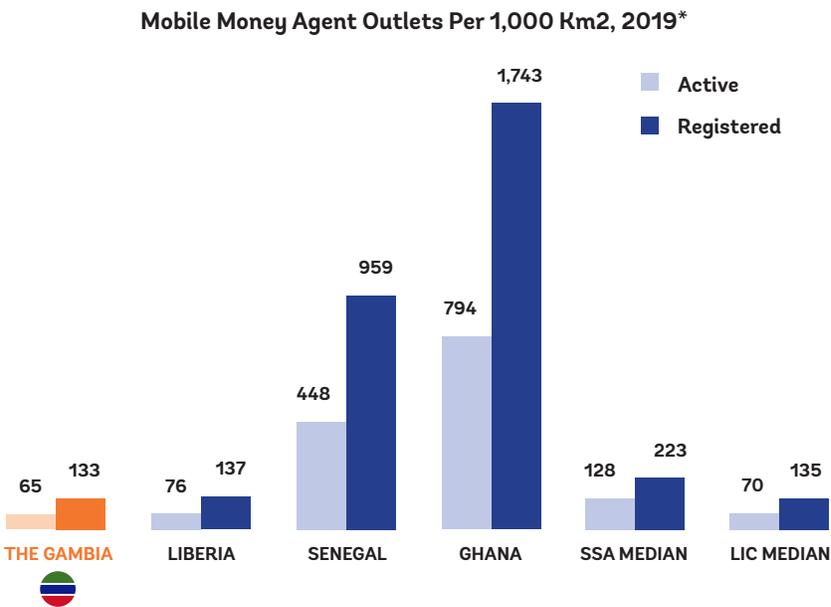
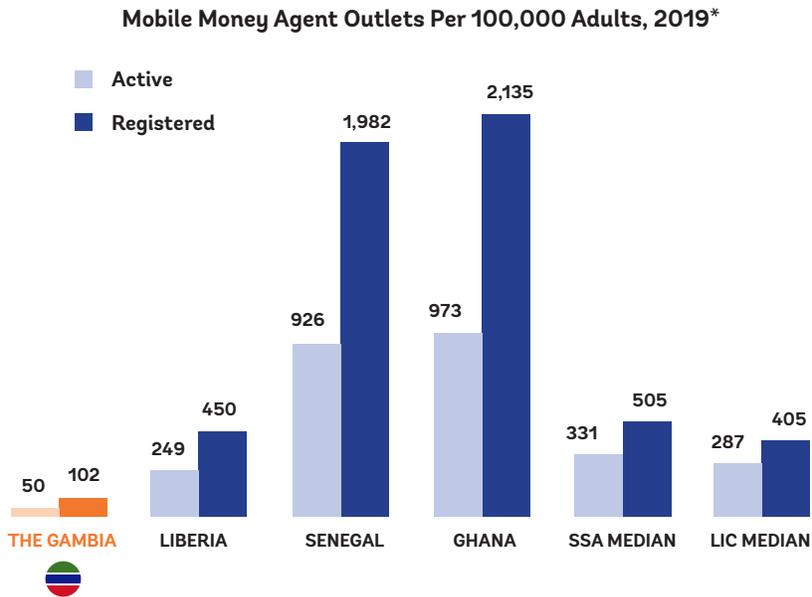
¹²⁷ Cruces, et al. (2020), op. cit.

¹²⁸ Ibid.

growth strategy. In addition to outreach limitations, mobile money agents in The Gambia also suffer from liquidity management challenges and poor consumer

service (for example, airtime top up inconsistencies), particularly in rural locations.

FIGURE 8: Mobile Money Agent Networks in The Gambia and Selected Peers



Source: IMF Financial Access Survey, 2020. *Data for Ghana and Nigeria is as of 2018

The Gambia Digital Economy Diagnostic

Low capacity to develop DFS impedes growth of the sector. Low levels of digital skills (see chapter on digital skills for the Gambian context) limits the ability to not only develop these products and services, but also use these products. In addition, there is limited data on the demand side (for example, market surveillance services or surveys) to help drive innovation on the supply side.

Infrastructure Constraints

Low transaction volumes processed by the current payment infrastructure keep transaction costs high. The number of transactions processed by the payments systems is much lower than its potential for a number of factors, predominantly: (i) the inability to process Visa/Mastercard transactions; (ii) high reliance on cheque payments for large amounts; and (iii) direct access to payments systems only available to banks while all other FSPs have to make third-party arrangements with banks to gain access to these systems. Low transactions volumes result in a higher cost per transaction, which increases costs for end-users, namely consumers. Third-party arrangements that non-bank FSPs make it even more costly to access these systems.

The lack of full interoperability across all FSPs and products creates inefficiencies and significantly affects DFS penetration. Interoperability arrangements enable the movement of money through different FSPs. Currently, interoperability is available for FSPs that have agreed to this functionality through bilateral agreements. Full interoperability would require all FSPs to have agreements with each other for all relevant products which is rather cumbersome and inefficient.

Using the national switch facilitates this process and, at present, interoperability between banks is available, i.e., payments between banks are facilitated. However, non-bank FSPs (including mobile money providers) do not have agreements with the payment systems infrastructure to enable similar interoperability arrangements. Full interoperability would also help to increase the volume of transactions flowing through the payment systems infrastructure.

Limitations in the credit infrastructure functionality undermines the enabling facility of these systems in the financial sector. Well-functioning credit infrastructure enable efficient and effective access to finance, financial stability, and socially responsible economic growth through credit reporting, secured transactions and collateral registries, and insolvency and debt resolution. Deficiencies in this infrastructure in The Gambia (namely, poor quality credit information, a weak insolvency regime, outdated database systems, low capacity, etc.) result in higher end-consumer costs for financial services and limits incentives for innovation.

Weak enabling infrastructure (electricity, internet, and mobile networks) reduce the attractiveness of DFS and impact consumer trust and confidence. Good internet connectivity, mobile phone and data networks in addition to a reliable and adequate electricity supply are necessary conditions for the development and growth of DFS. As discussed in the digital infrastructure chapter, issues related to internet access, regular technical and network issues with mobile phone services, and an erratic electricity supply in the Gambia hinders the development, adoption and use of DFS.

Recommendations

Although enabling conditions exist for the development of DFS and its ecosystem in The Gambia, the adoption and increased usage of DFS requires a strengthened legal and regulatory framework, improved and expanded digital infrastructure and platforms, and increased engagement of key stakeholders, both private and public, in the promotion of DFS. The recommendations provided below are the priority actions needed to ensure the acceleration of DFS development and usage.

Regulation and Policy

R 3.1 [Quick Win] Adopt already drafted regulations and guidelines that support DFS development, including “Know Your Customer” (KYC) Lite Framework and clarify licensing as well as operation guidelines for e-money wallet providers.

R 3.2 [Quick Win] Finalize and adopt the NFIS that can help to boost DFS by harmonizing all current initiatives and pilots, while providing a clear roadmap that development partners can support. The strategy should be anchored in the initiatives to ‘drive access’ to financial services to make DFS uptake a priority.

R 3.3 [High Priority] Strengthen the supervisory and oversight capacity of the CBG and foster cooperation amongst regulators and other relevant government entities. Financial innovation increases challenges for supervisory agencies to react with appropriate policies and regulatory measures to preserve financial stability and minimize risks arising from these developments. The CBG could benefit from capacity building to ensure the development of adequate technical knowledge

and tools needed to address DFS related issues. There is also a need to clarify the oversight parameters of regulators supervising players in the financial sector (specifically CBG, PURA, FIU, GCCPC) and to strengthen the cooperative framework amongst these institutions through Memorandums of Understanding (MOUs). There is also scope to improve collaboration between regulators and other key MDAs, including MOFEA. This would benefit both the regulated entities and the regulators, prevent regulatory arbitrage, promote information sharing and remove any impediments to timely information sharing.

R 3.4 [High Priority] Enact a government directive that harmonizes and prioritizes digitization efforts, particularly government payments and collections. Such a decree would increase electronic transactions by digitizing G2P payments (pensions, social services, grants, etc.) and collection (taxes, licensing fees, etc.), while reducing the reliance on cash and decreasing associated costs. Government agencies handling these transfers should be able to open transaction accounts for their beneficiaries or require them to open these accounts to facilitate these transactions, which would have a significant impact on financial inclusion. In addition, this would increase the volume of electronic transactions and provide incentives for investments in the infrastructure and networks needed to better automate payments and collections. In other countries, such as Malawi, the government also developed a digitization roadmap, which provides a comprehensive and explicit timeline for key initiatives as well as elaborates on monitoring and evaluation mechanism. Thorough assessments of all potential government payment flows should be conducted to help shape the design of such a roadmap.

The Gambia Digital Economy Diagnostic

R 3.5 [High Priority] Ensure that the upcoming NDP includes a clear roadmap for DFS to highlight its development as a priority. It is particularly important to underscore the role of DFS in increasing financial inclusion as well as its impact on economic growth and poverty reduction.

R 3.6 [Long-term] Establish a legal and regulatory environment that is conducive to the development of diverse DFS. This includes addressing all gaps and weaknesses in the current framework (such as legal certainty about digital contracting, enabling reporting to authorities through digital channels - Regtech, API usage) as well as ensuring a framework that supports fintech development. The adoption of a fintech strategy prior to regulation typically helps to define priorities and better sequence legislation – this has been the approach used widely by many countries. Thorough diagnostics of the current framework and the fintech sector are necessary to guide these efforts. The CBG should work to incorporate fintech activities (for example, blockchain, crowdfunding, digital credit, peer-to-peer lending, digital scoring, etc.) into their current legal and regulatory framework (Banking Act, CBG Act, NBF Act, etc.) in a flexible manner. A “test and learn” approach would be best suited given a nascent state of DFS development in The Gambia. It is equally important to develop cybersecurity guidelines for DFS as well as reinforce the consumer protection framework, as has been done in Kenya. Moreover, to underpin strengthening and improving payment systems, the CBG should consider developing a payment systems law. The Anti-Money Laundering/Counter Financing of Terrorism (AML/CFT) Law should be revised to include the simplified “KYC” requirements for DFS account openings. The authorities should also closely monitor potential risks and implement appropriate rulemaking in the sphere of data management (storage, protection, and usage) and financial consumer protection.

Infrastructure

R 3.7 [Quick Win] Boost electronic transactions volume by increasing the number of entities using the payment infrastructure and adopting policies to incentivize electronic payments. These include the following: (i) ensuring that non-bank FSPs (especially large NBFIs) have direct access to the payments infrastructure; (ii) enabling the national switch to be used for government payment collections; and (iii) lowering the value threshold of cheques that can be cleared through the ACH and would encourage more transactions to occur in the direct electronic credit form.

R 3.8 [High Priority] Upgrade payments systems infrastructure (notably GAMSWITCH) and achieve full interoperability across all FSPs and current products, particularly between digital wallets and bank accounts, which could boost DFS uptake and use. Ensure that the payments systems infrastructure can process all electronic transactions (including mobile money and other DFS) within Gambia to lower costs and increase speed of processing, particularly Visa/Mastercard transactions that are currently processed internationally. Agent interoperability should also be enhanced through measures that support the provision of multiple services, competition amongst providers and wider choice for customers.

R 3.9 [High Priority] Enhance the functionality of current credit infrastructure to improve its usage, efficiency, and effectiveness. This will require strengthening the capacity at the moveable collateral registry and the CRB, automating data reporting and collection mechanisms, broadening data collection efforts to non-bank FSPs (and, in the case of the CRB, to the main utility), enforcing participation mandates (especially data reporting and data consultation during credit risk assessments), and integrating the National

ID. These efforts serve to increase and improve the quality of financial information, which can accelerate the development of second-generation DFS (namely digital credit products) and reduce the cost of delivery.

R 3.10 [Long-term] Ensure full modernization of payment systems infrastructure to support a broader agenda for interoperability, going beyond agents – including interoperability of all digital payments through all accounts.

Market Level Support

R 3.11 [High Priority] Develop a National Financial Literacy Program to address issues related to the lack of awareness and financial education. After all, financial capability is an enabler for adults to meaningfully engage with financial institutions, particularly new and innovative products like DFS. This program should endeavor to cover the following areas: consumer empowerment, consumer protection, financial knowledge and encouraging good financial behavior and practices. The program should initially focus on the general populace through the radio and other mass media initiatives, then this information could be incorporated into school curricula.

R 3.12 [High Priority] Encourage partnership projects between DFS providers and developers to facilitate the development of DFS and ancillary services. This could be achieved by setting up an innovation forum dedicated to DFS development.

R 3.13 [Long-term] Promote the development of a large merchant acceptance network of DFS for payments in-store. Consumer education incentives need to be

given to merchants to stimulate the acceptance of digital payments. In addition, more cost-effective POS terminals could be considered to help lower costs faced by merchants, while subsidized solar or mobile devices can be considered to address internet connectivity and electricity issues. Meanwhile a tariff grid that is more acceptable to merchants should be developed. The CBG and GAMSWITCH can work together to address this issue. In Ghana, for instance, the Central Bank's payment systems entity (GhIPSS) was instrumental in selecting and developing a supporting structure to roll out MPOS devices to drive the acceptance of digital payments. The aim is to convert most daily transactions from cash into digital payments to develop a mature digital economy. This reduces the reliance on cash and allows money to circulate digitally, which in turn reduces costs, risks and delays associated with physical cash (and the demand for DFS cash-out that may cause agent liquidity issues).

R 3.14 [Long-term] Explore options for regional collaboration to address scale-up difficulties. Given the small size of the population in Gambia, many financial innovations like DFS can be difficult to execute given limited economies of scale. Where possible, regional collaboration may provide scale-up opportunities especially for regional banks that need to navigate different currencies and regulations. Other potential regional collaboration options could include regional e-platforms for the exchange/sale of repossessed collateral among lenders, with the aim to increase the efficiency of movable collateral execution and hence its perceived value.



Photo credit – Alhagie Manka



Photo credit – Alhagie Manka

DIGITAL BUSINESSES

Importance

Digital businesses¹²⁹ can play an important role in unlocking opportunities for economic growth, job creation and social inclusion in The Gambia. Digital transformation offers an opportunity for The Gambia's close to 90,000 MSMEs¹³⁰ to use technology to improve productivity, including by optimizing core operations, creating new business models, adding value to customer experience, trading goods and services globally¹³¹. Prior to COVID-19, formal and informal firms in SSA that adopted digital technologies were likely to have higher levels of productivity, output, profits, employment, and wages. More specifically, employment and labor productivity have been higher in firms that use smartphones, digital transaction

technologies (such as mobile money to pay suppliers and receive customer payments), and digital management solutions (accounting and inventory control/point-of-sale software), as highlighted in the 2021 Africa Pulse Report¹³². Overall, digital businesses offer employment opportunities for The Gambia's fast-growing young population and can contribute to improving the competitiveness of key economic sectors¹³³, as highlighted in the Youth and Trade Roadmap for The Gambia 2018-2022, such as agriculture (for example, monitoring crops, animals, and soil quality¹³⁴) and tourism (increasing the visibility of local tourism firms¹³⁵).

¹²⁹ For the purposes of this report and in accordance with DE4A 2.0 guidelines, digital businesses are comprised of two main categories – digital start-ups (early-stage ventures that create new / innovative digital solutions or business models as part of their core products or services) and established digital firms (platform-based and data-driven firms that have passed the initial start-up stage, having acquired suppliers, contractors, and consumers).

¹³⁰ UNCTAD, 2017. Formulating National Entrepreneurship Policy. Available at: https://unctad.org/system/files/official-document/diae2017d1_en.pdf

¹³¹ Deloitte, 2019. Reimagining the Role of Technology; by Kark, K., Briggs, B., and Tweardy, J. Available at: <https://www2.deloitte.com/us/en/insights/focus/cio-insider-business-insights/reimagining-role-of-technology-business-strategies.html>

¹³² World Bank, 2021. Africa Pulse. Covid-19 and the Future of Work in Africa: Emerging Trends in Digital Technology Adoption. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/35342/9781464817144.pdf?sequence=10&isAllowed=y>.

¹³³ World Bank, 2019. The Gambia: Policies for Private Sector-Led Growth – Achieving Sustainable and Inclusive Growth (unpublished).

¹³⁴ OECD, 2014. Addressing Tax Challenges of the Digital Economy. Chapter on The Digital Economy, New Business Models and Key Features. OECD, Paris. Available at: <https://doi.org/10.1787/9789264218789-7-en>.

¹³⁵ OECD, 2020. OECD Tourism Trends and Policies 2020. OECD, Paris. Available at: <https://doi.org/10.1787/6b47b985-en>.

The Gambia Digital Economy Diagnostic

Diagnostic Findings: Current State of Digital Businesses

Albeit still at a nascent stage, The Gambia's digital businesses ecosystem is demonstrating an encouraging growth potential. Not surprising given its size and fragility, The Gambia's digital business ecosystem¹³⁶ is relatively small compared to aspirational peers, such as Senegal, Rwanda, and Uganda. However, it has been growing in recent years, with several innovative digital firms emerging boosted by promising support initiatives. According to the database of the Information Technology Association of The Gambia (ITAG)¹³⁷ and The Gambia Tech Start-up Directory, compiled by the EU-funded and ITC-implemented Youth Empowerment project (YEP)¹³⁸, the digital businesses ecosystem in The Gambia comprises slightly over 60 enterprises, out of which 40 can be considered start-ups (see Annexes 4 and 6 for further details). These digital start-ups are relatively young (the oldest established in 2011), and only a handful are generating revenue, with over a half considered to be at the ideation or validation stage¹³⁹. Most of them are focused on delivering business-to-customer (B2C) digital products and services and are predominantly clustered in retail & commerce, media & advertising and fintech, with these three sectors accounting for more than 50 percent of analyzed tech start-ups and

thus representing promising emerging areas of growth for digital businesses. The entrepreneurs behind these digital ventures are typically young men (below the age of 40), as women lead only 4 out of 40 start-ups. Some of these start-ups have benefitted from the local support ecosystem that now counts 12 hubs (including incubators and accelerators) and four tech hubs and co-working spaces¹⁴⁰ (see Figure 11) as well as market linkage initiatives, such as Seedstars events and The Gambian Community Innovation Fund (for further details see Annex 6).

In line with urbanization trends, digital businesses in The Gambia are primarily concentrated in main urban areas. Although the digital ecosystem has shown significant growth in recent years, it remains mostly clustered in big cities, such as Banjul and Serrekunda (albeit some programs do have regional representations). This is hardly surprising in the context, where 62 percent of the Gambian population live in urban areas (well above the SSA average), driven by food insecurity, limited economic opportunities and underdeveloped or unreliable infrastructure in rural zones (particularly electricity and digital connectivity). As elaborated in Chapter 1, in a country with over two

¹³⁶ Such ecosystems usually encompass support organizations (such as incubators, accelerators, innovation hubs and co-working spaces), early stage financing, human capital as well as policy and regulatory environment. According to OECD, "an entrepreneurship ecosystem is constituted by a set of interconnected entrepreneurial actors, organizations, institutions, and processes that formally and informally coalesce to connect, mediate, and govern the performance" within a local context. OECD, 2013. Entrepreneurial Ecosystems and Growth Oriented Entrepreneurship.

¹³⁷ Established in 2004 under the Gambia Companies Act, ITAG is an industry consortium of ICT professionals in the country and among the diaspora, whose aim is to collaborate and support the development of the ICT ecosystem in The Gambia. ITAG's membership database includes roughly 80-90 percent of all ICT companies in The Gambia.

¹³⁸ ITC, 2020. Gambian Tech Start-up Directory 2020. Available at: <https://nyc.gm/wp-content/uploads/2020/04/Gambian-Tech-Startups-Directory.pdf>; ITC, 2021. Gambia Tech Start-up Directory 2020-2021. Important to note that the Directory covers only those tech start-ups that were supported by YEP, representing, according to ITC, around 30-40 percent of all digital start-ups in the country.

¹³⁹ According to the definition adopted by the ITC and applied in its Directory, ideation category includes start-ups that are engaged in product or service ideation, market research, and prototyping of a minimum viable product (MVP); validation or entrepreneurship category consists of enterprises with confirmed MVP, but no or little revenues; while the growth category comprises firms that already generate revenues and are expanding.

¹⁴⁰ All based in Greater Banjul area, although some, such as NEDI, SIG, and GYIN, have satellite offices.

million – mostly young – people, only one third of the population uses broadband services, with affordability and quality of service remaining key usage barriers. Such low adoption and penetration rates amid persistent digital infrastructure constraints, more pronounced in rural areas, hinder opportunities for digital businesses to expand their customer or supplier base and conduct online transactions. As an example, Tesitoo, which is an online marketplace for agricultural products, connecting farmers and farmer associations directly to consumers through an app and a web-based platform, estimates that in the absence of connectivity or smartphones around 40 percent of its suppliers continue to rely on voice calls to list their produce and interact with the company. These interactions and onboarding process are sometimes facilitated by Tesitoo agents that the company deploys to go the field.

Despite the hurdles to operate digital businesses in The Gambia, some promising digital start-ups have emerged, addressing local needs with innovative solutions. Several factors, beyond underlying connectivity constraints and broader doing-business environment, are holding back the growth and expansion of digital companies in the country. First, access to finance, especially for firms at early stage

and with less understood and trusted digital business models, continues to present a significant roadblock to scale and grow. Second, weak digital skills (including advanced programming and software development skills) and digital literacy and awareness among broader population are important constraining factors both on the supply and the demand side of digital products and services. Finally, low adoption of DFS and absence of payment gateways stifle opportunities for online transactions. As illustrated in Chapter 3 and underscored by multiple digital start-ups interviewed during the elaboration of this report, payments infrastructure in the Gambia is underdeveloped, and the economy remains largely cash-based, lacking the capacity to efficiently process mobile and interbank retail payments as well as international transactions¹⁴¹. Against this background, several young and innovative enterprises have broken through the hard soil of constraints, making progress in solving local problems. For instance, fintech start-ups, such as Kuringo, Baluwo, PingMoney, and Karlilu, have recently emerged and got further boosted by the COVID-19 pandemic to offer solutions for international remittances transfers or business transactions, enabling Gambians living in the diaspora to send money or purchase products and services for family members back home – often unbanked individuals living in rural areas.

¹⁴¹ World Bank, 2019. The Gambia: Policies for Private Sector—Led Growth—Achieving Sustainable and Inclusive Growth. Internal document. World Bank, Washington, DC. © World Bank.

The Gambia Digital Economy Diagnostic

BOX 9: Facilitating Remittance Transfers and Driving Inclusion Across The Gambia and West Africa

Fintech company Baluwo has chosen The Gambia as a launchpad for scaling its international operations, experiencing rapid growth over the past three years. Founded by a Spanish serial entrepreneur with a focus on software development, Baluwo was established in 2016, launching its first pilot operations in The Gambia in 2017 and expanding to 13 other West African countries in the following years, including Cote d'Ivoire, Ghana, Nigeria, and Senegal. The smiling coast was chosen as the company's testing ground due to its small size (conducive to piloting business activities), entrepreneurial culture and sizeable diaspora abroad, including in Spain. Since the start of its operations, the company has experienced rapid growth in customers and transactions (further boosted by COVID-19 pandemic), growing from 241 orders in December 2017 to 115,366 orders in December 2020, counting over 2 million transactions in total over the past three years. Despite its presence in larger economies, such as Nigeria and Mali, The Gambia continues to be the biggest country for Baluwo both in terms of the customer base and the volume of transactions.

While technology is at the core of the company's cash-to-goods business model, it also relies on physical presence and partnerships with small local shops, mostly in rural areas, as well as on simple SMS technology to reach the illiterate and the unconnected. Baluwo's digital solution replaces the concept of remittances being sent under a cash-to-cash model, providing



an opportunity for the diaspora – through an app or a web page – to initiate cash-to-goods transactions. The platform integrates real-time money transfer operators (MTO) in developed countries with local stores, utility companies and forex bureaus in African countries, where beneficiaries reside. As a result, transfer originators can purchase basic products and services with either cash at physical MTOs' points of presence or with debit/credit card payments effectuated through the app/web. The latter (transactions initiated online) account for only 15 percent of total Baluwo's orders, however their share is growing rapidly. In fact, from February to March 2020 digital orders multiplied by a factor of three due to COVID-related lockdowns. Once the payment is received, the platform sends an SMS with a PIN to the beneficiary back home, who can then collect the goods (including mobile top-ups / data packages, food, electricity payments and construction materials) from a specific store out of a big network (for example, in The Gambia Baluwo works with more than 250 shops), while the storekeeper collects his/her money from a local forex bureau. The selection of SMS technology and PINs is not accidental and is meant to cater to illiterate people without internet connectivity.

Orders for The Gambia continue to account for the bulk of Baluwo's operations. The Gambian customers/senders come predominantly from Europe (Italy, Germany, Spain and the UK) and the US. Up to date, more than 133,851 beneficiaries were served by the company in The Gambian market. The top orders purchased by Gambian customers are mobile top-ups, data packages, food and construction materials. The size per order varies based on the product/service purchased. For construction products, for instance, the average purchase is 216 euros, while it is 66 and 4 euros for food and air data, respectively.

Some of the hurdles the company faces in the country relate to connectivity, IT skills availability, and regulatory uncertainty. Expanded broadband coverage and uptake, which are currently alarmingly low in The Gambia, as well as interoperability of mobile money platforms could significantly boost the use of solutions, such as Baluwo's, helping to reduce the reliance on physical presence and cash transactions. Moreover, there is a critical need for programmers and advanced IT skills among Gambian professionals. Gambian fintechs often have to outsource programming work to IT specialists in India, while it could easily be done at home. Moreover, partnering with utility companies has proved to be difficult, time-consuming and constrained by bureaucratic red tape.

Source: DE4A interview program and proprietary Baluwo materials

An important recently launched Google + Code initiative can help address some of the underlying constraints for digital retail business development, unlocking e-commerce potential in The Gambia. The lack of a formal addressing system is widely cited by e-commerce companies in SSA as a critical constraint, significantly raising the costs and reducing the reliability of last-mile deliveries. The Gambia, where only few streets have formal names, is no exception. To resolve this issue, MOICI and Banjul City Council in partnership with Google (Google + Code solution) have launched a pilot to assign a unique digital ID / short code to all properties in the capital, thus revitalizing the service of deliveries of mails and packages. The code is a substitute to a street address and can easily and accurately direct people to the right place using Google Maps. By allowing to create a reliable and accessible customer database, the solution can help increase the efficiency of delivery of services for businesses and the GoTG alike, making utility services, such as garbage collection and electricity delivery bills, much more effective and efficient. Moreover, the plus codes addresses could be easily shared with emergency services to rapidly reach the location of any emergency cases, which has become critical during

the COVID-19 pandemic. Effectively scaling up this initiative and rolling it out across the entire country would be important to ensure its broad-based benefits.

The following section zooms on some of the critical constraints to digital businesses in The Gambia, including policy, regulatory and institutional environment, access to finance, support structures and human capital.

Policy, Regulatory and Institutional Environment

Despite ongoing efforts to boost entrepreneurship in The Gambia, the implementation of policies has fallen short, with no policy explicitly targeting or promoting digital entrepreneurship. Since the adoption of Vision 2020, the regulatory framework has placed entrepreneurship at the center of a long-term strategy for a more inclusive and sustainable private-sector-led growth in The Gambia. In fact, the NDP gives a priority to programs supporting high-skilled and entrepreneurial young Gambians. Moreover, as part of the operationalization of the National Entrepreneurship Policy (NEP) adopted in 2016, and

The Gambia Digital Economy Diagnostic

in cooperation with UNCTAD, the GoTG developed the National Entrepreneurship Strategy Framework in 2017, soon to be updated¹⁴². Although the Gambia Investment and Export Promotion Agency (GIEPA) is the main implementing agency for the NEP, with support and supervision from the Ministry of Trade, Industry, Regional Integration, and Employment (MOTIE), coordination with other stakeholders, including the private sector, has been limited. Implementation

difficulties are further compounded by limited budgets allocated for entrepreneurship programs within the GoTG, with most resources coming from donors. The Empretec program, funded by UNCTAD and led by GIEPA, and EU-funded YEP are among a few donor-funded initiatives put in place to support entrepreneurship and have activities specifically targeting tech companies and start-ups.

TABLE 16: Main Entrepreneurship Policies in The Gambia

POLICY	YEAR
Vision	1996
National Employment Policy and Strategies and Action Plan 2010 (NEP/NEAP)	2010
The Gambia's Trade Policy	2011
Program for Accelerated Growth and Employment 2012-2015 (PAGE)	2012
National Strategy for Microfinance Development (NSMD) in the Gambia	2013
National Policy, Micro, Small and Medium Enterprise Sector 2014-2018	2014
National Entrepreneurship Promotion Strategy (NEPS) 2014-2018	2014
Private Sector Development Strategy 2015-2019	2015
National Entrepreneurship Policy 2016-2020	2016
National MSME's Policy	2018
National Development Plan (NDP) 2018-2021	2018

Gambian entrepreneurs, including in the digital domain, continue to face a weak business regulatory environment, particularly high costs of starting a business and burdensome taxation. According to the 2020 Doing Business Report, The Gambia ranks 155th out of 190 economies (Figure 9), with starting a business and paying taxes being the country's lowest scoring indicators. Starting a business in The Gambia

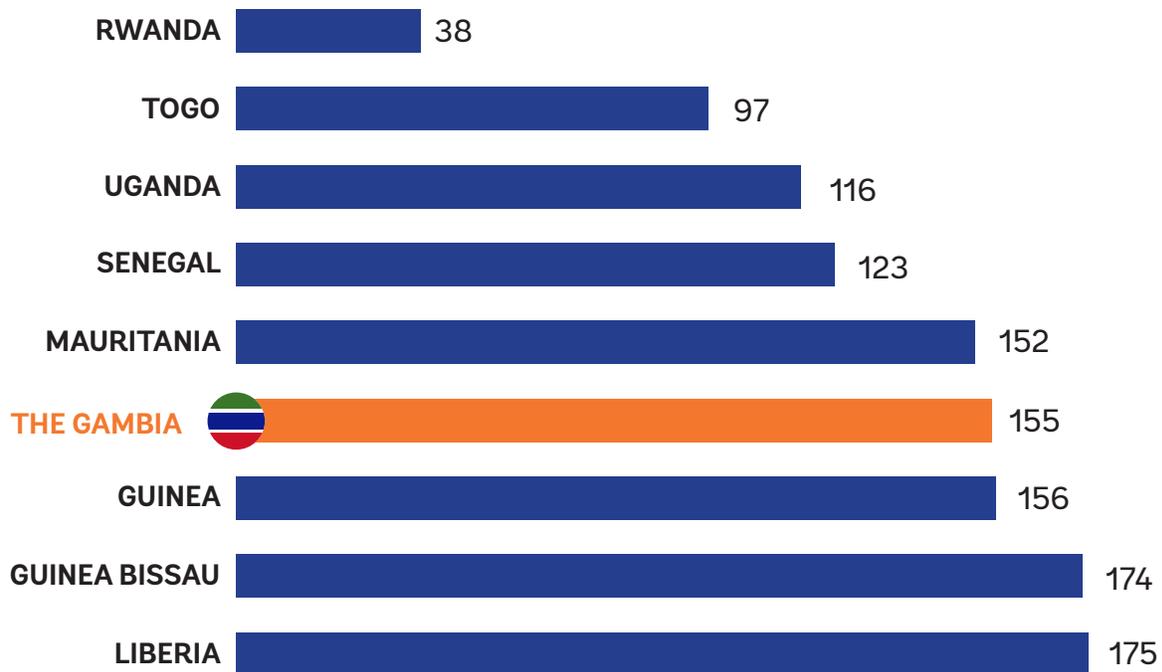
remains an expensive and lengthy process: it costs 49.5 percent of income per capita (16,650 GMD or around US \$325), way above most regional peers, and takes on average 8 days. At present, one-stop-shop computerized registries for entrepreneurs are only available in Banjul and Kanifing municipalities and are not accessible online (physical presence is still required at Single Window Business Registration Offices at

¹⁴² UNCTAD, 2017. Formulating the National Entrepreneurship Policy. UNCTAD, Geneva, Available at: https://unctad.org/system/files/official-document/diae2017d1_en.pdf.

the Ministry of Justice in Banjul or Kanifing Municipal Council). In terms of taxation, The Gambia continues to score below the regional average, as firms have to comply with 14 different taxes, make 49 payments

per year, and spend 326 hours processing accounts¹⁴³. Compared with peers, the country has one of the highest number of payments per year alongside Togo and Senegal (Table 17).

FIGURE 9: Doing Business Ranking, The Gambia and Selected Peers, 2020



Source: World Bank Doing Business Report, 2020.

¹⁴³ World Bank, 2020. Doing Business 2020: Comparing Business Regulation in 190 Economies - Economy Profile of Gambia, The (English). World Bank, Washington, DC. © World Bank. Available at: <http://documents.worldbank.org/curated/en/804041574860589616/Doing-Business-2020-Comparing-Business-Regulation-in-190-Economies-Economy-Profile-of-Gambia-The>.

The Gambia Digital Economy Diagnostic

TABLE 17: Doing Business in The Gambia and Selected Peers: Starting a Business and Paying Taxes

	STARTING A BUSINESS		PAYING TAXES		
	TIME (DAYS)	% OF INCOME PER CAPITA	PAYMENTS (# PER YEAR)	TIME (HOURS PER YEAR)	TAXES PER YEAR (#)
THE GAMBIA	8	49.5	49	326	14
STRUCTURAL PEERS					
GUINEA	15	33.8	33	400	13
GUINEA-BISSAU	8	88.8	46	218	11
LIBERIA	18	6.3	33	140	9
TOGO	2.5	8.1	49	159	15
AVERAGE	10,3	37.3	42	248.6	12.4
ASPIRATIONAL PEERS					
UGANDA	24	40.5	31	195	9
RWANDA	4	0	9	91	11
SENEGAL	6	22.6	53	41.6	12
MAURITANIA	6	15.8	33	270	15
AVERAGE	10	19.7	32	149.4	12

Source: World Bank Doing Business Report, 2020

The regulatory framework related to digital businesses displays specific weaknesses and gaps.

As mentioned in Chapter 1, a necessary prerequisite of a vibrant and trust-based digital economy is cybersecurity, protecting both consumers and businesses in the online space. Under a cyberlaw, countries can adopt the following legislation: (i) data protection and privacy law; (ii) consumer protection law; (iii) cybercrime law, and (iv) e-transaction law. As elaborated in Chapter

1, this legislation in The Gambia is fragmented and incomplete.

- Intellectual property rights (IPR) are covered by the 2007 Intellectual Property Act and the Trade Act; and the country is part of both Paris Convention for the Protection of Industrial Property and the Berne Convention for the Protection of Literacy and Artistic works. However, the IPR protection legal structure

remains weak due to the lack of experts in the country and the lack of reported IPR crimes¹⁴⁴.

- E-signature and e-transaction are covered by the 2009 IC Act (currently under revision) that follows the UNCITRAL Model Law on Electronic Commerce (1996) and the UNCITRAL Model Law on Electronic Signatures (2001) as well as EU Directive 99/93/EC; however e-signature provisions cannot be considered technologically neutral, as they give different and preferential legal treatment to certain electronic signature technologies, specifically public key cryptographic techniques and their administration by third party certification providers¹⁴⁵;
- Consumer and supplier protection is overseen by the Gambia Competition and Consumer Protection Commission (GCCPC) under the 2014 Consumer Protection Act, the 2007 Competition Act and some provisions of the 2009 IC Act;
- Pertinent data protection and privacy policies and regulations (as mentioned in previous chapters), are still in draft form; in the meantime, these issues are covered under Article 23 of the Constitution¹⁴⁶ that grants individuals the right for privacy, including in communications, but doesn't cover sharing personal information with third parties without notice or consent of consumers;
- The Cybercrime Bill is also pending adoption; in its absence electronic evidence cannot be submitted to courts, cybercrime cannot be sanctioned, while ICT users remain unprotected.

Access to Finance

Access to finance remains a key constraint for Gambian firms, however promising initiatives emerge to address this gap. Domestic credit to the private sector accounts for only 6.7 percent of the country's GDP¹⁴⁷ versus SSA average of 44.3 percent. For early-stage entrepreneurs, high interest rates and collateral requirements required by local banks hinder the possibility of obtaining finance. In the current ecosystem, there are a few investors, including private microfinance companies, such as SIG Loans, Supersonicz and Reliance, that can offer small loans to young start-ups as well as some donor-supported funds and programs, such as EU-funded Tekki-Fii Mini-Grant scheme for grassroots entrepreneurs rolled out in collaboration with the National Association of Cooperative Credit Unions of The Gambia (NACCUG), having supported over 700 small businesses to-date, or YEP's mini-loan scheme. Other examples include Gambia Entrepreneurship Fund and Women Entrepreneurship Fund, initiated by the Ministry of Gender, Children and Social Welfare, albeit not yet operational¹⁴⁸ (see Annex 7 for further details). However, a lot of entrepreneurs continue to rely on own / private capital (e.g., Kuringo), fund-raise through crowdfunding campaigns hosted internationally (e.g., Baluwo and Tesitoo) or apply for donor-funded programs (e.g., PingMoney). Against this background, a promising initiative has been spearheaded by ITC, that through YEP supported the launch in 2020 of the Gambia Angel Investor¹⁴⁹ Network (GAIN), uniting 14 investors, including two from the diaspora. GAIN is a non-profit organization that for now continues to receive technical

¹⁴⁴ US State Department, 2020. Investment Climate Statements in The Gambia. Available at: <https://www.state.gov/reports/2020-investment-climate-statements/gambia/>.

¹⁴⁵ UNCTAD, 2015. Review of E-commerce Legislation Harmonization in ECOWAS. Available at: https://unctad.org/system/files/official-document/dt1stict2015d2_en.pdf.

¹⁴⁶ Ibid.

¹⁴⁷ World Development Indicators; based on 2018 data.

¹⁴⁸ The Government also aims to launch the Youth Development fund

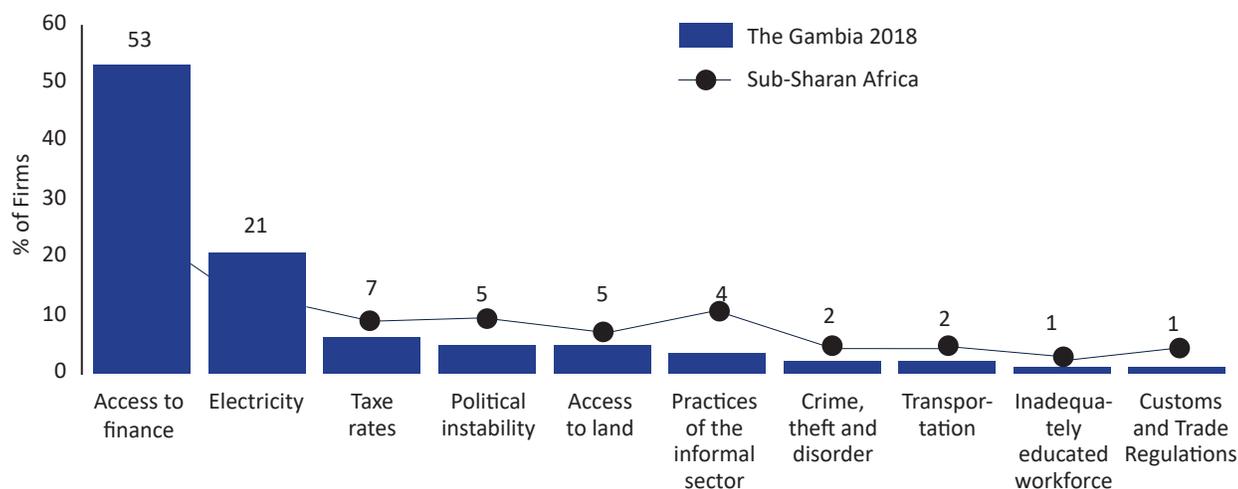
¹⁴⁹ Angel investors are high net worth individuals who can help entrepreneurs acquire industry knowledge and access to global networks.

The Gambia Digital Economy Diagnostic

and financial support from YEP, but hopes to become self-sufficient and sustainable by 2022, when the program is due to close. So far, despite organizing five pitching events with 17 participating start-ups, GAIN’s investment portfolio includes only one non-digital business that received a mix of equity and convertible debt financing in the amount of US \$16,000 (including

a 50-percent matching grant from ITC). To increase the pool of investable companies, the network has launched an Investment Readiness Program (de facto an acceleration program), currently hosting 23 start-ups and providing them with trainings on financial accounting, business planning and mentorship¹⁵⁰.

FIGURE 10: Top Ten Business Environment Constraints in The Gambia



Source: Enterprise Surveys, The Gambia 2018 Country Profile.

Overall, very few funding channels are available and tailored to the needs of digital entrepreneurs. The access to funding by digital start-ups is constrained by a combination of intertwined demand and supply factors. On the one hand, Gambian businesses, similar to their counterparts across SSA and other developing economies, demonstrate a weak state of maturity and formalization. Many of them are registered as sole-proprietorship and very few have formalized / audited accounts and proper / streamlined governance models

to be able to comply with the requirements of financial support structures, i.e., be investable. In fact, according to 2018 GLFS, half of the workers in The Gambia are self-employed and only 3.6 percent of those self-employed report having registered their business with the GCCI. This brings the pool of digital enterprises in an already very small market to a very low number, resulting in an absent deal flow for investors. As an example, in 2020 the UNCDF launched an EU-funded crowdfunding platform under the “Jobs, Skills and Finance (JSF)

¹⁵⁰ The program lasts 6-12 months and is structured around three phases: (1) trainings on financial accounting and business planning; (2) trainings on preparing financial projections and a pitching deck; (3) mentorship from one of GAIN’s angels to provide practical support and get the enterprise used to having shareholders. Start-ups get filtered through the process based on their deliverables and engagement. The first cohort onboarded in 2020 included 41 applicants, 33 of which went through phase (1), and 23 went through phase (2); phase (3) is currently launching (April 2021). The final goal is to have at least five investment-worthy projects / start-ups by end 2021.

for Youth and Women in The Gambia Program” with the aim to raise up to US\$ 840,000 to assist 8,000 small businesses¹⁵¹. However, only those businesses capable of presenting financial statements certified by a public accountant and with market operations of at least three years can apply for the funding. As for bigger and more established digital businesses, the challenges reportedly stem from the supply side due to absent venture capital (VC) culture in The Gambia, the lack of tailored financial products and a small size of available investments, insufficient to cover high costs of implementing digital technologies. For instance, according to a web design company interviewed for this study, the average cost associated with setting an e-commerce platform is over US \$34,000, which is not that easy to find in The Gambia. Although some available offerings to entrepreneurs, such as YEP’s Mini Grant Scheme (implemented in collaboration with GIZ and Enabel)¹⁵², provide funding with no collateral, interest rate or repayment requirements, the amount of grants is only 50,000 GMD (equivalent to around US \$980), while the amount sought on average by digital start-ups is in the range of US \$150,000 (as reported by start-ups applying for funding under YEP Tech Start-up Program - see Annex 5).

Although the absence of restrictions presents an opportunity for international investment funds, The Gambia continues to be perceived as a high-risk environment. Despite a liberalized capital market (with no legal or regulatory restrictions on foreign investment or on the repatriation capital¹⁵³), international investors and foreign funds that could potentially cover large ticket sizes continue to perceive The Gambia as a risky investment environment and largely overlook it due to its very small size. Moreover, in the absence of

specific private equity (PE) and VC provisions, legal and regulatory ambiguity can act as a deterrent for investors. Although it is likely to take time to have a tangible impact, it generally pays off to develop an overarching legislation/regulation in the PE / VC space, including descriptions of adequate legal structures. Interesting example of a regulatory framework with incentives structure is the Single Funds Act in Chile that requires fund managers to be registered in the country, offering them lower withholding tax rates on capital gains and dividends to foreign investors. Finally, laws on labor, competition, and corruption contain some unclear provisions that can constraint foreign investment¹⁵⁴. For example, contract termination provisions under the 2007 Labor Act remain ambiguous, leaving room for interpretation and often resulting in legal disputes to define an acceptable conduct for termination. Moreover, albeit the legal framework regulating traditional anti-competitive practices exists (comprising the 2007 Competition Act, the 2001 PURA, and the 2010 Customs and Excise Act), implementation decrees are missing.

Support System & Culture

Despite the growing number of facilities, such as incubators and co-working spaces available in the country, intermediary organizations lack diversity and sometimes capacity to support digital businesses in a targeted manner. Within a strong digital ecosystem, a variety of events, incubators, accelerators, and co-working spaces help digital entrepreneurs create linkages and form a community of knowledge exchange. Incubators for instance support the development and scaling of early-stage enterprises (from ideation to MVP) by reducing the costs associated with

¹⁵¹ UNCDF. 2020. “UNCDF launches a crowdfunding platform for young Gambian entrepreneurs”. Available at: <https://www.uncdf.org/article/5728/uncdf-launches-a-crowd-funding-platform-for-young-gambian-entrepreneurs>

¹⁵² YEP. YEP Mini Grant Scheme Description. Available at: <https://www.yep.gm/opportunity/mini-grant-scheme>

¹⁵³ UNCTAD. 2017. “Investment Policy Review – The Gambia”. UNCTAD. Geneva.

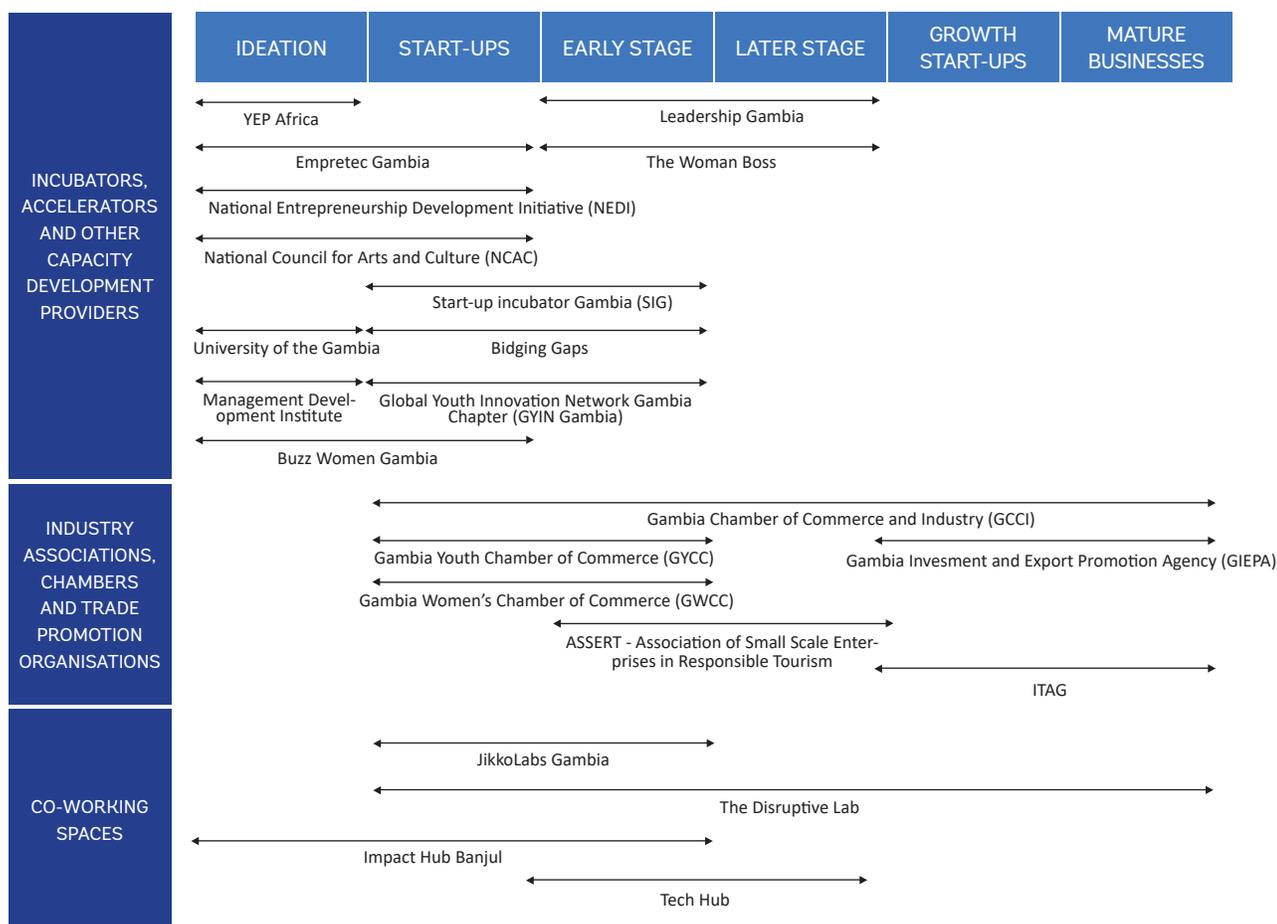
¹⁵⁴ As elaborated by UNCTAD. 2017. “Investment Policy Review – The Gambia”. UNCTAD. Geneva. For example,

The Gambia Digital Economy Diagnostic

business registration and connecting entrepreneurs to resources that unleash competitiveness. Accelerators, on the other hand, are fundamental for enterprises aiming to reach growth stage and obtain funding to scale¹⁵⁵. In the case of The Gambia, a few incubators and accelerators have been implemented by a small number of stakeholders, concentrated in the cities of Banjul and Serrekunda (Figure 11 with further details

provided in Annex 7). This limits the support available to digital entrepreneurs outside of the capital, constraining the potential impact on the overall digital business ecosystem. Furthermore, according to the entrepreneurs interviewed for this study, incubation and acceleration programs in The Gambia do not offer robust fundraising opportunities and mentorship to start-ups at the scale phase.

FIGURE 11: Incubators, Accelerators and Other Capacity Development Providers in The Gambia



Source: ITC, 2019

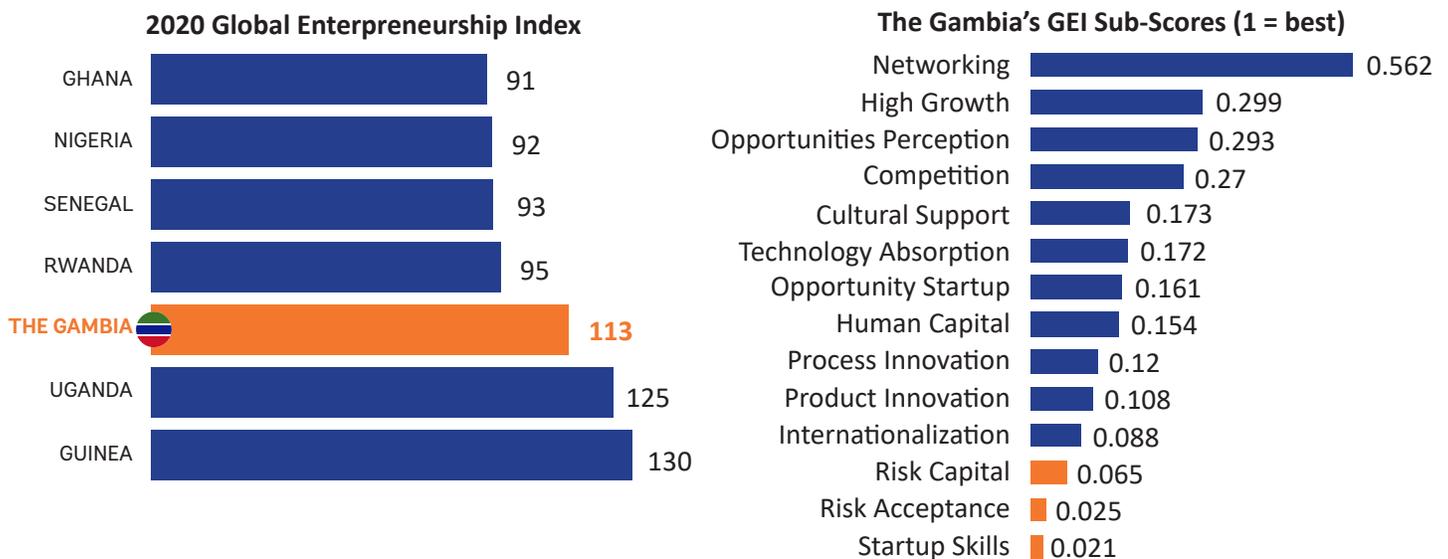
¹⁵⁵ ITC, 2019. The Entrepreneurship Ecosystem in The Gambia.

There is a need to further cultivate a vibrant startup ecosystem by promoting connectedness and knowledge spillovers, entrepreneurial skills, and links to domestic and international investors.

Successful startup environments are characterized by strong interlinkages between private sector players and the government, frequent knowledge-sharing and networking events, and a culture of support between successful startup founders, new entrepreneurs, and domestic and international investors. This vibrancy is mostly lacking in The Gambia. The 2019 Global Entrepreneurship Index (GEI), a global perception-based ranking of entrepreneurship ecosystems, ranks The Gambia 113th out of 137 economies, behind

aspirational peers, such as Senegal, Rwanda and Ghana (Figure 12). Of the 14 GEI sub-scores, start-up skills, risk acceptance, and risk capital (referring to the availability of capital from individual and institutional investors) are the lowest scoring categories, indicating that the general risk appetite and acceptance are not as favorable in The Gambia as in other countries. The Government can play a proactive role in this area, in close collaboration with the private sector. Given the nascent stage of the ecosystem, the focus should be initially on identifying key subsectors that have highest growth potential, accelerating opportunities by attracting talent and create linkages to top startup ecosystems to learn from their policy environment.

FIGURE 12: Global Entrepreneurship Index, The Gambia and Selected Peers, 2019



Source: GEI, 2019¹⁵⁶.

¹⁵⁶ The Global Entrepreneurship and Development Institute, 2019. Global Entrepreneurship Index. Available at: https://thegedi.org/wp-content/uploads/2021/02/2019_GEI-2019_final_v2.pdf.

The Gambia Digital Economy Diagnostic

Gender equality within the digital business ecosystem requires special attention.

Despite some initiatives that specifically support women entrepreneurs (e.g., The Woman Boss, SheTrades Gambia, and WEF), women continue to be underrepresented among tech start-up founders, ICT professionals or software developers, reflecting a broader trend of lower workforce participation (as nearly 57 percent of women are economically inactive compared to 36 percent of men) and weaker educational attainment level (62 percent of women have no education compared to 49 percent of men¹⁵⁷). Moreover, a survey conducted by the UNCDF in 2019 in The Gambia, revealed that women have lower awareness and understanding of certain digital concepts and services, such as DFS. According to the study, 51 percent of the surveyed women were unaware of what mobile money accounts are (versus 37 percent of men) and almost 20 percent admitted to not having the right skills to use them (versus 17 percent of men)¹⁵⁸.

Overall, the Gambians are still on the way to become “digitally ready”.

Despite the above-mentioned challenges related to the overall digital infrastructure (electricity, internet, and payment gateway systems), regulatory environment and support organizations, digital entrepreneurs in The Gambia face another challenge related to the level of digital adoption by local customers. Driven by customers’ preference to use cash, attend physical markets and have personal interactions, Gambian digital entrepreneurs often find it difficult to compete with brick-and-mortar companies and markets. For instance, agritech digital start-up Tesitoo, shared its struggle to integrate farmers into their platform, due to their preference to work face-to-face with traditional intermediary buyers called Bana

Bana. On top of this come challenges related to the perceived lack of useful local content online. However, some start-ups manage to successfully dispel this perception. For example, Kuringo fintech platform created short videos in local languages to facilitate and incentivize the use of its application.

Human Capital

Weak digital literacy and digital skills are considered as significant demand and supply side obstacles by digital businesses.

As access to devices improves and internet usage grows, interviewed entrepreneurs highlighted that there is a critical need to strengthen currently weak basic digital education and awareness to enable people to take advantage of digital services. There is also a scarcity of local ICT professionals, in terms of both digital and managerial skills for two main underlying reasons. First, there is a lack of programs offering trainings in advanced ICT skills with those that are offered not fully aligned with market needs, as comprehensively covered in Chapter 5 on Digital Skills. Second, highly skilled specialists often emigrate in search of better opportunities abroad. Indeed, 65 percent of tertiary education graduates in The Gambia end up emigrating¹⁵⁹. As a result, digital start-ups in the country largely have to rely on outsourcing or hiring software engineers from abroad to develop and manage their digital platforms. Notwithstanding, some publicly funded initiatives are starting to emerge in the ecosystem with promising tech programs for digital skills development. In 2019, under YEP Tech Start-up Program, 336 individuals were trained in tech related skills (including entrepreneurs, online freelancers, traditional IT companies, and any young Gambians interested in developing digital skills). The Freelancer

¹⁵⁷ UNCDF, 2019. Power assessment of women’s economic empowerment in The Gambia. Available at: <https://www.uncdf.org/article/5043/power-assessment-of-womens-economic-empowerment-in-the-gambia>

¹⁵⁸ Ibid.

¹⁵⁹ World Bank, 2020. Systematic Country Diagnostics for the Republic of The Gambia: Overcoming a No-Growth Legacy. World Bank, Washington, DC. © World Bank. Available at: <http://documents1.worldbank.org/curated/en/782131589568063735/pdf/The-Gambia-Systematic-Country-Diagnostic.pdf>.

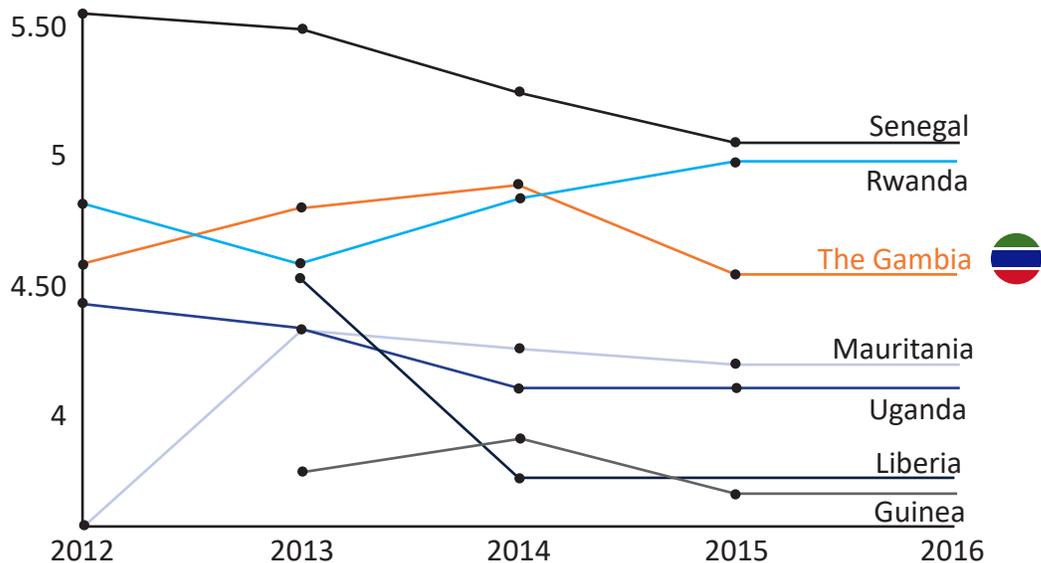
Digitalization Campaign run by the same program, also offers trainings in developing digital skills (with other examples provided in Chapter 5).

Markets

Adoption of digital technologies amongst businesses in The Gambia remains comparatively low, and there is a need for a more detailed and updated data in this domain. The latest WEF’s firm-level technology absorption values (2016) show that the average growth rate of adopting new technologies by businesses in The Gambia decreased by 0.18 percent between 2012 to 2016. Compared to aspirational countries, such as Senegal and Rwanda, it is observable that Gambian firms lag in adopting new technologies as part of their business processes (Figure 13). With respect to revenues generated by digital businesses,

there are no officially reported numbers. Based on anecdotal evidence acquired during the program of interviews, the number of users of digital platforms and services seems to be increasing, however follow-up data collection is necessary to confirm that. In this context, it would be warranted to conduct a firm-level adoption of technology survey and analysis, similar to the one recently conducted by the WB in Senegal, Brazil and Vietnam¹⁶⁰. The study could explain the main sources of variation in technology adoption across sectors, regions, and within firms and show how these variations are associated with productivity levels. These indicators could then be compared with results observed in other countries and used as important contributions to designing evidence-based policies to help stimulate the adoption of technologies by enterprises, including informal ones.

FIGURE 13: Firm-Level Technology Absorption Index, The Gambia and Selected Peers



Source: WEF, 2012-2016. Global Information Technology Reports; Firm-Level Technology Absorption Index 1-7 (7=Best).

¹⁶⁰ World Bank (2021). Inclusive Digital Senegal; by Dutg, M., Castelan, C., Cruz, M. (forthcoming).

The Gambia Digital Economy Diagnostic

In the context of a small domestic market, Gambian digital businesses need to strengthen their linkages to regional and international markets to successfully scale. Global value chains are worldwide known for assisting companies to develop productive capacity, obtain human capital and raise income by trading across borders¹⁶¹. Particularly for a very small country, such as The Gambia, increasing intra-regional trade and linkages with other countries can provide new business opportunities for local entrepreneurs, expanding their access to customers, innovation, workforce with different skill sets and additional sources of capital. To facilitate this, the GoTG can introduce policies to attract and retain talent in the local digital economy, including through resident permits and provisions specifically targeting brain-drain. Importantly, The Gambia could serve as an effective testbed to pilot solutions that could be then introduced in other geographies, as demonstrated by Baluwo's example and confirmed by other entrepreneurs, who attested to the value of "failing quickly, failing cheaper" to iterate, innovate and improve business models and operations before expanding abroad. However, the main roadblock for The Gambian digital businesses eager to enter international markets, remains the lack of a functional payment gateway systems. In this regard, the GoTG could consider unleashing the potential of cross border e-commerce through a regulatory framework facilitating cross-border payments. For instance, the

Paytm is an Indian electronic payment and ecommerce platform that offers sellers a marketplace, where they can establish their "shop", instead of just listing their goods. With a license from the Indian Government to operate as a payment bank, the platform also developed a payment gateway and digital wallet that enables users to purchase any goods or services through the platform or any other website outside of India¹⁶². Finally, digital entrepreneurs in The Gambia are lacking international networks and sufficient knowledge on market expansion. The latter could be further explored by the GoTG through business linkages programs. The first step would be then to carefully assess the potential to expand cross-border e-commerce and study best practice global policies to stimulate it.

The Gambia has several prerequisites to position itself as a business processes outsourcing hub. Considering the advantages offered by the country, including English-speaking population; same time zone with the UK and minimal difference with key European markets; and relatively low unit labour costs, The Gambia has a potential to develop a BPO model for its digital economy. While for this to success it would be critical to address pending digital connectivity gaps and constraints, it could be warranted to further explore these opportunities jointly with the Gambian Investment and Export Promotion Agency that has an explicit mandate to promote the BPO sector.

Recommendations

Fully unlocking the potential of digital businesses in The Gambia requires important reforms and investments to address binding constraints in key foundational

enablers of the digital economy – infrastructure, skills, and payment systems. Amid incremental steps taken to support digital entrepreneurship, the GoTG should

¹⁶¹ UNCTAD, 2017. Regional integration creates opportunities for SME's and women. UNCTAD, Geneva. Available at: <https://unctad.org/news/regional-integration-creates-opportunities-smes-and-women>.

¹⁶² World Bank. 2020. Unleashing E-commerce for South Asian Integration; by Kathuria, S, Grover, A., Perego, V. M. E., Mattoo, A., Banerjee, P. . World Bank Group, Washington DC. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/32718/9781464815195.pdf?sequence=4&isAllowed=y>

accelerate measures across other pillars of the digital economy to enable the growth of digital businesses, particularly: (i) improve broadband access and affordability (see Chapter 1 on Digital Infrastructure); (ii) support the roll-out of payment systems and financial inclusion (see Chapter 3 on DFS); and (iii) integrate digital and entrepreneurial skills training in schools and other education institutions (see Chapter 5 on Digital Skills). Additionally, the GoTG could consider the following measures.

R 4.1 [Quick Win] Scale up the “Digital Addressing Solution” (Google + Code) beyond the capital city of Banjul. To unlock its full potential, continuous efforts and additional investments are required to ensure the nationwide roll-out of this important digital addressing initiative, which at the pilot phase is currently targeting 4,000 addresses in Banjul.

R 4.2 [High Priority] Continue reforming legal and regulatory environment, with a focus on facilitating digital businesses operations. Beyond developing specific laws and regulations in the domain of e-payments / e-transactions, the GoTG could also consider strengthening the enforcement of the Consumer Protection Act and the Intellectual Property Rights Act and developing currently missing online consumer protection provisions. In doing so, policy- and lawmakers may benefit from trainings on digital business models and best practice cases. The UNCTAD e-Commerce and Law Reform program, which delivers trainings on “Legal aspects of e-commerce”, could assist in building the required capacity.

R 4.3 [High Priority] Consider adopting a Start-up Act or similarly designed incentive-based regulations, following examples of other countries (Senegal, Togo, Tunisia – among others) to promote and boost

innovation. A Start-up Act could help facilitate, including by attracting foreign investors, the creation and growth of innovative local businesses. The Act could include policies intended to increase the incentives for young aspiring digital entrepreneurs by, for example: (i) fast-tracking registration licenses for digital start-ups; (ii) covering patent licenses costs; (iii) offering tax breaks for the first few years; (iv) covering costs associated with bank account fees, for a specific period; etc. GCCI is already looking closely into this topic, including by hosting debate on Start-up Acts at the 2021 National Start-up Forum.

R 4.4 [High Priority] Expand funding opportunities for digital businesses. In the short-term, given the nascent stage of the ecosystem, the focus could be on creating programs alongside financial institutions for the provision of pre-seed financing in the form of interest-free loans. In these efforts, the GoTG could share risks with lenders, allowing entrepreneurs to explore business ideas, build prototypes, and start operations. The GoTG could also implement regulations that allow for alternative collateral options to expand lending opportunities for entrepreneurs (e.g., group lending schemes, guarantees, track record of repayment performance, moveable assets). Moreover, it is important to attract more angel and PE / VC investors to further expand funding opportunities for early-stage digital ventures. Adopting an overarching legislation/regulation in the PE / VC domain, including descriptions of adequate legal structures, would be an important step. Moreover, following a regional trend¹⁶³, the GoTG could collaborate with local business angels (including through GAIN) and the private sector, to create a program to provide digital businesses with financial and non-financial support. The program could follow the same methodology as the Industry Matching Fund created in 2019 by the Technology Innovation

¹⁶³ Across the continent, different networks are being set up (e.g., Togo, Senegal, and South Africa where the Technology Innovation Agency (TIA) signed an agreement with Angels networks Dazzle Angels and Jogi Angels to co-invest in early-stage start-ups).

The Gambia Digital Economy Diagnostic

Agency in South Africa, based on a blended finance model and a risk sharing mechanism as an instrument to attract co-investments.

R 4.5 [High Priority] Strengthen the capacity of existing support organizations to provide tailor-made services to entrepreneurs as well as enabling large private sector companies and the diaspora to support local ventures. Given a relatively solid presence of entrepreneurship support programs and organizations compared to a limited number of success digital business stories, the GoTG could focus on institutions with the highest potential to propel digital entrepreneurs. For instance, the GoTG could consider assisting support organizations by financing initiatives that foster digital technology adoption. The selection of the financed programs could be based on organizational assessments that identify metrics for improvement. The GoTG could also encourage and incentivize large companies to support entrepreneurs through internships, coaching, or provision of facilities. Finally, the GoTG could play a more active role in connecting local entrepreneurs to the diaspora, including by leveraging the newly established Gambia Diaspora Directorate (GDD) within the Ministry of Foreign Affairs (through regular networking events), thereby facilitating the access of local start-ups to international markets, funding, and mentoring. To continue strengthening the partnerships developed at such events and/or incentivize new linkages between digital ecosystem stakeholders, the GoTG could consider the establishment of a dedicated online platform. The implementation of such mechanism can build on the experience of the Innovation and Entrepreneurship Lab platform launched by the AfDB in several African countries.

R 4.6 [High Priority] Enhance technology adoption by enterprises by collecting data on its current level

and designing policies and programs to stimulate it further, including through awareness campaigns. As mentioned in the Chapter, it is warranted to conduct a firm-level adoption of technology survey to better understand the variation in technology adoption across sectors, regions, and within firms and show how these variations are associated with productivity levels. These indicators could then be compared with results observed in other countries and used as important contributions to designing evidence-based policies to help stimulate the adoption of technologies by enterprises, including informal ones. An important element in this would be building awareness among traditional firms on the potential value of integrating digital solutions and tools in their business models and / or internal processes.

R 4.7 [Long-term] Consider boosting equity funding for digital businesses in The Gambia through a VC tax incentive regime. The incentive regime could allow tax deductions for investors, who subscribe for shares in venture capital companies. South Africa represents a success story¹⁶⁴ in the provision of such incentives. In 2015, the government introduced a new VC amendment under the Income Tax Act that increased the total asset limit for qualifying investee companies as well as applied tax deductions to VC investors. As a result of this initiative, in 2018, the country registered an increase of 165 new VC corporations with over a R3.4 billion investment commitment (equivalent to around US \$240 million)¹⁶⁵.

R.4.8 [Long-term] Facilitate re-risking early-stage investment to enable the diaspora to invest in digital enterprises at home. The GoTG could consider implementing diaspora bonds or “patriotic discount” with lower interest rates than sovereign bonds – an inexpensive way that government can use to raise funds

¹⁶⁴ World Bank. 2019. Digital Economy for Africa (DE4A) Country Diagnostic of South Africa. World Bank, Washington, DC. © World Bank.

¹⁶⁵ South African Revenue Services, 2019. List of Approved Venture Capital Companies

for digital enterprises and even for other development projects in the country. Successful examples of such policies come from Israel and India. For instance, since the inception of this policy, Israel has been able to raise more than US\$25 billion from its diaspora¹⁶⁶. The GoTG would need to carefully design this policy, including by accounting for the fact that some countries, such as the US, hosting a large share of the Gambian diaspora, require costly, lengthy and burdensome registration procedures to access a retail investor base (registration with the Securities and Exchange Commission in case of the US)¹⁶⁷.

R.4.9 [Long term] Develop and implement the vision of making The Gambia a hub for software developers. The first step would be to conduct a comprehensive analysis of The Gambia's competitive advantages vis-à-vis current global and regional competitors in the same field (e.g., India, Poland, Tunisia, etc.). Then the GoTG could consider creating specific programs targeting the development of skills to meet software development needs of various digital firms. This could include a blend of technical knowledge and communication skills.

¹⁶⁶ Berkeley. 2015. "Diaspora Bonds". Available at: <https://mdp.berkeley.edu/diaspora-bonds/>

¹⁶⁷ Ketkar,S, Ratha,D. 2010. "Diaspora bonds: tapping the diaspora during difficult times". Journal of International Commerce, Economics and Policy



Photo credit – Alhagie Manka



Photo credit – Alhagie Manka

DIGITAL SKILLS

Importance

As highlighted throughout the report, digital skills represent an essential building block of the digital economy, critical to maximizing the uptake, impact and benefits stemming from greater access to connectivity and technology. Digital skills represent a continuum from basic to intermediate to advanced and highly specialized skills and can also be distinguished according to functional needs: for citizen engagements, for a wide range of occupations that use digital technologies, and for ICT professionals¹⁶⁸. Basic digital literacy – the ability to access, manage, understand, integrate, communicate, evaluate, and create information safely and appropriately through digital technologies^{169, 170} – is essential for modern learning,

livelihoods, and wellbeing. It is equally important for securing employment as well as for engaging as citizens, individuals, and consumers. Approximately 65 percent of positions recruited by African companies now require basic digital skills¹⁷¹, and this has likely grown following the onset of COVID-19, during which teleworking has become a norm. Digital skills can help bridge the digital divide, bringing more people online and empowering individuals to utilize digital tools and services in a personal and professional capacity. A digitally skilled individual is likewise critical to creating the consumer base for new digital products and services created by local entrepreneurs.

¹⁶⁸ World Bank, 2021. Digital Skills: The Why, the What, and the How. Methodological Guidebook v. 2.0.

¹⁶⁹ Law, N., D. Woo, J. de la Torre, and G. Wong. 2018. A Global Framework of Reference on Digital Literacy Skills for Indicator 4.4. 2. Information Paper No. 51. Montreal: UNESCO Institute for Statistics.

¹⁷⁰ Carretero, S., Vuorikari, R., and Punie, Y. 2017. The Digital Competence Framework for Citizens. Publications Office of the European Union.

¹⁷¹ IFC, 2020. Digital Skills in Sub-Saharan Africa: Spotlight on Ghana. Available at: https://www.ifc.org/wps/wcm/connect/ed6362b3-aa34-42ac-ae9f-c739904951b1/Digital+Skills_Final_WEB_5-7-19.pdf?MOD=AJPERES.

The Gambia Digital Economy Diagnostic

BOX 10: Digital Skills Pyramid

Digital skills exist on a spectrum from basic to advanced levels of complexity (based on various frameworks from UNESCO and EU):

- Basic digital skills refer to basic functional skills that enable a safe use of digital devices and online and software applications (including word processing, spreadsheets, Internet searches, etc.) and are widely considered a critical component of a new set of literacy skills in the digital era (jointly with traditional reading, writing, and numeracy skills);
- Intermediate digital skills refer to skills for more complex work or self-guided functions, such as digital marketing, desktop publishing, etc., however they are not generally specific to ICT professions and are relevant for a wide range of non-ICT occupations;
- Advanced digital skills refer to more sophisticated digital skills of ICT professionals, focusing on the ability to design, develop, and maintain digital tools, carrying out tasks such as web design, programming, coding, and managing ICT systems;
- E-business skills (or e-leadership skills), defined as a mix of more complex digital and entrepreneurial skills (including abilities to apply, create, and invent new business models, products, and services using digital technologies).

Thus, digital competencies represent an individual's ability to use his or her knowledge, skills and attitudes in relation to the three spheres of technological, social and cognitive competencies to use new or existing ICTs:

- (a) analyze, select, and critically evaluate digital information;
- (b) solve problems;
- (c) develop a collaborative knowledge base while engaging in organizational practices.

Diagnostic Findings: Current State of Digital Skills

Policy Environment

The GoTG recognizes the importance of strengthening digital literacy and skills but is yet to develop a comprehensive national digital skills strategy. The introduction of a new government in The Gambia in 2016 resulted in a range of important policy revisions, several of which – as outlined in previous chapters

(particularly Table 11 in Chapter 1) – focus on ICT. The NDP lists several goals to enhance The Gambia as a digital nation, which demands a technologically literate population. In response, a range of various sectoral policies supporting these strategic objectives and referring to digital skills as a critical enabling factor have been developed. They include (but are not limited to) the Education Sector Strategic Plan (2016-2030), National Employment Policy and Implementation Plan

(2019-2024), the Technical and Vocational Education and Training (TVET) Roadmap (2020-2024), as well as a range of ICT strategies and policies, such as the ICT4D (2018-2028), and Cybersecurity Policy (2020-2024). However, no document yet provides a coherent and comprehensive strategy or actionable framework to advance digital skills. The main function of such a framework (based on the examples of the e-Education Framework of Botswana or National Digital Skills Framework adopted in Rwanda and under elaboration in Cabo Verde), could be to identify digital competences required at each level of education and for general citizens as well as digital skills necessary for different occupations. In its absence, digital skills initiatives in The Gambia remain fractured and ad-hoc in nature, ranging from pilot interventions within the Ministry of Basic and Secondary Education (MoBSE) to some limited TVET and university programs, and including a variety of smaller scale trainings offered by various private and non-profit organizations. While these initiatives hold promise, appropriate infrastructure, and maintenance support as well as alignment with the national curriculum framework and a broader vision for national skills development would be vital to evaluate, prioritize and scale such efforts. Related policies related to ICT integration into the education curriculum; creation, quality assurance, and accreditation of online courses; private sector provision of digital skills trainings; and online program management are also largely absent.

Although an overall strategic framework for digital skills does not yet exist, key curricular reforms at basic and secondary levels are ongoing and it would be critical to leverage them. With support from the WB and UNESCO, MoBSE is currently reforming the curriculum framework for Grades 1-9. This opens a window of opportunity to explicitly integrate basic digital skills as well as computer science, particularly at the upper basic levels (grades 6 and above) into the school curriculum. The work can explicitly build upon the existing set of policy objectives aimed at enhancing

ICT capacity, and digital skills development, which are not yet mirrored in the curriculum or detailed sector strategic planning. These policy objectives include introducing ICT and coding in grade four, digitizing school curriculum, developing a national education ICT policy, providing access to ICT resources and facilities in schools, enhancing distance learning programs at the tertiary level, enhancing the role of educational broadcasting services, and strengthening pre-vocational and vocational courses. At the same time, MoBSE and MoHERST are jointly reforming The Gambia College of Education that is the core institution responsible for training lower basic schoolteachers. This reform, which includes substantial revisions to teacher training curriculum, technical assistance, and some support for technology upgrades, presents an opportunity to launch far reaching digital skills advancements, including, for example, ensuring digital skills competences are embedded in teachers' education. It also offers possibilities to increase teachers' exposure to computer science and to various technology tools that can be leveraged in classroom teaching. Such trainings could both enhance teaching digital skills and allow for a more prepared workforce to support distance and blended learning.

While these reforms could support introduction of basic digital skills into the primary and secondary levels of education, the lack of a comprehensive and progressive digital skills framework, covering intermediate and advanced skills provided at upper levels of education, could act as a hindrance. The TVET Roadmap (2020-2024) underscores the enhanced relevance of digital skills at the TVET level and the importance of provision of online learning as a sub-objective. Nonetheless, there is no well-defined strategy or framework for the development of intermediate and advanced digital skills within TVET centers, higher education institutions (HEIs), and other public and private providers of digital skills trainings.

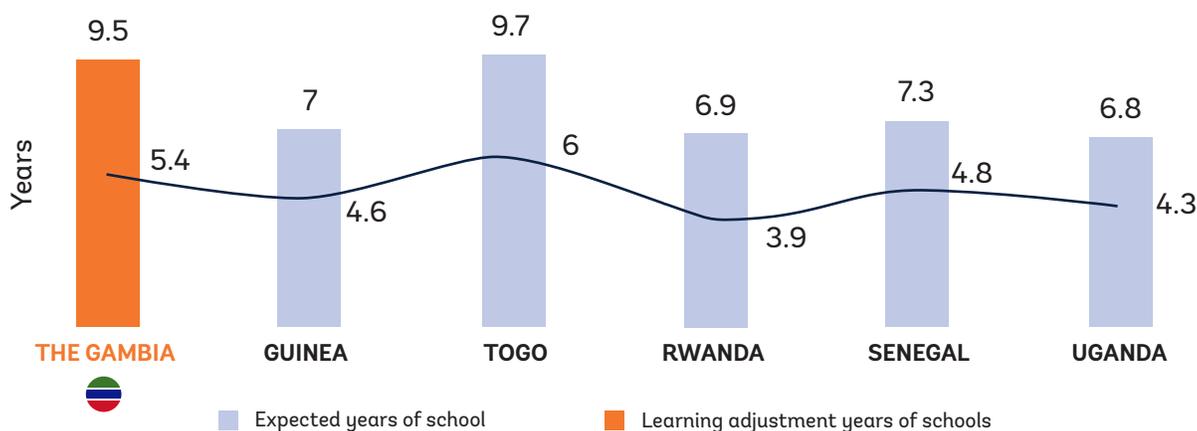
The Gambia Digital Economy Diagnostic

Digital Skills Supply

In the context of weak human capital and insufficient basic foundational skills, The Gambia is facing significant challenges to ensure the development of digitally competent workforce with adequate digital skills. Digital competences, apart from the most basic (such as using a mobile phone for voice calls or simple messages) cannot be developed without foundational literacy and numeracy skills, which are deemed weak in The Gambia. While expected years of schooling are 9.5, factoring in what children actually learn (learning-adjusted years of schooling¹⁷²) decreases this value to 5.4 years. This gap is more prominent for boys than for girls, and wider than the gaps observed in key comparators (Figure 14). Regional data demonstrate that 80 percent of 10-year-olds cannot read and understand a simple text by the end of primary

school¹⁷³, and the results of the most recent Early Grade Reading Assessment (EGRA) in The Gambia completed in 2016 show that on average in grades 1-3, students answer only one out of five reading comprehension questions correctly. The analysis of older groups reveals significant disparities based on socioeconomic background, with the proportion of youth not in education, employment, or training (NEET) differing significantly between urban and rural areas. According to the GBOS, a NEET rate in Banjul is just 1 percent, compared to 43 percent in Brikama¹⁷⁴ - an area in direct proximity to the capital with the highest concentration of the country's poor¹⁷⁵. Overall, deficits in educational attainment and the quality of education contribute to around 35 percent of multidimensional poverty in The Gambia¹⁷⁶. In this context, more than 60 percent of the Gambian workforce remains without formal schooling, and 46 percent of it continues to be employed by the informal sector.

FIGURE 14: Learning-Adjusted Expected Years of Schooling in The Gambia and Selected Peers, 2020



Source: World Bank, Human Capital Index, 2020.

¹⁷² Learning-adjusted years of schooling are calculated by multiplying the estimates of expected years of School by the ratio of most recent Harmonized Test Score to 625, where 625 corresponds to advancement attainment on the TIMSS (Trends in International Mathematics and Science Study) test, as per World Bank, 2018. Learning-Adjusted Years of Schooling: Defining a New Macro Measure of Education. Background Paper to the 2019 World Development Report. Policy Research Working Paper 8591. Washington D.C.: World Bank Group. Available at: <http://documents.worldbank.org/curated/en/243261538075151093/pdf/WPS8591.pdf>.

¹⁷³ World Bank, 2020. Human Capital Index. Available at: <https://www.worldbank.org/en/publication/human-capital#Index>

¹⁷⁴ The Gambia Bureau of Statistics, 2019. Statistical Yearbook. Available at: <https://www.gbosdata.org/downloads>

¹⁷⁵ World Bank, 2020. Poverty and Equity Brief. Available at: https://databank.worldbank.org/data/download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/SM2020/Global_POVEQ_GMB.pdf

¹⁷⁶ UNDP, 2020. Human Development Report Country Notes. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/GMB.pdf

Against this background, digital literacy and skills remain underdeveloped with persistent gender disparities. As demonstrated by data from the UNICEF-supported Multiple Indicator Cluster Surveys (MICS) 2017-2019, only 10 percent of adolescent boys and 6 percent of adolescent girls (aged 15-18 years) in The Gambia are considered having ICT skills. Adolescents who are not equipped with these skills will have difficulties navigating online learning platforms and are at risk of not being able to fully leverage online services as adults. It is vital to close these skill gaps, including the digital gender divide, particularly given the importance of remote learning during the COVID-19 pandemic. Importantly, while the prevalence of ICT skills is normally higher among adolescents who attend school than among those who do not, the association between ICT skills and school attendance is weaker for girls than for boys. In The Gambia, 15 percent of in-school adolescent boys have ICT skills compared to 2 percent for those out-of-school (a 13 p. p. difference), while for adolescent girls the figure is 8 percent for those in-school versus 2 percent for those out-of-school (a 6 p. p. difference). The data suggest that ICT skills are facilitated by schooling, but there may be gender-related barriers that prevent adolescent girls from developing these skills to the same extent as boys¹⁷⁷.

Many primary and secondary schools are still struggling to provide learners with electricity, internet connectivity and necessary equipment. Only 38 percent of lower basic education schools, 55 percent of upper basic education schools, and 60 percent of senior secondary schools have electricity. MoBSE reports that almost 60 percent of all senior

secondary schools, around 40 percent of upper basic education schools, and 22 percent of lower basic education schools are equipped with computer laboratories, although these estimates appear overly optimistic, with exact data unavailable¹⁷⁸. In 2015, UNESCO reported a computer-to-child ratio of 277:1 for primary school learners in The Gambia, 66:1 in lower secondary, and 37:1 in upper secondary schools. At that time, The Gambia only included ICT education in upper secondary schools, 40 percent of which were reported to have no internet access¹⁷⁹. To address some of these issues, MoBSE contracted GAMTEL in 2014-2016 to provide fiber connections to all regional offices and establish videoconferencing amongst the regions, but the delivered bandwidth was lower than expected and the service contract was in the end aborted¹⁸⁰. Challenges with connectivity also extend to higher education, with bandwidth needs per 1,000 students expected to increase 100-fold by 2030.

The lack of infrastructure made the pivot for basic and secondary schools to online learning during the COVID-19 related school closures, all but impossible, while at the higher education level there were some limited successes to transition to online learning. For basic and secondary levels, the GoTG was able to provide alternative education through radio and television programming but learning through mobile or computer-based applications was not found to be possible given the absence of reliable internet and the lack of access to devices. Figure 15 shows the extent of educational activities households engaged in during school closures. Activities requiring active interaction with digital devices were engaged with the least.

¹⁷⁷ UNICEF, 2020. COVID-19 and Education: The Digital Gender Divide among Adolescents in Sub-Saharan Africa. Available at: <https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/>.

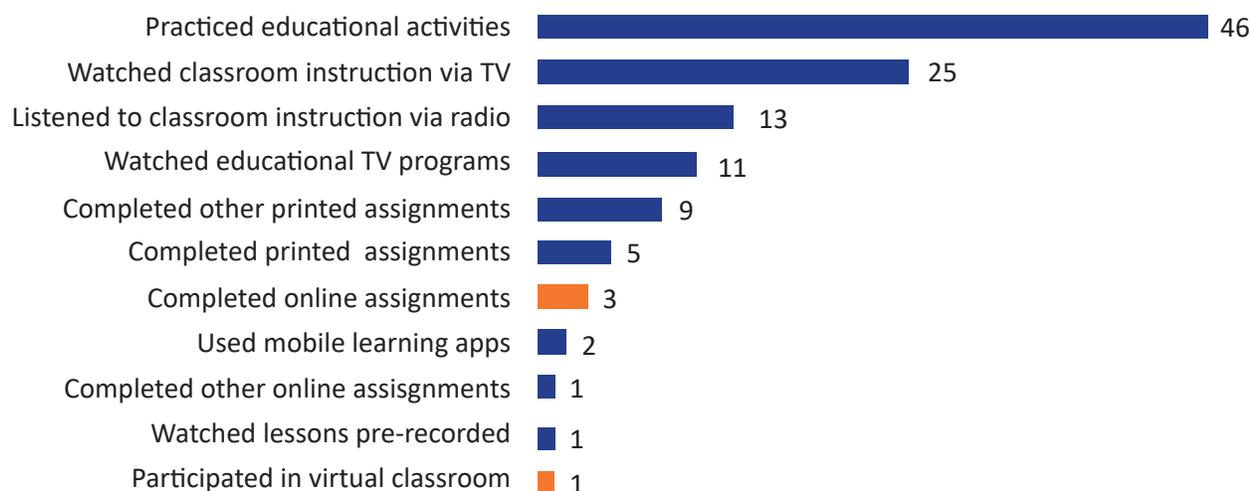
¹⁷⁸ MoBSE, 2020 <http://www.edugambia.gm/data-area/publications/year-book-2020.html>

¹⁷⁹ UNESCO, 2015. ICT in Education in Sub-Saharan Africa: A Comparative Analysis of Basic E-readiness in Schools. Available at: <http://uis.unesco.org/sites/default/files/documents/information-and-communication-technology-ict-in-education-in-sub-saharan-africa-2015-en.pdf>

¹⁸⁰ Notably, this effort has been restarted under the World Bank financed Education Sector Support Program Project Additional Financing (P173332) approved on June 10, 2021, which aims to outfit all regional offices with video conferencing facilities to help facilitate sector coordination.

The Gambia Digital Economy Diagnostic

FIGURE 15: Types of Educational Activities Conducted Since School Closures in The Gambia, 2020 (% of respondents)



Source: WB, GBOS and State and Peace-building Fund (SPF), 2020 High Frequency Surveys.

To address some of these issues at the basic and secondary education levels, in tandem with launching radio and television programs during school closures, the MoBSE worked to develop the iLearn Gambia platform. This online platform is meant to serve as a repository for any open-source lessons developed during school closures and beyond and is currently populated with available content. It also includes closed user groups, which began as early as 2012, to allow for content sharing amongst teachers, trying to develop the most effective ways to reach students unable to attend classes. Importantly, since 2019 headteachers in all public schools have been provided with email addresses based on the edugambia.gm domain, representing another critical step towards a more robust and technologically enabled training system. The GoTG could leverage these developments beyond the pandemic by expanding the iLearn platform, while capitalizing on the ongoing in-service teacher training reform to build a learning management system (LMS) to serve teachers. This effort should build on the lessons learned from earlier investments in what

became known as e-Learning teacher training courses, introduced in 2009. The aim was to develop e-learning resource centers equipped with solar panels and computer labs that could benefit teachers at the cluster level and accelerate professional learning, however at the time full connectivity and adequate bandwidth for the centers was found to be cost prohibitive to scale up the program. As such, the effectiveness of such initiatives depends critically on reliable internet connectivity, adequate access of teacher to devices, and capacity building on digital content management and development, all of which represent significant current gaps and require coordinated and sustained cross-sectoral engagement.

At the same time, promising advances in the Education Management Information System (EMIS) and data use have been recently achieved, laying the groundwork for digitally enabled data collection and skills development. For example, the use of smart devices by school heads to share teacher attendance data has been institutionalized for several years now.

In addition, significant efforts have been made to move towards a system, in which all students have unique IDs, allowing for better targeting and monitoring to support retention and services provision. The student ID data system was piloted in 200 schools in 2019 and is now rolled out to all schools¹⁸¹. In parallel, MoBSE and MoHERST are working to link individual student admission records and birth registration records to integrate data across ministries. Finally, a digitally enabled approach is pursued to improve the efficiency

of teacher deployment. By tapping into the information of the closed mobile user groups, teachers can use SMS to learn about school postings instead of undertaking a cumbersome travel to regional offices at the start of each academic year which used to be the custom before. All these efforts represent critical steps towards building a more solid environment to support digital skills initiatives and it would be important to build on the lessons-learned when designing future interventions.

BOX 11: Piloting Progressive Science Initiative and Progressive Math Initiative (PSI-PMI)

In 2012, the WB piloted the PSI-PMI model in 24 upper basic and senior secondary schools in The Gambia – the first country in SSA to implement the program. The initiative provided computers for teachers, customized software, and relevant textbooks. Student-centered environments were promoted through interactive teaching and learning methods, group discussions, Interactive White Board Software (IWB), and a hand-held student polling device. The initiative aimed to alter the way science and mathematics subjects are traditionally taught. Enhanced digital literacy was not considered a central objective, but the model itself necessitated improved digital literacy skills amid both teachers and students.

Evaluations show that the PSI-PMI program has significantly improved student performance – up to 9 p.p. in mathematics, 4 p.p. in English, and 15 p.p. (a threefold increase) among students obtaining credit in both mathematics and English (a criterion for college admission in The Gambia). This suggests that technology and the student-centered approach has influenced the efficacy of the overall learning.

The PSI-PMI program is now scaled with an additional 48 senior secondary schools currently being equipped, bringing the total number of beneficiary schools to 72. While MoBSE aims to expand the program to all public upper basic and senior secondary schools in the country, challenges that need to be addressed include timely maintenance of equipment, access to reliable electricity and internet, physical classroom environments that are more conducive to participatory learning, and better alignment with the official school curriculum. Beyond The Gambia, Gambian trainers have trained Ministries of Education in Nigeria, Niger, and Rwanda to deliver the same program.

Source: Blimpo, M., Gajigo, O., Owusu, S., Tomita, R., Xu, Y. 2020. Technology in the Classroom and Learning in Secondary Schools.

¹⁸¹ These efforts are supported through the Education Sector Support Program Project (P162890), financed jointly by the World Bank and the Global Partnership for Education.

The Gambia Digital Economy Diagnostic

In addition to school, the home environment can be a critical space for developing and practicing digital skills, however, gender gaps permeate there too.

In all countries covered by UNICEF MICS analysis, both adolescent girls' and boys' ICT skills are greater among individuals who have computers at home. In The Gambia, 42 percent of adolescent boys and 36 percent of adolescent girls report having a computer at home and using it at least once over the week. Clearly, the presence of a computer in the home doesn't erase the digital gender divide. Among households with computers in The Gambia, girls have lower levels of ICT skills than boys. Gender norms that limit girls' use of digital technologies may contribute to this gap. Parental restrictions are among the most common barriers to digital access for children, and in The Gambia like in many other countries, concerns about girls' online safety and the fear that girls will become exposed to content that goes against their community's values, mean girls are discouraged from using the internet¹⁸².

TVET and higher education institutions, even those that do not explicitly focus on ICT specific programs or degrees, can (and should) play an important role in digital skills development, particularly in providing intermediate level skills. This is reflected in the significant role technology plays in teaching and learning, and the impact TVET and HEIs have on digital adaptation, as it relates to specific technical fields (e.g., staying informed on how digital technology influences different sectors of employment and ensuring students are versed and literate in these new technologies). However, there is a need to more strategically align TVET and higher education training and degrees with market needs, including in areas of digital technology.

For example, curricular reviews to align existing computer science degrees with industry expectations could be a starting point, and there is an appetite for a more entrepreneurial TVET and higher education model that promotes and facilitates opportunities for self-employment, innovation, and technology-based businesses. In The Gambia, the broader role of TVET and higher education in digital skills development of post-secondary institutions is further undermined by the lack of necessary digital infrastructure and trained TVET and higher education instructors to adequately teach both ICT specific courses, as well as incorporate new technologies into teaching and learning across a diverse set of topics, such as for example, agro-processing, fisheries, tourism, business management, and creative industries.

Of the existing TVET Institutions, 48 offer ICT skills training, ranging from novice to advanced levels.

Approximately 3,000 students of different ages and stages in their careers are trained annually in ICT user skills, particularly use of Microsoft Office, modeled after the International Computer Driving License (ICDL)¹⁸³. Although the National Accreditation and Quality Assurance Authority (NAQAA) has an IT User Skills Curriculum standardized for all institutions, few TVET institutions implement it¹⁸⁴. At the same time, at least eight TVET institutions offer international professional courses, including CISCO networking, web applications, and others, producing between 600 and 1,200 graduates annually.

There are significant gender and urban/rural divide in access to digital skills training in TVET. A survey of 25 TVET institutions report an approximately 30 percent

¹⁸² UNICEF, 2020. COVID-19 and Education: The Digital Gender Divide among Adolescents in Sub-Saharan Africa. Available at: <https://blogs.unicef.org/evidence-for-action/covid-19-and-education-the-digital-gender-divide-among-adolescents-in-sub-saharan-africa/>.

¹⁸³ The ICDL comprises several modules, including computer essentials (file management, security and wellbeing, desktop and icons, etc.), word processing, spreadsheets, presentations, working with databases, online essentials, etc.

¹⁸⁴ Interview with NAQAA, conducted as part of DE4A data collection.

increase in enrollments over the past five years. Women represent 36 percent of the ICT workforce and approximately 40 percent of ICT students, many of whom are encouraged by equity incentives, such as discounted tuition fee structures or scholarships¹⁸⁵. According to the same survey, in terms of quality, half of TVET graduates is qualified as ‘poorly prepared’, whereas they represent 56 percent of the employees in the ICT sector. The main occupations that companies find hard to fill include software and multimedia developers and analysts, database specialists, ICT network administrators and hardware professionals, telecommunication engineers, content technicians, etc. TVET institutions provide limited to no courses to pursue these occupations. The low education level provided by TVET institutions appears to be one of the primary sources of the skills gap in the ICT sector¹⁸⁶.

In addition, two universities offer degree-level courses in ICT. The American University of West Africa launched a Computer Science program in 2014 and has since graduated 26 students, nine of whom are female. The program has a strong practical component with fully equipped computer labs for student use, and a six-months internship integrated in the third-year curriculum. At the University of The Gambia, the School of Information Technology and Communication, established in 2010, offers two bachelor’s degree programs - in computer science and in information systems. As of 2021, the School only has one full-time staff member who holds a doctoral qualification with most faculty members being part time lecturers. To date, the School counts 269 graduates: 181 in computer science and 88 in information systems. Collectively, 23 percent of graduates are women. This suggests that qualifications in computer science

and information systems are not at the appropriate level to support growth in other sectors. Further, lack of integration of computer science into tracks that train teachers (at both primary and secondary levels), means that computer science is not making its way into senior secondary schools and universities. Moving forward, MOICI intends to develop an innovation hub at the University of The Gambia, which aims to expand opportunities for students, draw scholars and researchers, and encourage collaborations with the private sector. Another initiative in higher education is the conversion of the Gambia Technical Training Institute (GTTI) into a university of engineering that is aimed to foster innovation and contribute to specialized digital skills development. GTTI is supported through the WB-financed Africa Centers of Excellence (ACE) Project that is assisting the GoTG in developing an Emerging Center of Excellence in Science, Technology, Engineering and Entrepreneurship¹⁸⁷.

Importantly, current connectivity gaps in the Gambian HEIs highlight the need to invest in the National Research and Education Network (NREN), which is critical to allow interconnecting universities and boosting research and development. Broadband connectivity is central to the HEIs’ mission of teaching, research and community outreach. In the absence of NREN, as well as minimum standards for connectivity, the Gambian HEIs appear to be lagging far behind the rest of the world in terms of both availability and quality of broadband connectivity, which has presented a major setback to higher education during the COVID-19 pandemic. While further investigation is warranted, leveraging a model built by the WB for the Feasibility Study to Connect All African Universities to High-Speed Internet, the Gambian HEIs are estimated

¹⁸⁵ JTC, 2018. Youth and Trade Roadmap of The Gambia. Available at: <https://www.yep.gm/tool/youth-and-trade-roadmap>

¹⁸⁶ Ibid.

¹⁸⁷ Supported Emerging ACE institutions receive funding to strengthen, through partnerships, their undergraduate and postgraduate programs (with a focus on master’s level) that will help their students develop the skills necessary to address national development challenges.

The Gambia Digital Economy Diagnostic

to currently collectively need 14 Gbps of international bandwidth (based on a bandwidth need of 0.2 Gbps per 1,000 students and an estimated student population of 13,674 in 2021¹⁸⁸). In 2025, the projected total bandwidth needs will increase to 35 Gbps, while in 2030 they will rise further to 443 Gbps¹⁸⁹. Meeting this expanding demand will require significant investments to roll out NREN as well as policy and regulatory reform to improve access to and the quality of the national backbone (as elaborated in Chapter 1). Given the small size of The Gambia, it would be also critical to ensure interconnection to the West and Central African Research and Education Network (WACREN) to take advantage of knowledge exchange at the regional level.

In this context, most ICT companies resort to on-the-job trainings, with half using online training courses or relying on external expertise. Less than half of ICT companies employ interns, facilitate mentorships, or promote trainings of their employees at vocational schools or universities¹⁹⁰. At the same time, several organizations aimed at providing support for entrepreneurs also offer or facilitate access to a range of digital skills courses, and work to fill some critical gaps in digital skills provision. For example, Jokkolabs Banjul offers courses on computer literacy and information technology, software applications, web authoring, IT support, multimedia, etc. as well as a diploma course in computer science, and business management¹⁹¹. The Woman Boss, an organization aimed at empowering women and girls in entrepreneurship, leadership, and innovation, offers training opportunities to female entrepreneurs, while the Girls/Women in Tech Series offers computer coding courses for women in collaboration with The Disruptive Lab. Some private sector companies also offer targeted trainings – for

example, Insist Global (a sister company of the InsistNet ISP) established in 2016 an Insist Academy to provide specialized ICT competence training for individuals and organizations.

Digital Skills Demand

The ICT sector in The Gambia is small but growing. Only 1.5 percent (around 2,500) of employed Gambians work in the ICT sector. More than half of ICT companies are owned by youth, with recent years witnessing a further increase in digital SMEs¹⁹². As mentioned in Chapter 4, the country has a small, but growing ICT start-up ecosystem, working closely with technology hubs and incubators, such as Jokkolabs and Disruptive Lab, among others. The ITAG, with support from YEP, MOICI, and NAQAA is playing a leading role in attempting to standardize ICT trainings and quality standards to develop the local ICT ecosystem. As part of these efforts with the support from YEP, the NAQAA has trained local ICT assessors to monitor and evaluate TVET centers offering ICT courses. Moreover, as part of the ICT ecosystem development, efforts to raise awareness about employment opportunities in the ICT sector have been foregrounded through the first Gambian ICT Expo, hosted by ITAG in 2020, as well as awareness campaigns led by the Internet Society of the Gambia (ISOC). Future promising initiatives might include formalizing regulations for a gig-economy, or flexible employment, which has been an area of growth in the sub-region but remains nascent in The Gambia. Such alternative employment options could enhance more inclusive job creation and promote career development. The first step could be to deepen an understanding of the specific challenges and opportunities that youth in The Gambia face in

¹⁸⁸ The estimates are based on student population of three universities and eight TVETs identified in The Gambia, as opposed to actual bandwidth delivered to these institutions.

¹⁸⁹ World Bank, 2021. Feasibility Study to Connect All African Universities to High-Speed Internet (forthcoming).

¹⁹⁰ ITC, 2018. Promoting SME Competitiveness in The Gambia. Available at: https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/brochure_ITC-Gambia%2010_web.pdf

¹⁹¹ ITC, 2018. Youth and Trade Roadmap of The Gambia.

¹⁹² Ibid.

#DE4A

accessing and benefitting from work opportunities through digital platforms.

Overall, weak digital skills are one of the key binding constraints for the digital economy development in The Gambia, as evidenced in all four preceding Chapters. For example, limited digital skills in the public sector, particularly among senior government officials, have emerged as a key constraint to support the development and implementation of digital public platforms. Similarly, insufficient skills in the domains of the development of hardware and software solutions, digital financial products and services and other inputs of digital businesses, including e-commerce platforms, act as a critical stifling factor for broad-based digital transformation of the Gambian economy. This points to the need for more digitally literate citizenry as well as digitally savvy public sector workers to build and

adopt the systems and services needed for a thriving digital economy.

Important data gaps exist and addressing them would be important to further elucidate the current situation of digital skills development in the country. For example, anecdotal evidence has been emerging (based on discussions with MoBSE) on expanding community-driven initiatives in education / digital skills trainings that complement government efforts at school level. It is warranted to explore this further to see how these initiatives could be best supported and scaled up. Moreover, another underexplored question relates to digital skills trainings for illiterate adults and informal MSMEs, which could have significant impact in The Gambia in view of its sizeable informal sector, and which requires additional / follow-up analysis.

Recommendations

The GoTG has scope to leverage important policy directives that position ICT as a central component of the country's socioeconomic growth, and a vibrant ecosystem of support for young people interested in the digital domain. However, the absence of standardized measures to determine the state and development of digital skills, and the lack of a formal digital skills development plan integrated in the education curriculum are acting as roadblocks. In addition, the over-emphasis on lower-level digital qualifications offered by TVET institutions, and a general lack of opportunities to develop more advanced digital competencies, compounded by critical infrastructure challenges and high data costs are some of main factors impeding the Gambians to fully engage in the digital economy and reap digital dividends. In this context, key recommendations include the following:

R 5.1 [Quick win] Leverage a small, but vibrant youth / MSMEs support ecosystem as well as private sector partnerships, and the diaspora to expand digital skills training offerings. The private sector is generally well-positioned to provide affordable, accessible, market-relevant, and inclusive options for individuals of all ages to gain digital skills that will enable them to function and succeed in an increasingly digital world. In The Gambia, private sector companies, including MSMEs, in collaboration with ITAG and NAQAA and support from multiple donors, have already established an ecosystem, offering a range of programs and courses in digital skills. Further partnerships between enterprises, TVET and HEIs, other training providers, and hubs could help expand training opportunities, such as apprenticeships or work-integrated learning (WIL) initiatives, rapid skill bootcamps (based on the Andela's example), community development programs,

The Gambia Digital Economy Diagnostic

or ICT links with key sectors, such as agriculture and tourism, while potentially lowering course fees. More broadly, systematic private sector engagement in the provision of digital skills could be leveraged further. Over the past few years, several partnerships between education institutions and the public sector, on the one side, and major technology providers (e.g., Microsoft, Facebook, Coursera, AWS and Code.org), on the other side, have come into play on the continent and could be of potential interest in The Gambia. Furthermore, the diaspora represents a potential pool of resources that could be further leveraged in The Gambia to support digital skills development not only through investment but also through technical expertise and know-how.

R 5.2 [Quick win] Include ICT competencies in the ongoing Gambia College of Education, and Basic Education Curriculum reforms. This is a clear opportunity to ensure that basic digital skills are built into the primary and secondary curriculum, and that all teachers in lower basic schools are equipped with minimum digital competencies and pedagogical knowledge to support integration of technology into classrooms. As MoBSE is simultaneously reforming in-service teacher training and the overall professional development pathway for teachers, it is also an opportune time to explore options for developing a learner management system (LMS) for educators.

R 5.3 [High Priority] Tackle critical connectivity challenges in education institutions. While national policy documents are candid about the need to address infrastructure challenges, momentum is needed from the GoTG and other relevant stakeholders to ensure that (i) all primary and secondary schools have electricity and internet, having access to appropriate maintenance support; and (ii) TVET and HEIs have

reliable internet connectivity, as defined by minimum broadband standards. At the primary and secondary levels, this will require significant investments and cross-sectoral collaboration to ensure electricity and internet access. At the post-secondary level, investing in NREN and its interconnection with WACREN to enable broadband access for all education institutions and boost knowledge exchange and information flows between them on the regional level will be important. For HEIs and TVET institutions, minimum connectivity standards to set norms for connection speeds by size of institution constitute an important first step.

R 5.4 [High Priority] Develop a comprehensive national digital skills framework, covering the full continuum of education levels and grounded in a solid analysis/ understanding of market needs and prospects. A comprehensive plan or strategy to implement digital skills development across the education continuum needs to be developed, in alignment with NDP, Education Sector Plan, TVET Roadmap, and ICT-related policies and strategies. This should include a well-defined approach to developing basic, intermediate, and advanced digital literacy skills, accompanied by ambitious, yet feasible targets. While uncertain due to The Gambia's fragility, this process should be underpinned by a multi-stakeholder process to forecast medium-term demand for digital skills in different sectors.

R 5.5 [High Priority] Enhance the breadth and quality of TVET offerings in the digital domain. While many TVET institutions offer ICT trainings, these courses focus mainly on basic IT skills, and are not aligned with NAQAA standards. The narrow offering prevents the growing demand for certain professional qualifications, such as graphic design or multimedia production, from

being met. Moreover, available software and website development courses are deemed by the private sector to be of poor quality. Recent efforts of NAQAA in collaboration with ITAG and others to boost ICT skills might provide an appropriate platform to raise concerns about the quality and relevance of qualifications and find solutions to better align labor market supply with the ICT sector demand.

R 5.6 [High Priority] Expand options for Gambians to obtain tertiary degree-level qualifications in ICT. While employers rate the quality of university ICT graduates

higher than TVET graduates, there are very few options for those who wish to pursue a formal degree in ICT and no options for those who wish to pursue a postgraduate qualification in ICT. It is important to invest in expanding current higher education offerings and strengthening highly specialized degrees. Developing partnerships with other institutions, including on the regional level, could further widen Gambian students' opportunities.



Photo credit – Alhagie Manka

CONCLUSION

Cross-Cutting Issues and A Way Forward

The development of the digital economy represents an opportunity for The Gambia to address its fragility, while spurring inclusive growth, job creation and innovation. The GoTG is cognizant of the importance of digital technologies and aspires to accelerate digital transformation of its public sector and the entire economy, “making The Gambia a digital nation” (as stated in the NDP).

However, much remains to be accomplished to allow The Gambia to keep pace with the regional and global trend and fully leverage the potential of digital technologies to accelerate inclusive socioeconomic growth. Achieving the GoTG’s ambitions will require investments to address critical bottlenecks in international connectivity, reinvigoration of the wholesale network reform effort to boost competition, attract private sector investments and improve broadband affordability and uptake, while strengthening independent of political capture sectoral regulations. Continuous efforts are also needed to develop user-centric interoperable digital public platforms, creating enabling environment for a stronger uptake of DFS, adequate support to entrepreneurs, and fostering of digital literacy and skills. Moreover, the GoTG should proceed with important policy and regulatory reforms, some of which may take significant political will to overcome institutional inertia and vested interests.

Some critical cross-cutting areas have been identified through the analysis, addressing which would enable The Gambia to strengthen its ability to deal with various digital economy constraints.

Improving strategic institutional coordination: While The Gambia is making strides towards rolling out its digital vision, a whole-of-government approach is necessary to bring together various public constituencies, simplify governance architecture and strengthen strategic oversight. At the institutional level, the broad digital economy sector is currently characterized by a complex governance fabric, in which the multiplicity and instability of decision centers, as well as the lack of clarity over roles and responsibilities of various institutions, result in initiatives that lack shared vision, strategic steering, or day-to-day advancement. Many key objectives set by existing strategies and policies remain far from being achieved, including enhanced access to broadband, boosted use of ICT to increase efficiencies across all socioeconomic sectors or improved digital literacy. This points to an underlying issue related to overambitious strategy design and / or weak political buy-in. It also signals the lack of effective institutional coordination or access to resources adequate to support implementation.

The Gambia Digital Economy Diagnostic

Enhancing regional integration, the importance of which is hard to overestimate for a small country, like The Gambia, with a narrow domestic market, fully enclaved by Senegal. This integration can take several forms, be it by fully implementing the electronic communications framework of the West African Economic and Monetary Union (WAEMU) and ECOWAS rules and regulations (the domestication of the ECOWAS regulations on free roaming expected in 2021 is a step in the right direction); exploring regional spectrum auctions for broadband connectivity; leveraging other neighbouring entrepreneurship ecosystems to promote access to additional incubation/acceleration support as well as access to finance and markets; ensuring that a national research and education network (NREN), when it is rolled out to connect major education and research institutions in the country, is itself connected to a regional West Africa REN (WACREN); etc.

Fast-tracking the adoption and implementation of cybersecurity and data protection legislation. Overarching cybersecurity policy and strategy,

government cloud strategy as well as critical information infrastructure protection (CIIP) policy framework have been pending approval since 2020. Moreover, the relevant bills on cybercrime and on the national data protection and privacy were drafted in 2019-2020 but have not yet been passed into law and are pending Cabinet / Parliament approval. Adopting and effectively implementing these legislations, as underscored by the 2021 World Development Report on Data for Better Lives will have ripple effects across digital economy, including for the use of digital systems in social protection, e-ID, e-commerce, shaping an enabling environment for a wider and safer adoption of a digital technologies.

In addition to these critical cross-cutting areas, the paper has set forth a series of recommendations for each of the five foundational areas of the digital economy and the WB stands ready as a committed partner to support the GoTG in its journey towards digital transformation.

RECOMMENDATION	DIGITAL ECONOMY FOUNDATIONAL AREA
QUICK WINS (short-term)	
<p>Lift the existing moratorium on fiber roll-out in alignment with the IC Act and licensing regime</p> <p>Incentivize and enforce active and passive infrastructure sharing through holistic regulatory measures both within the sector and across sectors</p>	Digital Infrastructure
<p>Adopt draft regulations and guidelines that support DFS development, including “Know Your Customer” (KYC) Lite Framework, and clarify licensing as well as operation guidelines for e-money wallet providers</p> <p>Finalize and adopt the NFIS</p> <p>Boost electronic transactions volume by increasing the number of entities using the payment infrastructure and adopting policies to incentivize electronic payments</p>	DFS
<p>Scale up the digital addressing solution (Google + Code) beyond the capital city of Banjul to unlock e-commerce potential</p> <p>Continue reforming business regulations that enable digital businesses to operate efficiently, including by adopting provisions in e-payments / e-transactions and domain name registration</p>	Digital Businesses
<p>Leverage a small, but vibrant ecosystem of youth start-ups / MSMEs support structures as well as private sector partnerships to expand digital skills trainings</p> <p>Include ICT competencies in the ongoing Gambia College of Education Reform and basic and secondary curriculum revision process</p>	Digital Skills
HIGH PRIORITY (short-to-medium term)	
<p>Ensure adequate and cost-efficient international redundancy by acquiring access to the second submarine cable with a separate landing station, while concomitantly supporting an alternative terrestrial fiber link to the border with Senegal</p> <p>Through increased private sector participation, complete the wholesale network management reform to boost the utilization of this critical infrastructure and enable related debt payments, and leverage other state-owned digital infrastructure assets in a more strategic way</p> <p>Strengthen sector governance and institutional arrangements by further separating ICT policy from ICT regulations and reinforcing independence and mandate of PURA</p> <p>Conduct a new set of market analysis that defines markets for regulatory consideration, identifies operators with significant market power and formulates regulatory remedies to address market failures</p> <p>Accelerate adoption and ensure effective implementation of cybersecurity and data protection legislation</p>	Digital Infrastructure

The Gambia Digital Economy Diagnostic

<p>Improve efficiency and interoperability of core government operations and trust services by (i) developing and implementing an interoperability framework at the inter-ministerial level; (ii) adopting an Enterprise Architecture to allow for the use of common IT standards; (iii) introducing appropriate incentives to encourage the compliance with these standards;</p> <p>Facilitate strategic and coordinated leadership for digital platforms</p> <p>Expand accessibility, quality, and functionality of existing digital public service delivery platforms, with the focus on the e-ID</p> <p>Improve access to and quality of public services through increasing access points, transactional e-services, implementing life journey/scenarios, data exchange and interoperability</p>	<p>Digital Public Platforms</p>
<p>Strengthen the supervisory and oversight capacity of the CBG and foster cooperation amongst regulators and other relevant government entities</p> <p>Enact a government directive that harmonizes and prioritizes digitization efforts, particularly government payments and collections</p> <p>Ensure that the upcoming NDP includes a clear roadmap for DFS to highlight its development as a priority;</p> <p>Upgrade payments systems infrastructure (notably GAMSWITCH) and achieve full interoperability across all FSPs and products, particularly between digital wallets and bank accounts, which could boost DFS uptake and use</p> <p>Enhance the functionality of current credit infrastructure to improve its usage, efficiency, and effectiveness</p> <p>Develop a National Financial Literacy Program to address issues related to the lack of awareness and financial education</p>	<p>DFS</p>
<p>Consider adopting a Start-up Act or similarly designed incentive-based provisions to promote innovation, implement suitable legal regimes for start-ups and offer stimulus packages</p> <p>Expand funding opportunities for digital businesses, including through (i) the provision of pre-seed financing schemes for digital businesses at early stages of growth, (ii) the development of PE / VC regulations, (iii) the introduction of alternative collateral options for loans, and (iv) the support to business angel investor networks (risk sharing mechanisms and blended finance model);</p> <p>Strengthen the capacity of existing support organizations to provide tailor-made services to entrepreneurs as well as enabling large private sector companies and the diaspora to support local ventures.</p>	<p>Digital Businesses</p>

<p>Tackle critical connectivity challenges in education institutions at all levels, including by investing at the tertiary level in NREN and connecting it to the regional network (WACREN)</p> <p>Develop a comprehensive national digital skills framework, covering all levels of education and grounded in solid analysis/understanding of market needs and prospects</p> <p>Enhance the breadth and quality of TVET offerings in the digital domain</p>	Digital Skills
LONG-TERM	
<p>Introduce service and technology neutral licenses</p> <p>Review sector specific fees and taxes to promote development and technological innovation</p> <p>Mobilize investment into Internet Exchange Point (IXP) and strengthen local expertise for its management</p>	Digital Infrastructure
<p>Increase citizen/government interaction and civic participation through CivicTech to enhance transparency and accountability of public services</p> <p>Strengthen the capacity of public institutions for evidence-based policy making, leveraging the use of Big Data</p>	Digital Public Platforms
<p>Establish a legal and regulatory environment conducive to the development of diverse DFS (including e-signature and fintech)</p> <p>Ensure full modernization of payment systems infrastructure to support a broader agenda for interoperability, going beyond agents</p> <p>Promote the development of a large DFS merchant acceptance network for payments in-store</p> <p>Explore options for regional collaboration to address scale-up difficulties</p>	DFS
<p>Consider boosting equity funding for digital businesses in The Gambia through a VC tax incentive regime</p> <p>Facilitate re-risking early stage investment to enable the diaspora to invest in digital enterprises at home (through diaspora bonds or “patriotic discounts”)</p> <p>Develop and implement the vision of making The Gambia a hub for software developers</p>	Digital Businesses
<p>Expand options for Gambians to obtain tertiary degree-level qualifications in ICT</p>	Digital Skills



Photo credit – Alhagie Manka

REFERENCES

- Afrobarometer (2019). **Africa's Digital Gender Divide May Be Widening, Afrobarometer Survey Finds.** News Release of 4 November 2019. Available at: https://afrobarometer.org/sites/default/files/press-release//ab_r7_pr3_africas_digital_gender_divide_may_be_widening.pdf.
- Björkegren, D. (2019). **Competition in Network Industries: Evidence from the Rwandan Mobile Phone Network** (SSRN Scholarly Paper No. ID 3527028). Social Science Research Network, Rochester, NY.
- Broadband Commission for Sustainable Development (2019). **Connecting Africa Through Broadband: A strategy for Doubling Connectivity by 2021 and Reaching Universal Access by 2030.** Available at: https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf.
- Choi, J., Dutž, M., Usman, Z. (2019). **The Future of Work in Africa: Harnessing the Potential of Digital Technologies for All.** Washington, DC: World Bank.
- Czernich N., Falck, O., Kretschmer, T., Woessmann L. (2009). **Broadband Infrastructure and Economic Growth.** CESifo Working Paper Series 2861, CESifo. Available at: https://ideas.repec.org/p/ces/ceswps/_2861.html.
- Dara, N. R. (2018). **The Global Digital Financial Service: A Critical Review to Achieve for Digital Economy in Emerging Markets.** International Research Journal of Human Resources and Social Sciences, 5(1): 141-163.
- Edquist, H., Goodridge, P., Haskel, Li, X., Lindquist, E. (2018). **How Important Are Mobile Broadband Networks for the Global Economic Development.** Information Economics and Policy, Volume 45, December 2018, Pages 16-29. Available at: <https://www.sciencedirect.com/science/article/pii/S0167624517301695>.
- Deloitte (2019). **Reimagining the Role of Technology;** by Kark, K., Briggs and B., Tweardy, J. Available at: <https://www2.deloitte.com/us/en/insights/focus/cio-insider-business-insights/reimagining-role-of-technology-business-strategies.html>.
- Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., and Hess, J. 2018. **The Global Findex Database 2017: Measuring Financial Inclusion and the Fintech Revolution.** Washington, DC: World Bank. Doi:10.1596/978-1-4648-1259-0.
- Global Entrepreneurship and Development Institute (2019). **Global Entrepreneurship Index.** Available at: <https://theledi.org/global-entrepreneurship-and-development-index/>.

The Gambia Digital Economy Diagnostic

GSMA (2016). **Digitalization and Mobile Sector Taxation in Europe: The experience in Hungary**. Available at: https://www.gsma.com/mobilefordevelopment/wp-content/uploads/2016/03/GSMA_Digitalisation_and_mobile_sector_taxation_experience_in_Hungary.pdf.

Hallward-Driemeier, M., Nayyar, G., Fengler, W., Aridi, A., and Gill, I. 2020. **Europe 4.0: Addressing Digital Dilemma**. World Bank, Washington DC. Available at: <https://openknowledge.worldbank.org/handle/10986/34746>

IFC, Google (2020). **E-Conomy Africa (2020)**. Available at: <https://www.ifc.org/wps/wcm/connect/e358c23f-afe3-49c5-a509-034257688580/e-Conomy-Africa-2020.pdf?MOD=AJPERES&CVID=nmuGYF2>.

IMF (2017). **Digital Revolutions in Public Finance**. Washington, DC: International Monetary Fund.

International Trade Centre (ITC) (2018). **Youth and Trade Roadmap of The Gambia**. Available at: <https://www.yep.gm/tool/youth-and-trade-roadmap>.

ITC (2018). **Promoting SME competitiveness in The Gambia**. Available at : https://www.intracen.org/uploadedFiles/intracenorg/Content/Publications/brochure_ITC-Gambia%2010_web.pdf.

ITC (2019). **The Entrepreneurship Ecosystem in The Gambia**. Available at: <https://yep.gm/storage/app/uploads/public/5df/390/fd4/5df390fd4f2fe746827579.pdf>.

ITU (2013). **Taxing Telecommunication/ ICT services: An Overview**. Available at: <https://www.itu.int/en/ITU-D/Regulatory-Market/Documents/Publications/Taxation2%20E-BAT3.pdf>.

ITU (2020). **How Broadband, Digitization and ICT Regulation Impact the Global Economy**, Available at: https://www.itu.int/en/ITU-D/Conferences/GSR/2020/Documents/ITU_Global_Econometric_Modeling_GSR-DiscussionPaper.pdf.

ITU and World Bank (2020). **Digital Regulation Handbook**. Available at: <https://www.itu.int/en/myitu/Publications/2020/08/31/09/09/Digital-Regulation-Handbook>.

Koutroumpis, P. (2018). **The Economic Impact of Broadband: Evidence from OECD Countries**. April 2018, https://www.ofcom.org.uk/__data/assets/pdf_file/0025/113299/economic-broadband-oecd-countries.pdf.

MacMillan Keck (2017). **Fiscally Neutral Liberalization of International Telecommunications Services in The Gambia** (unpublished).

Qiang, C., Rossotto, C., and Kimura, K. (2009). **Economic Impacts of Broadband. In Information and Communications for Development**. Washington D.C.: World Bank.

OECD (2011). **Economic Impact of Internet/Broadband Technologies**. 2011, DSTI/ICCP/IE(2011)i/Rev1.



OECD (2014). **The Digital Economy, New Business Models and Key Features in Addressing the Tax Challenges of the Digital Economy**. OECD, Paris, Available at: <https://doi.org/10.1787/9789264218789-7-en>.

OECD (2020). **OECD Tourism Trends and Policies 2020**. OECD, Paris, Available at: <https://doi.org/10.1787/6b47b985-en>.

Oughton, E., Comini, N., Foster, V., and Hall, J. (2021). **Policy Choices Can Help Keep 4G and 5G Universal Broadband Affordable. World Development Report 2021 Background Paper**. Available at: <http://documents1.worldbank.org/curated/en/658521614715617195/pdf/Policy-Choices-Can-Help-Keep-4G-and-5G-Universal-Broadband-Affordable.pdf>.

Pazarbasioglu, C., Garcia Mora, A., Uttamchandani, M., Natarajan, H., Feyen, E., and Saal, M. (2020). **Digital Financial Services**. Available at : <http://pubdocs.worldbank.org/en/230281588169110691/Digital-Financial-Services.pdf>.

Ratha D., De, S., Kim, E. J., Plaža, S., Seshan, G., and Yameogo, N. (2020). **“Migration and Development Brief 32: COVID-19 Crisis through a Migration Lens**. KNOMAD-World Bank, Washington, DC.

Scott, Colin (2012). **Does Broadband Internet Access Actually Spur Economic Growth?** Available at: <http://www.eecs.berkeley.edu/~rcs/classes/ictd.pdf>.

Stork, C. (2020). Chapter 7. **Regulatory Responses to Evolving Technologies. Digital Regulation Handbook**. International Telecommunication Union and The World Bank, 2020, ISBN: 978-92-61-31651-8.

Telegeography (2020). **Global Comms Database: Gambia**.

UNCDF (2019). **Power Assessment of Women’s Economic Empowerment in The Gambia**. Available at: <https://www.uncdf.org/article/5043/power-assessment-of-womens-economic-empowerment-in-the-gambia>.

UNCTAD (2015). **Review of E-commerce Legislation Harmonization in ECOWAS**. UNCTAD, Geneva. Available at: https://unctad.org/system/files/official-document/dtlstict2015d2_en.pdf.

UNCTAD (2017). **Formulating the National Entrepreneurship Policy**. UNCTAD, Geneva, Available at: https://unctad.org/system/files/official-document/diae2017d1_en.pdf.

UNCTAD (2017). **Regional Integration Creates Opportunities for SME’s and Women**. UNCTAD, Geneva. Available at: <https://unctad.org/news/regional-integration-creates-opportunities-smes-and-women>.

UNDP (2020). **Human Development Report. Country Notes – The Gambia**. Available at: http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/GMB.pdf.

The Gambia Digital Economy Diagnostic

UNESCO (2015). **Information and Communication Technology in Education in Sub-Saharan Africa: A Comparative Analysis of Basic e-Readiness in Schools**. Available at: <http://uis.unesco.org/sites/default/files/documents/information-and-communication-technology-ict-in-education-in-sub-saharan-africa-2015-en.pdf>.

World Bank (2016). **World Development Report 2016: Digital Dividends**. Washington D.C.: World Bank. Available at: <https://www.worldbank.org/en/publication/wdr2016>.

World Bank (2019a). **Options Study for State-Owned Communications Infrastructure in The Gambia: Final Report**; prepared by MacMillan Keck (unpublished).

World Bank (2019b). **ECOWAS ICT Africa Regulatory Watch Initiative on Licensing Regimes, OTTs and International Gateway Liberalization**. Full Report.

World Bank (2019c). **The Gambia: Policies for Private Sector-Led Growth—Achieving Sustainable and Inclusive Growth**. Internal document, World Bank, Washington DC. © World Bank.

World Bank (2020a). **Systematic Country Diagnostics for the Republic of The Gambia**. Washington, DC. Available at: <http://documents1.worldbank.org/curated/en/782131589568063735/pdf/The-Gambia-Systematic-Country-Diagnostic.pdf>.

World Bank (2020b). **Africa Pulse: Charting the Road to Recovery**. Available at: <https://www.worldbank.org/en/publication/africa-pulse>.

World Bank (2020c). **Doing Business 2020: Comparing Business Regulation in 190 Economies - Economy Profile of Gambia, The** (English). World Bank, Washington, DC. © World Bank.

World Bank (2020d). **Poverty and Equity Brief – The Gambia**. Available at: https://databank.worldbank.org/data/download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/SM2020/Global_POVEQ_GMB.pdf.

World Bank (2020e). **Strategy for Fragility, Conflict and Violence 2020-2025**. Washington, D.C.: World Bank Group. Available at: <http://documents.worldbank.org/curated/en/844591582815510521/World-Bank-Group-Strategy-for-Fragility-Conflict-and-Violence-2020-2025>.

World Bank (2021a). **World Development Report: Data for Better Lives**.

World Bank (2021b). **Women, Business and the Law 2021**. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/35094/9781464816529.pdf?sequence=7&isAllowed=y>.



World Bank (2021c). **Africa Pulse. Covid-19 and the Future of Work in Africa: Emerging Trends in Digital Technology Adoption.** Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/35342/9781464817144.pdf?sequence=10&isAllowed=y>.

World Bank (2021d). **Inclusive Digital Senegal;** by Dutg, M., Castelan, C., Cruz, M. (forthcoming).

World Bank (2021e). **Taxes and Parafiscal Fees of the Telecom Sector in Africa.** Background paper for Governance of Digital in Africa by Niesten, H. and Bezago, T.

World Bank (2021f). **Regulatory Watch Initiative Phase 2. Thorough Legal, Regulatory and Competitive Analyses of Issues Related to Licensing, OTTs, International Gateways, Spectrum Management and Regulatory Governance** (forthcoming)

World Bank (2021g). **Regulatory Watch Initiative Phase 2. RWI Indicators and Benchmarking Methodology** (unpublished).

World Economic Forum (2021). **Global Gender Gap Report.**
Available at: http://www3.weforum.org/docs/WEF_GGGR_2021.pdf.



Photo credit – Alhagie Manka

ANNEXES

Annex 1. High-Level Targets of DE4A Initiative

PILLAR	GOAL	INDICATOR	ALIGNMENT WITH THE WBG AND GLOBAL DEVELOPMENT AGENDA		BASELINE (2017 OR 2018)	INTERIM TARGET (2021)	FINAL TARGET (2030)
OVERALL	Enable every African individual, business, and government to participate in the Digital Economy	Individuals using the Internet per 100 inhabitants ¹⁹³ (by IDA, FCV)	SDG 17.8.1	IDA19 (JET, GD, GI)	26.37 (2017)	35	75
1. DIGITAL INFRA-STRUCTURE	1.1 Increase access to broadband internet	“Unique” mobile-broadband subscriptions per 100 inhabitants ¹⁹⁴ (by IDA, FCV)	SDG 1.4.1 SDG 9.c.1 AU 2063	IDA19 (JET, GI)	25 (2018)	32 ¹⁹⁵	67 ¹⁹⁶
	1.2 Increase quality of broadband internet	Average mobile broadband download speed (Mbit/s) (by IDA, FCV)	SDG 17.6		2.66Mbps ¹⁹⁷	20Mbps ¹⁹⁸	113Mbps ¹⁹⁹
	1.3 Increase affordability of broadband internet	Average price of 1GB mobile data price per month (% of a country’s average monthly GNI per capita) (by IDA, FCV) ²⁰⁰			7.77 ²⁰¹		2 ²⁰²

¹⁹³ ITU/ICT for Development Partnership indicator of “Proportion of people using the internet” (HH7).

¹⁹⁴ This is similar to the WB Corporate Indicator “people provided with access to the Internet” and refers to new or improved access through fixed or mobile networks at any location (e.g., home, work, school, Internet cafés, public places). It is calculated for the total population.

¹⁹⁵ The target for year 2021 is “doubling from the 2016 actual value of 16”.

¹⁹⁶ Same as the target in “Connecting Africa Through Broadband” report by UN Broadband Commission. Universal coverage is defined as 90 percent penetration of the population above 10 (https://www.broadbandcommission.org/Documents/working-groups/DigitalMoonshotforAfrica_Report.pdf).

¹⁹⁷ Given data availability and coverage, the baseline data is based on “mean download speed data in 2019” as per [cable.co.uk](https://www.cable.co.uk/broadband/speed/worldwide-speed-league/) <https://www.cable.co.uk/broadband/speed/worldwide-speed-league/>.

¹⁹⁸ The interim target changed from the minimum speed of 3Mbps to average speed of 20Mbps (Date: Jan 1, 2021).

¹⁹⁹ The final target changed from the minimum speed of 10Mbps to average speed of 113Mbps (Date: Jan 1, 2021).

²⁰⁰ The definition changed from “Mobile broadband basket (prepaid, 500MB) price per month (ITU)” to “Average price of 1GB mobile data price per month (cable.co.uk)” (Date: Feb 11, 2021).

²⁰¹ With changes to the ITU price basket rules, the data source changed from 2017 ITU price data to 2019 Cable.co.uk data (Date: Feb 11, 2021).

²⁰² Same as the target in “Connecting Africa Through Broadband” report by UN Broadband Commission for Sustainable Development.

The Gambia Digital Economy Diagnostic

2. DIGITAL PUBLIC PLATFORMS	2.1 Increase availability and adoption of secured and interoperable digital platforms for public services	Digital Adoption Index (DAI) (Government cluster) (by IDA, FCV)		IDA19 (GI)	0.41	0.45	0.80
	2.2 Increase ID coverage for adults	Percent of the 15+ population with an officially recognized identity credential (a “foundational” ID)	SDG 16.9		66%	70%	100%
3. DIGITAL FINANCIAL SERVICES	3.1 Increase access to digital financial services	Percentage of adults with access to a transaction account (by gender, income group, education level, urban/rural; and by IDA, FCV)	SDG 8.10.2	IDA19 (JET)	41%	50%	90%
	3.2 Increase usage of digital financial services	Percentage of adults who made a digital retail payment in the past year (by gender, income group, education level, urban/rural; and by IDA, FCV)	SDG 10.C.1		27%	50%	90%

4. DIGITAL BUSINESSES	4.1 Increase the number of digital start-ups	Number of IT startup firms with HQ in Africa graduating from Incubator/Accelerator programs and/or receiving private funding from Angel, Early Stage VC, Product Crowdfunding or, Seed round (by size of firm, female vs male ownership; and by IDA, FCV)	SDG 9.3.2	IDA19 (JET)	198	240	600
	4.2 Increase in the number of platform-based or data-driven firms operating in the country	Number of new digital business model firms, including all stages of digital businesses as long as they are platform-based or using data as a key input to create value (by local vs. foreign, founding year, size of firm; and by IDA, FCV)		IDA19 (JET)	73	90	220
DIGITAL SKILLS	5.1 Increase internet connectivity in education institutions	Percentage of lower-secondary schools with access to internet for pedagogical purposes (by urban/rural; and by IDA, FCV)	SDG 4.a.1		35%	55%	100%
	5.2 Increase availability of digitally competent workforce	Proportion of youth and adults with advanced digital skills (by gender, urban/rural; and by IDA, FCV)	SDG 4.4.1	IDA19 (JET and GI)	2%	3%	6%

The Gambia Digital Economy Diagnostic

Annex 2. Key Indicators on Digital Infrastructure for The Gambia and Selected Benchmarks

		YEAR	THE GAMBIA	STRUC-TURAL BENCH-MARKS AVERAGE	GUINEA-BISSAU	GUINEA	TOGO	ASPIRA-TIONAL BENCH-MARKS AVERAGE	RWANDA	SENEGAL	UGANDA	SOURCES
ACCESS	Share of population covered by mobile network signal, %											
	2G	2019	98 (2018)	93	95.7	87	97	99	100	98	98	mu
	3G	Q4 2020	70	81	93	77	72	95	99	95	90	GSMA
		2019	88 (2018)	54	30	40	91	87	99	92	69.6 (2018)	mu
	4G	Q4 2020	54	45	63	47	26	73	99	75	45	GSMA
		2019	7.5 (2018)	39	21	29	67	74	99	67	57 (2018)	mu
IXP per 10m	2020	4.39	0.69	0.00	0.81	1.27	0.56	0.81	0.63	0.23	Packet Clearing House	
QUALITY	Average Mobile broadband download speed (Mbit/s) – Target	2020	1.6 (2020)	2.89	1.61	3.04	4.03	4.96	3.8	5.93	5.16	Cable.co.uk
AFFORDABILITY	Mobile broadband 500 MB price per month (as % of an average monthly GNI per capita)	Q2 2019	5.01	7.68	11.74	4.65	6.64	3.57	3.39	2.92	4.39	A4AI
	Mobile broadband 1 GB price per month (as % of an average monthly GNI per capita) – Target	Q2 2019	9	13	20	5	13	5	3	3	8	A4AI

ADOPTION	Mobile cellular subscriptions per 100 inhabitants	2018	139.53 (2018)	84.55	78.99	96.77	77.89	80.19	78.85	104.45	57.27	ITU
	Market penetration, unique mobile subscribers, %	Q4 2020	52	47	43	48	49	49	50	52	45	GSMA
	Share of population using internet, %	2017	20	13	4	22 (2018)	12	25	22	30	24	ITU
	Share of households with internet, %	2017	63 (2018)	13.94	2	13 (2019)	26	10.03	9	7 (2018)	11	ITU
	Fixed broadband household subscriptions, %	Dec-20	1.9	4.3	4.3	1.1	1.9	4	1.8	9.4	0.9	TeleGeography
	Fixed broadband internet subscriptions per 100 inhabitants	2019	0.19 (2018)	0.16	0.06	0.01	0.39	0.41	0.07	0.93	0.23 (2016)	ITU
	Fiber to the premises broadband penetration, %	Dec-20	0.03	0.06	0.00	0.00	0.18	0.15	0.11	0.35	0.00	TeleGeography
	“Unique” mobile-broadband subscriptions per 100 inhabitants – Target	2020	27	22	20	17	28	27	24	32	26	WB analysis based on GSMA, UN
	Percentage smartphone connections, %	Q4 2020	53	42	39	43	42	34	34	47	22	GSMA
	Percentage basic/feature phone connections, %	Q4 2020	36	53	54	55	50	59	55	44	77	GSMA
	Cellular M2M connections	Q4 2020	4200	53,536	41866	96041	22700	250,424	144000	154000	453273	GSMA
	International internet bandwidth per user	2017	12576 (2016)	20,651	36490	8771	16693	7,810	8850	6804	7775	ITU
	International internet bandwidth, Mbps per 10M population	2020	201	42	41	55	31	142	105	232	89	TeleGeograph
	MARKET COMPETITION	Mobile market concentration index (HHI)	Q4 2020	2957	4818	5048	4401	5004	4460	5176	4094	4110
Fixed broadband concentration index (HHI) (Top5 Fixed broadband)		2018	n/a	9023	n/a	10000	8046	6878	3756	10000	n/a	TeleGeography

The Gambia Digital Economy Diagnostic

Annex 3. Financial Analysis for Selected Digital Start-ups in The Gambia

#	NAME	YEAR OF ESTABLISHMENT	STAFF	STAGE	OWNERSHIP BY GENDER	SECTOR	B2C/B2B	LOCATION
1	Baluwo	2016	11-50	Growth	M	Fintech	B2C	Spain
2	Terangas	2017	11-50	Growth	F	Retail & E-commerce	B2C	Banjul
3	Farm Fresh	2014	6	Growth	M	AgriTech	B2C	Banjul
4	Sellox	2019	2	Growth	M	Retail & E-commerce	B2C & B2B	Banjul
5	Nesthet clinical services	2017	3	Growth	M	Health Tech	B2C	Serrekunda
6	Deka Housing	2015	8	Growth	M	Retail & E-commerce	B2C	Serrekunda
7	Lebalma	2017	8	Growth	M	Fintech	B2C	Serrekunda
8	Ryde Africa Technologies	2017	5	Growth	M	Travel & Tourism	B2C	Serrekunda
9	Smart technologies	2016	48	Growth	M	EduTech	B2C	Serrekunda
10	Tesitoo	2015	4	Growth	M	AgriTech & FoodTech	B2C & B2B	Serrekunda
11	Jollof Trade	2018	8	Validation	M	Retail & E-commerce	B2C	Banjul
12	Kubejara Software	2013	7	Validation	M	Edutech	B2C	Banjul
13	Ping Money	2017	3	Growth	M	Fintech	B2C	Bakau
14	Taf Taf	2018	4	Validation	M	Retail & E-commerce	B2C	-
15	Think Mobile Money	2015	2	Validation	M	Fintech	B2C	-
16	AfriBlack	2019	10	Ideation	M	Retail & E-commerce	B2C	Serrekunda
17	Afrijula	2019	11-50	Growth	M	Computer Software	B2B	Serrekunda
18	Assutech	2011	3	Growth	M	Computer Software	B2B	Brufut
19	eDeals	2019	n/a	Growth	M	Retail & E-commerce	B2C & B2B	Banjul
20	Madani	2016	3	Validation	M	Computer Software	B2B	Serrekunda
21	Yobuma	2019	11-50	Validation	F	Mobility/Transport	B2C	Banjul
22	Money Farm	2018	4	Growth	M	AgriTech & FoodTech	B2C & B2B	Serrekunda
23	Educare	2018	5	Ideation	M	EduTech	B2C	Banjul
24	Jangalma	2019	-	Ideation	F	EduTech	B2C	Serrekunda
25	Faalen Technologies	2016	5	Validation	M	Media & Advertising	B2B	Banjul
26	Gamdiary	2018	6	Validation	M	Fintech	B2C & B2B	Banjul
27	Juloo	2019	1	Ideation	F	Fintech	B2C	Serrekunda
28	Leucocytes	2019	-	Ideation	-	Health Tech	B2B	-
29	MedPrognosis	2019	-	Ideation	-	Health Tech	B2B	-
30	EMR Squad	2019	-	Ideation	-	Health Tech	B2B	-

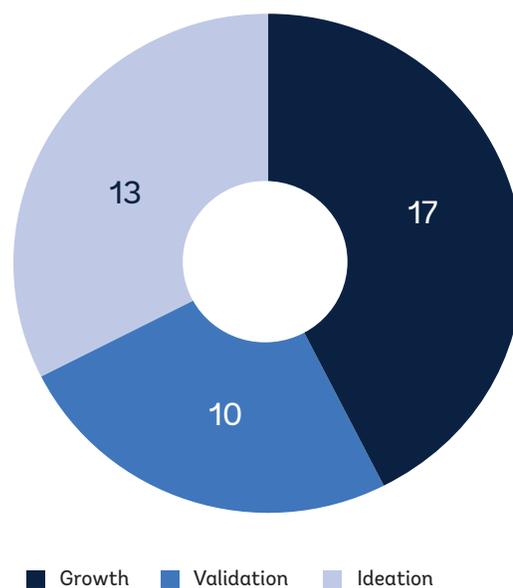
31	Borry Media	2019	3	Ideation	M	Media & Advertising	B2B	Banjul
32	K.Apex I.T. Consultancy	2017	3	Ideation	M	Media & Advertising	B2B	Banjul
33	Keneba Tech	2018	2	Ideation	M	Media & Advertising	B2C & B2B	Banjul
34	Tixibit	2016	3	Validation	M	Media & Advertising	B2B	Serrekunda
35	Wonmasport	2016	3	Ideation	M	Media & Advertising	B2C & B2B	Banjul
36	Bay'Kat	2018	n/a	Growth	M	Ecommerce marketplace	B2B	Serrekunda
37	Outboost Media	2020	1	Growth	M	Media & Advertising	B2B	Bakau
38	Tecqil	2020	2	Validation	F	Online Recruitment	B2C & B2B	Serrekunda
39	AfroGreen	2020	3	Ideation	M	Retail & E-commerce	B2C	Sukuta
40	Prognosis	2019	5	Ideation	M	IoT & Big Data	B2B	Brusubi

Source: ITC 2020 & 2021. Gambian Tech Start-up Directory. Youth Empowerment Project .

Digital Start-ups by Sector



Digital Start-ups by Stage of Development



The Gambia Digital Economy Diagnostic

Annex 4. Digital Start-ups in The Gambia (as identified by ITC)

COMPANY	FINANCIAL INFORMATION (USD)		
	INITIAL CAPITAL	CASH SPENT PER MONTH	INVESTMENT REQUIRED
Deka	20,000	150,000	60,000
Lebalma	20,000	500	100,000
Money Farm	5,000	500	50,000
Tesitoo	7,000	1,000	50,000
Gamdiary	9,000	2,000	21,000
Jollof Trade	400	200	50,000
Kubejara Software	10,000	1,100	40,000
T-Care	1,000	1,000	1,500,000
Ping Money	50,000	4,500	150,000
Taf Taf	500	100	2,000
Nesthet	6,000	400	50,000
Outboost	2,000	500	50,000
Sellox	50,000	1,500	0
Tecqil	500	100	10,000
Tixibit	1,500	400	20,000
Wonma Sport	3,000	150	200,000
AVERAGE	11,619	10,247	147,063

Source: ITC 2020 & 2021. Gambian Tech Start-up Directory. Youth Empowerment Project.

Annex 5. ITAG Members from the Private Sector

#	COMPANY	CASH SPENT PER MONTH
1	Comium	Privately-owned MNO
2	Africell	Privately-owned MNO
3	DT Associates	ICT consulting company
4	Gamtel	State-owned telecom company
5	Gamcel	State-owned MNO
6	Insist Global	ISP
7	Lasting Solutions	Computer software company
8	Netpage	ISP
9	Pristine Consulting	Computer software company
10	Qcell	Privately-owned MNO
11	Unique Group	Information technology & services company
12	Unique Solution	ISP
13	African Information Technology Holding Ltd Annex	Information technology & services company
14	I- Link	Information technology & services company
15	KMF Technologies	Information technology & services company
16	Nifty ICT Solution	Information technology & services company
17	N-Web Puls	Information technology & services company
18	Point Click	Information technology & services company
19	QuantumNet Institute of Technology	Privately-owned ICT training institute
20	Smart Institute of Technology	Privately-owned ICT training institute
21	Universal Business Solutions	Engineering services company
22	KMF Technologies	Information technology & services company
23	WaveIT Digital	Information technology & services company
24	Outboost Media Analytic	Information technology & services company
25	Afrodapp - Sellox	Ecommerce Platform
26	Alchemy	ICT Consulting company

The Gambia Digital Economy Diagnostic

Annex 6. Digital Business Ecosystem in The Gambia: Select Support Institutions

IMPLEMENTING AGENCY/ PROJECT NAME	VISION	TARGET BENEFICIARIES	CURRENT OFFER TO DIGITAL ENTREPRENEURS	FUNDING MODEL
Training & Skills				
International Trade Center (ITC) / Youth Empowerment Project (YEP)	Provides skills upgrading through technical and vocational training and promote entrepreneurship among youth through business skills training and support programs	Gambian young entrepreneurs	*The Andandorr program: full training on digital literacy and e-commerce; *3D printing as an enhancement of local businesses: mentoring on basic 3D printing	Funded by the EU - through the Youth Empowerment Project; free of charge for participants
YEP Africa	The YEP Africa Learning Centers offer entrepreneurship training; awareness sessions and a service club for young entrepreneurs	Entrepreneurs	Does not specifically target digital entrepreneurs	Donations and own fund
The Gambia Technical Training Institute (GTTI)	Provides training on computer science, business studies, construction management, etc.	Everyone	Does not specifically target digital entrepreneurs	
Information Association of The Gambia (ITAG)	Aims to boost collaboration and develop the Gambian ICT community	Corporates, SMEs, Educational institutions, Start-ups, IT professionals and students	*Digital packages for SMEs: online store, facebook advertising, email marketing, product photography, etc. *Digital payment training program (2 days training)	Key partners: GoTG, ITC, YEP Gambia, National Youth Council (NYC), Seedstars and WITSA

GIEPA	Offers training to entrepreneurs: from idea generation, strategy formulation and business planning to implementation, fund raising, training and development, setting up of systems, provide coaching & mentoring, encourage entrepreneurship and innovation, and all other business advisory and support services required by growing MSMEs.	MSMEs	Does not specifically target digital entrepreneurs	Government funded
	Empretec-Gambia is an integrated capacity building program that provide demand-driven and business development training.	Entrepreneurs, employers and employees of private firms, civil servants and farmers	Does not specifically target digital entrepreneurs	Government funded
	Business Development Services Network - Provides business support services to MSME's through training, advisory services, marketing facilitation, market research and B2B & B2C linkages.	MSMEs	Does not specifically target digital entrepreneurs	Government funded
National Enterprise Development Initiative (NEDI)	5-day training in entrepreneurship and starting a business: i) financial management; ii) marketing management; iii) b) business planning and traits to business success	Gambian youth between 15-35 years old	Does not specifically target digital entrepreneurs	Funded by the EU - through the Youth Empowerment Project; free of charge for participants
Gambia Chamber of Commerce and Industry (GCCCI)	Collaborates with donor agencies, such as GIZ and International Labor Organisation (ILO), to support start-ups get access to training programs	Start-ups	Does not specifically target digital entrepreneurs	GIZ and ILO

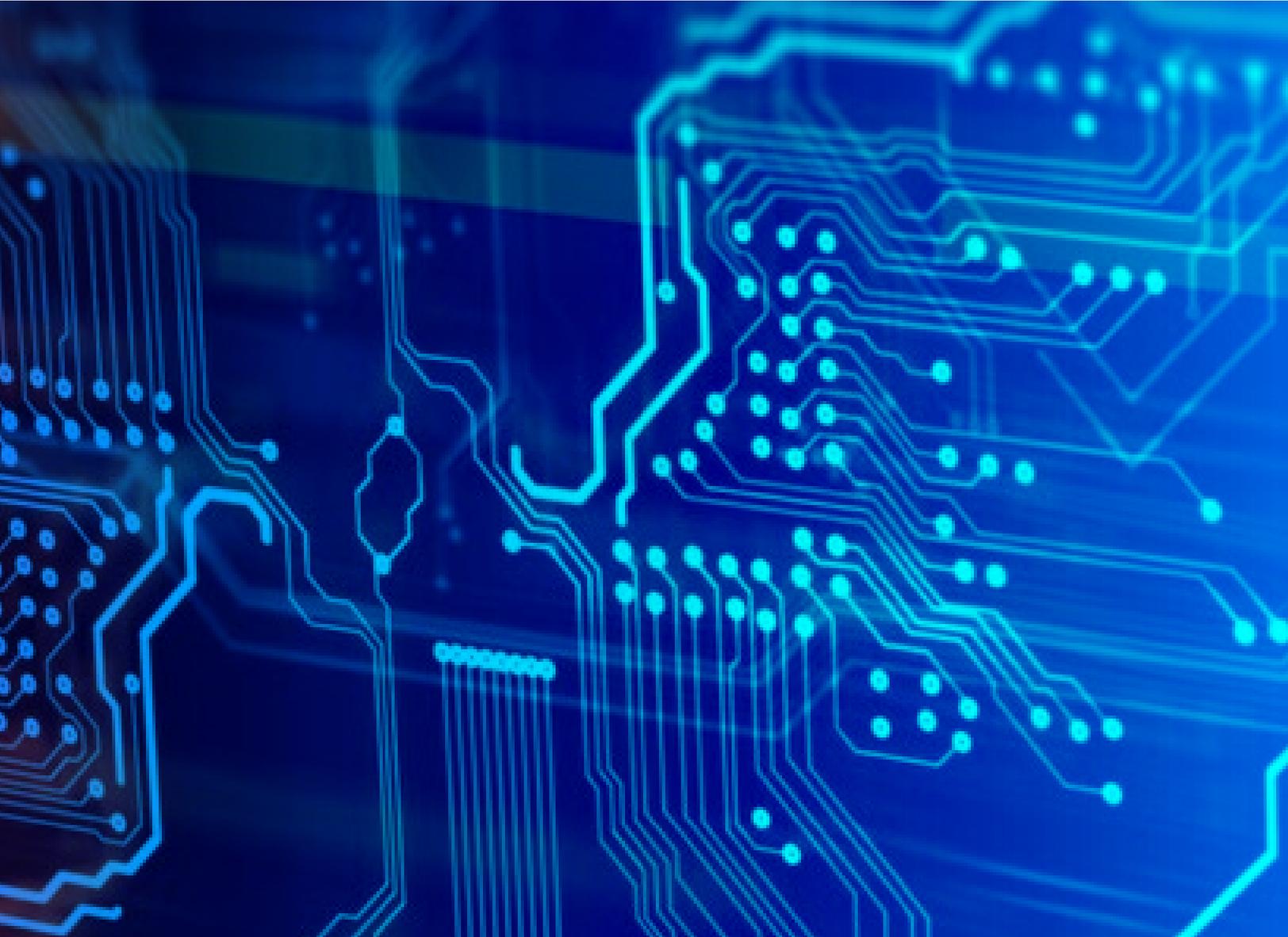
The Gambia Digital Economy Diagnostic

Bridging Gaps	Provides training, mentorship, and business advice, particularly to women-owned enterprises	Women entrepreneurs	Does not specifically target digital entrepreneurs	
Buzz Women Gambia	Delivers training in financial management, entrepreneurship skills and leadership skills to low income women	Women entrepreneurs	Does not specifically target digital entrepreneurs	Non profit organisation
The Global Youth Innovation Network Gambia Charter (GYIN Gambia)	A youth network that specializes on rural development and focuses on Entrepreneurship, Agribusiness, Leadership, Communication and Information Technology, Community Outreach Programs in rural areas	Young entrepreneurs, particularly in rural areas	Does not specifically target digital entrepreneurs	International Fund for Agricultural Development (IFAD)
Access to Finance				
National Enterprise Development Initiative (NEDI)	Micro-loans to retail businesses, (butchery, fishing boats and equipment, bakery services, tailoring workshops) as well as to restaurants / catering and farms	Gambian youth and women enterprises	Does not specifically target digital entrepreneurs	NEDI
Reliance	Credits to SMEs and women at slightly lower interest rates	SME's and women entrepreneurs	Does not specifically target digital entrepreneurs	Social Development Fund (SDF) provides a credit line
SuperSonicz	Microfinance services, including deposit mobilization and the granting of credits to the general public especially those without access to financial services	Micro-clients, such as small-scale enterprises, traders and farmers	Does not specifically target digital entrepreneurs	SuperSonicz
Women Empowerment Fund	It is a project still under design, but will provide access to finance for women businesses activities in The Gambia	Women entrepreneurs	Does not specifically target digital entrepreneurs	European Union

ITC / Youth Empowerment Project (YEP)	TEKKI FII Grant: provides financing options for grassroots entrepreneurs and MSME's; available products: Mini grant; Agro grant and Solar grant	MSMEs and grassroots entrepreneurs	Does not specifically target digital entrepreneurs	EU funded program with technical support from GIZ and IMVF (Instituto Marques de Valle Flor)
	Mini loan scheme provides finance options for MSMEs; available products: working capital, equipment and franchises	MSMEs	Does not specifically target digital entrepreneurs	EU funded program with the support of SDF
	Gambian Angels Investors Network (Gain): Provides network to connect high growth companies to investors	High growth companies	Does not specifically target digital entrepreneurs	ITC support
National Agricultural Land and Water Management Development Project (Nema)	The Matching grant is designed to innovate, develop and build medium term financial services adapted to women and youth groups and individual-based SMEs	Agro-SMEs	Does not specifically target digital entrepreneurs	Capital Investment Stimulation Fund (CISF)
Money Farm	Gambia's first Agri-tech crowd funding platform linking farmers to investors	Agri-tech companies	Helps Agri-tech to acquire funding	N/A
Support Services				
The Start-up Incubator Gambia (SIG)	The first incubator in The Gambia - a non-profit organization that aims to empower entrepreneurs by providing co-working space, with cubicles, computers, high-speed internet, printing and a fully equipped training room with a capacity of 25 participants	Start-ups	Also includes digital enterprises	
The Woman Boss	Center for innovation and entrepreneurship targeted for women entrepreneurs	Women entrepreneurs	Computer coding courses, partnering with The Disruptive Lab	Private sector sponsorship and donations

The Gambia Digital Economy Diagnostic

The Disruptive Lab	Co-working space and youth technology workforce development and innovation hub	Tech Start-ups and companies	Workspace, network with angel investors, mentorship & coaching and services, such as finance and accounting	Funded by PointClick Technologies
Jokkolabs Gambia	Professional working space which welcomes entrepreneurs seeking to develop a network, meet new contributors, discuss practices and develop professional projects	Micro businesses, self-employed workers, start-ups, writers, designers, and other digital professionals	It provides a working space for digital entrepreneurs to network	Privately owned
Start-up Grind Banjul	Global community for entrepreneurs powered by Google for Startups, organizing events featuring and connecting successful local founders, innovators, educators and investors	Entrepreneurs		Privately owned
Borry Media	Advertising services	Digital businesses	Digital marketing and advertising solutions	Privately owned
Madani Studios	Graphic design, web design, branding and digital marketing	Digital businesses	Offer digital solutions to businesses	Privately owned
DigiTech	Provides assistance to companies at any stage of the digital product development cycle: from R&D and building minimal viable product from scratch to scaling	Digital businesses	Offer digital solutions to businesses	Privately owned
Affiliation Technology	Website design company	Digital businesses	Offer digital solutions to businesses	Privately owned
MOOC	West Africa Open Education Platform	All businesses	Offers courses in business studies	Privately owned
Gisqo	Software Development & Digital Marketing company	Digital businesses	Offer digital solutions to businesses	Privately owned



WITH SUPPORT FROM:

