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Combined Project Information Documents / Integrated Safeguards Datasheet (PID/ISDS)

Appraisal Stage | Date Prepared/Updated: 01-May-2017 | Report No: PIDISDSA21122

BASIC INFORMATION

A. Basic Project Data

Country	Project ID	Project Name	Parent Project ID (if any)
Malawi	P160533	Digital Malawi Program Phase I: Malawi Digital Foundations Project	
Region	Estimated Appraisal Date	Estimated Board Date	Practice Area (Lead)
AFRICA	13-Mar-2017	02-Jun-2017	Transport & ICT
Financing Instrument	Borrower(s)	Implementing Agency	
Investment Project Financing	Ministry of Finance, Economic Planning and Development	Public Private Partnership Commission	

Proposed Development Objective(s)

To increase access to affordable, high quality internet services for government, businesses and citizens and to improve the government's capacity to deliver digital public services

Components

Digital Ecosystem
Digital Connectivity
Digital Platforms and Services
Project Management

Financing (in USD Million)

Financing Source	Amount
International Development Association (IDA)	72.40
Total Project Cost	**72.40**

Environmental Assessment Category

B - Partial Assessment

Decision

The review did authorize the preparation to continue

Other Decision (as needed)

B. Introduction and Context

Country Context

1.   **Malawi is a small, landlocked country of 17 million inhabitants with the world's fourth lowest gross domestic product (GDP) per capita of US$372 in 2016.** Economic growth has been relatively strong since 2003, averaging 5.5 percent per annum, but had slowed significantly in recent years to 2.8 percent in 2015 and 2.5 percent in 2016. The slowdown is a result of a number of factors, including a fiscal tightening since 2013 following revelations of a public financial management (FM) scandal and weather-related shocks, such as flooding in the southern region and nationwide drought as a result of El Niño. Even during periods of rapid economic expansion, Malawi's growth has not translated into a significant rise in average incomes, in part due to rapid population expansion of 3.1 percent per year. Poverty levels exceeded 50 percent at the last headcount in 2010. Malawi remains a very young country with 45 percent of the population under the age of 14 — the same proportion as in 1960 despite a 25-year increase in life expectancy over the same period.

2.   **Malawi's economy features low levels of diversification, resilience, or dynamism.** Agriculture represents approximately one-third of GDP and 76 percent of employment, with women accounting for more than half of those working in the sector. Most Malawians live in rural areas with very limited opportunities to increase productivity beyond subsistence level. Infrastructure development remains low, with poor roads and inadequate energy generation and distribution networks. Infrastructure and skills deficiencies, paired with heavy administrative burdens, result in a Doing Business ranking of 141 out of 189 countries surveyed in 2016. They create challenges for citizens and businesses to access services and markets both within and outside of the country. Unemployment, particularly for youth, remains a persistent and growing challenge.

3.   **Human development has been improving in some areas, but Malawi still ranked 173 out of 188 countries in the 2015 United Nations Development Program (UNDP) Human Development Index.** The Government faces challenges delivering basic health, education, and other social services, with citizens likewise facing challenges in accessing them, particularly in rural areas. Food security and malnutrition remain significant challenges, with 6.7 million people considered food insecure in 2017 according to the World Food Programme (WFP). Although primary education is free, only 55 percent of boys and 45 percent of girls finish primary school. Secondary and tertiary enrollment rates of 17 percent and 0.4 percent, respectively, are among the lowest in Africa.

4.   **Despite the many challenges identified, Malawi possesses a number of inherent comparative advantages and positive trends which can be built upon to accelerate sustainable development and economic diversification.** The country is peaceful, stable, and democratic and has undertaken a series of political and economic governance reforms in recent years which should put it on a more solid footing

for sustained economic growth, improved service delivery, and effective policy making. It has a pleasant climate and scenic natural attractions, ideal for tourism. English is an official language and literacy rates have been steadily climbing along with school enrollment, opening opportunities in the services sector, and potential entry points to the global economy. Poverty is declining relatively rapidly in urban areas (though not yet in rural areas) and health indicators are improving — trends which could be accelerated through faster urban migration and improved access to services. The huge need for infrastructure investment also presents an opportunity to jump-start growth and create jobs outside of the agricultural sector if funds can be mobilized.

Sectoral and Institutional Context

5.   **Digital technology is rapidly transforming the way people, businesses, and governments communicate, transact, and access information and services.** Some countries have embraced this trend, taking proactive steps to ensure that their citizens, businesses, and institutions are equipped to participate, innovate, and flourish in an increasingly online, digital-first environment. Within the region, Kenya stands out as an early leader, now reaping the rewards of digitally enabled services led growth built from years of investments and policy reforms aimed at increasing connectivity, spurring private sector information and communication technology (ICT) investment and innovation, developing a new generation of digital leaders, and creatively using technology to improve the efficiency and impact of its public services. Other countries have been far slower to recognize and prepare for these trends. As a result, their citizens, businesses, and institutions are increasingly being left behind and isolated from the digital world and economy of the future. Malawi clearly falls into this second category—with extremely low mobile and Internet penetration, high cost and low quality of ICT services, and a signifcant digital divide between rich and poor and urban and rural citizens.

6.   **Digital technology in not a 'luxury'; it is a necessity to accelerate growth, create new jobs, and improve access to information and services for all of Malawi's citizens.** Given the many economic and human development challenges noted earlier, one may ask whether expending resources and energy to increase access to and use of digital technology is really a priority in a country where so many families are struggling just to put food on the table, send their children to school, and get access to basic health care. However, this is a false choice. Smart use of digital technology can open up nearly limitless opportunities to address these challenges in new and more efficient ways. An investment in ICT is also an investment in economic growth, jobs, education, health, agriculture, and good governance.

Box 1. Transforming Livelihoods and Services with Mobile Technology

Digital technology, particularly mobile phones and mobile broadband, can be a powerful enabler and equalizer. It has the potential to dramatically reduce Malawi's inherent disadvantages as a remote, landlocked country and the disadvantages of citizens in rural areas. A few illustrative examples are included below:

- A child born in a remote village can get access to the same educational content and learning opportunities as a child in Blantyre or London through digital platforms.
- A pregnant mother can receive critical health information and medical consultations on her mobile phone without difficult and costly travel to a district center.
- Rural smallholder farmers can connect to markets and get the best prices for the crops and livestock and get extension advice and weather information cheaply and frequently through mobile apps.

- Poor, rural households who have never had a bank account can get access to financial services and insurance through mobile money companies.
- Small businesses and entrepreneurs can reach new customers and source inputs through online marketplaces.
- Households far from the grid can purchase lights and a cookstove powered by a solar panel that is paid for using pay-as-you-go mobile money technology.
- Citizens affected by floods and food shortages can receive timely digital transfer payments and vouchers to improve their resilience during a crisis.

While the potential is great, none of this is possible if citizens do not have affordable access to connectivity, mobile-enabled devices, and a basic level of digital literacy.

7. **Malawi significantly lags behind its peers in the development of its market for telecommunications and other digital services, and this is preventing it from achieving wider digital dividends.** The country is ranked 168 out of 175 countries in the 2016 edition of the International Telecommunication Union's (ITU) Information and Communication Technology Development Index. Mobile penetration remains low, with subscriptions standing at 36 percent of the population, compared with 53 percent for countries with a similar GDP per capita and 80 percent across Africa at the end of 2015. Only 7 percent of households reported having access to the Internet in 2015 and fixed broadband subscriptions numbered only 4,000 as of March 2016. Development of and access to digital public services is likewise extremely low. Malawi has fallen from 133 in 2004 to 166 of 193 countries in the 2016 United Nations (UN) e-government index, which measures provision of online services, telecommunication connectivity, and human capacity. The uptake of digital technologies by private firms is also low, with Malawi scoring just 0.07 on the business component of the World Bank's 2015 digital adoption index, lower than its scores for either citizen (0.17) or government (0.29) use of ICTs.

8. **Lack of affordability, availability, and quality of broadband connectivity, coupled with low human and institutional capacity, constrains access to digital technologies and services in Malawi and holds the country back from capitalizing on new opportunities.** Mobile voice tariffs are among the fourth least affordable in the world, costing as much as 48.9 percent of gross national income (GNI) per capita. The retail price of an entry-level mobile broadband package (500 MB per month of data) is equivalent to 24.4 percent of GNI per capita, while a fixed connection exceeds 111 percent, compared with the UN Broadband Commission affordability target of 5 percent or lower. In a recent national survey, affordability was cited by 55 percent of citizens as the main barrier to Internet access, while 31 percent of the population reported a lack of knowledge of how to use the Internet as the main constraint. Backbone and access network infrastructure is lacking or deficient in most rural areas and secondary cities, limiting the opportunity to deliver high-quality ICT services, even for those willing to pay a premium price. The Government does not have the needed connectivity, infrastructure, and capacity to deliver high-quality public services digitally to citizens.

9. **A number of related factors are responsible for these constraints, including a lack of competition in critical telecom market segments, insufficient infrastructure investment, and high costs for international bandwidth.** These factors aggravate the natural disadvantages of being a landlocked country with a small domestic market and few natural resources. A market structure that is effectively a duopoly has persisted in mobile communications between Airtel and Telekom Networks Malawi (TNM) for the past 15years, despite the award of several additional licenses. The resulting lack of investment

and competitive pressure on prices and quality has severely affected ordinary consumers—the vast majority of whom access both voice and broadband services through mobile phones. In the fixed broadband market, Open Connect Limited (OCL), a spin-off of the incumbent Malawi Telecoms Limited (MTL), owns the most extensive and, in many areas, the only fixed network infrastructure. Until recently, OCL/MTL also held a monopoly on international connectivity through access to the East Africa Submarine System (EASSy) submarine cable, though this has improved through the market entry of SimbaNet Malawi (see below) and investments from Electricity Supply Corporation of Malawi (ESCOM), Airtel, and others.

10.   **High levels of taxation, weak regulatory authority and instruments, and low levels of income and digital literacy are also impeding investment, affordability, and demand for services.** Taxation and regulatory levies appear to account for a large and increasing proportion of operating costs and retail prices, including a 30 percent corporate tax; a 10 percent excise duty on voice; short message service (SMS) and mobile data; 16.5 percent value added tax (VAT) on Internet services and mobile data; a US$0.08 per minute levy on international voice traffic; and a 3 percent gross revenue levy to support the universal service fund (USF).[1] Attempts to cap retail prices by Malawi Communications Regulatory Authority (MACRA) have been stymied because of a lack of clear legal authority,[2] and there are no enforceable regulatory mechanisms for network interconnection, number portability, and infrastructure sharing between service providers. This has had the effect of discouraging new market entrants and reducing competition despite formal liberalization in the sector. Low income levels, lack of access to electronic devices, and a limited knowledge of using them limit demand and rollout of services to rural and impoverished urban areas.

11.   **The institutions responsible for policy and governance of the ICT sector—MACRA and the Ministry of ICT (MICT) require strengthening to drive Malawi's Digital Development Agenda.** MACRA is an independent authority established under the Communications Act of 1998, responsible for regulation and promotion of development within the communications, postal and broadcasting sectors. The MICT is responsible for setting government policy and strategy within the sector and plays an oversight role for MACRA. The e-Government department within the MICT is responsible for setting government Information Technology (IT) policy and providing IT services to all Ministries, Departments, and Agencies (MDAs). As a result of the rapid pace of sector development and the growth of ICT importance to government functions, these institutions have struggled to secure the technical expertise, financial resources, and institutional authority required to keep up.

12.   **Against this backdrop of persistent challenges, there are nevertheless a number of highly encouraging recent legal, regulatory, and market competitiveness developments.** In July 2016, the Parliament approved a Revised Communications Act and a new E-Transactions Act. This legislation, prepared with technical assistance under the Regional Communications Infrastructure Program Phase III – Malawi Project (RCIPMW),[3] has helped modernize the governance framework for the ICT sector and empowers MACRA with a significant expansion of its mandate and confirms its authority in the areas of

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[1] A fund established for projects and activities aimed at closing the digital divide (that is, increasing network and services coverage and affordability in underserved areas or among target populations).
[2] This authority has now been granted under the Revised Communications Act of 2016.
[3] RCIPMW was a US$20 million IDA-financed project to improve the quality, availability, and affordability of broadband in Malawi. It closed on June 30, 2016.

ensuring market competitiveness, protecting consumers, safeguarding information security, promoting universal access to telecoms services, and enabling digital transactions and innovation. As a result of the market entry of SimbaNet, also facilitated under the RCIPMW, the price of international connectivity has fallen precipitously from US$3,000 per Mbit/s per month in 2011 to a notional cost of just US$135, reducing one of the largest components of service providers' operating costs.[4] Interest also appears to be growing among both existing market players and potential new entrants to make significant network infrastructure investments and launch new service offerings, particularly in and between urban centers. For example, OCL is seeking a strategic investor to support upgrading and expansion of its fixed network. TNM launched the first fourth generation mobile services (4G/LTE) in Blantyre, Lilongwe, Mzuzu, and Zomba in June 2016. Mobile money services are expanding quickly. Three new innovation and technology hubs—mHub, Innovation Hub, and EMNET—have recently been launched with strong demand from budding innovators and entrepreneurs.

13. **It is critical that this positive momentum is reinforced and accelerated to transform Malawi's digital development trajectory and to ensure that digital dividends are reaped and shared widely.** A significant scale-up in private infrastructure investment needs to be encouraged, especially in rural and underserved areas. Public-private partnerships (PPPs) and coordination by the Government are needed to incentivize rollout in poor and rural areas that do not offer sufficient commercial return in the medium term or are too high risk for the private sector to undertake in isolation. Competition needs to be strengthened through progressive, forward-looking government policy and light touch regulation of the ICT sector. Affordability may need to take precedence over high sector taxation, and finally, digital skills need to be nurtured to equip citizens, especially youth, to build the digital society, government, and economy of tomorrow.

C. Proposed Development Objective(s)

Development Objective(s) (From PAD)

To increase access to affordable, high quality internet services for government, businesses and citizens and to improve the government's capacity to deliver digital public services

Key Results

14. **The PDO level results indicators are as follows:**
    (a) Internet users per 100 people
    (b) Retail price of a Pre-Paid Mobile Broadband Monthly Bundle, 500MB Data Volume
    (c) Number of Public Institutions connected to the internet under the project
    (d) People Trained Under the Project
        o Of which, percentage that are female
    (e) Number of Transactions Per Year Utilizing the Shared Digital Services Platform
    (f) Direct project beneficiaries
        o Of which, percentage that are female

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[4] Nevertheless, this remains high in comparative terms, with a Mbit/s per month costing less than US$10 in Kenya, for example.

D. Project Description

15.   **The Digital Malawi Program Phase I: Malawi Digital Foundations Project targets three core enablers of digital development:** (a) Digital Ecosystem: strengthening the laws, regulations, and institutional and human capacity needed to promote ICT infrastructure investment, market competitiveness, digital engagement, job creation, and innovation; (b) Digital Connectivity: promoting affordable, high quality Internet access for all citizens by incentivizing private sector network infrastructure development and service provision nationwide; and (c) Digital Platforms and Services: building the technical capacity, institutions, and IT infrastructure for the Government to deliver services to citizens and conduct its own business digitally. An overview is provided below, with a more detailed project description included in annex 2.

16.   **The project utilizes a 'Cascade Approach' to maximize private investment and the impact of public investment.** The project places significant emphasis on creating a conducive enabling environment to encourage private sector investment in infrastructure and services. Public financing will only be utilized to meet public needs and to address market failures—providing incentives for private sector investment through PPPs rather than creating competing public infrastructure or services. Finally, the increase in digital skills, digital businesses, and new digital public service offerings is expected to drive demand for private investment in connectivity and complementary digital services and applications.

Component 1: Digital Ecosystem (US$9.5 million)

17.   **The aim of Component 1 is to contribute to making Malawi a more attractive and competitive place for digital investment and innovation, ensuring that the benefits of digital technology are reaching all citizens and helping lay the groundwork for growth of the digital economy.** This will be accomplished by strengthening the many interrelated elements that characterize a thriving digital ecosystem—creating and implementing forward-looking laws, regulations and policies; building digital skills and capacity of institutions and citizens; developing a critical mass of innovators, entrepreneurs, and support services; and working toward closing the digital divide—ensuring that all citizens benefit from digital development. These goals will be supported through three subcomponents detailed below. While specific priority activities have been identified, the design of the component is intended to remain flexible, allowing the project to respond to new challenges and opportunities as they arise in this fast-changing sector.

Subcomponent 1.1: ICT Regulation, Strategy, and Policy Development (US$2.5 million)

18.   **Subcomponent 1.1 will support MACRA to develop the strategies, regulations, guidelines, and data collection and analysis tools needed to implement the Communications and E-Transactions Acts of 2016 and to manage new mandates and policy objectives effectively.** Priority will be given for activities that directly contribute to enhancing citizens' access to ICT services and maximizing the development impact of ICTs, including improving affordability and service quality, as well as enabling efficient, secure, and reliable digital transactions and innovation. This will include (a) a review of existing and proposed regulatory instruments to align with the new legislation and policy objectives; (b) development of a National Broadband Strategy; (c) a review of sector taxation and fees; (d) technical

assistance related to quality of service monitoring; (e) development of a 'dig once' policy to coordinate infrastructure planning among agencies and the private sector; (f) development of an enabling environment for digital financial services, including mobile money; and (g) support for statistics, data collection, and network coverage/infrastructure mapping programs.

Subcomponent 1.2: Regulatory and Policy Implementation, Capacity Building, and Institutional Development (US$1.5 million)

19.   **Subcomponent 1.2 will support MACRA and the wider government leadership through development of the skills and capacity necessary to carry out effective regulation and policy formation.** As a result of the new legislation,[5] as well as new technological and regulatory innovations and developments in the telecommunications sector, there is a need to examine the institutional structure of MACRA and to strengthen the capacity of key staff at MACRA, the MICT, the Ministry of Justice and Constitutional Affairs (MoJCA), and the wider government to enable them to carry out effective regulation and policy implementation. This is particularly relevant in emerging areas such as privacy and data protection, cybersecurity, economic regulation, competition policy, ICT law, USF management, and broader ICT for development strategies. Subcomponent 1.2 will support (a) an institutional and capacity review and restructuring of MACRA; (b) implementation of the new acts and associated regulations and strategies; and (c) implementation of a comprehensive capacity-building program for MACRA staff and wider government leadership, in line with the recommendations of the institutional and capacity review and forthcoming National Cybersecurity Strategy.

Subcomponent 1.3: Digital Skills Development and Innovation (US$5.5 million)

20.   **Subcomponent 1.3 aims to help address Malawi's digital literacy and advanced ICT skills gaps; strengthen the digital innovation and entrepreneurship ecosystem; and encourage job creation, entrepreneurship, and creativity, particularly for youth.** By raising the level of basic digital literacy in Malawi and encouraging the development of a larger pool of advanced ICT professionals and supporting digital entrepreneurship and innovation, the subcomponent aims to assist the MoICT in empowering citizens and small businesses to utilize ICTs to access online services and increase their sales opportunities, encourage growth of the digital economy, and help launch new digital startups and investment by leading tech/IT firms. The subcomponent will seek to establish partnerships[6] to leverage the resources and expertise of global and regional tech companies, foundations, and innovation networks to attract new skills development and entrepreneurship programs to Malawi. Support will include (a) recruitment of a coordinator for partnerships, outreach, and communications with responsibility for networking and crowding in skills and innovation resources; (b) development of a national digital skills assessment and strategy; (c) facilitation of academia-industry partnerships, challenge funds, and pitching events to encourage private sector or NGO-led digital skills, innovation, and job creation programs; (d) support to innovation networks/tech hubs through competitive grant awards which can be utilized to scale up operations to serve more digital entrepreneurs and expand services offerings; and (e) support for connectivity and technical assistance within tech hubs and ICT training centers. Partnerships and other support for skills development and innovation under this

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[5] Revised Communications Act (2016) and the E-Transactions Act (2016).
[6] A number of partnerships with leading tech companies and foundations have already been tentatively agreed, to be formalized following recruitment of the project partnerships and communications coordinator.

subcomponent will emphasize digital inclusion—targeting youth and disadvantaged or disconnected populations, particularly women.

Component 2: Digital Connectivity (US$34 million)

21.   **The aim of this component is to leverage strategic public investments and incentives to improve access to high-speed, affordable connectivity for government, citizens, and businesses across Malawi.** In addition to the measures to boost sector competitiveness and network investment through regulatory and other 'soft' mechanisms supported under Component 1, there is a need for more direct intervention to encourage private sector infrastructure deployment in geographical areas which do not offer sufficient short- to medium-term returns or are considered too risky to attract investment from the private sector alone. There is also a need to exert competitive pricing pressure, create network redundancy, and increase capacity along the most well-trafficked network routes that are currently served by a limited number of providers.

22.   **The RCIPMW has helped lower the price of international connectivity but additional efforts are needed to extend access to connectivity nationwide.** Under the RCIPMW, the Government purchased a large volume of international bandwidth and related services for MDAs over a 10-year period through a competitive bidding process. To supply these services, SimbaNet constructed a new fiber-optic network linking Malawi to Zambia and Tanzania, terminating at a virtual landing point (VLP) on Capitol Hill in Lilongwe and eight drop points along the network. Telecom operators and Internet service providers (ISPs) are able to connect to the SimbaNet network on an open access basis and are also enjoying greatly reduced costs for wholesale bandwidth. This has enabled them to launch new services, with a reduced cost structure, which should in turn enable retail price reductions, provided that there is sufficient competition in this market segment.

23.   **Malawi needs a seamless, nationwide fiber backbone offering high-quality, reliable, open-access, low-cost transit services.** Although Blantyre and Lilongwe are relatively well served by fiber backbones, MDAs, ISPs, businesses, and citizens throughout much of the rest of the country have limited connectivity. The private sector lacks the incentives to provide a national backbone to rural, remote, and impoverished areas. There is a need therefore to go beyond what the RCIPMW has supplied and to push toward universal broadband connectivity for the entire country.

Subcomponent 2.1: Connectivity for Public Institutions (US$26 million)

24.   **Subcomponent 2.1 will support high-speed connectivity for priority public institutions throughout the country, including government offices, public services centers ('one-stop shops'), primary and secondary schools, and health centers.** It is proposed to utilize a PPP model similar to that which proved successful under the RCIPMW—demand aggregation for bandwidth and connectivity services across government, to prime the market and to attract private sector investment (subject to validation as part of the feasibility study noted below). Serving government institutions will not only meet the Government's connectivity needs but can also provide an anchor client to incentivize private sector network investment. Once a fiber backbone is established to serve the Government, the same infrastructure can be used to serve businesses and individuals. Support will include (a) a detailed mapping exercise, feasibility study, and PPP transaction advisory consultancy to identify priority institutions for connection based on projected bandwidth demands, location, cost, and overall impact;

this consultancy will also review the PPP options and payment methods under the contract; (b) a competitive tender for connectivity services (characteristics defined below) under a PPP; and (c) support for monitoring service levels/performance of the private contractor under both the Malawi Digital Foundations Project and the previous connectivity tender under the RCIPMW.

25. **To maximize benefits for both public institutions and the private sector, the connectivity services transaction will be structured to address bottlenecks within different parts of the Internet value chain identified to have a large impact on costs, competitiveness, and reliability of ICT services.** These correspond to the 'first', 'middle', and 'last mile', including the following:

(a) Purchase of additional international Internet bandwidth ('first mile'), delivered to one or more VLPs within the country, leveraging volume discounts to drive down unit costs of international transit for both government and private operators.

(b) Creation of a seamless, open access, wholesale fiber-optic backbone, a 'Virtual National Network' ('middle mile') to transit both domestic and international traffic, with drop points at strategic locations in every district. This will not only carry traffic for government and public institutions but also lower the barriers to market entry and lower operations costs for last mile services providers—distributing the cost of shared infrastructure across many market players and increasing retail level competition.

(c) 'Last mile" connectivity services direct to the premises of public institutions, ensuring high-speed, high-quality connectivity needed for communications and digital service delivery.

Subcomponent 2.2: Connectivity for Higher Education (US$4 million)

26. **Improving connectivity for higher education institutions is critical to empower the next generation of digital leaders for government and private sector.** Too many of Malawi's universities and technical schools lack sufficient connectivity to enable adequate access to the best global information and research collaboration. Where connectivity is available, it is often on shared connections, or at low speeds, which makes the network unusable for educational applications that often require live streaming of content, or transfer of huge files.

27. **Subcomponent 2.2 will support high-speed connectivity and access to online academic content for higher education institutions through the Malawi Research and Education Network (MAREN).** As a member of the Ubuntunet Alliance, a collective of research and education networks (RENs) in East and Southern Africa, MAREN has the opportunity to access very low-cost international connectivity, academic content, and training opportunities as part of Ubuntunet's Africa Connect 3 project, supported by the European Union (EU) enabling access to low-cost connectivity, online educational content and training.[7] Subcomponent 2.2 is expected to finance (a) payment of MAREN's membership fees for the Africa Connect 3; (b) international and domestic connectivity to connect member higher education institutions across Malawi; (c) campus wireless fidelity (WiFi) networks to reach university departments and halls of residence; (d) support for technical staff (Director and

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[7] For Africa Connect 2, the membership fee was €280,000, and leveraged bandwidth and other services was worth €1.12 million from the EU. A similar leveraged funding structure is expected for Africa Connect 3. https://www.africaconnect2.net/Pages/Home.aspx.

Network Engineers); (e) network equipment to support points presence around the country; and (f) a program of capacity building, in particular to train student interns to maintain and expand the network at the local level. It expected that MAREN will gain full self-sustainability through a gradual increase in member institution fee collection or other sources of funding before close of the project.

Subcomponent 2.3: Innovative Rural Broadband Access Solutions (US$4 million)

28.   **Despite efforts to increase competition and private sector infrastructure investment, additional measures will be needed to ensure availability of affordable Internet access in some rural areas and among the most marginalized populations.** Areas with low population density and/or very low average incomes will not likely provide sufficient short- to medium-term returns to drive affordable, private sector broadband services rollout without additional government incentives and coordination. Subcomponent 2.3 will leverage recent and emerging technological and business model innovations in broadband service delivery and the financial resources of the USF to incentivize and enable the private sector to deploy affordable broadband Internet services in rural areas. It will support (a) a gap analysis to better understand the areas of poor coverage in the existing mobile networks; (b) the design and institutional setup of the USF; (c) financing of least-cost subsidy 'reverse auctions' for private sector deployment of shared infrastructure and mobile broadband services (3G/4G) in targeted rural areas; and (d) partnerships with the private sector, MACRA, and academia for piloting and scale-up of innovative technologies or business models for rural broadband deployment, through a challenge fund offering matching grants.

Component 3: Digital Platforms and Services (US$23.9 million)

29.   **Increased access to affordable, high-quality connectivity will create an opportunity to transform the way that the Government conducts its business and provides services to citizens using digital technology.** Offering public services through mobile and online platforms can create significant benefits to citizens who must otherwise travel great distances and spend significant time and resources to access services. This is particularly important for Malawi's rural residents who may lack access to public transport and quality roads but are likely to have access to a mobile phone. Likewise, digital platforms offer opportunities to deliver new categories of services and transactions such as digital cash transfers under social protection or payroll schemes, lowering administrative and logistical barriers, and reducing opportunities for corruption. Digital information and communications systems are also increasingly important tools for the Government to efficiently and transparently manage its internal operations.

30.   **The aim of Component 3 is to build the core infrastructure and capacity necessary to support digital public service delivery and to enhance the efficiency of the Government's internal operations.** At present, the Government of Malawi (GOM) lacks sufficient human resources, institutions, policies, and IT infrastructure to deploy high-quality digital services in a secure, reliable, and cost-effective manner. The limited number of digital services that have been developed by individual MDAs are typically isolated and have proven expensive and challenging to launch, maintain, and secure. While these deficits represent a significant challenge, the advantage is that the relative lack of investment in outdated, legacy IT infrastructure presents an opportunity to leapfrog to the latest technology and adopt best practices and policies informed by global experience.

31.   **The Digital Malawi Program SOP will support a long-term, phased approach to upgrading Malawi's digital service delivery infrastructure, capacity, and services offerings.** The Malawi Digital Foundations Project (phase I) will first support development of human and institutional capacity, development of a shared digital services platform and a few demonstration applications. The Malawi Digital Acceleration Project (phase II) is expected to support a wide range of digital applications that leverage the shared platform developed under phase I in collaboration with relevant MDAs.

Subcomponent 3.1: Strengthening Institutional Capacity to Deliver Digital Services (US$3.4 million)

32.   **A significant scale-up of digital services offerings will require an equivalent upgrade of the strategies, policies, institutions, and capacity of technical staff and leadership responsible for championing and executing this ambitious agenda.** Responsibility for the Government's IT needs rests primarily with the e-Government department under the MICT, which maintains a cadre of IT common service staff embedded in MDAs throughout the Government. The department faces several interrelated problems, namely lack of a strategic vision and work plan, lack of funding and authority over IT investments by other MDAs, and insufficient human resources and technical skills to effectively fulfill its mandate.

33.   **Subcomponent 3.1 will support a comprehensive institutional strengthening and capacity-building program to strengthen the Government's ability to deliver digital services.** This will include (a) recruitment of a digital government advisor to support the strategy, skills development, and implementation activities at the outset of the project; (b) development of a Digital Government Strategy and Action Plan, including an institutional structure and capacity review; (c) development of an Enterprise Architecture and Interoperability Framework; (d) a training program for 'digital leaders' and IT professionals across the government; (e) a change management and outreach program to sensitize stakeholders about government IT policies and use of the shared infrastructure and services; (f) support for regulatory development in the areas of digital government, data privacy, protection-sharing policies, cybersecurity, interoperability, and shared infrastructure solutions including cloud and an update of the IT Procurement Policy; and (g) digitization of key registries to enable digital migration of services and access to critical data.

Subcomponent 3.2: Shared Digital Public Services Delivery Platform (US$15 million)

34.   **By establishing a Shared Digital Public Service Delivery Platform, the Government can significantly reduce the cost and time taken to develop and maintain new digital services, utilizing a 'Build once, re-use always' philosophy.** Currently, MDAs planning to offer a service digitally spend considerable time and money to develop, implement, and operate stand-alone IT systems. They could significantly speed up the deployment of digital services and cut costs by leveraging a shared infrastructure and services platform. This approach would allow MDAs to focus on the areas of core technical competency and user interface when developing a new digital service rather than worry about 'back end' IT issues.

35.   **Subcomponent 3.2 will support development of the common elements of the shared public services delivery platform.** This will include, though not be limited to, development of (a) a shared data hosting solution/government cloud; (b) common digital service enablers such as user authentication, electronic identification (ID) integration, mobile delivery platform, SMS notification platform, electronic

payment module, interoperability, and data-sharing platform; (c) the Malawi Digital Services Portal—a single point of entry ('one-stop shop') for access to government information and digital services on any device; and (d) shared IT services to improve government efficiency such as e-mail, electronic document management system, and other shared applications.

Subcomponent 3.3: Demonstration Digital Applications and Services (US$5.5 million)

36.   **Subcomponent 3.3 will support a select number of digital applications and services to demonstrate the use of the shared platform once sufficient capacity is built and the Shared Digital Public Services Delivery Platform is in place.** This will include development of (a) an e-Procurement system in collaboration with the Office of the Directorate of Public Procurement (ODPP) and (b) citizen-facing services, with priority to agriculture and health given the wide impact on livelihoods and numbers of citizens served. The e-Procurement system will be rolled-out within selected 'champion' MDAs and LGAs to test the system across a range of sectors, locations and size of procurement volume. Support will also be provided for business process re-engineering, training and change management within the champion MDAs and LGAs to ensure successful implementation and impact of the system. Mobile survey tools will be utilized to gather citizen input on the other priority applications to be developed. Hackathons or partnerships with technology hubs will also be used to incentivize local content creation, development of mobile-based apps, and services that address local problems.

Component 4: Project Management (US$5 million)

37.   **This component will support essential project management functions of the project.** This will include support for an overall project manager; a digital government services coordinator; a connectivity/ICT technical specialist; and specialists in procurement, FM, and safeguards. It will also include funding for strategic communications, monitoring and evaluation (M&E), audits, logistics, and operational overhead.

E. Implementation

Institutional and Implementation Arrangements

38.   **Project implementation will be led by the Public-Private Partnership Commission (PPPC).** A project implementation unit (PIU) within the PPPC has been established to manage the project. The PIU will feature a project manager, procurement specialist, FM specialist, senior ICT adviser, safeguards specialist, and a partnerships and communications specialist and will add other roles as needs arise. The PIU will be responsible for day-to-day project management and coordination and execution of FM, procurement, safeguards, and M&E. All positions have been recruited and are in place, with the exception of the partnerships and communications specialist, who is expected to be recruited prior to project effectiveness. The consultants serving in the project manager, procurement, and FM positions have been retained from the RCIPMW in recognition of high performance. Project management, procurement, and FM assessments under the RCIPMW have all been satisfactorily rated and strong oversight systems are in place within the PIU and wider PPPC. The Chief Operating Officer (CEO) of the

PPPC will serve as the supervisor of the PIU.

39.   **Key project stakeholders, including the e-Government department, MACRA, ODPP, MAREN, and other MDAs, as relevant, will serve as the lead on technical matters for components and activities within their purview.** The stakeholders will be responsible for providing strategic direction and technical oversight, while the PIU will continue to lead on all procurement and fiduciary functions. As with the RCIPMW, the working relationship between the PIU and the relevant stakeholders is expected to be collaborative given the need for close cooperation and some areas of joint responsibility. A senior ICT advisor has been recruited to provide strategic guidance and knowledge transfer during the first few years of project implementation. An additional digital government services coordinator, officially part of the PIU but embedded within the e-Government department, may also be considered if needed during implementation to facilitate coordination between the PIU, the e-Government department, and other key MDAs under Component 3. Lead counterparts within the e-Government department, MACRA, and ODPP have been identified and have already been working closely with the PIU during project preparation. This is expected to help strengthen institutional knowledge and sustainability after project completion.

40.   **Guidance on implementation arrangements and priority setting will be provided by a project Steering Committee throughout the life of the project.** The steering committee will bring in voices from across government and stakeholder groups and will be leveraged to help support change management with regard to use of the shared digital platform and the necessity to partner with the e-Government department when developing new digital services and applications. Members of the steering committee may include, but are not limited to, the Ministry of Finance, Economic Planning and Development (MoFEPD), MoJCA, MICT, PPPC, ODPP, e-Government department, Reforms Unit, and MACRA.

41.   **A US$3 million project preparation advance (PPA), approved in October 2016, is supporting capacity building and preparation of key studies, strategic frameworks, and project implementation road maps.** As a result of the activities funded through the PPA, the project should be well positioned for rapid implementation upon declaration of effectiveness, with the National Broadband Strategy, Digital Government Strategy, Enterprise Architecture and Interoperability Framework, Connectivity Services Feasibility Study, and Transaction Advisor consultancy either completed or well advanced. The PPA is also enabling implementation of a significant training program and exchange visits for key staff at MACRA and the MICT; hiring of critical project management, advisory, and compliance consultants to staff the PIU; and undertaking of time-sensitive reviews of draft regulatory instruments and an audit of the Government Wide Area Network (GWAN).

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F. Project location and Salient physical characteristics relevant to the safeguard analysis (if known)

The project will be implemented nation-wide. The exact subproject locations are not precisely known at this stage but, generally, the environments involved are variable with different environmental conditions. There are, therefore, different receptors along the way which need to be considered. The most common receptors include rural settlements, agricultural lands, valleys and gorges, mountains and hills, city environs,

townships, trading centers, plantations, commercial farms, and others. They all fall under the general conditions of Tropical Savannah Climate.

G. Environmental and Social Safeguards Specialists on the Team

Mary C.K. Bitekerezo,Shri Vasantt Kumar Jogoo,Jane A. N. Kibbassa,Boyenge Isasi Dieng

SAFEGUARD POLICIES THAT MIGHT APPLY

Safeguard Policies	Triggered?	Explanation (Optional)
Environmental Assessment OP/BP 4.01	Yes	Most of the infrastructure development (hence construction activities) will likely be financed by the private sector. A certain number of activities (like the construction of a data center) could, nevertheless, be undertaken by the public sector. As a result, Environmental Assessment OP/BP 4.01 is triggered. Such activities may result in adverse environmental and social impacts. In view of the fact that the project will be implemented nation-wide, and the exact locations of physical interventions are not precisely known at this stage, an Environmental and Social Management Framework has been prepared, consulted upon and disclosed. Once the network's details and specific locations for the construction of associated infrastructures have become known, specific Environmental and Social Management Plans (ESMP) will be prepared as necessary during project implementation, in line with the ESMF. The public sector will be encouraged to use the ESMF to guide its own policy on environmental management and thereby conform to national policies and international best practice. The activities connected with the Program will be site specific, with small ecological footprints, and generating impacts that are of low to moderate significance that can be easily mitigated. The project is, therefore, categorized as "B".
Natural Habitats OP/BP 4.04	Yes	Malawi has a very varied landscape, with receptors likely to range from agricultural lands, plantations,

		commercial farms, valleys and gorges, to mountains and hills, city environs, townships, rural settlements, trading centers, and others. To ensure that physical interventions do not impact on sensitive areas, safeguards policy OP 4.04 (Natural Habitats) is triggered to ensure that relevant procedures and guidelines intended to protect the natural resource base are included in the ESMF.
Forests OP/BP 4.36	Yes	Forested areas may likewise be impacted, thus triggering OP 4.36 on Forests.
Pest Management OP 4.09	No	
Physical Cultural Resources OP/BP 4.11	Yes	Physical Cultural Resources (OP 4.11) is triggered as the construction of the planned network may involve movements of earth in areas that may contain sites of physical cultural importance to communities along the network (e.g. graves, holy sites such as sacred groves, sacred forests, etc.). To ensure due diligence, Chance Find Procedures will be included in the ESMF and ESIA/ESMP and all contractor contracts will need to address OP/BP 4.11 basic requirements to adequately handle unexpected Physical Cultural Resources finds.
Indigenous Peoples OP/BP 4.10	No	
Involuntary Resettlement OP/BP 4.12	Yes	Involuntary Resettlement (OP 4.12) is triggered as construction of network or datacenter infrastructure may require land acquisition that might lead to involuntary resettlement of people and/or loss of assets, means of livelihoods or resources. As such, the Borrower has drafted a Resettlement Policy Framework (RPF), to adequately deal with issues of land acquisition and compensation and/or the physical displacement of people. The RPF has been duly consulted upon cleared by the Bank and adequately disclosed both in country, and on the World Bank's webpage. Resettlement Action Plans (RAP) will be developed once the network's footprint and locations of the associated infrastructure have been established.
Safety of Dams OP/BP 4.37	No	
Projects on International Waterways OP/BP 7.50	No	
Projects in Disputed Areas OP/BP 7.60	No	

KEY SAFEGUARD POLICY ISSUES AND THEIR MANAGEMENT

A. Summary of Key Safeguard Issues

1. Describe any safeguard issues and impacts associated with the proposed project. Identify and describe any potential large scale, significant and/or irreversible impacts:

No major negative impacts are expected of the activities proposed to be funded under the project. While most of the infrastructure development (hence construction activities) will most likely be financed by the private sector, a limited number of activities (like the construction of a data center or potentially some limited network infrastructure and related equipment) could, nevertheless, be undertaken by the public sector. Impacts likely to be generated will be site specific, and of low to moderate significance that can be easily mitigated. The implementation of the project may also require land acquisition that might lead to involuntary resettlement of people and/or loss of assets, means of livelihoods or resources.

Considering the nature and magnitude of potential environmental and social impacts of the activities proposed to be funded, The project is classified as Category "B".

The Bank's safeguards policies would apply in cases where datacenter or network infrastructure works are undertaken solely for the purpose of providing services to the project beneficiary. For cases in which works are not solely and specifically undertaken in order to serve the project beneficiary (e.g. network or datacenter infrastructure that are intended to, and will serve many clients), the Bank safeguard policies are not required to apply. The private sector would still be encouraged to use the RPF/ESMF to guide their own policies and comply with national law in those situations

2. Describe any potential indirect and/or long term impacts due to anticipated future activities in the project area:

In light of the provisions made under the project for environmental and social management, potential indirect and/or long term impacts are not anticipated.

3. Describe any project alternatives (if relevant) considered to help avoid or minimize adverse impacts.

N/A

4. Describe measures taken by the borrower to address safeguard policy issues. Provide an assessment of borrower capacity to plan and implement the measures described.

Because the project's footprint is not yet fully defined, the borrower has prepared an Environmental and Social Management Framework (ESMF) and a Resettlement Policy Frameworks (RPF) consistent with both the national laws and regulations and World Bank operational safeguards policies, namely OP/BP 4.01, 4.04, 4.36 and 4.12.

The ensuing ESMPs will also provide guidelines for inclusion in bidding documents and contractors' contracts, payment of which will be subject to the effective implementation of these clauses by a field engineer. Implementation of these clauses will be monitored by the Project Implementation Unit's Environmental and Social Focal Points who will recruited shortly after project appraisal. Finally, the ESMF describes the chance-finds procedures to be followed throughout implementation to ensure proper management of any unknown physical cultural resources discovered.

Likewise, the RPF sets forth the basic principles and procedures to be followed by the Government during project

implementation. It offers guidelines for comprehensive socioeconomic censuses that would capture relevant social risks that would include gender and other vulnerable groups' issues, and presents the institutional arrangements, grievance redress mechanism, estimated budget, and monitoring and evaluation approach to be adopted when applying the RPF, as well as a template for preparing a Resettlement Action Plan (RAP), where applicable.

5. Identify the key stakeholders and describe the mechanisms for consultation and disclosure on safeguard policies, with an emphasis on potentially affected people.

Because the project's footprint is not yet fully defined, the ESMF and RPF studies involved consultations with representative of Ministry in charge of Environment, Ministry of Lands, Housing and Urban Development and the Ministry of ICT (e-Government department). During each meeting the scope of the project was discussed, in terms of its economic, social, cultural and environmental impacts and measures to mitigate associated impacts were presented to the audiences. During implementation of the proposed operations, the Environmental and social Safeguards Instruments (ESIA, RAP, ESMP, etc.) will be prepared through a consultative and participatory process involving all stakeholders at national and District levels as well as within affected communities. The implementing agency will initiate these public consultations as early aspossible and will provide all relevant material in a form and language(s) that are understandable and accessible to the groups being consulted in a timely manner prior to consultation. The ESMF and RPF have been disclosed in country (March 17, 2017) and on the World Bank's website (March 20, 2017).

B. Disclosure Requirements

Environmental Assessment/Audit/Management Plan/Other

Date of receipt by the Bank	Date of submission to InfoShop	For category A projects, date of distributing the Executive Summary of the EA to the Executive Directors
01-Mar-2017	22-Mar-2017	

"In country" Disclosure
Malawi
20-Mar-2017

Comments

Resettlement Action Plan/Framework/Policy Process

Date of receipt by the Bank	Date of submission to InfoShop
01-Mar-2017	22-Mar-2017

"In country" Disclosure
Malawi
17-Mar-2017

Comments

C. Compliance Monitoring Indicators at the Corporate Level (to be filled in when the ISDS is finalized by the project decision meeting)

OP/BP/GP 4.01 - Environment Assessment

Does the project require a stand-alone EA (including EMP) report?
No

OP/BP 4.04 - Natural Habitats

Would the project result in any significant conversion or degradation of critical natural habitats?
No

If the project would result in significant conversion or degradation of other (non-critical) natural habitats, does the project include mitigation measures acceptable to the Bank?
NA

OP/BP 4.11 - Physical Cultural Resources
Does the EA include adequate measures related to cultural property?
NA
Does the credit/loan incorporate mechanisms to mitigate the potential adverse impacts on cultural property?
Yes

OP/BP 4.12 - Involuntary Resettlement

Has a resettlement plan/abbreviated plan/policy framework/process framework (as appropriate) been prepared?
Yes
If yes, then did the Regional unit responsible for safeguards or Practice Manager review the plan?
Yes

OP/BP 4.36 - Forests

Has the sector-wide analysis of policy and institutional issues and constraints been carried out?
NA
Does the project design include satisfactory measures to overcome these constraints?
NA
Does the project finance commercial harvesting, and if so, does it include provisions for certification system?
NA

The World Bank Policy on Disclosure of Information

Have relevant safeguard policies documents been sent to the World Bank's Infoshop?
Yes

Have relevant documents been disclosed in-country in a public place in a form and language that are understandable and accessible to project-affected groups and local NGOs?
Yes

All Safeguard Policies

Have satisfactory calendar, budget and clear institutional responsibilities been prepared for the implementation of measures related to safeguard policies?
Yes

Have costs related to safeguard policy measures been included in the project cost?
Yes

Does the Monitoring and Evaluation system of the project include the monitoring of safeguard impacts and measures related to safeguard policies?
NA

Have satisfactory implementation arrangements been agreed with the borrower and the same been adequately reflected in the project legal documents?
Yes

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Note to Task Teams: End of system generated content, document is editable from here.