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# Project Information Document/ Integrated Safeguards Data Sheet (PID/ISDS)

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Concept Stage | Date Prepared/Updated: 01-Sep-2016 | Report No: PIDISDSC19718



## BASIC INFORMATION

### A. Basic Project Data

Country Malawi	Project ID P160533	Parent Project ID (if any)	Project Name Digital Malawi (P160533)
Region AFRICA	Estimated Appraisal Date Feb 13, 2017	Estimated Board Date Jul 03, 2017	Practice Area (Lead) Transport & ICT
Lending Instrument Investment Project Financing	Borrower(s) Ministry of Finance, Economic Planning and Development	Implementing Agency Public Private Partnership Commission	

### Financing (in USD Million)

Financing Source	Amount
International Development Association (IDA)	80.00
<b>Total Project Cost</b>	<b>80.00</b>

Environmental Assessment Category  
B-Partial Assessment

Concept Review Decision

Track II-The review did authorize the preparation to continue

Other Decision (as needed)

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### B. Introduction and Context

#### Country Context

**Malawi is a small, landlocked country of 17 million with the world's fourth lowest GDP per capita of US\$385 in 2015.** Economic growth has been relatively strong since 2003, averaging 5.5% per annum, but had slowed significantly to 2.8% in 2015 and is expected to remain tepid at 2.6% 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 scandal and weather related shocks, such as flooding in the southern region and nationwide drought as a result of El Nino. 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% per annum. Poverty levels exceeded 50% at the last headcount in 2010. Malawi remains a very young country with 45% 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.



**Malawi's economy features low levels of diversification, resilience or dynamism.** Agriculture accounts for approximately one third of GDP and 76% of employment, with more than half of those in the sector being women. Most Malawians living 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. These infrastructure and skills deficiencies, paired with heavy administrative burdens result in a *Doing Business* ranking of 141 out of 189 countries surveyed in 2016<sup>1</sup>. 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

**Human development has been improving in some areas, but Malawi still ranks 173rd out of 188 countries in the 2014 UNDP Human Development Index<sup>2</sup>.** 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 issues with 2.83 million people expected to experience acute food insecurity during the 2015/16 production season according to the World Food Program (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% and 0.4% respectively are among the lowest in Africa.

**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 policymaking. It is blessed with a pleasant climate and scenic 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 jumpstart growth and create jobs outside of the agricultural sector if funds can be mobilized.

#### Sectoral and Institutional Context

**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<sup>3</sup>.** The country is ranked 163rd out of 167 countries in the International Telecommunication Union's (ITU) Information and Communication Technology

<sup>1</sup> World Bank. 2016. *Doing Business*.

<http://www.doingbusiness.org/~media/GIAWB/Doing%20Business/Documents/Annual-Reports/English/DB16-Full-Report.pdf>.

<sup>2</sup> UNPP, 2015. *Human Development Report*.

[http://hdr.undp.org/sites/default/files/2015\\_human\\_development\\_report.pdf](http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf).

<sup>3</sup> World Bank. 2016. *World Development Report: Digital Dividends*. <http://www.worldbank.org/en/publication/wdr2016>.



Development Index (IDI)<sup>4</sup>. Mobile penetration remains low, with subscriptions standing at 36% of the population, compared with 53% for countries with a similar GDP per capita and 80% across Africa at the end of 2015<sup>5</sup>. Only 7% of households reported having access to the internet in 2014<sup>6</sup> 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 133rd in 2004 to 166th of 193 countries in the 2016 UN e-government index which measures provision of online services, telecommunication connectivity and human capacity<sup>7</sup>. 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<sup>8</sup>.

**Lack of affordability, availability and quality of broadband connectivity, coupled with low human and institutional capacity, constrain access to digital technologies and services in Malawi.** Mobile voice tariffs are among the fourth least affordable in the world, costing as much as 48.9% of GNI per capita. The retail price of an entry level mobile broadband package (500 MB per month of data) is equivalent to 24.4% of GNI per capita, while a fixed connection exceeds 111%, compared with the UN broadband Commission affordability target of 5% or lower. In a recent national survey, affordability was cited by 55% of citizens as the main barrier to internet access, while 31% 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 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 digital public services to citizens and has migrated only a very small and fragmented number of services and information systems to digital platforms.

**A number of related factors are responsible for these constraints, including a lack of competition in critical telecom market segments, insufficient infrastructure investment, high costs of international bandwidth, high levels of taxation, weak regulation of the sector, and low levels of income and digital literacy.** An effective duopoly has persisted in the mobile market between Airtel and Telekom Networks Malawi (TNM) for the past fifteen years, despite the award of several additional licenses. The resulting lack of investment and competitive pressure on prices and quality has severely impacted average consumers – the vast majority of whom access both voice and broadband services through mobile phones. In the fixed broadband market, the incumbent Malawi Telecoms Limited (MTL) owns the most extensive and, in many areas, the only fixed network infrastructure. Until recently MTL also held a monopoly on international connectivity through access to the EASSy submarine cable, though this has improved through the market entry of SimbaNet Malawi (see below). Taxation and regulatory levies appear to account for a

<sup>4</sup> ITU. 2015. Measuring the Information Society. <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2015.aspx>.

<sup>5</sup> Telegeography, 2016. [www.telegeography.com](http://www.telegeography.com).

<sup>6</sup> MACRA. 2015. National Survey on Access to and Usage of ICT Services in Malawi, Malawi Communications Regulatory Authority. <http://www.macra.org.mw/wp-content/uploads/2016/01/MACRA-Survey-Report-National-Household-and-Individual-access-to-and-usage-of-ICT.pdf>.

<sup>7</sup> UNPACS. 2016. *UN eGovernment Survey 2016*. <https://publicadministration.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2016>.

<sup>8</sup> Digital Adoption Index 2015. [www.digitaladoptionindex.org](http://www.digitaladoptionindex.org).



large and increasing proportion of operating costs and retail prices, including a 30% corporate tax, 10% excise duty on voice, SMS and mobile data, 16.5% VAT on internet services and mobile data, 0.08 USD/minute levy on international voice traffic and a 3% gross revenue levy to support the universal service fund. Attempts to cap retail prices by the Malawi Communications Regulatory Authority (MACRA) have been stymied through legal challenges and there is no enforceable regulatory framework for network interconnection and infrastructure sharing between service providers. This has had the effect of discouraging new market entrants and reducing competition. Low income levels, lack of access to smartphones and other electronic devices, and a limited knowledge of how to use them limit demand for network infrastructure investment and rollout of services to rural and impoverished urban areas.

**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 Malawi Project (RCIPMW), has modernized 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 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 under RCIPMW, the price of international connectivity has fallen precipitously from US\$3,000 per Mbit/s per month in 2011 to just US\$135 or less today, removing one of the largest components of service providers' operating costs. 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 urban centers. For example MTL is seeking a strategic investor to support a large network upgrade and expansion. TNM has launched the first fourth generation mobile services (4G/LTE) in Blantyre, Lilongwe, Mzuzu and Zomba in June 2016. Mobile money services are expanding quickly and the country's first innovation and technology hub, known as mHub, has recently been launched with strong demand from budding innovators and entrepreneurs.

**It is critical that this positive momentum is reinforced and accelerated in order to transform Malawi's digital development trajectory and to ensure that digital dividends are reaped and shared widely.** A significant scale up in infrastructure investment needs to be encouraged, especially in rural and underserved areas. 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 short term revenue maximization. And finally, digital skills need to be nurtured to equip citizens, especially youth, to build the digital society, government and economy of tomorrow.

#### Relationship to CPF

**The proposed Digital Malawi project supports all three priority themes of the Malawi Country Assistance Strategy (CAS) for FY13-16:**

**[Link to CAS Theme 1: Promoting Sustainable, Diversified, and Inclusive Growth](#)**



The project will directly support the business environment, competitiveness, infrastructure investment and job creation in the ICT sector, while promoting greater productivity economy-wide by enhancing use of technology, innovation and providing greater access to information and new markets across all sectors. A wide range of studies have demonstrated that a 10% increase in broadband penetration increases annual GDP growth between 0.24-1.5% and indirectly creates 1.5 to 4.5 jobs for every new job in the sector. Surveys of East African households have shown that those with access to ICTs increased their income compared to those without<sup>9</sup>. Other studies conducted in Kenya<sup>10</sup> and Tanzania<sup>11</sup> link ICT investment with poverty alleviation and improvement of business environment. Access to ICTs can play a significant role in boosting the productivity and incomes of Malawi's large population of small scale farmers by easing access to extension services, weather and market information. Without the Digital Malawi project, sector development will likely be much slower and access to services will remain a privilege reserved only for urban elites, further entrenching rather than reducing economic and social divides.

### **Link to CAS Theme 2: Enhancing Human Capital and Reducing Vulnerabilities**

The project will support the government to build the foundations for more efficient, innovative and transparent public service delivery using digital platforms across all sectors and support improved connectivity for public institutions such as schools and hospitals. This will open opportunities for teachers and students to access online curriculum and distance learning tools, enable use of modern health information systems and telemedicine and ease dissemination of public health messages and disease surveillance. It will also help strengthen resilience by enabling widespread use of digital payments for social protection schemes and sharing emergency information and rapid data collection in the event of natural disasters using mobile platforms.

### **Link to CAS Theme 3: Mainstreaming Governance for Enhanced Development Effectiveness**

The modern, effective economic, financial and human resources management information systems needed to address Malawi's governance and management challenges rely on robust connectivity, secure and reliable data storage and a delicate combination of data transparency and privacy protection. Digital Malawi seeks to address these fundamental challenges and develop an efficient, secure and shared digital platform upon which such systems will run. To date, these elements have been addressed on an ad hoc basis by various Ministries, Departments and Agencies (MDAs) and projects at a much higher unit cost and much less effectively and securely than under a comprehensive, whole of government approach. Improving connectivity and establishing a shared government database infrastructure with clear guidelines for access will also open new opportunities to access and analyze data to increase transparency and inform policymaking. Finally, the projected cost savings through aggregating demand for connectivity services and developing a shared IT infrastructure across government will be significant.

<sup>9</sup> May et al., Information and communication technologies as a pathway from poverty: evidence from East Africa, ICT Pathways to Poverty Reduction, 2014 (<http://www.idrc.ca/EN/Resources/Publications/openebooks/539-7/index.html>)

<sup>10</sup> *Waema et al*, Access and use of ICT and its contribution to poverty reduction in Kenya, 2013 (<http://www.idrc.ca/EN/Resources/Publications/openebooks/539-7/index.html#ch05>)

<sup>11</sup> Mascarenhas, Impact of enhanced access to ICTs on small and microenterprises in Tanzania, 2013 (<http://www.idrc.ca/EN/Resources/Publications/openebooks/539-7/index.html#ch06>)



### C. Proposed Development Objective(s)

To increase access to affordable internet services for government and citizens and to improve the government's capacity to deliver efficient and secure digital public services

Key Results (From PCN)

The proposed PDO results indicators are as follows:

- Number of project beneficiaries, of which, % female
- Increase in access to internet services (percentage of individuals aged 16 to 74 using the internet)
- Decrease in retail price of internet services (Mobile Broadband, 500MB prepaid monthly bundle, in US\$ PPPs and as percentage of GNI per capita)
- Change in UN e-Government Survey Index Score (both absolute score, and change in ranking)
- Number of transactions per year utilizing the shared public service delivery platform

To the extent possible, the project will rely on routinely collected data from international organizations (ITU, UN) and the private sector (TeleGeography, GSMA) and by MACRA to ensure continuous availability and consistency of data and to minimize any additional administrative burden. Rapid mobile/SMS survey tools will also be explored as a means of citizen engagement and feedback to provide additional insights for course correction as needed.

### D. Concept Description

**Economies, governments and societies cannot thrive without reliable connection to markets, information, services and each other.** Such connections have been moving from physical to virtual at an accelerating pace. Countries at all levels of development now need to ensure that their businesses, citizens and institutions are equipped to participate, innovate and flourish in an increasingly online environment or risk being left behind and isolated. This is especially true for a small, landlocked country with significant physical infrastructure deficits and far from global commercial hubs such as Malawi. By investing in ICTs, Malawi can enhance its international competitiveness and position itself as an attractive destination for foreign investment and digital innovation in a variety of sectors, including tourism and agriculture.

**The Digital Malawi project proposes a comprehensive program to lay the foundations for a digitally-enabled economy, society and government, with the ultimate aim of to promoting economic and social opportunity, increased access to services and improved quality of life for all citizens.** As emphasized in the 2016 World Development Report: *"Digital Dividends"*, it is not enough to invest in broadband infrastructure and other digital enablers, it is equally if not more important to invest in complementary analog enablers such as digital leadership,



enabling policy regulation, accountable institutions, and relevant digital skills. The project will target three core enablers of digital development: (i) 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; (ii) Digital Connectivity: promoting affordable, high quality internet access for all citizens by incentivizing private sector network infrastructure development and service provision nationwide; and (iii) 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.

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<i>Component</i>	<i>Proposed Financing (US\$ million)</i>
<b>Component 1: Digital Ecosystem</b>	<b>10</b>
1.1: Legal and Regulatory Reform and Implementation (Enabling Environment)	
1.2: Regulatory Capacity Building and Institutional Development	
1.3: Partnerships for ICT Skills Development and Innovation	
<b>Component 2: Digital Connectivity</b>	<b>44</b>
2.1: Connectivity for Public Institutions (“Virtual National Network”)	
2.2: Innovative Broadband Access Solutions	
2.3: Higher Education Connectivity	
<b>Component 3: Digital Platforms and Services</b>	<b>20</b>
3.1: Strengthening Institutional Capacity to Deliver Digital Services	
3.2: Shared Digital Public Services Delivery Platform	
3.3: Digital Applications and Services	
<b>Component 4: Project Management</b>	<b>6</b>
<b>Total</b>	<b>80</b>

### **Component 1: Digital Ecosystem**

**The aim of Component 1 is to make Malawi a more attractive and competitive place to invest and innovate while ensuring that the benefits of digital technology are reaching all citizens.** This will be accomplished by strengthening the many inter-related 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; and developing a critical mass of innovators and supportive services. These objectives will be supported through three sub-components:

#### **Sub-Component 1.1: Legal and Regulatory Reform and Implementation (Enabling Environment)**





**The Revised Communications Act and Electronic Transactions Act, approved in July 2016, have modernized Malawi’s legislative framework for the telecommunication sector and created a formal legal basis for a wide spectrum of digital transactions that are critical for digital commerce and service delivery.** The Acts have also widened MACRA’s mandate to encompass new responsibilities in the areas of cyber-security, consumer protection and promoting universal access to telecoms services.

**The challenge is now for MACRA to develop the regulatory bylaws, data collection and analysis tools it needs to implement these laws and the new mandates effectively.** It is proposed that the project will prioritize support for those elements which most directly contribute to enhancing citizen’s access to ICT services, affordability and service quality, as well as enabling efficient, secure and reliable digital transactions and innovation. The proposed activities may include but are not limited to: development of a rollout plan for regulatory bylaws and other instruments; technical assistance to support drafting of regulations including for establishment of a converged licensing framework, interconnection regime, mobile number portability, infrastructure sharing, etc.; technical assistance to develop methodologies related to quality of service monitoring, innovative spectrum management, and cost modelling; support for statistics and data collection programs (ICT usage surveys and data collection from operators) and other needs as they arise.

### **Sub-component 1.2: Regulatory Capacity Building and Institutional Development**

**There is a need to strengthen MACRA’s institutional and human capacity to deliver on its new mandates, respond to evolving technological and regulatory innovations and to establish a progressive regulatory environment.** Likewise, there is a need to strengthen the capacity of key staff at the Ministry of Information, Communications Technology and Higher Education (MoICTCE) and the wider government to enable them to carry out effective policy development and regulatory implementation. The project proposes to support this capacity building through a number of activities which may include, but are not limited to: undertaking a comprehensive institutional structure and capacity assessment of MACRA; establishing a comprehensive training program for relevant staff in MACRA and other ministries, departments and agencies (MDAs) in areas of new responsibility and next generation regulatory issues; conducting a needs assessment and developing an implementation plan for establishment of a Computer Emergency Readiness Team (CERT); establishing a public key infrastructure (PKI); support for developing a national Broadband Strategy; technical assistance to design and administer the Universal Service Fund (USF); and undertaking a ‘digital leadership’ capacity development program for selected government officials.

### **Sub-component 1.3: Partnerships for ICT Skills Development, job creation and Innovation**

**Malawi’s low basic ICT literacy rates have been identified as one of the key barriers to the greater use of ICTs by citizens and the private sector.** This is hindering their participation in the digital economy and constraining their ability to access digital services. The lack of more advanced ICT skills, and an insufficient number of certified



computer engineers and IT professionals, is also a constraint to sector growth and innovation. Given the scale of the challenge, the project proposes to leverage partnerships and co-financing as the primary mechanism to help address the ICT skills divide. This may include partnerships with the education ministry and other donors, NGOs and the private sector to establish a new ICT curriculum for schools, launch or scale up ICT awareness and skills programs focused on adult and disadvantaged populations (such as the elderly, disabled persons, women and girls) and to increase access to higher level degree and certification programs for Malawian citizens..

**Malawi's tech innovation ecosystem is relatively undeveloped, but offers significant potential for job creation at both the low and high skill levels.** The project proposes to support and/or partner with Malawian based tech hubs to help increase their visibility, expand operations including in development of new digitally enabled services, local content and scaling up emerging innovations that have proven to work. Specific interventions may include support for connectivity, rental of incubator space, challenge/innovation funds and competitions and support to strengthen technical expertise and trainings in areas such as business plan development, intellectual property, marketing and financing. Collaboration will also be sought to encourage greater female participation in the tech sector through support to programs such as 'Girls who Code', 'She will Connect', and the Technovation Challenge (Girls in Technology Entrepreneurship Program) among others.

## **Component 2: Digital Connectivity**

**There is a strong need for high speed, affordable connectivity for government, citizens and businesses across Malawi.** In addition to measures to boost sector competitiveness and network investment through regulatory and other "soft" mechanisms (described under component 1), there is a need for more direct interventions to encourage infrastructure deployment in 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 routes that are currently dominated by a limited number of providers.

**The RCIPMW project has helped lower the price of international connectivity but additional efforts are needed to extend access to connectivity nationwide.** Under RCIPMW, the government purchased a large volume of international bandwidth and related services over a 10 year period under a competitive bidding process. To supply these services, the winning bidder – SimbaNet - constructed a new fiber-optic network linking to Zambia and Tanzania, terminating at a virtual landing point (VLP) on Capitol Hill in Lilongwe. While MDAs near capitol hill and select MDAs near the eight drop points along the SimbaNet network are now enjoying high speed internet connectivity as a result of the transaction, most MDAs throughout the rest of the country are not. At the time of the RCIPMW program design, it was expected that a national government backbone would be constructed in parallel with financing from other partners, but unfortunately this has not materialized. As a result, the remaining MDAs are forced to continue operating under high cost, low quality bi-lateral contracts with other service providers.



**Three sub-components are proposed to address the remaining connectivity gaps for government, higher education and private consumers:**

### **Sub-component 2.1: Connectivity for Public Institutions (“Virtual National Network”)**

**This sub-component proposes to support a long term capacity purchase and services contract to connect all priority public institutions throughout the country.** It would do so through a competitive tendering process for advanced purchase of bandwidth, using a mechanism similar to that used under RCIPMW to create a seamless national backbone network. As with RCIPMW, the winning bidder would be required to operate the network infrastructure on an open access, competitive and non-discriminatory basis and to offer unit pricing per Mbit/s that is equivalent to that offered to the government.

**This approach would bring multiple benefits for both government and private consumers, including:**

- i. capitalizing on economies of scale to significantly lower the unit connectivity costs of government by aggregating demand under a single, low price contract;
- ii. providing incentives for the private sector to invest in new network infrastructure (backbone and access network) in areas throughout the country where it does not yet currently exist;
- iii. leveraging significant private sector financing - lowering the government’s up-front capital costs for infrastructure investment;
- iv. eliminating the need for government to retain technical expertise to operate a network and eliminating ongoing operating, maintenance and upgrade costs;
- v. preventing unnecessary duplication or displacement of planned private sector investment (compared with direct government financing and ownership of network infrastructure); and
- vi. significantly lowering the barriers and costs for the private sector to offer services in currently underserved areas by utilizing the same shared infrastructure.

**The locations/institutions to be connected will be defined during project preparation as part of a planned feasibility study.** These will include priority government offices and may be expanded to include educational establishments (schools and colleges: see below) and hospitals. This component is designed to be able to be scaled up or down relatively easily by adjusting the number of sites to be connected and/or the amount of bandwidth specified.

### **Sub-Component 2.2: Innovative Broadband Access Solutions**



**In addition to completing the ‘virtual national network,’ additional activities will be considered to improve broadband access to target groups, particularly in rural areas, taking advantage of recent and future technological and business model innovation for broadband deployment.** The sub-component will explore potential partnerships to introduce innovative new technologies and approaches for broadband deployment, notably in secondary cities and rural areas with low population density. This could potentially include support for scale up of the recently completed TV white spaces pilot program to leverage unutilized spectrum previously reserved for analog TV broadcasting for targeted broadband deployment. Support for innovative broadband access pilot programs, in partnership with the Universal Service Fund (USF), and partnerships with the international companies and foundations seeking to deploy new technologies for broadband service delivery (satellite, drones, balloons, etc.) will also be explored. The internet exchange point (IXP) currently serving Blantyre (MIX-BT) may be expanded to cover Lilongwe and other population centers. Specific activities and modalities will need to be identified as part of ongoing consultations.

### **Sub-component 2.3: Higher education connectivity**

**With an eye on the future, the higher education sector will be specifically targeted for enhanced connectivity, improved caching and local content development.** Malawi’s education sector is one of the key elements in its long-term development, and equipping the next generation of Malawians with the digital skills they need could be one of the best investments. Although this sub-component builds on elements of the other connectivity sub-components, identifying it separately should help in ensuring focus and in monitoring progress. At the macro-level, the mechanism of advance purchase of capacity, described in sub-component 2.1, will be used to secure dedicated bandwidth for universities, research institutes and schools. This will also involve support to MAREN, the Malawi research and education network, and to MALICO, the Malawi Library and Information Consortium. At the micro-level, it will involve investment in Campus WiFi for participating universities and high schools. These hotspots could also serve the wider community through free and unmetered internet access. Finally, bandwidth needs to be complemented by demand stimulation measures, especially for teachers and professors. It is proposed therefore to establish a revolving fund that can be used to provide low or no interest loans to teachers wishing to acquire a laptop, tablet or smartphone, for use in the classroom. This could follow the [“Mwalimu Digital Initiative”](#) that has been developed in Kenya, by Intel and other partners.

### **Component 3: Digital Platforms and Services**

**Increased access to affordable, high quality connectivity as supported under components 1 and 2 opens up opportunities to transform public service delivery in Malawi using digital technologies.** Digital transformation is essential for Malawi to deliver an advanced, competitive economy and modern, effective public services for all. Increasing public services offerings through a variety of mobile and online platforms could bring significant benefits to average citizens who must often 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 nonetheless to have access to a mobile phone. Likewise, digital platforms can offer opportunities to



deliver new categories of services and transactions. As one example, digital platforms can be used to facilitate cash transfers under social protection or payroll schemes by lowering administrative and logistical barriers and reducing scope for bribes and corruption. Digital information and communications systems are also and increasingly important tools for government to efficiently and transparently manage its internal operations.

**At present, the government of Malawi lacks sufficient human resources, institutions, policies and adequate 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 are typically isolated and expensive to build, maintain and secure. While these deficits represent a significant challenge, the advantage is that the relative lack of investment in outdated, legacy infrastructure and digital services offerings presents an opportunity to leapfrog to the latest technology and to learn from global experience by adopting best practice institutional structures and policies.

**Component three will follow a phased approach to upgrading Malawi's digital service delivery capacity.** The first phase will focus on development of a *Shared Digital Public Services Platform*, with the aim to establish a solid foundation upon which all future digital services and applications will be built and developing human and institutional capacity of the government to deliver. The second phase will focus on development of citizen facing digital applications and services that leverage the shared platform.

### **Sub-Component 3.1: Strengthening Institutional Capacity to Deliver Digital Services**

**A significant scale up of digital services offerings will require an equivalent upgrade of the institutions and technical staff responsible for championing and executing this ambitious agenda.** Responsibility for the Government's IT needs rests primarily with the e-government department under MoICTCE, which maintains a cadre of IT common service staff embedded in MDAs throughout the government. The department faces several interrelated problems, namely a lack of authority over purchasing by other line Ministries, reputation, funding and sufficient human resources and technical skills, to effectively fulfill its mandate. This subcomponent will seek to address these challenges through a number of activities, including but not limited to: (i) supporting development of a comprehensive Digital Government Strategy, including an institutional structure and capacity review of the MoICTCE and development of a corresponding capacity building program and work plan for rollout of shared digital infrastructure and services; (ii) financing an extensive training program for the IT common service staff and other relevant officials; (iii) hiring of a resident digital government advisor to support the strategy and skills development activities at the outset of the project and (iv) supporting a change management and outreach program to sensitize key stakeholders across government.

### **Sub-Component 3.2: Shared Digital Public Services Delivery Platform**



**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 their own 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 for their data storage, hosting, security, data sharing, citizen authentication, e-payment, professional IT support and other needs. This approach would allow MDAs to focus on the areas of their areas of core competency when developing a new digital service, rather than worry about the issues of IT infrastructure, cybersecurity, etc.

**Common Elements of the Shared Public Service Delivery Platform to be supported will include:**

- **Shared data center infrastructure:** financing for a data hosting solution. There are a number of models which will be explored including purchase of hosting services from the private sector, and development or expansion of a national data center, possibly as a PPP, government owned entity, and possibly in conjunction with an IXP.
- **Shared digital services:** Establishment of common “enablers” needed for nearly all digital services: user authentication, electronic ID integration, mobile delivery platform, electronic payment services, SMS notification services, etc. This may also include financing for Information Security activities as recommended in the National Information Security Strategy that is now being developed in collaboration with Commonwealth Telecommunications Organization (CTO).
- **Malawi digital services Portal:** Development of a single point of entry (“one stop shop”) for citizens, businesses, and Government officials to access information and digital services, regardless of the type of device used.
- **Data Integration and Sharing Program:** This will support the establishment and management of a whole-of-Government Data Management Program to deliver a seamless and convenient user experience with e-Services, help desk support and access to data across MDAs for real-time analysis and effective, data-informed policymaking.
- **Shared IT services:** this will finance the development of government email, document management system, and other services, etc.

**Sub-Component 3.3: Digital Applications and Services**

**Once sufficient capacity is built and the Shared Digital Public Services Delivery Platform is in place, the project will support a select number of digital applications and services to demonstrate the use of the shared platform.** A limited number of these applications may be financed directly through the project, but the primary mechanism will be to support partnerships with other MDAs and projects to develop digital services utilizing the shared platform and to build the credibility and reputation of the e-government department. It is proposed that mobile survey tools or other methods are leveraged to gather citizen input on priority applications. Hackathons or partnerships with local technology hubs may also be used to incentivize local content creation, development of mobile based apps and



services that address local problems. The project may also support digitization of paper records to enable digital migration of selected services.

**Component 4 - Project Management**

**Component four will support essential project management functions of the project.** This will include support for an overall project manager, a digital government services coordinator and specialists in procurement, financial management and safeguards. It will also include funding for strategic communications and partnerships, monitoring and evaluation activities as well as funding for audits, logistics and operational overhead. Project management will continue to be led by the Public-Private Partnership Commission (PPPC) in collaboration with key stakeholders and technical counterparts including MoICTCE (e-government department) and MACRA.

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**SAFEGUARDS**

**A. 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.

**B. Borrower’s Institutional Capacity for Safeguard Policies**

Through the implementation of the Regional Communications Infrastructure Project - Malawi (RCIPMW) since 2009, the Borrower has gained valuable knowledge and experience in compliance with Bank safeguards policies, the laws of Malawi and international best practices. The Borrower has developed an effective environmental management system that is well integrated with the prevailing national environmental management systems and international best practice. Overall, it has adopted an environmental management approach that values the importance of natural resources, ecosystem functions, people’s lives and the built environments in order to guarantee a sustainable and clean approach to development. This is in line with the national environmental management policies and in line with World Bank frameworks.

**C. Environmental and Social Safeguards Specialists on the Team**

Helen Z. Shahriari, Jane A. N. Kibbassa

**D. Policies that might apply**

Safeguard Policies	Triggered?	Explanation (Optional)
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Environmental Assessment OP/BP 4.01	Yes	Environmental Assessment OP/BP 4.01 is triggered, as the project will finance a range of activities that could result in adverse environmental and social impacts. These activities particularly include the construction of a new fiber optic network. An Environmental and Social Management Framework, which will primarily comprise an update of the RCIPMW ESMF, will be prepared, consulted upon and disclosed before appraisal. Specific Environmental and Social Management Plans (ESMP) will be prepared as necessary for the infrastructures during project implementation, in line with the ESMF, once the network's details have been identified.
Natural Habitats OP/BP 4.04	TBD	Construction of the planned network might affect some natural habitats and as such, the decision of whether to trigger OP BP 4.04 will be assessed during the RCIPMW ESMF update. If triggered, appropriate measures will be designed and included in the updated ESMF.
Forests OP/BP 4.36	TBD	Construction of the planned network might also affect some forests and as such, the decision of whether to trigger OP BP 4.36 will be assessed during the RCIPMW ESMF update. If triggered appropriate measures will be designed and included in the updated ESMF.
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 the construction of the planned network will likely require land acquisition that might lead to involuntary resettlement of people and/or loss of assets, means of livelihoods or resources. To ensure due diligence, the Borrower will update the RCIPMW Resettlement Policy Framework (RPF), to adequately





deal with issues of land acquisition and compensation and/or the physical displacement of people. The RPF will be duly consulted upon cleared by the Bank and adequately disclosed both in country, and at the InfoShop prior to appraisal. A Resettlement Action Plan (RAP) will be developed once the network's footprint has 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

**E. Safeguard Preparation Plan**

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Tentative target date for preparing the Appraisal Stage PID/ISDS

Dec 16, 2016

Time frame for launching and completing the safeguard-related studies that may be needed. The specific studies and their timing should be specified in the Appraisal Stage PID/ISDS

The next stage will involve the updating of the RCIPMW Environmental and Social Management Framework (ESMF) and Resettlement Policy Framework (RPF) that will provide the necessary guidelines for the preparation of all mitigation plans (such as Environmental Impact Assessments (EIA) and Environment and Social Management Plans (ESMP), Construction Management Plan (CMP), Compensation Action Plans (CAP), and Resettlement Action Plan (RAP) to respond to the anticipated project impacts once the network details are determined. To inform the development of the frameworks, an assessment of the compliance with and lessons learned related to the implementation of the safeguards instruments under the RCIP project may also be undertaken.

**CONTACT POINT**

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### APPROVAL

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