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Report No: PAD2021

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF SDR 35.1 MILLION

(US$51 MILLION EQUIVALENT)

TO THE

ISLAMIC REPUBLIC OF AFGHANISTAN

FOR A

DIGITAL CENTRAL ASIA SOUTH ASIA (CASA) PROJECT

March 1, 2018

Transport and Digital Development Global Practice
South Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 20, 2018)

Currency Unit	=	AFN
US$ 1.00	=	AFN 68.95
AFN 1	=	US$ 0.0145

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

$	All dollar amounts are in U.S. dollars unless otherwise indicated
AFMIS	Afghanistan Financial Management Information System
ANPDF	Afghanistan National Peace and Development Framework
ARTF	Afghanistan Reconstruction Trust Fund
ATRA	Afghanistan Telecom Regulatory Authority
CASA	Central Asia and South Asia
DA	Designated Account
DCIU	Digital CASA Implementation Unit
DRDC	Disaster Recovery Data Center
ESMF	Environmental and Social Management Framework
ESMP	Environment and Social Management Plan
FM	Financial management
GDP	Gross domestic product
GoA	Government of Afghanistan
GovNet	Government Network
GRM	Grievance redress mechanism
ICT	Information and communication technologies
ICTSDP	Afghanistan ICT Sector Development Project
IFC	International Finance Corporation
IFR	Interim financial report
IRU	Indefeasible right of use
IT	Information technology
IXP	Internet exchange point
M&E	Monitoring and evaluation
MCIT	Ministry of Communications and Information Technology
MoF	Ministry of Finance
NPA	National Procurement Authority
OAP	Open access policy
OFC	Optical fiber cable
PDO	Project Development Objective
PMO	Project Management Office
PPG	Project Preparation Grant
PPP	Public-private partnership
PPU	Procurement Policy Unit

QoS	Quality of service
RfP	Request for Proposals
RPF	Resettlement Policy Framework
STEP	Systematic Tracking of Exchanges in Procurement
UN	United Nations
UNDB	United Nations Development Business
WAN	Wide area network
WARCIP	West Africa Regional Communications Infrastructure Program
WDR	World Development Report

Regional Vice President:	Annette Dixon
Country Director:	Shubham Chaudhuri
Senior Global Practice Director:	Jose Luis Irigoyen
Practice Manager:	Jane Treadwell
Task Team Leaders:	Rajendra Singh, Junko Narimatsu, Abdul Hameed Khalili

AFGHANISTAN
Digital CASA Project

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PAD DATA SHEET

Afghanistan

Afghanistan: Digital CASA Project (P156894)

PROJECT APPRAISAL DOCUMENT

SOUTH ASIA

0000009387

Report No.: PAD2021

Basic Information			
Project ID P156894	EA Category B - Partial Assessment		Team Leader(s) Rajendra Singh, Abdul Hameed Khalili, Junko Narimatsu
Financing Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ] Financial Intermediaries [ ] Series of Projects [X]		
Project Implementation Start Date 01-Jul-2018	Project Implementation End Date 31-Mar-2023		
Expected Effectiveness Date 30-Jun-2018	Expected Closing Date 31-Mar-2023		
Joint IFC Yes	Joint Level Joint Project - involving co financing with IFC (loan, equity, budget, other) or staffing		
Practice Manager/Manager Jane Lesley Treadwell	Senior Global Practice Director Jose Luis Irigoyen	Country Director Shubham Chaudhuri	Regional Vice President Annette Dixon
Borrower: Islamic Republic of Afghanistan			
Responsible Agency: Ministry of Communications and IT (MCIT)			
Contact: Telephone No.:	Shahzad Aryobee 0093202101104	Title: Email:	Minister shahzad.aryobee@gmail.com

Project Financing Data(in USD Million)			
[ ] Loan	[X] IDA Grant	[ ] Guarantee	
[ ] Credit	[ ] Grant	[ ] Other	
Total Project Cost:	51.00	Total Bank Financing:	51.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	0.00
IDA Grant	51.00
Total	51.00

Expected Disbursements (in USD Million)

Fiscal Year	2018	2019	2020	2021	2022	2023				
Annual	0.50	10.00	14.00	14.00	9.00	3.50				
Cumulative	0.50	10.50	24.50	38.50	47.50	51.00				

Institutional Data

Practice Area (Lead)

Transport & Digital Development

Contributing Practice Areas

Energy & Extractives

Proposed Development Objective(s)

Digital CASA Program-level PDO: To increase access to more affordable Internet, crowd-in private investment in the ICT sector and improve the participating governments' capacity to deliver digital government services in Central Asia and parts of South Asia, through the development of a regionally integrated digital infrastructure and enabling environment.

Digital CASA Afghanistan PDO: To increase access to more affordable Internet, crowd-in private investment in the ICT sector, and improve the government's capacity to deliver digital Government services in Afghanistan, by contributing to the development of a regionally integrated digital infrastructure and enabling environment.

Components

Component Name	Cost (USD Millions)
Regional and Domestic Connectivity	30.00
e-Government	10.00

Enabling Environment (Policy and Regulatory Frameworks)	3.00
Project Management and Institutional Strengthening	8.00

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	High
2. Macroeconomic	High
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	High
9. Other	Substantial
OVERALL	Substantial

Compliance	
Policy	
Does the Project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
.	
Does the Project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [ ]
Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the Project meet the Regional criteria for readiness for implementation?	Yes [X] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04		**X**
Forests OP/BP 4.36		**X**
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11		**X**
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**

Projects on International Waterways OP/BP 7.50		**X**
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	Recurrent	Due Date	Frequency
Dated covenant			

Description of Covenant

Schedule 2. B. (a) prepare and adopt, within ninety (90) days from the Effective Date, a Project Implementation Manual satisfactory to the Association

Conditions

Source Of Fund	Name	Type
IDAT	Financing Agreement: Categories (1)(a) and (1) (b) - Withdrawal conditions	Disbursement

Description of Condition

(i) Afghanistan Telecom Regulatory Authority (ATRA) has issued the right-of-way Guidelines, the Optical Fiber Wholesale Tariff Regulation, Optical Fiber Interconnection Regulation and the Optical Fiber Quality of Service Regulation, all of which are acceptable to the Association; and (ii) the Optical Fiber License Agreements have been executed between ATRA and at least 1 private wholesale optical fiber operator, in form and substance acceptable to the Association

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Rajendra Singh	Team Leader (ADM Responsible)	Senior Regulatory Specialist		GTD11
Abdul Hameed Khalili	Team Leader	Operations Officer		GTD05
Junko Narimatsu	Team Leader	ICT Policy Specialist		GTD09
Aimal Sherzad	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist		GGOPZ
Ahmed Shah Ahmadzai	Financial Management Specialist	Consultant		GGOAP
Abdullah Noorzad	Team Member	Team Assistant		SACKB

Andrea Ruiz-Esparza	Team Member	Senior Program Assistant		GTD09
Juan Carlos Alvarez	Counsel	Senior Counsel		LEGES
Junko Funahashi	Counsel	Lead Counsel		LEGES
Mohammad Arif Rasuli	Environmental Safeguards Specialist	Senior Environmental Specialist		GEN06
Mohammad Asif Qurishi	Team Member	Program Assistant		SACKB
Qais Agah	Social Safeguards Specialist	Social Development Specialist		GSU06
Rokuhei Fordyce Fukui	Team Member	Consultant	ICT Consultant	GTD11
Sebastian Foo	Team Member	Consultant	eGovernment	GTD09
Victor Manuel Ordonez Conde	Team Member	Senior Finance Officer	Financial Officer	WFACS
Baker K. Kiggundu	Team Member	Investment Officer	IFC	CTTTT
Oana Ariana Batori	Team Member	Investment Officer	IFC	CTTTT

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required Consulting services to be determined

I. STRATEGIC CONTEXT

A. Country Context

1. **There have been substantial improvements in development outcomes in Afghanistan since 2001, particularly in expanded access to basic services such as water, sanitation, and electricity, and improved outcomes in education and health.** However, some gains are now being eroded due to growing insecurity. Between January and September 2017, 2,640 people were killed and around 5,380 injured. The number of internally displaced people has increased at an alarming pace: in the first half of 2017, more than 200,000 people were displaced internally due to conflict, and more than 296,000 refugees have returned from Iran and Pakistan. The increased conflict appears to be affecting business and consumer confidence as economic activity is continuing to stagnate. In 2017, the annual economic growth rate was projected at 2.6 percent, increasing slightly from the 2.2 percent recorded in 2016. Growth is expected to increase to 3.2 percent in 2018, but only assuming no further deterioration in the security environment. While this constitutes a moderate improvement compared to 2014 and 2015, it is still significantly below the 9.6 percent average annual rate recorded between 2003 and 2012. In the medium-term, growth is expected to remain muted, increasing to 3.6 percent by 2020.

2. **The Poverty rate in Afghanistan increased from 36 percent in 2011/12 to 39.1 percent in 2013/14 and is expected to remain high in the medium-term, driven by weak labor demand (despite an increasing labor force) and security-related constraints on service delivery.** Rural poverty and living conditions are particularly acute. The unemployment rate is estimated at 22.6 percent. Unemployment is particularly severe among women, low-skilled, and illiterate workers. With an average annual population growth rate of 3 percent and with an estimated 400,000 Afghans entering the labor market each year, much higher economic growth is required to improve per capita incomes and to provide quality employment opportunities for the expanding workforce.

3. **Stronger growth is predicated on improvements in security, political stability, steady progress with reform, and continued high levels of aid flows.** Growth could be enhanced with the right combination of fiscal and policy reforms, including improving budget execution, and reorienting budget expenditures towards labor-intensive and community-based programs that reach the population with the greatest needs, and with the highest marginal ability to consume.

B. Sectoral Context

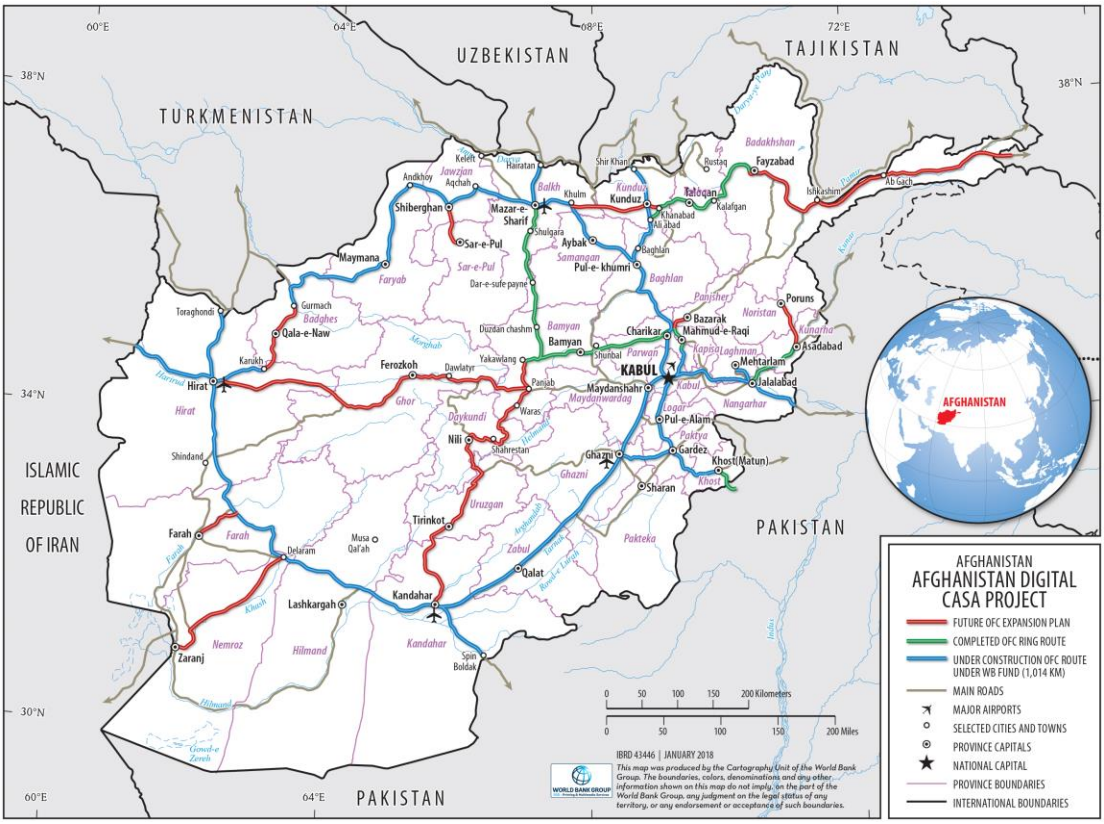
Telecommunications

4. **Afghanistan's telecommunications sector has developed significantly over the last decade.** The Telecommunications Services Regulation Act of 2006 established the Afghanistan Telecom Regulatory Authority (ATRA) within the framework of the Ministry of Communications and Information Technology (MCIT). The wireless market is fully competitive and consists of five major mobile operators (Afghan Wireless, Roshan, Etisalat, MTN Group, and Salam Network) that are rolling out mobile infrastructure and services in Afghanistan. MCIT reports that the population coverage is close to 80 percent, and the introduction of third-generation technology mobile broadband services in 2013 is contributing to the increase in broadband Internet penetration.

5. **The Government of Afghanistan (GoA) began the construction of the Optical Fiber Cable (OFC) Backbone Ring in 2007 with support from the World Bank.** This ring construction

started with the Government's resources, and with support from other donors. The Afghanistan ICT Sector Development Project (ICTSDP), [1] (closed in December 2017) has contributed to the development of adding around 1,000 km of optical fiber network to this ring in the Northeast, Central, and other spur routes to improve overall reliability of the network. According to MCIT, out of Afghanistan's 34 provincial capital cities, 25 [2] have been connected to the OFC. Currently, Afghanistan's only neighbor that is not connected through fiber is China. In September 2017, the intention to connect China and Afghanistan through the Wakhan Corridor was confirmed as part of a broader Memorandum of Understanding signed between China Telecommunications Corporation and Afghan Telecom. The Memorandum of Understanding focuses on jointly promoting the construction of the Silk Road Cable System with an objective to promote connectivity and cooperation between Eurasian countries under the overall objectives of the Belt and Road Initiative led by China.

Figure 1. OFC Networks



Source: MCIT, Afghanistan.

[1] Following the IDA-financed Emergency Communications Development Project (closed in 2003), the ICTSDP was approved in 2011. The Project financed the installation of around 1,000 km of fiber-optic network and trained nearly 2,400 people in information technology skills, of which close to 500 were women. The project closed in December 2017.

[2] Kabul, Jalalabad, Laghman, Logar, Paktia, Khost, Paktika, Ghazni, Maidanshahar, Qalat, Kandahar, Lashkargah, Heraat, Maimana, Sheberghan, Mazaaresharief, Aibak, Pulekhumri, Kundoz, Parwan, Takhar, Badakshan, Bamiyan, Kapisa, and Kunar.

6. **Despite the sector's development, the Government-owned Afghan Telecom has remained the monopoly optical fiber operator for both international and domestic fiber-optic connectivity; and high-speed Internet remains very costly for individuals and small businesses.** As a result of limited competition and international connectivity, wholesale transit pricing per Mbps remains at around $25 per month, which is significantly higher than in countries such as India ($10), Russia ($2), and the United States ($1). This has translated into high prices at the consumer level.[3] Currently, the retail price of Internet services (per Mbps per month) is $37, which is unaffordable for the average citizen; and it remains costly for small businesses with limited financial capital. Affordability and speed of Internet are affected by the fact that, at present, every Internet service provider uses its own gateway, and all Internet traffic is being routed globally**.**

7. **Digital inclusion remains a challenge as access to Internet services has not trickled down evenly to the poor, particularly in rural and remote areas.** The latest estimates report that Internet services (including mobile Internet) remain unattainable to most of the population, and penetration rates remain below 10 percent[4] and concentrated in urban areas.[5] According to the Afghanistan Living Conditions Survey, 10 out of the 34 provinces had essentially no Internet users in 2013–2014, while Internet usage in urban areas had grown more than three times compared to 2007–2008 (14 percent compared to 4 percent). In Kabul, 16 percent of households used the Internet, while in the rural areas only 2 percent of households used the Internet.

8. **The GoA has taken positive steps toward improving the enabling environment to increase access to and reduce the prices of Internet, including the approval of the Open Access Policy (OAP) in October 2016.** The approved OAP will enable any licensed operator to access wholesale broadband network infrastructure on equal and nondiscriminatory terms, and at fair and reasonable prices. This includes the right for existing and future information communication technologies (ICT) providers to build, locate, own, and operate physical fiber-optic infrastructure, international gateways, and Internet exchange points—this is expected to facilitate growth of a private sector-led fiber-optic and broadband market.

9. **During 2017, a series of consultations with private sector operators were carried out as part of regional Digital CASA meetings held in Dubai and in coordination with the International Finance Corporation (IFC) in Bishkek.** At the meetings, some international and domestic operators expressed interest in investing in the wholesale optical fiber network, subject to a conducive enabling environment being in place. Following the meetings, the GoA took steps to discuss an appropriate wholesale licensing model and fees for the optical fiber networks as part of a High Economic Council meeting. Further, in July 2017, ATRA launched a Request for Proposals to invite firms to participate in the optical fiber market. By the Request for Proposal's closing date (November 30, 2017), six operators—including four existing mobile operators—had submitted offers. ATRA has shortlisted five out of six operators for further processing. GoA remains open to inviting additional wholesale optical fiber operators. The World Bank Group, including the IFC, will continue its support to ATRA and the GoA in this regard. This joint advisory work will continue throughout the Project.

[3] All dollar amounts are in U.S. dollars unless otherwise indicated.
[8] Telegeography, December 2016 data, https://www.telegeography.com/products/globalcomms/data/country-profiles/me/afghanistan/wireless.html.
[5] World Bank data.

e-Government Development

10. **Significant progress has been made to promote e-Government, but more efforts are required to establish the critical e-Government foundations and to deliver prioritized e-services.** Through cooperation with international organizations, MCIT has adopted a National e-Government Strategy together with its implementation program in 2010.[6] Recently, it was updated but is yet to be approved. Due to high-level support from the President's Office and strong leadership and commitment from MCIT, basic laws, policies, and technical standards are drafted and institutional arrangements for promoting e-Government have been established. To accelerate progress of e-Government, the Government needs to focus on establishing critical e-Government foundations, including the Government Cloud and Disaster Recovery Data Center (DRDC), and implementing prioritized e-services to realize the visible socioeconomic outcomes for its people, and businesses.

11. **The Government recognizes the need and value to focus on public service delivery through digital technologies.** The National Portal and priority e-services are required to deliver visible socioeconomic outcomes to the people and businesses. The National Portal shall be enhanced with a content publishing platform to facilitate ease in delivering digital content and e-services. Four identified priority e-services to address the needs of the citizens, businesses, and public officers shall be implemented to create convenience and reduce corruption for citizens, and raise productivity within the public sector.

C. Higher Level Objectives to which the Project Contributes

12. **Digital CASA will adopt a Maximizing Finance for Development approach with the intention to use public investments to crowd-in private sector investments and support a competitive market.** A variety of public-private partnership (PPP) arrangements and innovative financing mechanisms are being considered for both the connectivity and e-Government components. For the connectivity component, the feasibility of using the IDA Private Sector Window is being explored with IFC.

13. **The goal of Digital CASA is to integrate the landlocked countries of Central Asia and parts of South Asia into the global and regional digital economy, thereby helping each reap its digital dividends.** This will be achieved by enabling inclusive access by citizens and businesses to digital services through the development of a regionally integrated digital infrastructure, catalyzing private sector investment and innovations in the delivery of public and private services, and modernizing relevant policies and regulatory frameworks. The Digital CASA Regional Program will be implemented as a Series of Projects and each phase/project will be based primarily on country readiness. The first two projects to be delivered are this proposed operation for Afghanistan and a parallel project for the Kyrgyz Republic (see Annex 1 for details of the Program description)**.**

14. **The Digital CASA Regional Program is fully aligned with the World Bank Group's twin goals and the recommendations of "*World Development Report 2016, Digital Dividends*"** (WDR 2016)**.** Access to affordable and reliable Internet will have significant impact on achieving inclusive economic growth for addressing poverty. For example, it is estimated that low- and middle-income countries experienced an increase of roughly 1.38 percentage points in gross domestic product (GDP)

[6] http://mcit.gov.af/en/page/1/22.

for each 10 percent increase in broadband penetration between 2000 and 2006.[7] There are direct impacts such as interventions to increase competition to lower costs, thus reducing communication expenditures for consumers. Improved ICT connectivity enhances the availability of electronic information, allowing workers and businesses to quickly access knowledge relevant to their livelihoods, such as prices, weather information, production techniques, etc. Direct impacts also accrue from digital businesses leveraging ICT and generating employment.[8] WDR 2016 outlines a framework of how ICT promotes inclusion, efficiency, and innovation for people and businesses. Additional analysis of how the Project may help reduce poverty is attached as a supplementary documentation to this Project Appraisal Document.

15. **The Digital CASA Program supports the World Bank's regional strategy for the South Asia Region.** The South Asia Region's strategy (updated March 2015) is based on three strategic pillars: (1) accelerating economic growth including investments in infrastructure, energy, urbanization, and agriculture while expanding access to finance and promoting regional and global integration; (2) enhancing social inclusion by addressing the severest exclusions while improving the quality/access to health, education, other public services and finance, and social protection and increasing labor force participation; and (3) undertaking climate and environment management to help countries prevent disasters and improve their readiness. The Digital CASA Project will contribute to building digital platforms and services to enhance effectiveness of the World Bank's support, particularly by addressing the issues of regional integration, and improving public service delivery. It is also aligned with the Regional Update 2018 for the South Asia Region, which focuses on human capital and addressing fragility to scale up private sector led growth, particularly on increasing opportunities to tap private investments and enhance connectivity.

16. **The Afghanistan National Peace and Development Framework (ANPDF) 2017–2021 recognizes ICT as an enabler of social and economic development.** The framework commits to enhancing the strength of civil society, improving government efficiency, and promoting private sector development. Specifically, ICT is acknowledged as a vital tool for combating Afghanistan's institutionalized corruption, with the ability to enable major reforms to increase transparency and accountability. In addition, the Infrastructure and Connectivity Program is listed as a desired outcome among the National Priority Programs within the ANPDF 2017–2021. Investment priorities include increases in transit and connectivity and telecommunications. The framework comprises digital and transport infrastructure, telecom, fiber-optic, and logistics reform, among others.

17. **The recently adopted World Bank Group Country Partnership Framework for Afghanistan 2017–2020[9] recognizes Digital CASA as one of the key enablers for Afghanistan's development.** The Country Partnership Framework recognizes the pivotal role that telecommunications and ICT play in achieving some of the most important national priorities, which would help the Government manage the critical transition from security and development dominated

[7] "Building Broadband: Strategies and Policies for the Developing World," World Bank, http://siteresources.worldbank.org/EXTINFORMATIONANDCOMMUNICATIONANDTECHNOLOGIES/Resources/282822-1208273252769/Building_broadband.pdf.

[8] A study in the United States found that employment gains among young technology firms outweigh job losses from early-stage firm failures with an 'up-or-out' dynamic—they either fail or grow rapidly. Young high-technology firms create jobs at a higher rate than firms in other industries. Hathaway, Ian. 2013. "Tech Starts: High-Technology Business Formation and Job Creation in the United States." Ewing Marion Kauffman Foundation Research Paper. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2310617.

[9] Afghanistan Country Partnership Framework, Report No.108727-AF, October 27, 2016.

by the international community to one led by the Government. More specifically, the Digital CASA Afghanistan Project is expected to support inclusive growth within Pillar 2 by enhancing connectivity infrastructure and private sector development that would contribute to economic diversification and jobs, including for women and youth. Digital CASA will help develop a digital foundation for facilitating regional trade and integration.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

18. The Project Development Objectives (PDO) are proposed to be established at the program and country-specific levels:

- **Digital CASA Program-level PDO.** To increase access to more affordable Internet, crowd-in private investment in the ICT sector and improve participating governments' capacity to deliver digital Government services in Central Asia and parts of South Asia, through the development of a regionally integrated digital infrastructure and enabling environment.

- **Digital CASA Afghanistan PDO.** To increase access to more affordable Internet, crowd-in private investment in the ICT sector, and improve the Government's capacity to deliver digital Government services in Afghanistan, by contributing to the development of a regionally integrated digital infrastructure and enabling environment.

B. Project Beneficiaries

19. **The Digital CASA Afghanistan Project will benefit a wide range of citizens, businesses, and government institutions in Afghanistan, with spillover effects in other landlocked countries in the region.** At the regional level, the Project will help position other landlocked countries in the region as part of the Europe-to-Asia regional data transit hub, together with Afghanistan, as described in section I.C of this Project Appraisal Document, and allow them to benefit from improved broadband services, broader ICT sector development, jobs, and improved digital services. At the individual level, citizens will benefit from access to lower cost, higher quality digital communications services. Citizens are expected to benefit more broadly from the Government's improved capacity to deliver electronic government services, especially in rural areas. The Government will benefit through lower cost, higher quality access to the Internet within and across public institutions, improved ability to store data in a more secure and reliable manner, and improved ability to quickly launch new digital services, and in a more secure and cost-effective manner than is possible today. Finally, private sector telecoms companies, information technology (IT) companies, and individual digital entrepreneurs will benefit from the establishment of a seamless, open access cross-border and national fiber-optic backbone, and an improved enabling environment. Combined, these functions are expected to lower operating costs and capital requirements to launch coverage in new areas, acquire more customers, and increase bandwidth and network reliability to enable the roll-out of new services and digital content.

C. PDO-Level Results Indicators

20. **Achievements under the Project will be measured by carefully selected indicators, described in Table 1.** The program-level indicators are intentionally the same for the first two

projects under the Program, benefitting Afghanistan and the Kyrgyz Republic respectively, and in future Digital CASA participating countries, to allow for program-level monitoring and evaluation (M&E). Citizen engagement will be monitored through an outcome indicator related to user satisfaction with digital services.

Table 1. Key Results Framework

Outcome Indicators
• International Internet bandwidth per capita
• People provided with access to the Internet
• Average retail price for 1 GB, prepaid, mobile data package, in $
• Private sector investments committed through the Project, in $
• Number of e-services and applications using the shared services platform

21. **Theory of change.** There is an underlying link between the outputs and the desired outcomes of the Project. With the introduction of competition and improved regional and domestic connectivity, wholesale prices for international bandwidth will decrease, and therefore, the cost and quality of retail Internet services are expected to improve. Thus, it is expected that more people will use Internet services. The TAs provided under Component 3 (Enabling Environment) and Component 4 (Project Management and Institutional Strengthening) are expected to support the achievement of these outcomes. In addition, by establishing the shared infrastructure and platform for e-Government, the Government will improve its capacity to deliver digital services to its citizens in a more cost-effective and efficient manner. The development of pilot e-services will allow the Government to test and validate the options that are most optimal for increasing the reach and impact of digital services, which will in turn incentivize other government agencies to join the shared platform. A results chain/theory of change for the Project has been prepared and is provided in Section VII.

III. PROJECT DESCRIPTION

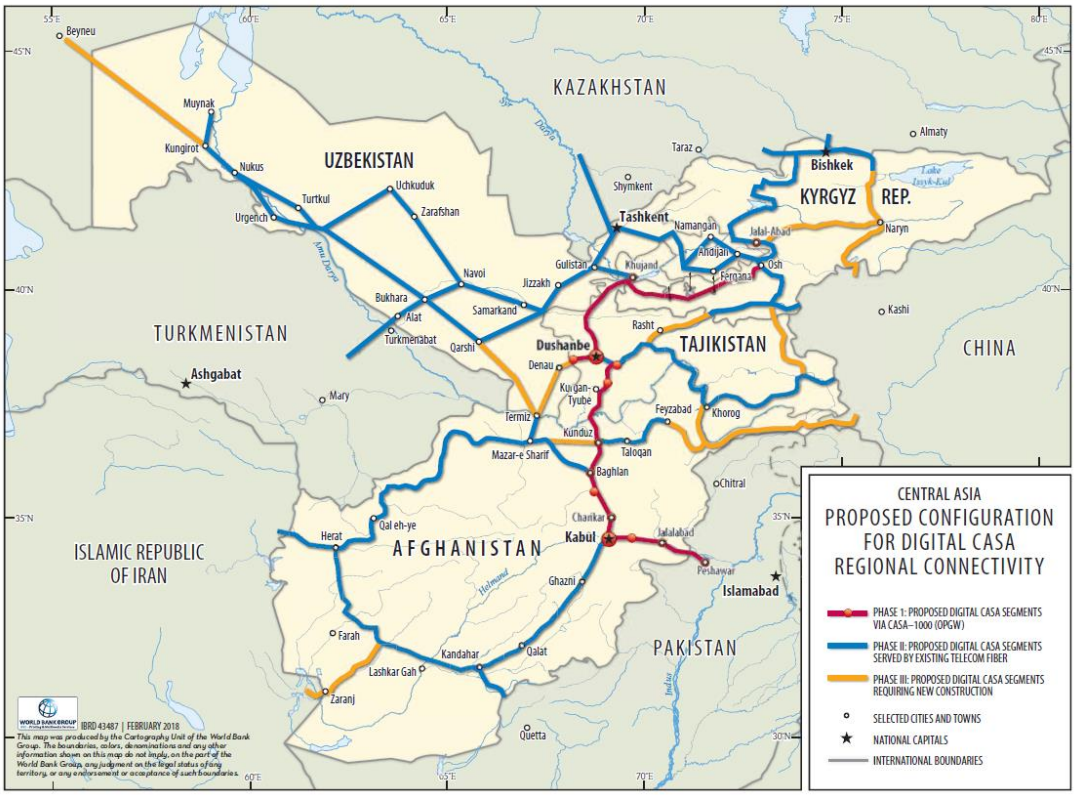
A. Summary of Regional Program

22. **At the programmatic level, the proposed Digital CASA Regional Program aims to implement a regional, cross-border approach to develop a regional transit hub for Internet traffic and improve broadband Internet connectivity in Central Asia and parts of South Asia.** This will be done by catalyzing private sector investments and cross-sector infrastructure sharing and by modernizing relevant policies and regulatory frameworks that will promote competition in both domestic and international optical fiber connectivity. The aim is to bring reliable and affordable Internet services to the citizens of the region, link small and medium enterprises and workers to the regional and global digital economy, and catalyze innovations in the delivery of public and private services. The proposed Afghanistan operation and a similar project benefitting the Kyrgyz Republic are the first two operations in the series of the proposed Digital CASA Regional Program. Country-specific projects will be financed by a combination of private sector investments and catalytic/complementary public financing, including possible contributions from development partners.

23. **The Project meets regional IDA eligibility criteria.** The criteria are set forth are: (a) the number of countries joining at the initial stage is two, with both being IDA countries and one being classified as fragile; (b) there are spillover benefits over country boundaries in terms of improved regional connectivity and provision of solutions for regional needs in data hosting; (c) commitment of the first two participating countries is confirmed; and (d) the country is part of a World Bank's regional strategy. Eligibility requirements and options for coordination mechanisms were discussed by high-level representatives from Afghanistan and the Kyrgyz Republic during Digital CASA meetings in June 2017.

24. **Both Afghanistan and the Kyrgyz Republic are planning to connect their national telecommunications networks with China under the Program, which will improve Internet traffic flow in the region.** Therefore, regardless of the decision of other neighboring countries with respect to joining Digital CASA, both countries are expected to benefit from lower Internet prices as both will be connected with each other via China, and with China. Transiting China's Internet traffic through these connections will enable major international optical fiber investors to gain economies of scale, which will give the private sector further incentives to invest in optical fiber connectivity in the region. When Tajikistan or Uzbekistan (or both) come on board the Program, the connectivity via China will continue to serve as an alternative route, thus improving the overall reliability of the regional telecommunications network in the region. Further, once more countries join the Program, multiple routes will be created in various directions, which will contribute to lowering Internet prices by no longer having to depend on a single neighboring country for transiting Internet traffic. Having alternative routes means improved resilience and a target state for any optical fiber telecom network. See Annex 1 for a detailed description of the Program.

Figure 2. Proposed Configuration for Digital CASA Regional Connectivity



Source: Terabit Consulting 2016.

B. Project Description (Country Level)

25. The following is a summary description of the four components, with more details in Annex

Component 1: Regional and Domestic Connectivity ($30 million, of which $14 million is regional IDA and $16 million is national IDA)

26. The objective of this component is to crowd-in private sector investments to improve regional and domestic fiber-optic connectivity infrastructure, connect public institutions, and priority target groups to the Internet at affordable rates, and bring down the overall cost of Internet services. This component will finance the following activities.

Subcomponent 1.1: Pre-purchase of International Bandwidth and Viability Gap Funding for Optical Fiber Connectivity ($15 million, of which $10 million is regional IDA and $5 million is national IDA)

27. This subcomponent will support the following: (a) the pre-purchase of international bandwidth for the Government and priority target groups to create incentives to crowd-in private investments in international connectivity, and (b) a one-time capital subsidy to fill the viability gaps and attract private operators to roll-out fiber-optic networks in selected pilot areas that are considered commercially unviable. The component, with underlying support from Component 3 (Enabling Environment), will promote cross-sector infrastructure sharing (for example, roads, railways, electricity transmission lines, and gas pipelines), where possible, to address missing optical fiber links

and improve reliability of the existing ones. Disbursement conditions have been established for this subcomponent to ensure an appropriate enabling environment is in place (see Section V. C.)

28. More specifically, the subcomponent will finance the following:

(a) **Pre-purchase of high-capacity international bandwidth for the Government and priority target groups ($10 million).** This activity is intended for the Government to make an up-front commitment to the pre-purchase of international Internet bandwidth[10] from private sector operators under an indefeasible right of use (IRU) contract. This will help create incentives to crowd-in private investments in cross-border connectivity, as well as to satisfy the long-term aggregate demand for Internet services in targeted public institutions. The exact duration of IRU contracts and the quantity of international bandwidth will be decided based on the feasibility study, and the outcome of a competitive bidding process.

(b) **Viability gap funding to roll-out optical fiber backbone networks in selected pilots in remote and commercially unviable areas. ($5 million).** A reverse or 'least-cost' subsidy auction will be implemented where the Project will provide one-time subsidies to bidders that request the least-cost subsidies to connect the selected 'viability gap areas/lots'. Qualification criteria will be set forth in the bidding documents to ensure only serious bidders and those that have already complied with their license terms and conditions are able to participate in the tender process (see Annex 2 for more details on the approach).

Subcomponent 1.2: Government Network Providing Broadband Connectivity to Public Institutions ($9 million, national IDA only)

29. This subcomponent will finance the installation of a government network (GovNet) that will provide broadband connectivity to targeted government offices in Kabul, provincial capitals, selected schools, hospitals, universities, research institutions, post offices, and the ICT institute, among others. The GovNet will support the deployment of both a wide area network and local area networks to provide broadband connectivity to the targeted institutions.[11] In addition, it will support the development of an enterprise service bus architecture, which will serve as an integration platform for various systems that are used across the targeted public institutions. The network will be developed under a competitive bidding process and will be implemented under an appropriate PPP mechanism with an aim to maximize private investments. A detailed feasibility study is among the activities carried out under the Project Preparation Grant (PPG), and it will explore sustainability of the GovNet beyond the life of the Project.

Subcomponent 1.3: Internet Exchange Points ($6 million, of which $4 million is regional IDA and $2 million is national IDA)

30. The subcomponent will finance the implementation of an Internet exchange point (IXP), which may include strengthening of the National Internet Exchange of Afghanistan, with the potential

[10] International Internet bandwidth is the contracted capacity of international connections between countries for transmitting Internet traffic.

[11] A wide area network is a telecommunications network or computer network that extends over a large geographical distance. A local area network is a computer network that links devices within a building or group of adjacent buildings.

to eventually facilitate regional IXP integration among the CASA countries to enable faster exchange of Internet traffic between the countries and, thereby, to the broader international networks. The IXP could help significantly improve access speeds and reduce latency as well as reduce costs to the consumer at both national and regional levels. A feasibility study for this subcomponent will review models to crowd-in private sector investment. In addition, business models of commercial Internet exchanges in other countries will be reviewed for potential applicability, such as the German Commercial Internet Exchange, London Internet Exchange, and Amsterdam Internet Exchange, among others.

Component 2: e-Government ($10 million, national IDA only)

31. The objectives of this component are to: (a) establish critical e-Government foundations that comprise the Government Cloud, common e-service enablers, and the DRDC and (b) deliver socioeconomic benefits to the citizens and businesses by enhancing the national portal and developing prioritized e-services to enable citizens and businesses to gain access to information and e-services through their mobile devices. Specifically, funding will be provided for the following subcomponents:

Subcomponent 2.1: Establishment of a Shared e-Government Infrastructure and Common e-Service Enablers ($5.2 million, national IDA only)

32. This subcomponent will use the 'build once, reuse always' approach with the aim to establish a cost-efficient Government Cloud and DRDC for hosting Government data and e-services. It will establish a set of common e-service enablers such as online authentication, e-payment gateway, SMS gateway, and cybersecurity safeguards, to accelerate e-services implementation by line ministries.

33. An evaluation will be made on the optimal implementation approach for the Government Cloud and DRDC. The evaluation will consider the feasibility of enhancing the National Data Center, leveraging commercial cloud service providers, or establishing a Eurasia Cloud regional data center in the Kyrgyz Republic, operated by a suitable private firm—under consideration by the Kyrgyz Digital CASA Project—in which the GoA has expressed positive interest for storing nonsensitive government data.

Subcomponent 2.2: Enhancing the National Portal and Prioritized e-Services ($4.8 million, national IDA only)

34. The GoA is working on establishing a 'one-stop shop' known as Asan Khedmat. The vision is to be able to provide a variety of Government services under one roof, in a physical location accessible to citizens. This may include citizen services such as birth registration, marriage registration, visa application, and passport application. The Project aims to build on the efforts of Asan Khedmat, making at least four selected services available online for citizens, and will finance the enhancement of the national portal with the introduction of a content publishing portal platform that facilitates ease in digital content and service delivery. Citizens and businesses could benefit from the convenience of transacting with the Government via their mobile devices, in addition to face-to-face interactions.

35. The project will finance the development of four priority e-services: (a) two high-priority citizen-facing e-services, namely (i) e-visa to deliver convenience in visa applications and (ii) the Public Grievances and Redressing Gateway to support citizen engagement in the delivery of public services; (b) one high-priority business-facing e-service, namely, the e-licensing service, that will be

a one-stop information resource and application service for the business community to comply with business registrations, licenses, and permits involving multiple government agencies; and (c) one high-priority public sector-facing e-service, namely, the electronic catalogue (e-catalogue) for public officers which will be developed in close collaboration with the National Procurement Authority (NPA). The focus will be on training female staff with an aim to increase opportunities for them to engage in the long-term maintenance and management of the eservices (see Annex 6 for further details).

Component 3: Enabling Environment (Policy and Regulatory Frameworks) ($3 million, of which $2 million is regional IDA and $1 million is national IDA)

36. This component will finance (a) TAs for the MCIT and ATRA to address the policy, legal, and regulatory modifications needed, such as the development of a national broadband policy, and issuance of decrees, guidelines, and downstream regulations (for example, right-of-way, interconnection, quality of service, tariff regulations), to implement the OAP and create an enabling environment to crowd-in private sector investment and promote competition in the sector; and (b) review and assess existing ICT policies, strategies, standards, and legal and regulatory frameworks to identify gaps and weaknesses, and to harmonize with regional commitments and frameworks. Special focus will be aimed at harmonizing legislation and regulatory policies at the regional level to facilitate cross-border interconnection, such as interconnection charges and taxation of incoming/outgoing traffic, interconnection regulations, licensing frameworks, cybersecurity and cyber threat management, and spectrum management, among others.

Component 4: Project Management and Institutional Strengthening ($8 million, of which $4 million is regional IDA and $4 million is national IDA)

37. This component will finance project management as well as institutional strengthening and capacity development activities to ensure that activities are implemented effectively and integrated with the overall regional program.

Subcomponent 4.1: Project Management ($6 million, of which $3 million is regional IDA and $3 million is national IDA)

38. This subcomponent will finance project management and coordination, including procurement, financial management (FM), and M&E. It will include coordination and communications at the regional and national levels, logistics, consumables, office equipment, incremental operating costs and audits, M&E, and implementation of safeguards-related action plans.

Subcomponent 4.2: Institutional Strengthening ($2 million, of which $1 million is regional IDA and $1 million is national IDA)

39. This subcomponent will support targeted programs to effectively implement and sustain Project activities at the regional and national levels. The Project will support training of Government officials at all levels including, but not limited to, (a) training for leaders, which will target the Minister and Deputy Minister-level officials and other key staff in the Central Government and local governments, and will include facilitating partnerships with other regional Digital CASA countries; (b) training of government officials, which will focus on civil servants in line ministries and local governments in charge of delivering e-services to citizens; (c) training of technical staff, which will finance training for the existing IT specialists and IT developers within and outside government

agencies; (d) policy and regulatory capacity building for the MCIT and ATRA staff; and (e) institutional strengthening of the ICT institute (under MCIT) to increase its capability to provide effective and sustainable ICT-related trainings that will help to build capacity in the long-term, going beyond the Project's life. At all levels of training, emphasis will be on training women, where applicable, ensuring equitable distribution to gender balances (see Annex 6 for further details).

C. Project Financing

Table 2. Project Cost and Financing ($, millions)

Components	Subcomponents	Total Project Cost	IDA Financing		% Financing
			Regional	National	
Component 1: Regional and Domestic Connectivity	**1.1:** Pre-purchase of International Bandwidth and Viability Gap Funding for Optical Fiber Connectivity	15.0	10.0	5.0	100
	1.2: Government Network Providing Broadband Connectivity to Public Institutions	9.0	—	9.0	
	1.3: Internet Exchange Points	6.0	4.0	2.0	
Total Component 1		**30.0**	**14.0**	**16.0**	
Component 2: e-Government	2.1: Establishment of a Shared e-Government Infrastructure and Common e-Service Enablers	5.2	—	5.2	100
	2.2: Enhancing the National Portal and Prioritized e-Services	4.8	—	4.8	
Total Component 2		**10.0**	—	**10.0**	
Component 3: Enabling Environment (Policy and Regulatory Frameworks)		3.0	2.0	1.0	100
Total Component 3		**3.0**	**2.0**	**1.0**	
Component 4: Project Management and Institutional Strengthening	**4.1:** Project Management	6.0	3.0	3.0	100
	4.2: Institutional Strengthening	2.0	1.0	1.0	
Total Component 4		**8.0**	**4.0**	**4.0**	
Total Project Costs		**51.0**	**20.0**	**31.0**	
Front-End Fees		**0.0**			
Total Financing Required		**51.0**	**20.0**	**31.0**	**100**

40. The project will be financed using Investment Project Financing. The total cost of the Digital CASA Afghanistan Project is estimated at $51 million, funded by an IDA Grant.

41. An Afghanistan Reconstruction Trust Fund (ARTF) PPG of $5 million was signed in October 2016. The PPG resources are financing consulting services to support the preparation of technical feasibility studies, strategies, bidding documents, and social and environmental safeguards documents, and regulatory and policy advisory services to ATRA and the MCIT. It is financing capacity-building activities, trainings, and workshops that are relevant to prepare the Project.

42. In addition, the feasibility of using of the IDA Private Sector Window is being considered with the IFC team to ensure that private investments are maximized.

D. Series of Project Objective and Phases

43. The Digital CASA Regional Program will be implemented as a Series of Projects sharing a common framework, but with each country's project independent of the others in the program. Each phase/project will be based primarily on country readiness. The preparation of a single regional operation was considered but dropped, given the diverse readiness of countries, including the first two countries, Afghanistan and the Kyrgyz Republic. Nonetheless, the development of a regionally integrated infrastructure will be realized even with the first two countries through connectivity established at the regional level via China (see Section III).

44. Eligibility criteria to participate in Digital CASA are: (a) existence of a regulatory authority for the sector that is independent from the operators in the market (and/or relevant World Trade Organization commitment to establish such regulator), (b) adherence to open access principles, and (c) full liberalization of both domestic and international Internet connectivity or a time-bound action plan to achieve such liberalization by the midterm review of the Project. The status of the Project is as follows:

(a) In Afghanistan, the OAP to liberalize the fiber-optic network both at the domestic and international levels was approved in October 2016. Further, a national PPP policy and associated regulations are under review by the Ministry of Justice. The Government and the World Bank team are closely monitoring the progress with both, and technical assistance is being mobilized to support the Government.

(b) The Kyrgyz Republic has a sector regulator, the State Communication Agency; however, recent reforms have weakened its independence. Support is needed to strengthen the agency's mandate and position it as a strong independent regulator, strengthen policy and regulatory frameworks to fully liberalize domestic and international connectivity, and promote private sector participation. Regulatory reforms are under discussion as part of a proposed Development Policy Operation program led by the World Bank's Governance Global Practice.

45. **The proposed operations in Afghanistan and the Kyrgyz Republic are confirmed to be the first two in the series for the proposed Digital CASA Regional Program.** Other countries remain unconfirmed at this stage, though dialogue is ongoing (see Table 3) and Uzbekistan has recently confirmed interest. Country-specific projects will be financed by a combination of private sector investments and catalytic/complementary public financing, including possible contributions from development partners (for example, Asian Infrastructure Investment Bank, New Development Bank, EurAsian Development Bank, Islamic Development Bank, ARTF, and bilateral development agencies).

Table 3. Program Phasing and Estimated Project Costs

Phase	Country	Status/Issues	Estimated Project Costs
Participating Countries			
1	Kyrgyz Republic	Project Concept Note was approved in January 2017. At the time of this PAD, the project had been submitted to	**$50 million.** A mix of regional/national IDA credit

	(P160230)	the Board for approval with a Board date of March 20, 2018.	and grant. Co-financing partners are being explored.
2	Afghanistan (P156894)	Covered by this Project Appraisal Document.	**$51 million.** A mix of regional and national IDA grants. $5million ARTF project preparation grant.
Potential Countries			
3	Uzbekistan (P166615)	A delegation from Uzbekistan participated in Bishkek Digital CASA Forum in May 2017. A formal request to join the program was received in September 2017. Initial concept brief was prepared and shared with the Government in October 2017. Project preparation started with an identification mission in February 2018.	**$100–120 million** (tentative). Estimated mix of regional/national IDA credits.
4	Kazakhstan	The World Bank engaged with the Government through Joint Economic Research Program focused on Digital Strategy. A request was received for partial participation in Digital CASA through a subset of subcomponents within the broader Digital Kazakhstan Project. Project preparation start is currently planned for FY18–19.	**$200–300 million.** IBRD loan.
5	Tajikistan	Formal request yet to be received. WTO compliance of setting up of an independent sector regulator is not yet achieved. Briefing package on Digital CASA shared with the Executive Office of the President in March 2016 and updated package shared in November 2017.	**$30–50 million.** A mix of regional/national IDA credits. Co-financing partners to be explored.
6	Pakistan	Exploratory stage	N.A.

Note: Other countries in the broader Eurasian region could join the program in the future, based on expressed interest and compliance with eligibility criteria.

E. Lessons Learned and Reflected in the Project Design

46. Since 2007, the World Bank has approved PPP-based regional connectivity programs amounting to $1.2 billion involving more than 30 countries, including several in fragile and conflict-affected states. Digital CASA will consider experiences from the regional connectivity projects such as the Regional Communications Infrastructure Program in Eastern and Southern Africa, West Africa Regional Communications Infrastructure Program (WARCIP), Central Africa Backbone Program (known as CAB), Caribbean Regional Communications Infrastructure Program, and Pacific Regional Connectivity Program.

47. For example, in East Africa, World Bank and IFC financing supported the installation of the East African Submarine Cable System (EASSy) that connected 23 countries from South Africa to France under a private consortium led by Orange Telecom, which includes a group of 16 African and international telecommunications operators and service providers. EASSy links South Africa with Sudan through landing points in Comoros, Djibouti, Kenya, Madagascar, Mozambique, Madagascar, Somalia, and Tanzania. The system is owned and operated by partnerships established between the consortium and the landing parties with catalytic World Bank funding used for small, fragile, and landlocked states along the coast of Africa.

48. Key lessons learned include the following: (a) Investors will likely have different incentives, requiring extensive up-front consultations and legal/transactional support to ensure that the final institutional model adequately addresses the expectations of different players; (b) Legal and regulatory reforms go hand-in-hand with infrastructure investments, and regulatory institutions need

to be empowered to protect the interests of consumers; (c) Project stakeholders need to anticipate possible changes in technology that might alter the business case for investment in a particular type of communications infrastructure; (d) Project design needs to account for limited institutional and technical capacity, minimizing the number and complexity of contracts and ensuring that adequate resources are available for technical, transactional, and managerial support; (e) Despite the high costs associated with hiring quality people, a strong operating/management team is critical to project success; and (f) Targeted community mobilization efforts are needed to ensure that female youth are encouraged and supported by their families to participate in skills development programs and digital entrepreneurship activities.

49. The e-Government component of the Project builds on lessons learned from similar components implemented in Ghana, Moldova, and Vietnam, among others. A common finding was that while innovative and ambitious targets can be set, the design needs to be balanced and carefully aligned against the client's absorptive capacity and readiness to execute, which will be particularly relevant for the Project considering the fragilities faced in Afghanistan.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

50. **The Islamic Republic of Afghanistan will be the borrower, and the Project will be implemented by the MCIT, in cooperation with ATRA and other beneficiary line ministries.** MCIT has been implementing the ongoing Afghanistan ICTSDP and several sectoral projects funded by the Government and other development partners. MCIT will lead coordination of activities with other ministries such as the Ministry of Economy, Ministry of Public Works, Ministry of Energy, Ministry of Railways, and Ministry of Education. More details are found in Annex 3.

51. **In addition, the participating countries are considering the creation of regional coordination mechanisms to align implementation of the various Digital CASA projects at the regional level.** Although implementation of country-specific projects will be done at the country level, the program may be linked with an existing regional specialized agency or academic institution to support regional capacity development objectives (for example, Central Asia Regional Economic Cooperation, Central Asia Research and Education Network, universities, and Eurasian Economic Commission). Initial discussions on ways to ensure regional coordination were launched at the first Digital CASA workshop that took place in Bishkek in June 2017. It was hosted by the Kyrgyz Government and attended by delegations from Afghanistan, Kazakhstan, and Uzbekistan. While good discussions took place, no decision has been made on the most appropriate regional anchor for this Digital CASA Regional Program.

B. Results Monitoring and Evaluation

52. MCIT will be responsible for project M&E and as such will establish standard formats and guidelines for data collection and reporting, including coordination with telecommunications operators and other stakeholders. Technical assistance provided through the Project will include capacity-building support for M&E. MCIT will submit biannual progress reports detailing project implementation and progress against agreed indicators. A midterm review will be carried out at the end of the third year of implementation to provide an in-depth review of the status of progress against the indicators and identify any adjustments needed in the Results Framework or overall project design.

C. Sustainability

53. The sustainability of the Project's benefits will depend on the Government's commitment to maintaining an open, competitive, private sector-driven fiber-optic, and broadband sector and the Project's success in catalyzing sufficient demand for Internet services that will continue beyond the Project's duration. On the supply side, public sector low-cost and long-term financing may be needed in areas that are deemed commercially unviable; however, private sector participation will be vital through the adoption of a competitive PPP framework that will allow operators to build and operate the network infrastructure. This will allow the operators to charge tariffs that are at once sustainable and affordable. Further, the enabling environment component will implement legal and regulatory frameworks that are conducive to facilitate sustainability of the infrastructure. As demand is created through e-Government services, it is expected to attract further supply of ICT services, ensuring a self-feeding cycle of ICT investment and growth in the region.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

Table 4. Systematic Operations Risk-Rating Tool

Risk Category	Rating
1. Political and Governance	High
2. Macroeconomic	High
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	High
6. Fiduciary	Substantial
7. Environment and Social	Moderate
8. Stakeholders	High
9. Other	Substantial
OVERALL	Substantial

54. The overall risk at the program level is considered to be Substantial at this stage, reflecting: (a) political risks that could affect the Project, including possible change in governments that could lead to weak regional coordination and/or withdrawal from Digital CASA; (b) governance concerns in the participating countries; (c) weak implementing capacity, particularly in government institutions that have limited experience with World Bank-financed projects; (d) overall lack of interest from the private sector; and (e) varying levels of understanding and appreciation for regional benefits from Digital CASA target countries. The World Bank team will continue to engage in close policy dialogue with the participating governments to ensure there is broad consensus on the new lending operation at both the regional and national levels. The World Bank team will closely monitor political developments in the region to preempt potential changes that may arise in project implementation to ensure long-term project sustainability. Regional coordination will be managed by regular

government-to-government engagement among prospective and existing Digital CASA participating countries.

55. The risk for the proposed project in Afghanistan is Substantial, with the main risk being: (a) *Political and Governance*, political volatility, and rising levels of insecurity in the country that could increase the cost of components and delay roll-out of infrastructure; (b) *Macroeconomic*, overall macroeconomic context that may also affect the ICT sector, (c) *Sector Strategies and Policies*, possible delays in the introduction of sector reforms that promote competition in international and domestic Internet connectivity; (d) *Technical Design of Project*, the overall complexity of the Project design that includes connectivity as well as eGovernment; (e) *Institutional Capacity for Implementation and Sustainability*, the Government's capacity to implement and govern the Project that requires significant interministerial coordination; (f) *Fiduciary*, limited capacity of MCIT staff to manage the fiduciary aspects of the Project, and (g) *Stakeholders*, uncertainties with the level of private investments envisaged for the roll-out of wholesale optical fiber networks. The risks will be managed by the mitigating measures noted in Table 5.

B. Mitigation Measures

Table 5. Key Risks and Mitigation Measures

Main Risks	Mitigation Measures
(a) Political and Governance Political volatility and rising levels of insecurity in the country that could increase the cost of components and delay rollout of infrastructure	Security situations will be assessed regularly by the MCIT and the World Bank team, and implementation schedules and allocation of financing will be adjusted accordingly in consultation with the management. Advanced preparation of bidding documents for large-value components/subcomponents will take place under the PPG to mitigate risks of slow implementation and elevating costs under the Project.
(b) Macroeconomic Overall macroeconomic context that may also affect the ICT sector	The ICT sector in Afghanistan has been, to a certain extent, relatively resilient to macroeconomic risks in the past, and by design, the project is expected to reinforce this resilience. Additionally, the Project will be fully funded by an IDA Grant, which limits the project's exposure to macroeconomic volatility.
(c) Sector Strategies and Policies Possible delays in the introduction of sector reforms that promotes competition in international and domestic Internet connectivity	The World Bank and IFC teams are providing advisory services to ATRA to ensure that new entrants are encouraged to participate in international and domestic wholesale optical fiber connectivity, and that open competition is realized. Under a $5 million PPG, advisers are being mobilized to ensure ATRA has the capacity to prepare and issue appropriate downstream regulations by early stages of project implementation. In addition, the project has set forth specific disbursement conditions for Subcomponent 1.1. to ensure that project implementation is done under open access, nondiscriminatory principles that facilitate private investments (see para 56). Significant technical assistance will be provided under the Project to enhance regulatory outcomes and build capacity of ATRA.
(d) Technical Design of Project Overall complexity of the Project design which include connectivity as well as eGovernment	The project team will strive to reduce complexity by approaching the Project in phases, applying existing working models, and ensuring full stakeholder involvement. Financing will be facilitated for regional partnerships and communications in which Afghanistan will be learning from experiences from other countries, and the project design will be systematically reviewed toward limiting the number of complex activities that may hinder program implementation and coordination.

Main Risks	Mitigation Measures
(e) Institutional Capacity for Implementation and Sustainability Government's capacity to implement and govern the Project that requires significant interministerial coordination	MCIT has significant experience implementing World Bank projects, and will ensure that adequate implementation arrangements are retained. In addition, the proposed project will include substantial support for capacity building, following international good practices in ICT operations, project management, procurement, FM, and M&E. Where possible, the number of procurement packages will be minimized, and close supervision by the Bank team will help to ensure that procurement processes are carried out in a compliant and effective manner.
(f) Fiduciary Limited capacity of MCIT staff to manage the fiduciary aspects of the Project	The Project will support the hiring and training of required staff to undertake fiduciary functions at MCIT. An internal audit consultant (local) will be hired under the Project, who will report to the MCIT Head of Internal Audit. Semiannual internal audit reports will be submitted to the World Bank. In addition, the World Bank team will provide required trainings for in-depth understanding of World Bank requirements and sound fiduciary management of the Project. Fiduciary performance will be assessed periodically throughout the project life.
(g) Stakeholders Uncertainties with the level of private investments envisaged for the roll-out of wholesale optical fiber networks	The PPG is financing the technical feasibility study that will identify the viability gaps and will be prepared in close coordination with private sector operators. Close consultations will continue to take place with the private sector throughout project implementation, and the World Bank team will be consistently involved in advising the Government on the bidding process and will ensure appropriate adjustments are made when needed. Implementation of regulatory mechanisms will also be conducted through close consensus building between the Government and private sector. In addition, key stakeholders in the Government are being engaged and sensitized to their respective roles, including the Ministry of Economy and the Ministry of Public Works, among other relevant ministries.

56. The following disbursement conditions are proposed for Subcomponent 1.1. The main objective is to ensure that necessary regulatory tools are in place, in accordance with the OAP, to promote fair competition in both domestic and international optical fiber connectivity. It will ensure that a level playing field is established between the new optical fiber operators and Afghan Telecom (the incumbent). All guidelines and agreements should be prepared in consultation with the relevant Government and private sector stakeholders. For example, the right-of-way guidelines should be prepared in close consultation with the Ministry of Public Works, the Ministry of Rural Rehabilitation and Development (for rural roads), relevant municipalities (for urban areas), and DABS (Da Afghanistan Breshna Sherkat) for using electricity poles and other utilities.

VI. APPRAISAL SUMMARY

A. Economic and Financial (if applicable) Analysis

57. **Economic impact.** An economic impact assessment was carried out on the connectivity components of the Project. The assessment was done by applying an econometric model developed by the Global System for Mobile Communications Association, which correlates the growth in mobile broadband penetration to increases in per capita income and finds that a 10 percent increase in mobile broadband penetration positively affects GDP per capita by 0.15 percentage points.[12] Calculations under a pre-feasibility study for Digital CASA projects show that mobile broadband subscriptions are estimated to increase from 3 million in 2016 to close to 12 million by 2026 due to lower prices and increased access to mobile broadband, triggered by the network infrastructure investments expected under the Project.[13] Applying this growth to the United Nations population projections, mobile penetration is expected to increase to around 28.5 percent of the population by 2026. The results suggest that the GDP per capita is expected to grow from $521 to $631 between 2016 and 2026, significantly higher compared to $619, which is estimated without the broadband effect. In addition, the broadband effect on the GDP of Afghanistan over 10 years (2017–2026), discounted at 12 percent,[14] is expected to result in an economic impact of $928 million. Considering the investment of $51 million in the Project, the net economic impact is estimated to be as high as $877 million.

[12] Model is based on a panel of 96 countries. See GSMA. 2012. *What is the Impact of Mobile Telephony on Economic Growth?* http://www.gsma.com/publicpolicy/wp-content/uploads/2012/11/gsma-deloitte-impact-mobile-telephony-economic-growth.pdf.

[13] Terabit Consulting. 2016. *Regional Connectivity Pre-Feasibility Assessment: Afghanistan, Kyrgyz Republic, and Tajikistan*, page 83.

[14] The project is a grant. The figure of 12 percent is based on the risk-free rate assumed at the domestic long-term depository rate. See https://www.adb.org/sites/default/files/linked-documents/47282-001-efa.pdf.

Table 6. Impact of Mobile Broadband Increase on Afghanistan's GDP

	Mobile Broadband Subscriptions		GDP per Capita					GDP ($, millions)		
	Per 100 People	Change (%)	$	Growth (%)	Broadband Multiplier	Total Growth (%)	Revised with Broadband Effect ($)	Without Broadband Effect	With Broadband Effect	Difference
2016	8.7	—	521	—	—	—	—	—	—	—
2017	10.6	21	526	1.0	0.3152	1.33	528	17,802	17,857	56
2018	12.4	17	534	1.5	0.2579	1.73	537	18,428	18,532	104
2019	17.3	40	544	2.0	0.5957	2.56	550	19,168	19,389	221
2020	18.2	5	555	1.9	0.0777	2.02	562	19,933	20,179	246
2021	19.1	5	565	1.9	0.0704	1.99	573	20,725	20,995	270
2022	21.0	10	576	1.8	0.1534	1.98	584	21,528	21,841	313
2023	23.2	10	586	1.8	0.1538	1.98	596	22,362	22,721	359
2024	24.3	5	597	1.8	0.0702	1.90	607	23,228	23,618	390
2025	26.6	9	608	1.8	0.1418	1.97	619	24,128	24,567	439
2026	28.5	7	619	1.8	0.1099	1.94	631	25,063	25,546	483
Total 2017–2026										2,281
NPV	12%									928

Note: NPV = Net present value. Estimated GDP through 2021 from International Monetary Fund World Economic Outlook database. The annual average growth rate between 2017 and 2021 is used to estimate GDP growth for 2022–2026.

58. In addition, improved regional connectivity will allow the landlocked countries in Central Asia and South Asia to address lucrative Europe-to-Asia bandwidth demand, which currently exceeds 10 Tbps and commands end-to-end transport prices of more than $5 per Mbps per month. From a commercial perspective, the economic feasibility of coherent international fiber infrastructure in the region would likely be assured through the capture of as little as 3 to 4 percent of Europe-to-Asia demand. Operators around the globe have continuously sought means to mitigate the risk presented by the present-day concentration of Europe-to-Asia submarine cables in Egypt and other choke points along the route, and are likely to place large volumes of transit traffic on any trans-Asian terrestrial fiber path that can prove itself to be cost-effective, reliable, and with low latency. The Digital CASA pre-feasibility study estimates the wholesale value of Europe-to-Asia traffic to be at least $200 million annually.[15]

59. **Efficiencies gained through digital government development.** Component 2 of the Project features activities aimed at productive use of ICT in the Government due to the enhanced Internet connectivity that can help streamline the delivery of public services. These activities can reduce costs for the Government due to greater efficiency and reduction of duplication by improving back-office

[15] Technical Pre-Feasibility Study carried out for Digital CASA, 2016.

workflow, improving communications between provincial and Central Government, and facilitating use of shared databases to store and retrieve information, etc. For example, an Australian study estimated that the Government saved $450 million through applying ICT to public services.[16] Further, costs will be reduced for citizens as public services move online. Four levels of interactivity are expected to become available for citizens who have Internet access: (a) obtain information from a Website, (b) download forms from a Website, (c) fill forms online, and (d) undertake the complete process through a Website.[17] A relatively high proportion of Internet users in developing countries (42 percent) make use of online government and public services information.[18] Although in Afghanistan the absolute number is now low, this can be expected to rise as more citizens become Internet users.

60. Data for quantitatively measuring the impact of e-Government services are limited. However, data from another South Asian nation, such as Sri Lanka, have concretely illustrated the benefit for citizens. The introduction of e-services in Sri Lanka has driven a reduction in the time citizens spend to obtain a public service from 371 minutes in 2011 to 124 minutes in 2013.[19] The average amount spent by citizens obtaining a public service before the introduction of e-services in 2011 was LKR 1,553 ($13.74) or 0.31 percent of average annual household expenditure.[20] The cost includes travel, opportunity cost, service fees, food, accommodation, and any other costs associated with obtaining a public service. By 2013, this figure had dropped to LKR 747 ($5.79) or 0.15 percent of average annual household expenditure, contributing to an annual reduction in household expenditures by 22 percent.

B. Technical

61. The Digital CASA Afghanistan Project components were designed as an integrated and interlinked program to crowd-in private sector investments, and ensure long-term economic viability of the infrastructure, maximize the development impact of the investments, and enable the initial investment costs to be recovered. Investment is being complemented by technical assistance to ensure that access to these networks are available on a nondiscriminatory and open access basis, and at reasonable and affordable rates. Complementary activities, such as pre-purchase of international bandwidth, have the dual objective of increasing viability of the optical fiber networks and making capacity available to government institutions and targeted user groups and to enable the delivery of various e-Services to businesses and citizens.

62. The technical design is consistent with international best practices, including similar regional connectivity programs/projects in Africa (Regional RCIP, WARCIP), Caribbean (CARCIP), and in

[16] NOIE (National Office for the Information Economy). 2003. *E-Government Benefits Study*. Page ix.
[17] NOIE (National Office for the Information Economy). 2003. *E-Government Benefits Study*. Page ix.
[18] Pew Research Center. 2015. *Internet Seen as Positive Influence on Education but Negative Influence on Morality in Emerging and Developing Nations*. http://www.pewglobal.org/2015/03/19/internet-seen-as-positive-influence-on-education-but-negative-influence-on-morality-in-emerging-and-developing-nations/.
[19] ICTA (Information and Communication Technology Agency of Sri Lanka). 2013. *E Government Survey - Final Evaluation*. https://www.icta.lk/icta-assets/uploads/2016/03/ICTA_eGov_FR_16-1-14.pdf.
[20] The e-services cost is from ICTA (2013, page 16). Annual household expenditure in Sri Lanka is derived from: Department of Census and Statistics. 2015. *Household Income and Expenditure Survey 2012/13*. http://www.statistics.gov.lk/HIES/HIES2012_13FinalReport.pdf.
There have been similar surveys in other countries. In Australia, citizens reported saving more than A$25 ($16) per transaction due to the use of e-Government services. See: NOIE (National Office for the Information Economy). 2003. *E-Government Benefits Study*. https://www.finance.gov.au/agimo-archive/__data/assets/file/0012/16032/benefits.pdf.

the Pacific (Pacific Regional Connectivity Program). The design of the Project is based on a model of competitive, private sector delivery, wherever possible. This is fully consistent with international experience, which shows that this is a more cost-effective way of delivering ICT services than the government becoming involved in service delivery itself.

C. Financial Management

63. MCIT has experience implementing ARTF/World Bank-funded projects. The Finance Department within the Project Management Office (PMO) (once Digital CASA is approved the PMO will be referred to as the Digital CASA Implementation Unit [DCIU]), established for ICT projects, will be responsible for the FM of the Project. The project FM risk is rated Substantial, which will be reassessed during supervisions.

64. The FM arrangements are at two levels: the central level and the implementing agency level. Country systems are used for budgeting, accounting, funds flow, and internal and external audit. At the central level, accounting and audit functions for the Project will be undertaken by the MoF and the Supreme Audit Office, respectively. At the implementing agency level, the overall responsibility for project FM will rest with the Head of the Finance Department within the PMO. The World Bank team will provide relevant training for in-depth understanding of World Bank requirements and adequate FM for the Project. As part of the Project Implementation Manual, the PMO will share with the World Bank, for approval, the revised ICT FM Manual to be adopted for the Digital CASA Project, documenting detailed internal controls. The project's semiannual internal audit will be conducted by the MCIT's Internal Audit Department and the Project will provide an internal audit consultant to the same department. The Finance Department will prepare the interim financial reports (IFR) on a quarterly basis and submit them to the World Bank within 45 days after the end of the quarter. The annual project financial statements will be prepared by the MoF using the data from the Afghanistan Financial Management Information System (AFMIS). The annual project external audit will be carried out by the Supreme Audit Office and the audited financial statements along with the Management Letter will be submitted to the World Bank within six months after the end of the GoA's fiscal year.

65. There are no overdue audit reports, overdue IFR, or ineligible expenditures under projects implemented by MCIT. Details on the FM arrangement are presented in Annex 3.

D. Procurement

66. The World Bank has gained substantial experience and understanding of the procurement environment in Afghanistan through its involvement in the interim procurement arrangements put in place under the Emergency Public Administration Project (2002) and through working with the institutions currently responsible for procurement functions, including the Afghanistan Reconstruction and Development Services. As part of the broader review of Afghanistan's public financial management system, the World Bank carried out two assessments (June 2005 and September 2007), of the procurement environment in the country based on baseline and performance indicators developed by a group of institutions led by the World Bank and the Development Assistance Committee of the Organisation for Economic Co-operation and Development.

67. The first key issue identified through the procurement assessments is lack of ownership and lack of a procurement champion in the Government, which is a serious impediment to reform and

interministerial dialogue. A second related issue is the lack of capacity in the line ministries, as evidenced by their inability to define and communicate effectively their desired functional specifications/terms of reference in their procurements. The lack of capacity is evident in the local private sector—while the number of bids is reasonably high, there is a lack of understanding on how to apply public procurement rules. A detailed presentation of the procurement arrangement is in Annex 3.

E. Social (including Safeguards)

68. The project triggers OP 4.12 (Involuntary Resettlement) because the physical infrastructure activities under the Project include the excavation and backfilling operations required to install underground OFC, which may lead to the partial loss of productive assets (agricultural crops and fruit trees), land requirements, partial loss of ornamental vegetation, and temporary limitation of access to commercial and institutional establishments and residential properties. These activities are likely to involve downstream implications that could affect individuals and/or communities in different ways. A separate Resettlement Policy Framework (RPF) for the Project was prepared and disclosed to address these impacts and provides guidelines and procedures for the preparation of Abbreviated Resettlement Plans that will be required for optical fiber network subprojects.

69. The Environmental and Social Management Framework (ESMF) and the RPF will both guide the preparation of any Social Impact Assessments, Environment and Social Management Plans (ESMP), and the Resettlement Action Plans that may be needed subsequently outside the Project framework. The ESMF and the RPF were translated and disclosed in-country at MCIT's website and on the World Bank's external website.

70. MCIT will recruit a full-time Safeguards Specialist who will be responsible for the implementation of ESMF, RPF, and grievance redress mechanism (GRM) manual. The Safeguard Specialist will prepare safeguard and GRM training plans and accordingly will deliver the trainings for the Project staff and the contractors. Based on the lesson learned from the parent ICT project and as per the Project ESMF and RPF, the client will develop proper recording and reporting mechanisms for land requirements, grievance handling, and progress reports on implementation of site-specific ESMP.

71. **Citizen Engagement.** The project has robust citizen engagement strategy that includes: (a) establishment of a functional GRM, (b) effective consultations that will take place during implementation, and (c) and establishing a real interaction between beneficiaries/users and the Government through satisfaction surveys. To track user satisfaction for services deployed through Component 1 (Regional and Domestic Connectivity Infrastructure) and Component 2 (e-Government). For Component 1, beneficiary feedback mechanisms will be conducted annually by MCIT through surveys to measure the percentage of users who report satisfaction with the level of affordability and reliability of Internet services, with the goal of reaching 80 percent reported satisfaction. For Component 2, e-Government customer perception surveys will be conducted annually by MCIT to assess the level of receptivity and areas for further improvement on the electronic services that are implemented and used by the general public (e.g. design/usability of portals, relevance of services). The project will employ innovative tools to obtain this feedback and ensure responsiveness (e.g. feedback features embedded on services portals and mobile-based platforms) as well as traditional survey tools to reach non-users. Additionally, there will be proper consultations with project beneficiaries and affected families during the entire cycle of the Project.

Where applicable, the Project will seek to leverage existing networks, such as the Community Development Councils, that have been implemented throughout the country under the Citizens Charter Project to conduct consultations and obtain beneficiary feedback on the services deployed.

F. Environment (including Safeguards)

72. OP/BP 4.01 (Environmental Assessment) is triggered. The physical work under Component 1 may cause adverse environmental and social impacts including occupational health and safety issues. The project aims to finance the expansion and extension of the fiber-optic backbone. The client will use the existing right-of-way for this purpose and along the existing roads and power transmission network routes to bury the backbone fiber-optic cable. Financing of towers is not foreseen. The risks associated with this kind of infrastructure are generally low, so the Project is classified as environmental Category B. Because the Project locations are unknown at this stage, a framework approach will be adopted. MCIT has developed and disclosed an ESMF for this project. The borrower has a good understanding of the safeguards issues during the ICTSDP implementation. The Project will identify a focal Safeguards Officer to help prepare the ESMP for the subprojects, and will help with implementation. The ESMF includes principles, guidelines, tools, checklists, and procedures that will be applied to avoid, mitigate, or minimize adverse environmental and social impacts during implementation and operation of the Digital CASA Project, subprojects, and activities.

73. To properly apply these tools and mitigate these potential impacts, an ESMP or an Action Plan will be prepared for each of the subprojects of the Digital CASA Project and properly implemented by the contractors of the subprojects. These ESMP will be prepared by a trained focal Officer who will closely work with the Project Director and the subprojects contractors. The focal Officer will help the Project staff and the relevant subproject contractors in implementation of the ESMP and other tools of the Project's legally binding ESMF document. The focal Officer will monitor and report on the status of the safeguards implementation in all relevant subprojects of the Digital CASA.

G. World Bank Grievance Redress

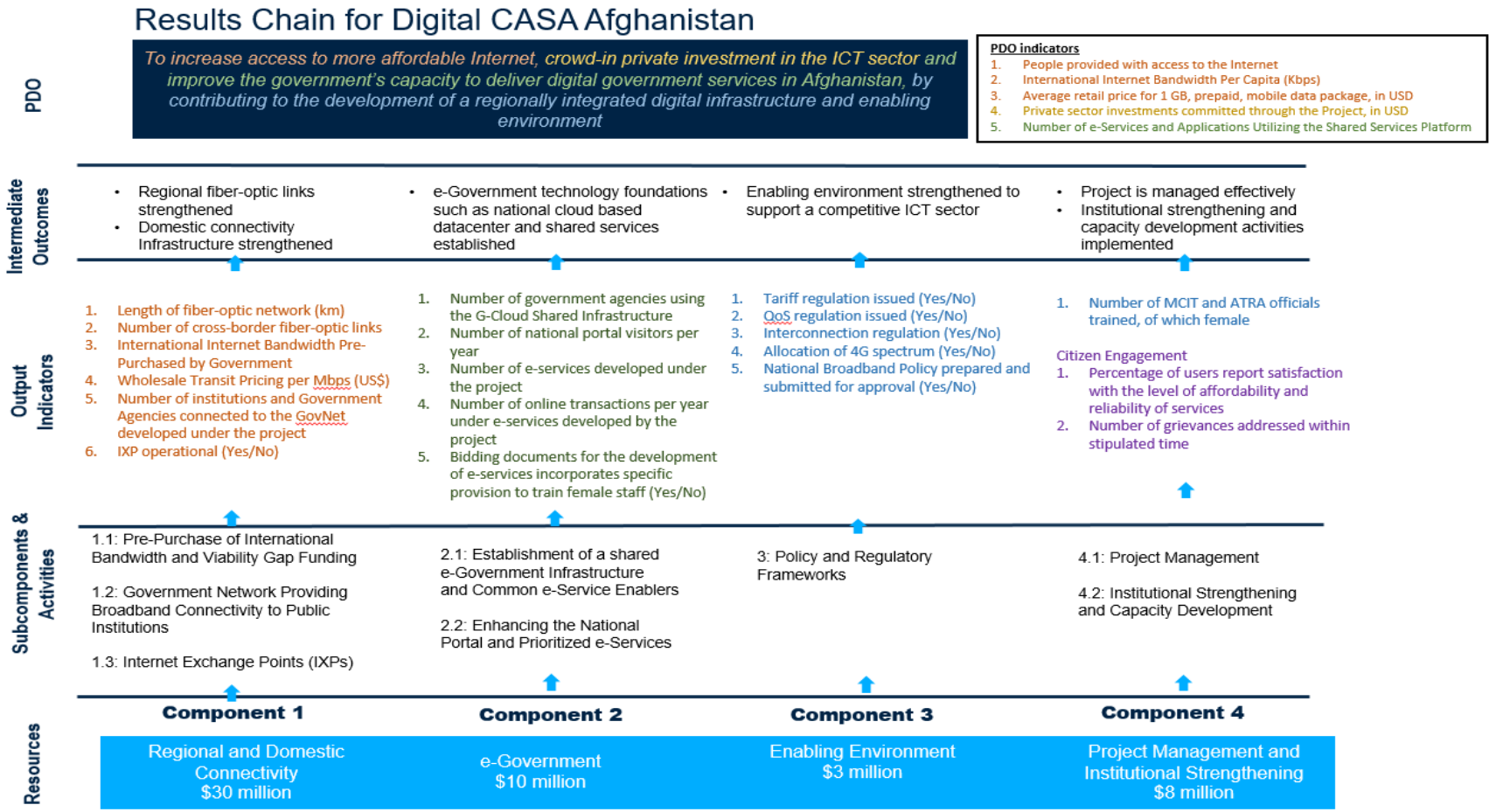
74. **Communities and individuals who believe that they are adversely affected by a World Bank supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS).** The GRS ensures that complaints received are promptly reviewed to address project-related concerns. Project affected communities and individuals may submit their complaint to the World Bank's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service, please visit. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VII. RESULTS FRAMEWORK AND MONITORING P159980-

COUNTRY: Afghanistan

Project Name: Digital CASA Project (P156894)

The proposed PDO is to increase access to more affordable Internet, crowd-in private sector investment in the ICT sector, and improve the Government's capacity to deliver digital Government services in Afghanistan, by contributing to the development of a regionally integrated digital infrastructure and enabling environment



PDO Indicators

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
People provided with access to the Internet	☒	Number (million)	7.8	8.3	8.8	9.5	10.0	12.0	Annual	Project data	MCIT/ATRA
Sub-indicator: People provided with access to the Internet	☐	Percentage	22.5	25.0	27.0	30.0	33.0	35.0	Annual	Project data	MCIT/ATRA
Description: Supported through Component 1. Baseline is for year-end 2017 collected by ATRA. Includes both mobile and fixed broadband connections.											
International Internet bandwidth per capita	☐	Kbps	1.2	2.8	4.2	6.0	8.0	10.0	Annual	Project data	MCIT/ATRA
Description: This indicator will measure the increased Internet bandwidth through improved regional fiber-optic connectivity. Baseline is 2017, 35 Kbps per capita											
Average retail price for 1 GB, prepaid, mobile data package	☐	Amount ($)	1.4	1.3	1.2	1.0	0.8	0.65	Annual	Project data	MCIT/ATRA
Description: This indicator will measure the affordability of broadband services using the average retail price for a 1 GB package among five mobile operators. Baseline is for 2017.											

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
Number of e-services and applications using the shared services platform	☐	Number	0	0	10	15	20	25	Annual	Project data	MCIT
Description: This indicator will measure the numbers of e-services and applications using the shared infrastructure. It will be supported through Component 2.											
Private sector investments committed through the Project	☐	$ (millions)	0	6	12	18	24	30	Annual	Project data	MCIT/ATRA
Description: This indicator measures the private sector investments that have been committed under the Project. In Afghanistan, the focus is mainly on optical fiber networks and GovNet.											

Intermediate Outcome Indicators

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
Component 1: Regional and Domestic Connectivity Infrastructure											
Length of fiber-optic network	☐	km	4,700	4,770	5,020	5,320	5,720	6,200	Annual	Project data	MCIT
Description: Baseline is for 2017. Total length of fiber optic network in Afghanistan including Aftel and private operators.											

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
Number of cross-border fiber-optic links	☐	Number	8	8	8	9	9	10	Annual	Project data	MCIT
Description: There are currently 8 links with 5 countries. New links are expected to be established with China and Iran.											
International Internet Bandwidth Pre-purchased by the Government	☐	Gbps	0	20	20	20	20	20	Annual	Project data	MCIT
Wholesale Transit Pricing per Mbps	☐	$	25	25	23	18	15	10	Annual	Project data	MCIT
Description: These indicators are supported by Subcomponent 1.1: Regional and Domestic Connectivity Infrastructure and Pre-purchase of International Bandwidth. Wholesale transit pricing is expected to contribute to lower prices for the citizens at the retail level.											
Number of institutions and Government agencies connected to the GovNet	☐	Number	6	100	160	220	280	346	Annual	Project data	MCIT
Description: These indicators are supported by Subcomponent 1.2: Government Network Providing Broadband Connectivity to Public Institutions.											
IXP Operational	☐	Yes/No	No	No	No	Yes	Yes	Yes	Annual	Project data	MCIT
Description: These indicators are supported by Subcomponent 1.3: Internet Exchange Points.											
Component 2: e-Government											
Number of Government agencies using	☐	Number	0	0	6	10	16	20	Annual	Project data	MCIT

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
the G-Cloud Shared Infrastructure											
Description: These indicators are supported by Subcomponent 2.1: Establishment of a Shared e-Government Infrastructure and Common e-Service Enablers.											
Number of national portal visitors per year	☐	Number (millions)	0	1	1.5	2.5	3	4	Annual	Tracked through web analytics feature	MCIT
Number of online transactions per year under e-services developed by the Project	☐	Number (millions)	0	0.2	0.5	1	1.5	2	Annual	Tracked through web analytics feature	MCIT
Number of e-services developed under the Project	☐	Number	0	0	2	3	4	4	Annual	Project data	MCIT
Bidding documents for the development of e-services to incorporate specific provisions to train female staff	☐	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Annual	Project data	MCIT
Description: These indicators are supported by Subcomponent 2.2: Enhancing the National Portal and Prioritized e-Services. Portal visitors are cumulative and not 'unique'. The achievement of the indicator on gender will ensure priority is given to train female staff with an aim to increase opportunities given to women to engage in the long-term maintenance and management of the government eservices.											

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
Component 3: Enabling Environment											
Tariff regulation issued	☐	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Annual	Project data	MCIT/ATRA
Quality of Service Regulation issued	☐	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Annual	Project data	MCIT/ATRA
Interconnection regulation issued	☐	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Annual	Project data	MCIT/ATRA
Allocation of 4G spectrum	☐	Yes/No	No	Yes	Yes	Yes	Yes	Yes	Annual	Project data	MCIT/ATRA
National Broadband Policy prepared and submitted for approval	☐	Yes/No	No	No	Yes	Yes	Yes	Yes	Annual	Project data	MCIT
Description: These indicators are supported by Component 3 Policy and Regulatory Frameworks Policy, Regulatory, and Legal Frameworks.											
Component 4: Project Management and Institutional Strengthening											
Number of MCIT and ATRA officials trained, of which percent female	☐	Number	0	100 (10)	200 (15)	300 (20)	400 (25)	500 (30)	Annual	Project data	MCIT
Description: This indicator is supported by Component 4: Project Management and Institutional Strengthening.											
Citizen Engagement											

Indicator Name	Core	Unit of Measure	Cumulative Target Values						Frequency	Data Source/Methodology	Responsibility for Data Collection
			Baseline	YR1	YR2	YR3	YR4	End Target			
Percentage of users report satisfaction with the services	☐	Percentage	0	10	20	30	40	50	Annual	Surveys tools/e-Government platforms	MCIT
Sub-indicator: Percentage of users report satisfaction with the services (Component 1: Broadband)	☐	Percentage	0	10	20	30	40	50	Annual	Survey tools	MCIT
Sub-indicator: Percentage of users report satisfaction with the services (Component 2: e-Government)	☐	Percentage	0	10	20	30	40	50	Annual	Surveys/e-Government platforms	MCIT
Number of grievances addressed within stipulated time (Component 1)	☐	Percentage	0	10	30	50	70	80	Annual	GRM	MCIT

ANNEX 1. Digital CASA Regional Program Description

AFGHANISTAN: Digital CASA Project

1. **All five Central Asian countries and the South Asian country of Afghanistan, are landlocked—and a significant part of their economies continue to depend on the large neighboring economies of China, the Russian Federation, and the Middle East.** The gross national income per capita of the Kyrgyz Republic and Tajikistan remain low at $1,250 and $1,080, respectively (Atlas method), which are among the lowest in Central Asia. Afghanistan, just south of Central Asia and historically linked to Central Asia, has a much larger population (31 million) and a substantially larger economy, but fragile political and security situations have taken a heavy toll on poverty reduction, growth, and development. Afghanistan's gross national income per capita (Atlas Method) was $580 in 2016, significantly lower than South Asia's average of $1,611 and lower than the poorest countries in Central Asia.[21]

2. **Central Asian countries have made significant progress with regard to implementing the 2003 United Nations-endorsed Almaty Programme of Action for improving competitiveness, but closer regional coordination efforts are needed.** The increased trade between Europe and Asia, which reportedly accounted for 42.5 percent of European Union trade in 2011,[22] has created an unprecedented opportunity for landlocked countries in Central Asia to emerge as hubs for trade and commerce, but the opportunities have yet to materialize. The countries' lack of direct access to the sea has resulted in isolation from an increasingly connected global market. High transport costs have limited potential exports of goods and resources. Similarly, trade in services has been constrained by limited international connectivity and high Internet access prices. Sustained and diverse approaches are needed to facilitate regional integration and achieve the untapped potential.

3. **World Bank support for regional integration has spanned across water, energy, trade facilitation, health, among other sectors.** Notably, the Central Asia Regional Trade activity, launched in 2013, is informing governments and stakeholders to develop a successful trade agenda in the region, including analysis of policies and recommendations to make trade integration more effective. The CASA-1000 Project is helping to make the most efficient use of clean hydropower resources of the Central Asian countries by enabling them to transfer and sell their electricity surplus during the summer months to the deficient countries in South Asia, including Afghanistan and Pakistan. The World Bank is resetting its engagement with the Central Asia Regional Economic Cooperation Program that was established in 1997 with support from the Asian Development Bank.

4. **There is a strong political will for regional integration.** There is a strong political will demonstrated at the highest levels by the governments of the region, notably Afghanistan, the Kyrgyz Republic, and Uzbekistan, toward greater regional integration and appreciation of the fact that individual countries can achieve higher growth, more jobs, and more services by working together than if they act alone. Countries in the region are looking for ways to improve their economies, including by leveraging the promise of the digital economy and the multiplier effects

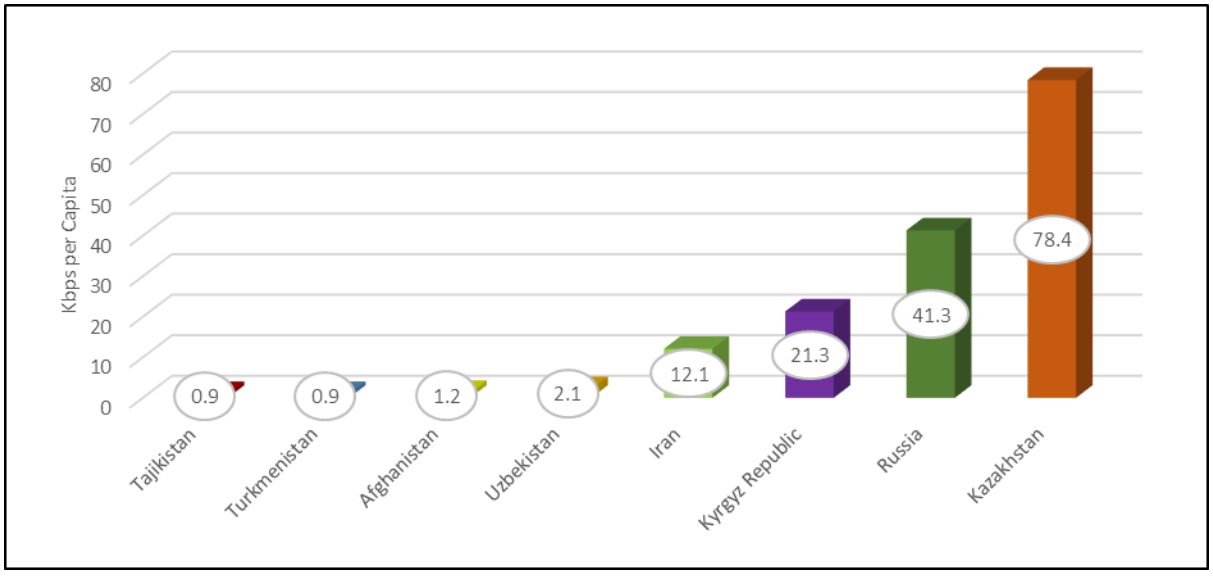
[21] World Bank indicators.
[22] http://fride.org/download/PB_13_EU_Asia_trade.pdf.

from regional integration. There are positive developments in the relationship between the Kyrgyz Republic and Uzbekistan, with a high-level visit by both Presidents in the fall of 2017, as well as between Tajikistan and Uzbekistan. This could potentially foster further regional collaboration on several initiatives. However, a significant amount of work will need to be done collectively, with regional partners. The proposed regional Digital CASA Program will allow linking China and Central and South Asia to create the shortest route between major neighbors, address demand for cross-border broadband connectivity, and provide solutions for regional needs in data hosting.

Regional Sectoral Context - Central Asia and South Asia

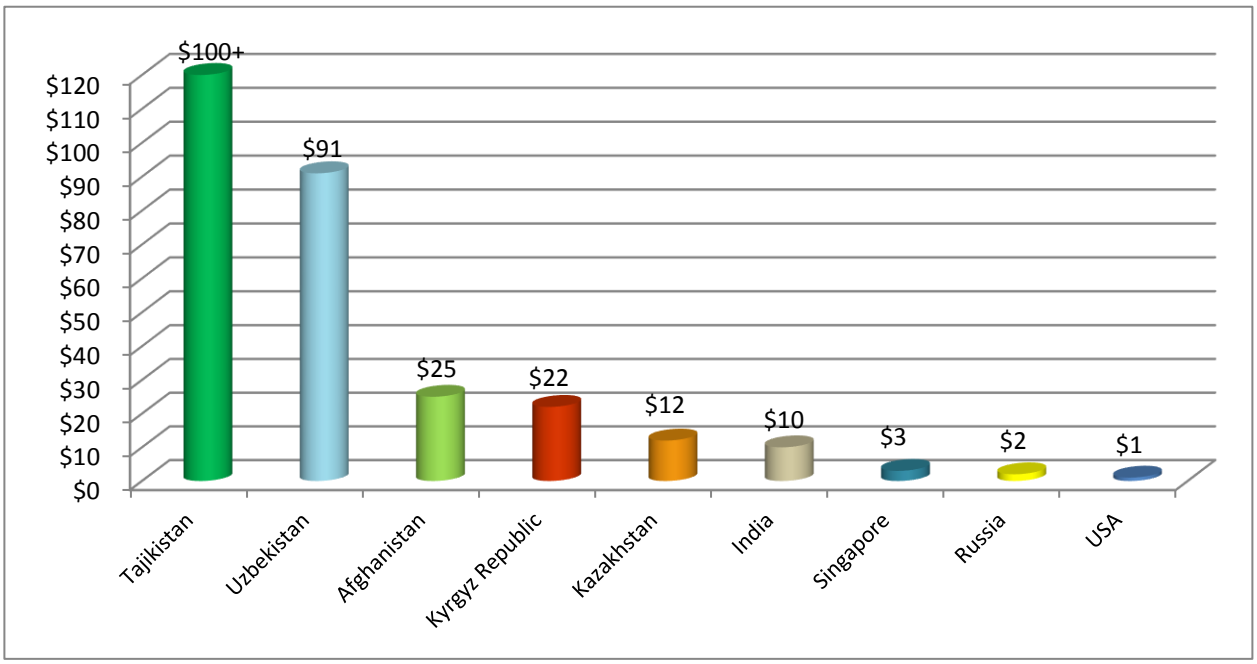
5. **While the telecommunications sector in the landlocked countries of Central and South Asia has been improving, access to high-speed Internet is still limited and costly for individuals and businesses.** Much of the global Internet traffic passes through undersea fiber-optic cables that bypass the landlocked countries of Central and South Asia, which as a result end up paying very high international transit prices to their neighbors. A Digital CASA pre-feasibility study indicated that the international Internet bandwidth per capita in the Central and South Asia region is extremely low, with Turkmenistan at 0.3 Kbps, the Kyrgyz Republic at 5 Kbps, Tajikistan at 0.5 Kbps, Afghanistan at 0.7 Kbps, and Uzbekistan at 0.8 Kbps, while wholesale international bandwidth costs remain expensive, particularly in Tajikistan ($120 per Mbps per month), Afghanistan ($20 per Mbps per month), and the Kyrgyz Republic ($20 per Mbps per month). By comparison, per capita bandwidth in many Organisation for Economic Co-operation and Development countries exceeds 100 Kbps, while wholesale bandwidth costs in Europe and the United States are as low as $1 per Mbps per month. Figures 1.1 and 1.2 illustrate these points.

Figure 1.1. International Internet Bandwidth per Capita, 2015



Source: Digital CASA Technical Pre-feasibility study, Terabit Consulting, 2016 (Updated 2017).

Figure 1.2. Wholesale Transit Pricing per Mbps ($)



Source: Digital CASA Technical Pre-feasibility study, Terabit Consulting, 2016. (Updated 2017).

6. **Despite the high levels of mobile telephony penetration, Internet penetration remains low across the landlocked countries of Central and South Asia.**[23] Internet user penetration, including mobile broadband is 34.5 percent in the Kyrgyz Republic, 18 percent in Turkmenistan, and 10.6 percent in Afghanistan (Table 1.1). Fixed broadband penetration is nearly 0 percent in Afghanistan, Tajikistan, and Turkmenistan and remains a mere 4.1 percent, 13.7 percent and 9.1 percent in the Kyrgyz Republic, Kazakhstan, and Uzbekistan, respectively. It is evident that the region's limited international broadband connectivity has led to delayed adoption of broadband technologies and lower Internet usage, especially in rural areas, and is inhibited by unreliable electricity supplies.

[23] Digital CASA focuses initially on the landlocked countries of Afghanistan, the Kyrgyz Republic, UzbekistanTajikistan, Turkmenistan, and Uzbekistan but remains open to other countries in the broader Central and South Asia region.

Table 1.1 Mobile and Internet Penetration in Target Countries of Central and South Asia, 2016

	Afghanistan	Kyrgyz Republic	Tajikistan	Turkmenistan	Uzbekistan	Kazakhstan
Mobile cellular penetration (per 100 people)	85.00	131.0	107.00	158.0	77.0	150.0
Internet users, including mobile broadband (per 100 people)	10.60	34.5	20.50	18.0	46.8	76.8
Fixed broadband (per 100 people)	0.03	4.1	0.07	0.07	9.1	13.7

Source: World Bank Data, International Telecommunications Union, MCIT.

Digital CASA Regional Program

7. **The goal of Digital CASA is to integrate the landlocked countries of Central Asia and parts of South Asia into the global and regional digital economy thereby helping each to reap its digital dividends.** This will be achieved by enabling inclusive access by citizens and businesses to digital services through the development of a regionally integrated digital infrastructure, catalyzing private sector investment and innovations in the delivery of public and private services, and modernizing relevant policies and regulatory frameworks. The approach is threefold, based on successful experiences in other regions including Africa, the Caribbean, and the Pacific:

(a) **Supply side (digital connectivity).** Activities conducted by the private sector on its own or in collaboration with the public sector under appropriate PPP frameworks, to finance and operate the deployment of high capacity, cross-border, fiber-optic networks across the region, helping position the region as a digital hub for the Eurasian continent. This will generate revenues for participating countries that will accrue in much larger measure than if done individually. This is supported by the fact that operators have continuously sought alternative routes to the current concentration of Europe-to-Asia transit submarine cables passing through limited choke points such as the Strait of Malacca, the Red Sea, and the Strait of Sicily, among others. Digital CASA will support the continued increase in the availability, use, and development impact of regional and national broadband communications infrastructure, including, as required, deployment of a regional backbone network made up of multiple cross-border fiber-optic links, domestic backbone networks, and GovNets. Cross-border transmission links will be coordinated among participating countries and with neighboring countries (such as China, Iran, Pakistan, and Russia) to guarantee Internet connectivity to all destinations and services. The activities will require adherence to 'open access' principles to ensure robust sector competition while seeking to capture synergies through cross-sector infrastructure sharing.

(b) **Demand side (digital Government and digital economy).** Activities aimed at encouraging greater and more productive use of enhanced connectivity by the Government, business, and citizens. Digital CASA will support the delivery of transformative digital Government infrastructure, platforms, and services including data-driven innovations and solutions across sectors to facilitate digital job opportunities. The focus will be on creating standards-based regional assets that will benefit all the participating countries, such as

regional datacenters and cloud infrastructure, regionally integrated digital platforms such as secure identification, e-services development platforms, and other components that can be reused at regional and national levels. Increased demand within the region can lead to a virtuous circle by generating the scale necessary to significantly lower the unit costs of investment for providers and bandwidth for consumers, thus encouraging more investments and more uptake of the services.

(c) **Enabling environment (policy and regulation and institution).** Activities aimed at updating and harmonizing policy and regulatory frameworks at national and regional levels to foster competitive and fair broadband markets of regional scale, stimulate private sector investment, and increase uptake by citizens and businesses at both the regional and national levels. Digital CASA will support strengthening and harmonization at the regional level of policies, laws, regulations, and institutional and human capacity, including measures to strengthen the digital leadership of the region and create partnerships, such as through the support to regional capacity-building centers.

8. **The combined activities will enhance regional public goods** through the development of a highly interconnected regional broadband infrastructure that facilitates infrastructure sharing, joint deployment and transfer of experience in electronic services and content, and institution building at the regional level to ensure sustainability and further regional integration. Specifically, the program will deliver: (a) lower prices for international connectivity and improved geographic reach and reliability of broadband networks; (b) enhanced Government efficiency and transparency through expanded availability of digital infrastructure and services; and (c) an improved legal and regulatory environment needed to attract private sector investments, both at the national and at the regional level.

9. **The conditions seem to be ripe for such a regional program to take off.** Countries in the region are looking for ways to improve the economic situation, including by leveraging the promise of digital economy and multiplier effects from regional integration. This regional program will allow linking of China and Central and South Asia to allow for the shortest route between major neighbors, address demand for cross-border connectivity, and provide solutions for regional needs in data hosting solutions. A series of consultations have been carried out during regular Digital CASA meetings, such as the one organized in June 2017 in Bishkek, together with IFC. This first formal consultation was hosted by the Kyrgyz Government and attended by country delegations from Afghanistan, Kazakhstan, and Uzbekistan. The intention is to continue organizing regular and targeted project discussions to ensure coordination and learning between country participants.

10. **Significant regional spillover benefits are expected under the Digital CASA Afghanistan Project and the broader regional Digital CASA Program.** The concept of a regional Internet transit hub goes beyond connectivity. It will enable the creation of new business models in the region that did not exist before, such as IT-enabled services outsourcing, digitally enabled jobs, and increased opportunities for exchange of goods and services. This in turn could trigger economies of scale for large regional Internet service providers, lowering bandwidth costs, improving quality of service, and opening the possibility for developing major regional data centers and cloud services providers to be established. Benefits are expected from combining demand of participating countries at the regional level and hence increasing negotiation power.

The improved access to affordable Internet will facilitate greater interaction among the countries, thereby leading to increased regional trade through electronic business-to-business, business-to-consumer, and consumer-to-consumer transactions for digital and physical products, and financial transactions through electronic banking services.[24]

11. **The Digital CASA Regional Program will be implemented as an SOP and each phase/project will be based primarily on country readiness.** Eligibility criteria to participate in Digital CASA are as follows: (a) existence of a regulatory authority for the sector that is independent from the operators in the market (and/or relevant World Trade Organization commitment to establish such regulator), (b) adherence to open access principles, and (c) full liberalization of both domestic and international Internet connectivity or a time-bound action plan to achieve such liberalization by the midterm review of the Project. Afghanistan and the Kyrgyz Republic will be the first to be delivered to the Board in early 2018. Kazakhstan is expected to join in 2018/2019 through a separate Digital Kazakhstan project. Uzbekistan has formally requested to join in the fall of 2017. Tajikistan and Turkmenistan may join in subsequent phases depending on their interest and readiness.

12. **The first two countries, Afghanistan and the Kyrgyz Republic are planning to connect their national telecommunications networks with China under this project, which will, in itself improve Internet traffic flow in the region.** Therefore, regardless of the decision of other neighboring countries with regard to joining Digital CASA, both countries are expected to benefit from lower Internet prices as both will be connected with each other via China and with China. When Uzbekistan or Tajikistan (or both) come on board, the connectivity via China will continue to serve as an alternative route, thus improving the overall reliability of the regional telecommunications network in the region. Having alternative routes means improved resilience and a target state for any telecom network.

13. Implementation of the program will involve a two-tier structure, with a network of strong country-level implementing units, supported at the program level by a regional institution. Implementation of Digital CASA will rely primarily on country-level Project Implementing Units, which manage the funds at the national level and will coordinate constantly their work with other participating countries on the basis of a regional network of Digital CASA Implementing Units on a peer-to-peer basis. However, to enhance the regional sharing of experiences and additional resources aimed at policy harmonization, capacity building, and joint action at the regional level, it is expected that the program will be supported by an existing regional specialized agency or academic institution (for example, Central Asia Regional Economic Cooperation, Central Asia Research and Education Network, universities, International Telecommunications Union, Regional Commonwealth in the field of Communications, and Eurasian Economic Commission). The team notes that UN agencies are typically not eligible to implement regional IDA projects. Discussions are ongoing with candidate institutions and the participating countries with an aim at identifying an optimum option or combination of options regarding the most appropriate regional anchor for this Regional Digital CASA Program.

[24] In the EU, 17 percent of enterprises and 16 percent of individuals carried out e-commerce with other EU countries in 2015. See the 'Digital Economy and Society' database at http://ec.europa.eu/eurostat/web/digital-economy-and-society/data/database.

ANNEX 2. Detailed Project Description

AFGHANISTAN: Digital CASA Project

1. **Digital CASA Afghanistan is estimated at $51 million.** Because this is a regional program with significant spillover benefits across countries, supplementary regional IDA funding is expected to complement national IDA allocations for up to two-thirds of the total IDA financing of the regional activities. The project will build on the successful implementation of the ongoing ICTSDP.

Component 1: Regional and Domestic Connectivity ($30 million, of which $14 million is regional IDA and $16 million is national IDA)

2. The objective of this component is to crowd-in private sector investments to expand and improve regional and domestic connectivity, connect public institutions and priority target groups to the Internet at affordable rates, and bring down overall cost of Internet services. This component will be complemented by Component 3 (Enabling Environment), which will improve policy, legal, and regulatory frameworks to establish a fair and competitive broadband market with the aim of making the Internet more affordable to the majority of the population. This component will focus on leveraging private sector investment and will adopt a cascade approach to finance the following activities.

Subcomponent 1.1: Pre-purchase of International Bandwidth and Viability Gap Funding for Optical Fiber Connectivity ($15 million, of which $10 million is regional IDA and $5 million is national IDA)

3. This subcomponent will support the following: (a) the pre-purchase of international bandwidth for the Government and priority target groups to create incentives to 'crowd-in' private investments in international connectivity, and (b) a onetime capital subsidy to fill the viability gaps and attract private operators to roll out fiber-optic networks in selected pilot areas that are considered commercially unviable. The component, with underlying support from Component 3 (Enabling Environment), will promote cross-sector infrastructure sharing (for example, roads, railways, electricity transmission lines, and gas pipelines), wherever possible, to address missing optical fiber links and improve reliability of the existing ones.

4. This subcomponent is built on the basis that optical fiber backbone investments will be driven solely by the private sector. However, in limited areas that are considered commercially unviable, public sector support may be required to fill the viability gaps. It is expected that by bringing the optical fiber backbone closer to the population centers, the private sector will be able to strengthen last-mile connectivity infrastructure and access solutions. Disbursement conditions have been established for this subcomponent to ensure an appropriate enabling environment is in place, and are detailed in section V.C.

5. More specifically, the subcomponent will finance the following:

(a) **Pre-purchase of high-capacity international bandwidth for the Government and priority target groups ($10 million).** This activity is intended for the Government to make

an up-front commitment to the pre-purchase of international Internet bandwidth[25] from the optical fiber operators as an 'end user', in the form of an IRU contract. The IRU refers to the right to use a specific amount of capacity on the cable for the duration of the contract and is prevalent in the submarine cable market. The World Bank has experience supporting these types of contracts in Africa as well as in the Pacific region. This will help create incentives to 'crowd-in' private investments in cross-border connectivity (for example, China and an additional link to Iran, among others), as well as satisfy the long-term aggregate demand for Internet services in targeted public institutions, central and provincial governments, select hospitals, schools, universities, post offices, and citizen service centers. The exact duration of IRU contracts and the quantity of international bandwidth will be decided based on the feasibility study and the outcome of a competitive bidding process.

(b) **Viability gap funding to roll out optical fiber backbone networks in remote and commercially unviable areas ($5 million).** This activity will provide a one-time capital subsidy in the form of a 'reverse auction' to create incentives for the private sector to roll out fiber-optic networks in areas that are considered commercially unviable, but necessary to create redundancy routes (additional links to close network loops) for improving regional connectivity and strengthening the domestic backbone. While the Project is committed to ensuring optical fiber connectivity in all areas that have been prioritized by the Government, the process for granting license agreements to the new private optical fiber cable operators is still underway, which makes it difficult to identify areas/routes where viability gap funding would be required and to estimate the exact amount of funding required. Therefore, this activity will take a phased approach, and subject to the results of the pilot, the Project will consider scaling up the activity in additional areas/routes that have been deemed less attractive to the private sector.

    (i) **Reverse auction.** In a reverse auction, the Government first identifies the unserved/underserved network locations. Then, the bidder who quotes lowest subsidy requirement and meets technical and commercial terms and conditions to rollout the optical fiber network in these areas becomes the selected bidder to cover these areas. The locations will be divided into 'lots' based on geographic distribution. A detailed feasibility study financed under the PPG will carry out extensive consultations with the private sector and other stakeholders to determine these locations and the estimated subsidy required for each of the lots. The bidder requiring the lowest subsidy (per lot) will win. Therefore, contracts may be awarded to one or more bidders based on the lots and predetermined criteria for ranking the bidders. Disbursements will be triggered by demonstrated delivery of outputs. These criteria will be stipulated in detail in the bidding documents.

    (ii) After the completion of the rollout, the Government will not assume any role in the ownership or operation of the networks. The private operators will use this funding to design-build-operate the network while covering the gap between the investment

[25] International Internet bandwidth is the contracted capacity of international connections between countries for transmitting Internet traffic.

costs and the expected profits from selling wholesale access. Irrespective of the ownership, all optical fiber networks will be made available to all operators and relevant stakeholders in a nondiscriminatory manner at reasonable prices, as stipulated under the OAP of the Government.

(iii) **Qualification criteria.** A clear prequalification process will be established to ensure only serious optical fiber operators who have fulfilled their rollout obligations, as per their respective license agreements, participate in the bidding process. In addition to the feasibility study, the PPG will finance the preparation of the draft bidding documents to ensure that necessary documentation is ready at early stages of project implementation.

Subcomponent 1.2: Government Network Providing Broadband Connectivity to Public Institutions ($9 million, national IDA only)

6. This subcomponent will finance the installation of a GovNet that will provide broadband connectivity to targeted Government offices in Kabul, provincial capitals, selected schools, hospitals, universities, research institutions, post offices, and the ICT institute, among others. The GovNet will set up both a wide area network and local area networks) to provide broadband connectivity to the targeted institutions.[26] In addition, it will support the development of an enterprise service bus architecture, which will serve as an integration platform for various systems that are used across the targeted public institutions.

7. The additional connectivity is critical to use the pre-purchased international capacity and backbone infrastructure, to enable delivery of e-Government services across the country and to improve the efficiency and productivity of Government operations. In addition, the GovNet will help reduce overall telecommunication costs for the Government, improve secure communications, enable seamless transfer of information between Government agencies and other stakeholders, and enable the provision of e-Government services to the citizens at a minimal cost.

8. Efforts will be made to ensure that the GovNet is designed in a way that it can be implemented, maintained, and operated by the private sector and that Government institutions and offices are anchor customers of the network. A feasibility study will explore the possibility of establishing an IRU-type contract between the Government and a selected GovNet operator. Part of the funding under this subcomponent may be then used to make an up-front commitment to the pre-purchase of GovNet services, which will help create incentives to 'crowd-in' private investments.

9. More specifically, the subcomponent will finance (a) varied hardware and software, cabling infrastructure and cyber security equipment, where needed, to deploy broadband connectivity and enterprise service bus solutions based on the specific locality and need; (b) consultancy services for the design and implementation of the solutions; and (c) long-term

[26] A wide area network is a telecommunications network or computer network that extends over a large geographical distance. A local area network is a computer network that links devices within a building or group of adjacent buildings.

rental of GovNet services under an IRU contract. A detailed feasibility study will be carried out under the PPG, which will explore sustainability of the GovNet beyond the life of the Project.

Subcomponent 1.3: Internet Exchange Points ($6 million, of which $4 million is regional IDA and $2 million is national IDA)

10. The objective of this subcomponent is to provide financing to support the implementation and of an Internet exchange point, which may include strengthening of the National Internet Exchange of Afghanistan, with the potential to eventually facilitate regional IXP integration among the CASA countries to enable faster exchange of Internet traffic between the countries and, thereby, to the broader international networks. The Internet exchange points could help significantly improve access speeds and reduce latency as well as reduce costs to the consumer at both national and regional levels. A feasibility study for this subcomponent will review models to crowd-in private sector investment. In addition, business models of commercial Internet exchanges in other countries will be reviewed for potential applicability, such as the German Commercial Internet Exchange, London Internet Exchange, and Amsterdam Internet Exchange, among others.

11. More specifically, the subcomponent will finance: (a) varied equipment, software and cabling infrastructure to install the IXP, (b) parts of the operating expenses that will be required to launch the IXP, and (c) consulting services for the design and implementation of the IXP solution. Further details will be determined as part of a detailed feasibility study that will be carried out under the PPG.

Component 2: e-Government ($10 million, national IDA only)

12. The objectives of this component are to (a) establish critical e-Government foundations that comprise the Government Cloud, common e-service enablers, and the DRDC and (b) deliver socioeconomic benefits to the citizens and businesses by enhancing the national portal and developing prioritized e-services to enable citizens and businesses to gain access to information and e-services through their mobile devices. Specifically, the component will finance activities under two subcomponents.

Subcomponent 2.1: Establishment of a Shared e-Government Infrastructure and Common e-Service Enablers ($5.2 million, national IDA only)

13. This subcomponent aims to establish a cost-efficient Government Cloud and a set of common e-service enablers for supporting and accelerating e-service implementations by key line ministries. A secondary DRDC supports the Government Cloud to provide business continuity for mission critical data and services. By establishing this shared e-Government infrastructure and common e-service enablers, each ministry no longer needs to invest in its respective platforms, which results in greater cost, issues with interoperability between platforms, and additional operational overheads. The absence of such shared e-Government infrastructure to date has resulted in limited coordination, budget wastage, and replicative efforts across ministries in the GoA. This initiative will include the following:

(a) The component for **Infrastructure as a Service** will consist of establishing hardware infrastructure through an as-a-service model. As the national portal scale and demand for e-service increases, the Government can lease additional hardware capacity on the fly. The

Government Cloud and DRDC service provider(s) will manage the hardware infrastructure, so that the Government is assured of resiliency and redundancy, indicating that the national portal and e-services can benefit from automatic failover to bring up critical services without citizens experiencing an outage in service taken down for maintenance. An option for the implementation of the Government Cloud or DRDC is through the establishment of a Eurasia Cloud regional datacenter in the Kyrgyz Republic, which will be operated by a suitable private firm. This option is being considered under the Kyrgyz Digital CASA Project, in which the GoA has expressed positive interest for storing nonsensitive Government data. The Government Cloud and DRDC implementation model will be assessed through a consultancy study, and recommendations will be made to the Government for its decision.

(b) The **Platform as a Service** component will include an e-service development platform and common e-service enabling tools to simplify and accelerate service implementations. The 'build once, reuse always' e-service development platform and the common e-service enabling tools will consist of online authentication, an e-payment gateway, data analytics, an SMS gateway, and cybersecurity safeguards.

14. More specifically, this subcomponent will finance the following: (a) varied hardware, software, and connectivity infrastructure for the installation of the Government Cloud and DRDC, (b) purchase of datacenter capacity, on an IRU basis, for the DRDC and the Government Cloud- this will depend upon the feasibility study and business model that will be adopted, (c) procurement of shared services such as authentication and identity management, e-signature, unified notification and payment platforms, interoperability, cybersecurity, and application/data-sharing platforms; and (c) consulting services for the implementation of the Government Cloud, DRDC and e-service enablers. Further details will be determined as part of a detailed feasibility study that will be carried out under the PPG.

Subcomponent 2.2: Enhancing National Portal and Prioritized e-Services ($4.8 million, national IDA only)

15. The GoA is working on establishing a 'one-stop shop' known as Asan Khedmat. The vision is to be able to provide a variety of Government services under one roof, in a physical location accessible to citizens and businesses. This may include services such as birth registration, marriage registration, visa application, and passport application for citizens. This project aims to build on the efforts of Asan Khedmat, making at least four selected services available online for the citizens, and will finance the enhancement of the national portal with the introduction of a content publishing portal platform that facilitates ease in digital content and service delivery. Citizens and businesses could benefit from the convenience of transacting with the Government via their mobile devices in addition to face-to-face interactions.

16. The project will finance the development of four priority e-services:

(a) Two high-priority citizen-facing e-services, namely: (i) e-visa to deliver convenience in visa applications and (ii) the Public Grievances and Redressing Gateway to support citizen engagement in the delivery of public services;

(b) One high-priority business-facing e-service, namely, the e-licensing service, that will be a one-stop information resource and application service for the business community to comply with business registrations, licenses, and permits involving multiple Government agencies; and

(c) One high-priority public sector-facing e-service, namely, the electronic catalogue (e-catalogue) for public officers which will be developed in close collaboration with the NPA.

17. More specifically, this subcomponent will finance the following (a) non-consulting services for the enhancement of the Government Portal, and (b) non-consulting services for the development of the select e-services, including interactive and responsive citizen engagement and beneficiary feedback platform. Further details will be determined as part of a detailed feasibility study that will be carried out under the PPG. Focus will be placed on training female staff with an aim to increase opportunities for them to engage in the long-term maintenance and management of the eservices (see Annex 6 for further details).

Component 3: Enabling Environment (Policy and Regulatory Frameworks) ($3 million, of which $2 million is regional IDA and $1 million is national IDA)

18. The objective of this component is to provide technical assistance for strengthening the enabling environment to support a fair and competitive ICT sector that encourages private sector investment and other enabling factors, with an aim to make broadband Internet services available to the majority of the population at more affordable prices. It will seek to promote alignment of Afghanistan with regional regulatory and policy harmonization efforts as part of the overall Digital CASA Regional Program. More specifically, this component will finance the following:

(a) TAs for the MCIT and ATRA to address the policy, legal, and regulatory modifications needed, such as the development of a national broadband policy and issuance of decrees, guidelines, and downstream regulation (for example, right-of-way, interconnection, quality of service, and tariff regulations), to implement the OAP and create an enabling environment to crowd-in private sector investment and promote competition in the sector

(b) Review and assessment of existing ICT policies, strategies, standards, and legal and regulatory frameworks to identify gaps and weaknesses as well as harmonization with regional commitments and frameworks. A special focus will be given to the harmonization of legislation and regulatory policies at the regional level for facilitating cross-border interconnection, such as interconnection charges and taxation of incoming/outgoing traffic, interconnection regulations, licensing frameworks, cybersecurity and cyber threat management, and spectrum management, among others.

Component 4: Project Management and Institutional Strengthening ($8 million, of which $4 million is regional IDA and $4 million is national IDA)

19. This component will finance project management and coordination including procurement, FM, M&E, and environmental and social safeguards management, as well as communications and partnership-building activities. This component will support coordination activities at regional levels and citizen-oriented communications and awareness activities to encourage better

understanding of the opportunities made possible through the Project and institutional strengthening and capacity development activities.

Subcomponent 4.1: Project Management ($6 million, of which $3 million is regional IDA and $3 million is national IDA)

20. This subcomponent will finance project management and coordination, including procurement, FM, M&E, and environmental and social safeguards management. This will include funding consultancy support for the successful implementation of the Project at the regional and national levels, communications, logistics, consumables, office equipment, incremental operating costs, and audits. This component will fund technical assistance to support M&E and automation of the accounting system and implementation of safeguards-related action plans.

Subcomponent 4.2: Institutional Strengthening ($2 million, of which $1 million is regional IDA and $1 million is national IDA)

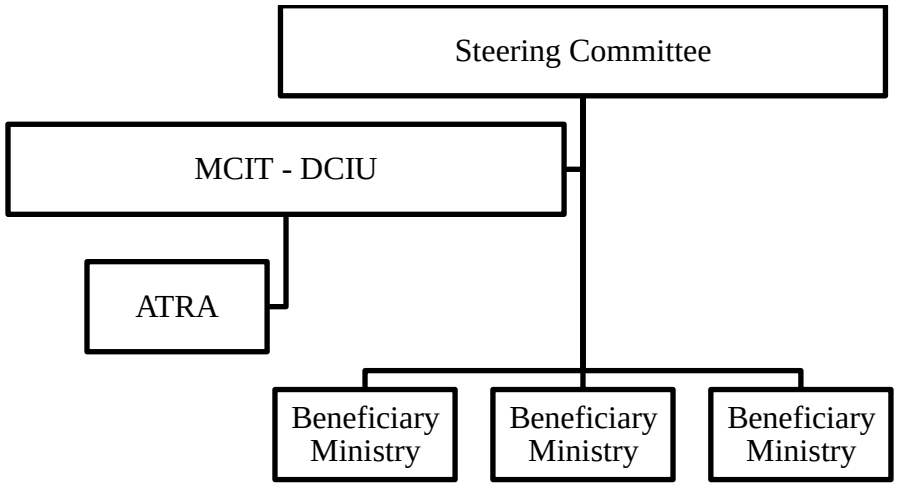
21. This subcomponent will support targeted transformation and change management programs to bring about mind-set changes and build technical capacity for Government officials to effectively implement and sustain project activities at the regional and national levels and drive e-transformation processes. After having completed the needs assessment, the Project will support (a) training for leaders, which will target Minister and Deputy Minister-level officials, Parliament members, agency heads, department heads, and other key staff in the Central Government and local governments, including facilitating partnerships with other regional Digital CASA countries; (b) training of Government officers, which will target civil servants in line ministries and local governments in charge of delivering e-services to citizens; the focus will be on change management to motivate and engage each of the individuals and obtain their buy-in to leverage technology for improved services delivery in key sectors; (c) training of IT technical staff, which will finance training for the existing IT specialists and IT developers within and outside Government agencies with the focus on embracing new technologies and processes introduced through this project; (d) regulatory capacity building for ATRA staff; and (e) institutional strengthening of the ICT institute (under the MCIT) to increase its capability to provide effective and sustainable ICT-related trainings that will go beyond the Project life. At all levels of training, emphasis will be given to women, where applicable, ensuring equitable distribution to gender balances (see Annex 6 for further details).

ANNEX 3: Implementation Arrangements

AFGHANISTAN: Digital CASA Project

1. **Project management and implementation arrangements have been designed with the aim to build local capacity of the Government personnel, retain project ownership, including by beneficiary agencies, and avoid building a 'shadow' management structure.** Project implementation will be led by the DCIU housed within the MCIT. The DCIU will be headed by the Project Director and will report directly to the Minister of the MCIT. The DCIU will include procurement, FM, and safeguards specialists, who are familiar with the World Bank rules and procedures to ensure smooth implementation. The ministry will appoint competent technical Government staff who will be responsible for execution of relevant project activities. These positions will be filled as the needs arise and may include contract managers and communications specialists, among others. The DCIU will be responsible for day-to-day project management, coordination with other line ministries, and project beneficiaries as well as execution of FM, procurement, safeguards, and M&E aspects of the Digital CASA Project. The DCIU will be an integral part of the ministry structure, with reporting responsibility to the Minister of the MCIT.

Figure 3.1. Digital CASA Implementation Arrangements



2. **Overall strategic guidance, support and oversight in Project implementation will be provided by the Steering Committee that will be led by the Ministry of Finance.** This committee will be headed by a representative of the Ministry of Finance and will include representatives from various stakeholders. The Steering Committee will provide strategic guidance and oversight on infrastructure priorities, prioritization of e-services, and smart solutions development and will reinforce intra-agency collaboration in support of the Government's aspiration to improve service delivery in the sector. The Steering Committee will be responsible for providing guidance to mainstreaming the adoption of the use of the shared infrastructure, the 'Government Cloud', across the ministries. The DCIU will serve as a secretariat to the Steering Committee, raising relevant project issues and technical options for its consideration and resolution.

3. **Components 1, 3, and 4 will be implemented by MCIT with technical inputs provided by ATRA.** The MCIT will take lead on project management matters, including the procurement process, and ATRA will be responsible for providing technical inputs into the Terms of Reference, bidding documents/process, and review and approval of the outputs, specifically for Component 1 and other TAs and training programs that involve regulatory issues.

4. **Component 2 will be implemented by joint teams comprising the DCIU staff and respective line ministries.** The DCIU at MCIT will serve as the leads on project management matters while the line ministries will be responsible for providing strategic direction, provide inputs into the design and planning, lead business processes reengineering if needed, and provide oversight. The working relationship between the MCIT and the relevant line ministry is expected to be collaborative given the need for close cooperation and some areas of joint responsibility. This will include joint development of the terms of reference, technical specifications and functional requirements, evaluation functions, contractor selection, and supervision of implementation. This will help strengthen sustainability of sector-specific interventions after project completion.

5. The **Project Implementation Manuel** will be prepared and adopted by the MCIT within 90 days from the effective date, satisfactory to the Association, setting out, among others, (a) a detailed description of project components, (b) implementation arrangements and agreed guidelines for different project components, (c) detailed project cost estimates, (d) an FM Manual, (e) a procurement plan, and (f) an ESMP. The Project Implementation Manuel will be amended periodically to incorporate adjustments during project implementation in agreement with IDA.

Financial Management, Disbursements, and Procurement

6. A Public Expenditure and Financial Accountability Assessment for Afghanistan was conducted in 2013. Afghanistan's Public Expenditure and Financial Accountability Assessment ratings portray a public sector where financial resources are, by and large, being used for their intended purposes as authorized by the budget. However, the credibility of the budget is a concern because ministries remain unable to fully use the budget; actual expenditure is about 85 percent of the budgeted expenditure. Bottlenecks in the budget execution system, lack of budget ceilings for line ministries, and approval of budget after two months from the start of the fiscal year are the major reasons for low budget use. The World Bank has a long-term engagement with Afghanistan to strengthen the country's public financial management systems. The ongoing Public Financial Management Reforms Project II is supporting the Government agenda of public financial management in the areas of treasury management, procurement, internal controls, and external audit as well as external audit and legislative oversight. Establishing a countrywide AFMIS to record and report Government budget and expenditure is the pinnacle of this reform.

7. **Implementing entity.** The MCIT has previous experience of implementing World Bank financed/administered projects. The overall fiduciary risk for the Project is rated Substantial. This rating will be reviewed at every implementation support mission and will be adjusted as necessary.

8. There are no overdue audit reports or unsettled ineligible expenditures with regard to the Project implementing entity.

9. **Fiduciary capacity.** The overall responsibility for project FM will rest with the Head of Finance of the Finance Department within the PMO. The current staffing of the PMO FM Department is adequate for the Project, however, and an internal audit consultant (local) will be hired under the Project. The internal audit consultant shall be hired within 90 days from the effective date. The World Bank FM team is providing the required trainings for in-depth understanding of World Bank requirements and sound FM for the Project.

10. **Planning and budgeting.** Annual budgets for the Project will be prepared in line with the MoF regulations and according to Afghanistan's fiscal year. The project budget will be prepared on the basis of the procurement plan and the work plan. The annual budget will be broken down by quarters for effective monitoring. The quarterly IFR will compare actual expenditures to budgeted expenditures and explain significant variances.

11. **Internal control (including internal audit).** The internal control mechanism at the PMO and the MCIT is acceptable. There is proper segregation of duties. The MCIT will ensure timeliness of the processing cycle for allotments (B27s) and payment requests (M16s) that will be reviewed by the World Bank during supervisions.

12. An FM Manual for the Projects is available with the PMO within the MCIT. It has been agreed that by March 31, 2018, the PMO will revise that manual for the Digital CASA Project and will share it with the World Bank for approval. This manual will include details on the FM arrangements and disbursement procedures, including, but not limited to, staffing arrangements at various levels, reporting lines, allotment and payment processes, documents retention and control mechanism at various levels, oversight arrangements, service standards for document processing, and documentation requirements for the grant. At the central level, there is a Treasury Accounting Manual applicable across the Government.

13. Internal audit for the Project will be conducted semiannually by the Internal Audit Department of the MCIT. To augment the capacity of the MCIT Internal Audit Department, by March 31, 2018 an internal audit consultant will be hired under the Project, who will report to the MCIT Head of Internal Audit. The semiannual internal audit reports will be submitted to the World Bank throughout the Project life.

14. A fixed assets register will be maintained by the Finance Department of the PMO for assets purchased from grant proceeds. Assets will be coded and a system of annual physical inventory will be maintained. All project bank accounts will be reconciled by the Finance Department on a monthly basis (at least) with the AFMIS and DAB records.

15. **Accounting.** All accounting is centralized in the AFMIS maintained by the MoF. Subsidiary records including the bank book, cash book, contract register, asset register, record of grants' transfers, and use will be maintained by the finance staff in the PMO. Cash basis of accounting will be followed for the Project. During the Project implementation, the need for accounting software will be assessed by March 31, 2018 and a decision for implementation will be taken accordingly.

16. **Financial reporting.** The DCIU will prepare and submit to the World Bank quarterly IFR within 45 days of the end of each quarter. These reports will be submitted in form and substance

agreed with the World Bank. The IFR will include Statement of Cash Receipts and Payments, Statement of Cash Advances, Statement of Uses of Funds by Project Activity, bank and advances reconciliation, and bank statements. The format of the IFR has been agreed during appraisal.

17. **External audit of project financial statements.** The Supreme Audit Office, with the support of consultants, carries out the annual audit for all ARTF/World Bank-funded projects. The same audit arrangements will be used for the Project. The Supreme Audit Office will submit to the World Bank annual audited project financial statements and Management Letter within six months after the end of the GoA's fiscal year. The financial statements of the Project audit will be prepared by the MoF based on AFMIS records. There are common terms of reference for the audit of all projects reviewed by the World Bank on a yearly basis.

18. **Funds flow and disbursement arrangements.** Project funds will flow through a segregated Designated Account (DA) for the grant to be set up in the Afghanistan Bank (central bank) and controlled by the MoF. The currency of the DA will be U.S. dollars and the Project will follow report-based disbursement arrangements. Advances into the DA will be provided for six months by the World Bank on the basis of projections/forecast for the first two quarters. Subsequent IFR will document expenditures against the advance received and will provide forecasts for the following two quarters, based on which the amount of funds to be disbursed will be determined. The funds provided into the DA would be used to meet the Project's eligible expenditures. For large foreign currency payments, the finance team will use the direct payment method of disbursement. Further details of disbursement arrangements for the Project, including supporting documentation requirements, are spelled out in the Disbursement Letter.

19. All payments from the DA will be made through check or bank transfer. Requests for payments from DA funds will be made to the Special Disbursement Unit in the Treasury Department of the MoF by the Project finance team. In addition to payments from the DA, requests can be submitted for direct payments from the grant. All withdrawal applications to the World Bank, including advances and direct payment applications, will be prepared by the Finance Department and submitted to the Special Disbursement Unit.

20. All project expenditures are expected to be paid centrally. Petty/operational cash imprest for the Project will be limited to a maximum $15,000, according to an earlier agreement between the World Bank and the MoF. Any increase to this limit, if justified, will have to be approved by the World Bank explicitly and communicated to the MoF. Such imprest funds will be subject to adequate petty cash management procedures (for custody, control, limits, physical cash verification, and replenishment). The custodian of the imprest cash will be the cashiers in the MCIT.

21. Incremental operating costs refer to reasonable expenditures incurred by the DCIU on account of project management, supervision, monitoring and reporting including banking services, costs of consumables, in-country travel, and per diem allowances for project staff conducting supervision, office utilities and supplies, communication costs, fuel and maintenance costs for vehicles, advertising expenses, and operation and maintenance of equipment, costs which would not have been incurred absent the Project, but excluding salaries of civil servants

22. **Monitoring of fiduciary performance and Implementation Support Plan.** The fiduciary performance will be assessed through the following indicators: (a) timely and quality submission of quarterly IFR; (b) maintenance of adequate books of records and supporting documents of project transactions; (c) timely submission of audited financial statements; (d) timely resolution of FM issues raised during World Bank supervision, internal audit, external audit, and any other reviews; (e) maintenance of adequate internal controls; (f) timely processing of allotments/payment requests and project expenditures; and (g) adherence to service standards. The World Bank will carry out two FM reviews annually. The implementation support will include monitoring of fiduciary performance based on identified indicators, review of IFR and audit reports, review of compliance with legal covenants, review of progress on agreed actions, and review of FM risks.

Procurement

Government Reforms

23. A new Procurement Law was adopted in November 2005. The Procurement Law was revised in July 2008, amended in January 2009, and issued as a new law by the Ministry of Justice and was published in the Official Gazette Number 957, 29.10.1387 (January 18, 2009). The revised 'Rules of Procedures for Public Procurement' have been issued as circular PPU/C027/1387 of November 18, 2009.

24. The Procurement Law was reviewed by the NPA again in October 2015 and issued as a new law by the Ministry of Justice and was published in the Official Gazette Number 1223, 27.06.1395 (September 9, 2016).

25. The GoA established a Procurement Policy Unit (PPU) under the MoF to provide oversight for the Procurement Law's implementation. The PPU has issued several circulars regarding implementation of the Procurement Law including 'Rules of Procedures for Public Procurement' (Circular: PPU/C005/1386 of April 12, 2007) and 'Procurement Appeal and Review Mechanism' (Circular: PPU/N001/1385 of March 18, 2007). The PPU and the MoF have developed several Standard Bidding Documents (SBD), Standard Requests for Proposals, standard Requests for Quotation (RFQ) for national and international procurement of goods/works and consulting services following national procedures according to the Procurement Law's Glossary of Procurement Terms in English and Dari. The MoF has now mandated the use of (a) Standard Bidding Documents for Goods and Works (Circular PPU/C024/1388 of June 10, 2009); (b) standard Request for Quotations (Circular procurement plan/C026/1388); and (c) Standard Request for Proposals (Circular PPU/C029/1388 of January 13, 2010). A Procurement Management Information System has been developed and is being piloted in three line ministries. In addition, a PPU website will facilitate publication of procurement notices and contract awards in addition to similar action being done under the Afghanistan Reconstruction and Development Services website and the websites of the line ministries, as applicable.

26. In the absence of adequate capacity to manage procurement activities effectively, a Central Procurement Facilitation Unit has been established under the Ministry of Economy to support line ministries and project implementing agencies. The Government and the World Bank have agreed on a program for countrywide procurement reform and capacity building, leading to the transition

from centralized to decentralized procurement services. This was implemented by an international consultant under the supervision of the PPU/MoF and financed under the Public Administration Capacity Building Project and the Public Financial Management Reforms Project. The consultant has conducted several basic-, intermediate-, and advanced-level training programs. The implementation of the procurement reform component of the Public Administration Capacity Building Project/Public Financial Management Reforms Project should be considered with due priority to ensure that fiduciary standards are further enhanced and that capacity is developed in the Government to maintain these standards.

27. After the formation of the unity government, the NPA was established under the direct supervision of the President of Afghanistan, Afghanistan Reconstruction and Development Services, and PPU was integrated into the NPA. Non-accredited procurement entities are required to use the NPA as their procurement facilitating entity.

28. Procurement for the Project will be carried out in accordance with the World Bank's Procurement Regulations for Borrowers for Goods, Works, Non-Consulting, and Consulting Services dated July 1, 2016, and applicable to Investment Project Financing, hereinafter referred to as 'Regulations'. The project will be subject to the World Bank's Anti-Corruption Guidelines, dated October 15, 2006, and revised in January 2011 and as of July 1, 2016.

29. **Procurement risk assessment.** Under the implementation arrangements finalized for the Project, the GoA has agreed that the MCIT Procurement Directorate will be responsible for undertaking all procurements and contract management activities on behalf of the GoA.

30. The residual procurement risk is rated High. The MCIT Procurement Directorate has procurement staff with expertise in procurement and contract management but less in World Bank-funded projects. At the same time, the MCIT Procurement Directorate manages other projects and procurement with numerous international donor grants annually. Because the MCIT is not accredited, the NPA will be providing procurement facilitation according to the Government's administrative process. The decision-making process and primary responsibility for the successful implementation of the Project will rest with the MCIT. To mitigate the above risk, the MCIT will hire a competent national procurement staff and short-term international consultant under the Procurement Directorate to help procurement under the Project over the implementation period of the Project.

31. According to the requirement of the Regulations, a Project Procurement Strategy Document has to be developed, based on which the procurement plan will be prepared to set out the selection methods to be followed by the borrower during project implementation in the procurement of goods, works, non-consulting, and consulting services financed by the World Bank.

32. It has been agreed by both parties that in the event of a conflict/contradiction between the World Bank's procurement procedures and any national rules and regulations according to Article 4(2) of the Procurement Law September 9, 2016, of the GoA, the World Bank's Procurement Regulations for borrowers shall prevail. The general description of various procurements under different expenditure categories are described in the procurement plan.

Box 3.1. Summary of Project Procurement Strategy for Development

A Project Procurement Strategy for Development has been developed which assesses the market and sets out the strategy and selection methods to be followed for procurement of goods, works, and non- consulting and consulting services. The strategy notes that there are several telecommunications service providers in the market, but currently there is only one operator (Afghan Telecom) that provides wholesale services for fiber-optic connectivity. Therefore, ensuring participation of international and domestic private wholesale optical-fiber operators, that are licensed to operate in Afghanistan, in the competitive bidding process will be critical for the success of the connectivity component of the Project. Additionally, there is a limited number of domestic IT firms capable of providing some of the more advanced digital public services platform elements. International Competitive Bidding is planned for such activities. For other less complex activities where there is an adequate domestic market, National Competitive Bidding is planned. The underlying procurement plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. A senior procurement specialist will be hired to build capacity and improve coordination between the DCIU and the MCIT Procurement Directorate.

33. **Systematic Tracking of Exchanges in Procurement (STEP).** The project will implement STEP, a World Bank planning and tracking system, which would provide data on procurement activities, and establish benchmarks. The details of the procurement activities, which are in the procurement plan, would be transferred in the STEP system. Initial training on the operation of the STEP system will be provided to the Procurement Officers of the MCIT.

34. **Procurement of Goods, IT and Non-Consulting Services**

No.	Package	Estimated Cost ($)	Procurement Method
1.	Prepurchase of international bandwidth under IRU contract.	10,000,000	ICB
2.	Network and Security Appliances for Internet Exchange Point & Network and Security Operation Center for Internet Exchange Point	6,000,000	ICB
3.	Establishment of a government cloud computing infrastructure, including disaster recovery, and selected shared services.	5,200,000	ICB
4.	Upgrade of the National Portal functionality, including development of the selected transactional e-Services and e-Catalogue in support of government procurement.	4,800,000	ICB

35. **Procurement of Works.**

No.	Package	Estimated Cost ($)	Procurement Method
1.	Roll-out of optical fiber backbone networks for commercially unviable areas	$5,000,000	ICB
2.	Supply, installation and commissioning of GovNet including enterprise service bus connecting various government institutions.	$9,000,000	ICB

36. **Selection of Consultants.**

No.	Package	Estimated Cost ($)	Procurement Method
1.	Consultancy services for technical audits for various relevant contracts (optical fiber network and pre-purchase of capacity)	300,000	QCBS
2.	Consultancy to provide Regulatory Capacity Building and Advisory Services to ATRA on issues including Mobile Number Portability (MNP)	200,000	QCBS
3.	Consultancy services for supervision and technical support for establishment of a government cloud computing infrastructure, including disaster recovery, and selected shared services.	100,000	IC
4.	Consultancy services for supervision and technical support for upgrade of the National Portal functionality, including development of the selected transactional e-Services and e-Catalogue in support of government procurement.	100,000	IC
5.	Preparation of National Broadband policy in MCIT	100,000	IC
6.	Consultancy on cyber security regulations (ATRA)	100,000	IC

Procurement Capacity and Risk Assessment of the MCIT

Procurement Risk Assessment

37. The GoA will handle its procurement under the Project by the Procurement Directorate of the Project, which is not accredited by the NPA and will need to use the services of the NPA as agreed in the administrative process.

38. The Procurement Risk Assessment and Management System has been finalized. Based on the assessment and taking note of the role and responsibility of the Procurement Directorate, it is recommended that some staff need to be dedicated to the Project and will be working on the Project on priority basis. The staff should have extensive experience in procurement with high-level education.

39. Because procurement under the Project will be complicated with some IT procurement, one international specialist is recommended for the Project. By applying this mitigation measure, the procurement risk under the Project will be Substantial.

Record Keeping

40. All records pertaining to award of tenders, including bid notification, register pertaining to sale and receipt of bids, bid opening minutes, bid evaluation reports, and all correspondence pertaining to bid evaluation, communication sent to/with the World Bank in the process, bid securities, and approval of invitation/evaluation of bids by the MCIT (as the implementing agency), would be retained by the MCIT.

Governance and Anticorruption Agenda

41. All the contract opportunities and contract awards will be widely published on the Internet, NPA website, MCIT website, and when required, in United Nations Development Business (UNDB). The MCIT will set up a system to ensure that the staff/consultants who handled the procurement process/contract management/contract execution do not join the consultants/contractors. This will be reviewed during supervision missions. Other actions are the following: (a) alert implementing agencies' officials/staff about any fraud and corruption issues; (b) alert bidders against adopting fraud and corruption practices; (c) award contracts within the initial bid validity period and closely monitor the timing; (d) take action against any corrupt bidder in accordance with law of the GoA; (e) preserve records and all documents regarding public procurement, in accordance with the Procurement Law provisions; (g) publish contract award information in United Nations Development Business online, NPA's website, and agencies' websites within two weeks of contract award; (h) ensure timely payments to the suppliers/contractors/consultants and impose liquidated damages for delayed completion; and (i) enforce a procurement filing system.

Grievance Redress Mechanism: Complaints Handling

42. With regard to procurement complaints, MCIT will be guided by provisions of the Procurement Law of October 7, 2015, and the World Bank Regulations. The MCIT will inform the World Bank as soon as the procurement complaint is received and, subsequently, the final outcome. MCIT should have a system to register and monitor the receipt and resolving of complaints. The progress of such action will be reviewed by the World Bank during supervision missions.

Oversight and Monitoring by the World Bank

43. All contracts not covered under prior review by the World Bank will be subject to post review. For the time being, a high-risk prior review threshold (PRT) will be applied during implementation support missions and/or special post review missions, including missions by consultants hired by the World Bank. To avoid doubts, the World Bank may conduct, at any time, independent procurement reviews of all the contracts financed under the grant. The World Bank team will provide additional due diligence and independent review of the contract performance.

Frequency of Procurement Supervision

44. Two missions a year, at an interval of six months, are envisaged for procurement supervision of the proposed project.

Contract Management

45. The DCIU staffed with contract management experts will be responsible for overall project/contract management. The team will be ably assisted by the multiskilled team of the MCIT, which will be engaged to provide overall implementation support and monitor all contracts.

Procurement Plan

General Project Information:

Country: Islamic Republic of Afghanistan

Project Name: DIGITAL CASA PROJECT

Implementing Agency: MCIT

Grant No: _ TBP _____

Bank's approval Date of the procurement plan: TBP __

Date of General Procurement Notice: TBP _____2018

Period covered by this procurement plan: 18 months

A. Goods and Non-Consulting Services

Table 3.1. Procurement Method and Threshold

	Procurement Method	Threshold for Methods ($)	Comment
1.	Open International (Goods)	200,000	Equivalent or more
2.	Open National (Goods)	200,000	Equivalent or less
3.	Open International (Non-Consulting Services)	200,000	Equivalent or more
4.	Open International (Non-Consulting Services)	200,000	Equivalent or less
5.	Request for Quotation (Goods)	50,000	Equivalent or less

B. Works

Table 3.2. Works: Procurement Method and Threshold

	Procurement Method	Threshold for Methods ($)	Comment
1.	Open International (Works)	5,000,000	Equivalent or more
2.	Open National (Works)	5,000,000	Equivalent or less
5.	Request for Quotation (Works)	100,000	Equivalent or less

C. Consulting Services

Table 3.3. Consultants: Selection Methods and Thresholds

	Selection Method	Threshold	Comments
1.	CQS for Firms	$300,000 equivalent or less	
2.	QCBS, QBS, FBS, LCS	Depending on the nature and complexity of assignment	

Note: CQS = Selection based on Consultant's Qualifications; QBS = Quality-Based Selection; QCBS = Quality- and Cost-Based Selection; FBS = Fixed Budget Selection; LCS = Least Cost Selection.

Table 3.4. Procurement PRT ($, millions)

Type of Procurement	High-Risk New PRT
Works (including turnkey, supply, and installation of plant and equipment, and PPP)	5.0
Goods, IT, and Non-Consulting services	1.5
Consultants: firms	0.5
Consultants: individuals	0.2

Prior Review Thresholds

46. In the case of contracts subject to prior review, the implementing agency shall seek the World Bank's 'no-objection' before granting/agreeing to: (a) an extension of the stipulated time for performance of a contract that either increases the contract price or has an impact on the planned completion of the Project; (b) any substantial modification of the scope of works, goods, non-consulting services, or consulting services, other significant changes to the terms and conditions of the contract; (c) any variation order or amendment (except in cases of extreme urgency) which singly or combined with all variation orders or amendments previously issued, increase the original contract amount by more than 15 percent; and (d) the proposed termination of the contract. A copy of all amendments to the contract shall be furnished to the World Bank for its record.

Prequalification

47. Not applicable.

Domestic Preference

48. The provision of domestic preference will be applied in the evaluation of bids in accordance with Annex VI of the Regulations.

Standard Request for Bids

49. The World Bank's standard Request for Bids plans dated July 2016 will be used for procurement of goods and works. The World Bank's standard procurement documents will be used for the selection of consultancy services and the procurement of goods for international procurement.

50. National Standard Bidding Documents agreed with IDA, or satisfactory to the World Bank, will be used for the procurement of goods following National Competitive Bidding procedures.

Any Other Special Procurement Arrangements

51. Standard Bidding Documents approved by the World Bank shall be used.

52. Invitations to bid shall be advertised in at least one widely circulated national daily newspaper, and bidding documents shall be made available to prospective bidders, at least 28 days before the deadline for the submission of bids.

53. Bids shall not be invited on the basis of percentage premium or discount over the estimated cost.

54. Bidding documents shall be made available, by mail or in person, to all who are willing to pay the required fee.

55. Foreign bidders shall not be precluded from bidding.

56. Qualification criteria (in case prequalifications were not carried out) shall be stated on the bidding documents, and if a registration process is required, a foreign firm determined to be the lowest evaluated bidder shall be given reasonable opportunity of registering, without any hindrance.

57. Bidders may deliver bids, at their option, either in person or by courier service or by mail.

58. All bidders shall provide bid security or a bid security declaration form, as indicated in the bidding documents. A bidder's bid security or the declaration form shall apply only to a specific bid.

59. Bids shall be opened in public in one place, preferably immediately, but no later than one hour, after the deadline for submission of bids.

60. Evaluation of bids shall be made in strict adherence to the criteria disclosed in the bidding documents, in a format, and within the specified period, agreed with the World Bank.

61. Bids shall not be rejected merely on the basis of a comparison with an official estimate without the prior concurrence of the World Bank.

62. Split award or lottery in award of contracts shall not be carried out. When two or more bidders quote the same price, an investigation shall be made to determine any evidence of collusion, following which (a) if collusion is determined, the parties involved shall be disqualified and the award shall then be made to the next lowest evaluated and qualified bidder, and (b) if no evidence of collusion can be confirmed, then fresh bids shall be invited after receiving the concurrence of the World Bank.

63. Contracts shall be awarded to the lowest evaluated bidders within the initial period of bid validity so that extensions are not necessary. Extension of bid validity may be sought only under exceptional circumstances.

64. Extension of bid validity shall not be allowed without the prior concurrence of the World Bank: (a) for the first request for extension if it is longer than four weeks and (b) for all subsequent requests for extensions, irrespective of the period in case of prior review.

65. Negotiations shall not be allowed with the lowest evaluated or any other bidders.

66. Rebidding shall not be carried out without the World Bank's prior concurrence in case of prior review.

67. All contractors or suppliers shall provide performance security as indicated in the contract documents. A contractor's or a supplier's performance security shall apply to a specific contract under which it was furnished.

Selection and Employment of Consultants

68. The MCIT will ensure that all invitations for Expressions of Interest are given wide publicity using its own website, the NPA website, UNDB, and national newspapers. Further, for individual consultants, the Request for Expression of Interest/vacancy notice will be published on the following websites: www.npa.gov.af, www.acbar.org, www.devnetjobs.org, and www.reliefweb.int.

Environmental and Social (including Safeguards)

69. The MCIT will be responsible for the implementation of the ESMF and RPF. The MCIT will prepare an ESMP or an Action Plan for each of the subprojects of the Digital CASA Project. The MCIT will have a trained Focal Officer as part of the DCIU, who will work closely with the Project Director and the contractors for preparing the ESMP and Action Plans. The Focal Officer will help the Project staff and the relevant subproject contractors in implementation of the ESMP and other tools of the Project legally binding ESMF document. The Focal Officer will monitor and report on the status of the safeguards implementation in all relevant subprojects of the Digital CASA Project.

Monitoring and Evaluation

70. The MCIT will be responsible for project M&E and as such, will establish standard formats and guidelines for data collection and reporting, including coordination with telecommunications operators and other stakeholders. Technical assistance provided through the Project will include capacity-building support for M&E. The MCIT will submit biannual progress reports detailing project implementation and progress against agreed indicators. A midterm review will be carried out at the end of the third year of implementation to provide an in-depth review of the status of progress against the indicators and identify any adjustments needed in the Results Framework or overall project design.

ANNEX 4: Implementation Support Plan

AFGHANISTAN: Digital CASA Project

Strategy and Approach for Implementation Support

1. **The Implementation Support Plan focuses on helping to manage the risks identified in the Systematic Operations Risk Rating Tool for achieving the expected outcomes and on making implementation support to the client more flexible and efficient.** It seeks to provide the technical advice necessary to facilitate the achievement of the PDO (linked to results/outcomes identified in the Results Framework), as well as to identify the minimum requirements to meet the World Bank's fiduciary obligations.

(a) **M&E.** The implementation support aims at reporting the progress, or lack thereof, toward achieving the PDO and component targets based on the Results Framework and other evidence (not only at reporting outputs) and agreeing with the client on the actions to get the Project on track when needed.

(b) **Procurement.** Implementation support will include: (a) providing additional training as needed to the DCIU, (b) reviewing procurement documents and providing timely feedback to the Project Coordination Unit, (c) providing detailed guidance on the World Bank's Procurement Guidelines to the Project Coordination Unit, and (d) monitoring procurement progress against a detailed procurement plan.

(c) **Financial management.** Implementation support will include: (a) reviewing the Project FM system of the PMO within the MCIT, including, but not limited to, budgeting, accounting, reporting, and internal controls; (b) providing training to the PMO on FM aspects of World Bank-financed operations during project launch or as needed; and (c) reviewing submitted unaudited financial and audit reports, providing timely feedback to the PMO, and providing guidance and support to address recommendations issued by the external audit team.

(d) **Environmental and social safeguards.** The World Bank will supervise the implementation of the ESMFs and the respective plans.

Implementation Support Plan

2. **While the PMO has adequate experience in implementing World Bank-financed projects, and despite the World Bank's own experience in supporting the preparation of similar projects, this proposed project is relatively complex and innovative for the country with respect to activities under Component 2.** The World Bank team members will be based either in Washington, D.C., or in the Kabul Country Office and will be available to provide timely, efficient, and effective implementation support to the client. Formal supervision and field visits will be carried out three to four times annually in the first two years, with the possibility for annual or biannual visits in the later years of the Project. These will be complemented with monthly videoconferences to discuss project progress. Detailed inputs from the World Bank team are outlined here:

(a) **Technical, policy, and legal/regulatory inputs.** Technical, policy, and legal/regulatory related inputs will be required to review all the bid documents to ensure fair competition, sound technical specifications and assessments, and confirmation that activities are in line with the Government's ICT and growth strategies.

(b) **Fiduciary requirements and inputs.** Training will be provided by the World Bank's FM and procurement specialists, as needed, to the PMO. The World Bank team will help identify capacity-building needs to strengthen FM capacity and to improve procurement management efficiency. FM and procurement specialists will be based in both Washington, DC, and the Kabul Country Office to provide timely support. Formal supervision of FM will be carried out semiannually or annually, while procurement supervision will be carried out on a timely basis, as required by the client.

(c) **Safeguards.** Inputs from environment and social specialists will be provided as needed.

(d) **Operation.** The task team will provide day-to-day supervision of all operational aspects as well as coordination with the clients and among World Bank team members. Relevant specialists will be identified as needed.

Table 4.1. Main Focus in Terms of the World Bank Team's Support to Implementation

Time	Focus	Resource Estimate in Staff Weeks (Annual)
Project duration	Team leadership, technical review of the bidding documents, project supervision, coordination and implementation support, subject matter expertise (connectivity, e-Government, skills/jobs, others as needed), IFC market advisory support for wholesale optical fiber	25
	Procurement training and supervision	6
	FM training and supervision	6
	Environmental and social safeguards and implementation support	6
	Legal support	1

Table 4.2. Skills Mix Required

Skills Needed	Number of Staff Weeks (Annual)	Number of Trips	Comments
Task team leaders	19	Mission/field trips as required	Based in DC or the Kabul CO
Skills and Jobs Specialists	3	Mission/field trips as required	Based in DC or the Kabul CO
e-Government Specialist	3	Mission/field trips as required	Based in DC or the Kabul CO
Procurement Specialist	6	Mission/field trips as required	Based in DC or the Kabul CO
FM Specialist	6	Mission/field trips as required	Based in DC or the Kabul CO
Social Specialist	3	Mission/field trips as required	Based in DC or the Kabul CO

Skills Needed	Number of Staff Weeks (Annual)	Number of Trips	Comments
Environmental Specialist	3	Mission/field trips as required	Based in DC or the Kabul CO
Legal Specialist	1	Mission/field trips as required	Based in DC or the Kabul CO
IFC Market Advisory Support for Wholesale Optical Fiber (as needed)	1	Mission/field trips as required	Based in DC or the Kabul CO

Note: CO = Country Office; DC = Washington, DC Office.

ANNEX 5: Climate Change Co-Benefits

AFGHANISTAN: Digital CASA Project

1. Afghanistan is ranked among countries in the world with the highest vulnerability to climate change (11th) and lower readiness (13th), according to the Notre Dame Global Adaptation Index. According to the Country Partnership Framework 2017–2020, Afghans are highly exposed to natural disasters and climate-related shocks, which affect a far greater share of the population (59 percent), especially in the poorer regions. As the climate changes, Afghanistan is likely to face longer and more intense droughts, and floods. This has impacts on farming and livestock raising which sustain livelihoods for about 45 percent of the active population and are a source of income for over 60 percent of all households.[27] Parts of the country are vulnerable to avalanches and earthquakes. According to the World Bank Group's Climate and Disaster Risk Screening Report developed for the Project (using general projects option), the future climate risk rating is moderate, while historical and current risk rating is low.[28] It is therefore important to strengthen institutional and technical capacity to enhance climate resilience and adaptive capacity.

2. The project's Subcomponent 1.1, Subcomponent 2.1, Component 3 and Subcomponent 4.2 aim to address climate risks by incorporating resilient measures into the interventions and technical designs. More specifically, (a) Subcomponent 1.1 will strengthen broadband infrastructure by deploying fiber-optic networks that are built underground and more resilient to natural disasters (for example, floods) compared to aerial cables; (b) Subcomponent 2.1. will ensure that robust backup infrastructure and disaster recovery plan are in place by the selected service provider so that the e-Government platforms and services are climate resilient. This will be done by incorporating these requirements in the tender documents. Further measures for business continuity and disaster recovery solutions are expected to be incorporated into the technical designs for the connectivity and e-Government services that will be financed under the Project; (c) Component 3 will support legal and regulatory measures aimed at improving the climate-resilience of the broadband and e-Government infrastructure by ensuring upstream policies and downstream regulations are in place to ensure continuity of services to the citizens in areas affected by natural disasters; and (d) through Subcomponent 4.2, the Project will support trainings and capacity building of government officials and technical staff to ensure the climate resilient broadband infrastructure and shared e-Government infrastructure and services are designed, implemented and managed adequately.

3. In addition, the investments in the regional and national connectivity infrastructure will help facilitate the use of digital technologies for early warning and monitoring (and timely response) of weather and climate-affected impacts on agricultural production, water, and soil systems. The project will support and diversify livelihoods in Afghanistan. The social benefits of the Project that focus on improving socioeconomic security constitute a core element of resilience to support vulnerable Afghans who are at risk of recurring shocks (including natural shocks), which chronically devastate whole communities and reverse hard-won development gains. The project is expected to create a platform for the participating countries to discuss.

[27] https://www.wfp.org/sites/default/files/WFP_UNEP_NEPA_Afghanistan_Impacts_climate_%20change.pdf.
[28] Climate change risk screening for Digital CASA Afghanistan is available as supplementary documentation.

ANNEX 6: Gender

AFGHANISTAN: Digital CASA Project

Analysis, proposed actions and indicators

Analysis

1. Afghanistan has one of the highest gender gaps in labor force participation in the world with only 19 percent of women involved in the labor force as compared to 87 percent for their male counterparts. Afghan women continue to struggle for gender parity in health care, economic opportunities, and political empowerment. The 2016 United Nations' Gender Inequality Index, which measures gender inequalities in three important aspects of human development: health, political representation and labor market, ranks Afghanistan 154 among 188 countries.

2. Apart from the relatively low use of the Internet in Afghanistan, there is a significant gender gap in access to the Internet. According to the 2013–2014 Afghanistan Living Conditions Survey, 8.7 percent of the population used the Internet, of which 81 percent were men.[29] The gender divide is illustrated by recent statistics from Facebook for October 2016 showing that of the 2.7 million Facebook users in Afghanistan, only 14 percent were female.[30] It is of note that gender gap in access to the Internet in Afghanistan is significantly higher than the regional average for the Middle east and North Africa where about 35 percent fewer women than men have access to the Internet.[31] That said, the Internet offers everyone and particularly women potentially transformative opportunities to find educational and job opportunities and access health and other services.

3. Lack of digital literacy skills can hamper opportunities of the already employed women to progress in their careers vis-à-vis men who tend to have better digital literacy skills, which is largely a reflection of gender disparities in education, employment, income and social norms that often discourage women to venture in cyber space. The share of women among civil servants across all the ministries in Afghanistan is lower than that of men ranging from as low as 12.6 percent in the first (highest) grade to 22 percent[32] in the last (eighth) grade. The share of female servants is particularly low in certain ministries and agencies, such as, in the Ministry of Communications and Information Technology where only 12 per cent (or 284) of all 2425 employees are women, while only one out of the 20 technical positions is occupied by a woman. In ATRA, 11.3 percent (or 24) of 212 number of employees are female as compared to 88.7 percent (or 188) for their male counterparts. Further, only 8 out of the 24 females occupied a technical position. That said, the Project would need to ensure that various training and capacity building activities in IT and IT-related disciplines planned to be rolled out in MCIT and ATRA benefit both women and men.

Proposed Actions

[29] Extracted from the ALCS data set.
[30] Facebook Ad Engine, October 2016.
[31] Women and the Web. Intel et all, 2012
[32] Central Statistics Organization (CSO) of Afghanistan

4. Firstly, the Project will ensure female civil servants in MCIT and ATRA are provided with increased opportunities in IT and IT related disciplines as part of the training and capacity building activities planned under the Project subcomponent 3.2 on Institutional Strengthening and Capacity Building in these two entities. The aim is to have 30 percent of the employees trained to be female. In order to achieve this ambitious target considering the very low share of the female employees in MCIT and ATRA in absolute terms and particularly among technical positions, the Project will target women in both technical and non-technical positions with a view to providing them with new/better career opportunities in IT and IT related disciplines, which are considered a 'male' domains and which tend to be better remunerated than many administrative positions where women are concentrated. It is notable that the proposed actions to train women civil servants in IT and IT related disciplines is a step forward in strengthening the existing female cohort of civil servants, which can indirectly help the Government in meeting its 30 percent target of female recruits in civil service, as articulated in the Country Partnership Framework for Afghanistan.

5. Secondly, under the Project subcomponent 2.2, which aims to provide a variety of Government services online for its citizens, the Project will identify and train female staff in the relevant ministries and their respective IT and IT-management related qualifications. The feasibility study for this component has already been amended to include a requirement to ensure that the bidding documents for the development of eservices include specific provisions to give priority to train and skill-up female staff with an aim to increase opportunities given to women to engage in the long-term maintenance and management of the eservices.

Indicators

The project will monitor the progress by tracking the following indicators:

- **Bidding documents for the development of e-services incorporates specific provisions to train female staff**
  Description: This indicator is supported by the Component 2: E-Government. The achievement of this indicator will be demonstrated by the inclusion of specific provisions in the bidding documents for the development of e-services that gives priority to train female staff with an aim to increase opportunities given to women to engage in the long-term maintenance and management of the government eservices.

- **Number of MCIT and ATRA employees trained, of which 30 percent is female**
  Description: This indicator is supported by Component 4: Project Management and Institutional Strengthening.