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Report No: PAD1761

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED CREDIT

IN THE AMOUNT OF SDR 25.8 MILLION

(US$35 MILLION EQUIVALENT)

TO THE

REPUBLIC OF GUINEA-BISSAU

FOR THE WEST AFRICA REGIONAL COMMUNICATIONS INFRASTRUCTURE PROJECT – SOP3

March 10, 2017

Transport & ICT Global Practice
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective January 31, 2017)

Currency Unit = SDR
SDR 1 = US$1.35883

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

ACE	Africa Coast to Europe
ARN	*Autoridade Reguladora Nacional das Tecnologias de Informacao e Comunicacao* (National Regulatory Authority for Information and Communication Technologies)
CEVATEGE	Guinea-Bissau e-Government Agency
CFAF	CFA Franc
CM&A	Construction and Management Agreement
DA	Designated Account
ECOWAS	Economic Community of West African States
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plans
FBS	Fee-Based Selection
FM	Financial management
FSU	*Fonds de Service Universel* (Universal Access Fund)
GDP	Gross Domestic Product
GNI	Gross National Income
GRM	Grievance Redress Mechanism
IC	Individual Consultant
ICB	International Competitive Bidding
ICT	Information communication technologies
IDA	International Development Association
IFR	Interim Financial Report
IRR	Internal rate of return
ISP	Internet service providers
ITU	International Telecommunications Union
LCS	Least Cost Selection
LIB	Limited International Bidding
M&E	Monitoring and evaluation
MoF	Ministry of Economy and Finance
MTC	Ministry of Transport and Communications
MTN	Mobile Telecommunication Networks
NCB	National Competitive Bidding
NPV	Net present value
OMVG	Organization for the Development of the Gambia River

QBS	Quality Based Selection
QCBS	Quality and Cost Based Selection
PDO	Project Development Objective
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPA	Project Preparation Advance
PPP	Public-private partnership
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SoP	Series of Projects
SPV	Special Purpose Vehicle
SSS	Single Source Selection
WAPP	West African PowerPool
WARCIP	West Africa Regional Communications Infrastructure Program
WBG	World Bank Group
WDR	World Development Report 2016: Digital Dividends

Regional Vice President:	Makhtar Diop
Country Directors:	Rachid Benmessaoud, Louise Cord
Senior Global Practice Director:	Jose-Luis Irigoyen
Practice Manager:	Boutheina Guermazi
Task Team Leader:	Arthur Foch

GUINEA-BISSAU
WARCIP GUINEA-BISSAU

CONTENTS

PAD DATA SHEET

Africa

West Africa Regional Communications Infrastructure Project - SOP3 (P155876)

PROJECT APPRAISAL DOCUMENT

AFRICA

0000009386

Report No.: PAD1761

Basic Information		
Project ID P155876	EA Category B - Partial Assessment	Team Leader(s) Arthur Denis Pascal Foch
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [X] - Fragile States	
	Financial Intermediaries [ ]	
	Series of Projects [X]	
Project Implementation Start Date 23-Mar-2017	Project Implementation End Date 31-May-2022	
Expected Effectiveness Date 15-Aug-2017	Expected Closing Date 31-May-2022	
Joint IFC No		

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Boutheina Guermazi	Jose Luis Irigoyen	Rachid Benmessaoud	Makhtar Diop

Borrower: Ministry of Economy and Finance

Responsible Agency: Ministry of Transport and Telecommunications

Contact:	Fidelis Forbes	Title:	Minister of Transport and Communications
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Safeguards Deferral (from Decision Review Decision Note)

Will the review of Safeguards be deferred? [ ] Yes [X] No

Project Financing Data(in USD Million)					
[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[X]	Credit	[ ]	Grant	[ ]	Other

Total Project Cost:	35.00	Total Bank Financing:	35.00
Financing Gap:	0.00		

Financing Source	Amount
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	35.00
Total	35.00

Expected Disbursements (in USD Million)

Fiscal Year		2017	2018	2019	2020	2021	2022
Annual		5.00	15.50	5.50	3.50	3.50	2.00
Cumulative		5.00	20.50	26.00	29.50	33.00	35.00

Institutional Data

Practice Area (Lead)

Transport & ICT

Contributing Practice Areas

Proposed Development Objective(s)

The Development Objectives of this project are to contribute to increasing the geographical reach of broadband networks, and reducing costs of communication services in the territory of the Recipient, and between the Recipient and ECOWAS countries.

Components

Component Name	Cost (USD Millions)
Supporting Connectivity	31.59
Enabling environment for improved connectivity	2.04
Implementation support	1.36
National backbone and Restructuring of GuineTelecom/GuineTel (co-financing) [1]	0.00

[1] Component 4 will be entirely financed by proceeds from the sale of the Government's shares in the SPV to private investors.

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	High
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	High
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	Moderate
9. Other	
OVERALL	High

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 [X]
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**
PIU staffing (Sch 2.I.1(a))		15-Nov-2017	
Description of Covenant			
[..] the Recipient shall recruit and maintain within the PIU, not later than three months after the Effective Date, a procurement specialist, an accountant, a financial management specialist, a technical specialist and a safeguards specialist, all under terms of reference and with qualifications and experience satisfactory to the Association.			
Name	**Recurrent**	**Due Date**	**Frequency**
SPV Special Project Account (Sch 2.V.1)		15-Nov-2017	
Description of Covenant			
The Recipient shall, not later than three months after the Effective Date, or such later date, as the Association shall establish:(a) open a special purpose vehicle (SPV) Special Project Account in a commercial institution acceptable to the Association; and (b) provide the Association with all relevant banking information related to said SPV Special Project Account.			
Name	**Recurrent**	**Due Date**	**Frequency**
Sale of SPV share capital (Sch 2.V.2)		15-Nov-2017	
Description of Covenant			
The Recipient shall: (i) not later than three months after the establishment of the SPV, bring to the point of sale the SPV share capital to the Operator, in accordance with the process and conditions described in the Memorandum.			
Name	**Recurrent**	**Due Date**	**Frequency**
Proceeds of Co-financing (Sch 2.V.2)	**X**		CONTINUOUS
Description of Covenant			
The Recipient shall: (ii) not later than one month after the sale of such shares, deposit in the SPV Special Project Account all the proceeds from the Co-financing; (iii) thereafter, take all actions required to ensure the Co-financing proceeds are used entirely and exclusively to finance the activities under Part 4 of the Project, in a manner satisfactory to the Association; and (iv) report to the Association on the flow of funds in and out of the SPV Special Project Account in a timely manner, providing all information as the Association shall reasonably request for such purpose.			
Name	**Recurrent**	**Due Date**	**Frequency**
Co-Financing Agreement (Sch 2.V.3)		15-Aug-2018	
Description of Covenant			
Not later than 12 months after the Effective Date, the Recipient shall execute and thereafter maintain, the Co-financing agreement in form and substance satisfactory to the Association, including all conditions precedent to its effectiveness or to the right of the Recipient to receive the Co-financing.			
Name	**Recurrent**	**Due Date**	**Frequency**
Audit reports (Sch 2.V.4)	**X**		CONTINUOUS
Description of Covenant			

Not later than three years, four years, and five years after the Effective Date, the Recipient shall furnish to the Association, annual audit reports in form and substance satisfactory to the Association including a description of the use of the cofinancing for the purpose of financing Part 4 of the Project.

Name	Recurrent	Due Date	Frequency
Accounting software (Sch 2.V.5)	X		CONTINUOUS

Description of Covenant

Not later than three months after the Effective Date, the Recipient shall acquire an accounting software acceptable to the Association, and adequately train the fiduciary staff on the use of such software, for the purpose of the Project.

Conditions

Source Of Fund	Name	Type
IDA	SPV establishment	Effectiveness

Description of Condition

the SPV has been established and is operational and capitalized in the territory of the Recipient, including through the appointment of its director general and the adoption of its shareholders' agreement and its by-laws.

Source Of Fund	Name	Type
IDA	Transfer of CM&A Rights and Obligations	Effectiveness

Description of Condition

the ACE Consortium has conveyed to the SPV with MoF approval and such approval as might be necessary under the Construction and Maintenance Agreement, all the Recipient rights and obligations under the Construction and Maintenance Agreement and that the SPV has fully substituted MoF as the member of the ACE Consortium.

Source Of Fund	Name	Type
IDA	SPV Contractual Arrangement	Effectiveness

Description of Condition

the Contractual Arrangement has been entered into between the Recipient and the SPV.

Source Of Fund	Name	Type
IDA	IDA Project Implementation Manual	Effectiveness

Description of Condition

the Project Implementation Manual has been adopted.

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Arthur Denis Pascal Foch	Team Leader (ADM Responsible)	ICT Policy Specialist		GTI11
Mamata Tiendrebeogo	Procurement Specialist (ADM	Senior Procurement Specialist		GGO01

	Responsible)			
Cheick Traore	Procurement Specialist	Senior Procurement Specialist		GGO07
Bella Diallo	Financial Management Specialist	Sr Financial Management Specialist	senior FM specialist	GGO25
George Ferreira Da Silva	Team Member	Finance Analyst	Finance analyst	WFALA
Jose C. Janeiro	Team Member	Senior Finance Officer	senior finance officer	WFALA
Marc Jean Yves Lixi	Team Member	Senior Operations Officer	Senior operations officer	GTI11
Matthieu Louis Bonvoisin	Counsel	Counsel	counsel	LEGAM
Melissa C. Landesz	Safeguards Specialist	Natural Resources Mgmt. Spec.	environmental safeguards specialist	GEN07
Michele Ralisoa Noro	Team Member	Operations Analyst		GTI11
Ndeye Magatte Fatim Seck	Team Member	Procurement Analyst		GGO07
Nicolas Drossos	Team Member	Consultant	FM specialist	GGODR
Tasneem Rais	Team Member	Program Assistant		GTI11
Upulee Iresha Dasanayake	Safeguards Specialist	Consultant	Social Safeguards specialist	AFCSN

Extended Team

Name	Title	Office Phone	Location

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Guinea-Bissau	Bissau	Bissau Region	**X**		

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required ?	Consulting services to be determined

I. STRATEGIC CONTEXT

A. Country Context

1. **With a gross national income (GNI) per capita of only US$ 570, Guinea-Bissau is the 12th poorest country in the world**, despite being relatively rich in natural resources.[2] More than half of the population (53.9 percent in 2010) lives on less than US$1.90 (2011-Purchasing Power Parity) per day, which is well above the average for Sub-Saharan Africa (42.6 percent). Inequality is high, with Guinea-Bissau exhibiting a Gini coefficient of 0.49, which is among the highest in Sub-Saharan Africa. Guinea-Bissau ranks 177th of 187 countries on the United Nations Human Development Index. Bissau-Guineans suffer a wide range of both material and nonmaterial deprivations (e.g., limited human capital, voice, and agency), with many households trapped in a vicious circle of low assets, low productivity, and low income.

2. **Guinea-Bissau is one of the most politically fragile countries in the world.** Since its independence in 1974, four successful coups have occurred in Guinea-Bissau, with another 16 coups attempted, plotted, or alleged. Guinea-Bissau experienced government turnover each year between 1999 and 2009.[3]

3. **After elections restored democracy in 2014, political tensions flared up in 2015, but a solution was found that upholds the constitutional order.** Guinea-Bissau's largest political party, the Party for the Independence of Guinea-Bissau and Cabo Verde, won the elections in early 2014, both at the parliamentary and the presidential level. The new government took important steps to curb military interference in politics and developed an ambitious national development plan and strategy (known as "Terra Ranca") aimed at reigniting growth and poverty reduction. However, building a robust system with strong social capital is a generational task, and it may take decades before a more virtuous cycle of poverty reduction and sustainable, inclusive growth bear effects.

4. **The main obstacles to Guinea-Bissau' economic development, besides political fragility, are low economic growth and lack of diversification of its economy.** Growth over the past ten years has been at an average 2.6 percent, about half the growth performance of Sub-Saharan Africa. Between 2000 and 2014, average gross domestic product (GDP) growth of 3 percent per annum slightly exceeded population growth, resulting in an average GDP per capita growth of 0.7 percent. Guinea-Bissau's economy is largely agrarian, dominated by one cash crop: unprocessed cashew nuts, which account for 85 to 99 percent of the country's total exports and for nearly 50 percent of GDP.[4] Including services related to agricultural production (such as trade and shipment associated with harvests), the contribution of agriculture to GDP is even higher.

[2] See 'Optimizing Guinea-Bissau's Natural Resource Wealth' (2015).
[3] Marshall, Monty and Benjamin R. Cole, *Global Report 2014: Conflict, Governance and State Fragility*, Center for Systemic Peace.
[4] There is some limited activity in other agricultural areas. For example, Guinea-Bissau also produces groundnuts whose production is estimated at 40,000 metric tons. Recently, the Government made efforts to encourage sesame production. Rice is grown on a subsistence basis, although the country used to be a net rice exporter up to the 1970s. Fishing is mostly carried out by large European fleets under licensing agreements with the Bissau-Guinean Government. The mining sector is in its early stages of development.

5. **Guinea-Bissau lacks the enabling environment for private sector-led growth due to poor infrastructure, low levels of human capital, and poor public services.** This situation is compounded by strong elite competition for rents and a weak public administration. The investment climate in Guinea-Bissau is not conducive to doing business, and the country ranks 172nd of 189 countries in the *World Bank's Doing Business* rankings[5]. Firms and households struggle to obtain access to finance, and the functioning of markets is undermined by the absence of public investments in fundamental economic services, and public goods. Guinea-Bissau's transport, logistics, electricity, water, and telecommunications infrastructure is in a woeful state. The decades-long failure to provide for these key public goods and services—through direct public investments or effective public-private partnerships (PPP)—severely limits the ability of poor households to participate in economic activity either through more productive autonomous activities or through accessing the employment opportunities that could be generated by a thriving private sector.

B. Sectoral and Institutional Context

6. **Guinea-Bissau is part of the Economic Community of West African States[6] (ECOWAS) region, where telecommunications markets remain fragmented and the price of Information Communication Technologies (ICT) services exorbitant**. The high price of communicating within the ECOWAS region hinders economic and social exchanges between the 15 member states. A regional approach to improving cross-border communications is necessary for West Africa, so that it can leverage economies of scale and meet the critical mass that is required to reap the (development) benefits of the Internet, and the emerging digital economy. There is a need to build capacity in national regulators to translate the regional directives coming out of the ECOWAS Commission into national legislation and regulations.

7. **Sector liberalization has stimulated the telecommunications sector in Guinea-Bissau during the past two decades.** After having privatized the fixed-line state-owned operator, GuineTelecom, in 1989 (with a 40 percent stake taken by Portugal Telecom, the remaining 60 percent held by the Government), the Government created GuineTel, a mobile operator subsidiary, and awarded a global system for mobile communication[7] license to the company, which launched its services in 2004. The Government then liberalized the mobile market by awarding two additional licenses to international operators: Mobile Telecommunications Network (MTN) in 2003, and Orange-Bissau (subsidiary of Sonatel) in 2007. An independent regulatory authority (Institute of Communications of Guinea-Bissau) was set up in 1999, and then replaced by the *Autoridade Reguladora Nacional das Tecnologias de Informacao e Comunicacao* (ARN – National Regulatory Authority) following the adoption of the new Telecommunications Law 5/2010 (and Decree no. 03-99). Except the fixed-line segment that remains under the monopoly of GuineTelecom, the telecom market is fully liberalized. Both

[5] http://www.doingbusiness.org/rankings, benchmark of June 2016

[6] ECOWAS, whose mandate is to promote economic integration, is composed of the following countries: Benin, Burkina Faso, Cabo Verde, Côte D'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo.

[7] GSM (Global System for Mobile Communications, originally *Groupe Spécial Mobile*), is a standard developed for second-generation (2G) digital cellular networks used by mobile phones, which has become the default global standard for mobile communications.

telecom operators and Internet Service Providers (ISPs) are allowed to deploy their infrastructure and provide international communications.[8] However, ISPs need specific licenses to operate, and not general authorizations as in other countries in the subregion (e.g. Mauritania), which would facilitate their entry in the market. Despite one decade of political instability, the liberalization of the mobile telephony market has generated significant macroeconomic benefits, government revenue, employment, and private investment. Total revenues of the telecom sector[9] increased by a factor of six in the past 10 years, and its contribution to GDP grew to almost two percent.[10] In 2011, Orange Bissau alone contributed 3 percent of the Government total tax revenue, and its revenues represented 22 percent of the Government's total fiscal revenues.[11] It can be estimated[12] that Orange Bissau and MTN have created around 300 direct jobs and 4,000 indirect jobs, mostly through their distribution networks.[13] Over 2004 to 2012, total private investment in the telecom sector equaled US$134 million, and accounted for 90 percent of total foreign direct investment.

8. **Competition has promoted communication services, especially mobile phones and mobile payment services, but Guinea-Bissau still faces problems of access and affordability.** Mobile telephony has developed rapidly, and most people either have, or have close access to, a mobile phone.[14] Mobile payment services, which are key to increase financial inclusion, have been launched by MTN in 2010 (with 321 active point of sales all over the country and around 220,000 subscribers in 2016 compared to 40,000 subscribers in 2014 and 80,000 subscribers in 2015), and Orange-Bissau launched its service in December 2016. However, Guinea-Bissau is facing a growing urban-rural digital divide. Affordability is a key problem. On average, a mobile subscriber spends more than 19 percent of his or her monthly income on mobile telecommunications services (voice and data), more than in Mauritania and Senegal, and much more than in emerging economies (3 to 5 percent).

9. **Improving the telecommunications system in Guinea-Bissau will impact growth, poverty alleviation, and shared prosperity.** As observed and studied worldwide, and most recently demonstrated in World Development Report 2016: Digital Dividends (WDR 2016), telecommunications can connect market participants even where physical connectivity is limited; improve the productivity of businesses and the effectiveness of public service delivery; increase agricultural market efficiency; and foster financial inclusion by channeling resources, including

[8] There is no infrastructure operator in the market but two facility based ISPs (Eguitel and Netsansfil) are currently operating in Guinea-Bissau and they have their own access to the international gateway through satellites and also through international capacity bought from MTN for their redundancy.
[9] Total revenues of the telecom sector are only those of MTN and Orange Bissau and do not include that of the incumbent operator (GuineTel) for which there is a lack of available data.
[10] Since the value of GDP in 2015 is not yet available, the ratio between total revenue of the telecom sector and GDP cannot be calculated in detail. However, evidence shows that total revenue of the telecom sector has significantly increased between 2014 and 2015 (from US$15.4 million to US$22.8 million), which suggests that the ratio will be over 2 percent in 2015.
[11] http://www.sonatel.sn/guinee-bissau/
[12] Based on information provided by Orange-Bissau, see: http://www.sonatel.sn/guinee-bissau/
[13] Persons who resell SIM and reloadable cards and bonuses; persons who repair cellular telephones, etc. The creation of indirect jobs has also happened through the outsourcing by telecom operators of some of their activities to subcontractors.
[14] Mobile penetration as measured by number of SIM cards is 81 percent in 2015, but since the average number of cards per subscriber is 2.1, this suggests that only 41 percent the population has a mobile phone.

remittances or cash transfers, to recipients even in the most remote areas.[15] Significantly improved access to mobile services (voice, text, and Internet) would bring multiple benefits to Guinea-Bissau's households. ICT can facilitate business within government, yet these benefits remain largely untapped. Guinea-Bissau ranks 182th out of 193 countries in the 2014 E-Government Development Index.[16]

10. **The 2014 bankruptcy of GuineTelecom/GuineTel (whose situation deteriorated after Portugal Telecom's 2010 withdrawal) is a major challenge for the Government.** The fixed-line market, in line with global trends, has come to a stand-still with a penetration rate of 0.3 percent in 2013 compared to 1.1 percent for the West African Economic and Monetary Union. A decree authorizing the privatization of GuineTelecom/GuineTel was adopted in early May 2014. The last inventory provided by the management of GuineTelecom/GuineTel in November 2015[17] indicates overstaffing, a net loss registered for the last six years, and a debt of US$12.4 million. The Gfovernment is looking for technical and financial assistance from donors to identify the best options for the strategic repositioning of GuineTelecom/GuineTel.

11. **In Guinea-Bissau, the potential of ICT as an engine for economic growth remains untapped.** Guinea-Bissau was included in the World Bank's West Africa Regional Communications Infrastructure Program (WARCIP) Series of Projects (SoP) to connect to the African Coast to Europe (ACE) submarine cable.[18] The political situation leading to a "de facto" Government prevented the operation from moving forward earlier. There is no "open access" (i.e. shared) entry point for international connectivity in Guinea-Bissau, and each operator is thus constrained to deploy its own satellite, microwave, or fiber optic networks to bring international connectivity in Guinea-Bissau. Deploying such networks is costly and their reliability is limited. This situation negatively affects both the quality and price of services and explains why the broadband market is still in the initial stage of development. Internet usage (number of Internet users as a percentage of the population) in Guinea-Bissau was 4 percent in 2015 (compared to 19 percent in Gambia and 51 percent in Senegal). The country's nascent broadband market, concentrated in the capital, has a penetration rate (number of subscribers as a percentage of the population) of around 0.9 percent compared to the ECOWAS average of 7 percent and 1.5 percent in Gambia (or 15 percent in Senegal and Morocco). Without improved access to international (via submarine cable) and national terrestrial connectivity for every operator (i.e. under open access principle), Guinea-Bissau cannot expect substantial improvement in the coverage, quality, and price of broadband services. Reduction of the wholesale price will ultimately generate a decrease in the retail price that will promote Internet access and usage, as observed in other WARCIP Projects (see Annex 5). To reach that goal, and given the relatively small size of the market, and the high consortium fee, public investment in international

[15] For a discussion about how digital technologies can boost growth, expand opportunities, and improved service delivery, see: http://www.worldbank.org/en/publication/wdr2016

[16] Source: http://unpan3.un.org/egovkb/en-us/Reports/UN-E-Government-Survey-2014.

[17] Inventory made by the Commission for the restructuration of Guinetelecom/Guinetel established by the government in 2015.

[18] Prior to the operationalization of the cable, people and businesses in these countries were largely reliant on costly satellite service to make international calls and to have access to the Internet. The price of service continues to drop. For example in The Gambia, since the operationalization of the ACE cable in 2012, the average monthly price of wholesale international E1 capacity link from capital city to Europe dropped from US$5,000 to US$500 in 2014. In Gabon, this price went from US$10,000 in 2010 to US$475 in 2015.

connectivity, combined with efficient regulation are necessary. The combination of which will expand ICT service penetration rate across the population, creating wealth, growth, employment, especially for the poorest citizens.

12. **Public investment in the ACE infrastructure will complement other public investment in the ICT sector.** The ACE submarine cable infrastructure and the future domestic backbone will be interconnected with the upcoming Organization for the Development of the Gambia River (OMVG) powerlines, which include fiber optic segments crossing Guinea-Bissau. This interconnection will ensure full redundancy[19] of the ACE infrastructure, securing international connectivity at all times.

C. Higher Level Objectives to which the Project Contributes

13. **The Government has recently adopted a national development strategy (*Plan stratégique et opérationnel 2015-2020*), which places great emphasis on improving the ICT sector.** The national strategy, "Terra Ranca" (2014), identifies the ICT sector as a key contributor to national economic development. The plan is closely aligned with the recent World Bank Country Economic Memorandum, finalized in January 2015.[20] The sector objective is to improve access and use of ICT services (especially for broadband services) in order to spur the development of a digital economy to modernize and transform the country. For this, the Government has committed to engage in a series of important telecommunications reforms, including: (a) strengthening the institutional capacity of the Ministry of Transport, Communications and ICT; (b) developing a Master Plan for the ICT sector; (c) rehabilitating, restructuring, and privatizing GuineTelecom/GuineTel, and the Post Office; (d) installing submarine optical fiber cable; (f) expanding the national optical fiber backbone; (g) transitioning from analogue to digital technologies; (h) transitioning to 3G and 4G mobile broadband services; and (i) developing ICT services, applications, and local content.

14. **The proposed project will contribute to the World Bank Group's (WBG) twin goals of ending extreme poverty and promoting shared prosperity.** Relying on advanced technologies and innovative solutions, the expanding global digital economy is providing major opportunities to create jobs and encourage inclusion; alleviate poverty by fostering more improved and equitable services. Improved access to ICT services (voice, text, Internet) benefits households in multiple ways. Mobile phones and Internet access can improve access to, and use of information, thereby reducing costs, improving coordination between different parties, and increase market efficiency (for example, though mobile money and banking). Reduced communication costs associated with mobile phones have tangible economic benefits including improving efficiency of the agricultural and labor markets, and particularly, producer and the welfare of rural communities. Access to ICT services, such as mobile phones, facilitate responses to personal emergencies as well as communication among social networks and geographic areas in response to emergencies, such as floods, earthquakes, civil disturbances,

[19] the inclusion of extra connectivity infrastructure that are not strictly necessary to functioning, in case of failure of the ACE infrastructure.

[20] Early actions by the Government included addressing macroeconomic issues in consultation with the IMF. The Government also made considerable progress on restoring the orderly functioning of public finance and started preparing a comprehensive plan to demobilize the military. Key public services were restored, including the relatively reliable supply of electricity, at least in the capital Bissau.

epidemics, etc. For instance, recently, in countries affected by Ebola, ICT platforms played a central role in improving the effectiveness of healthcare institutions and emergency coordination centers, by improving information flows, and electronic payments for emergency response teams, and to the public in general.

15. **The proposed project is in line with the World Bank Africa Strategy, the World Bank's Support to Africa's Future (2011), the World Bank ICT Strategy (2012), and the WDR 2016.** By lowering the cost of access to the Internet and supporting the expansion of national and international communications infrastructure, the project will promote sustainable employment (Pillar 1 of the Africa Strategy on competitiveness and employment) and will create a critical building block for ICT applications (governance and public sector capacity). WARCIP Guinea-Bissau is also fully aligned with the connectivity pillar of the World Bank ICT strategy, which aims at scaling up affordable access to broadband Internet by supporting policy and institutional reforms for private investment in broadband, as well as by a selective support of PPPs. This approach is also promoted in the WDR 2016.

16. **The proposed project is in line with the recent approach set out in the Country Engagement Note (March 2015), the Turnaround Eligibility Note (February 2016) and the Systematic Country Diagnostic (June 2016)**. These papers frame the approach adopted by the World Bank, recognizing the specific needs of the country and the positive evolution made over the past two years, while emphasizing priorities in terms of strengthening service delivery and improving governance.[21] ICT can contribute directly and indirectly to this agenda, by enhancing efficiency of public and private service delivery, and public sector transparency and accountability.

17. **Significant regional benefits are expected to spillover under WARCIP Guinea-Bissau and the wider WARCIP Program**:

(a) **Improving connectivity in Guinea-Bissau accelerates the realization of an integrated regional ICT market, which would stimulate economic growth and enhance trade in the region**. The Africa Infrastructure Country Diagnostic (AICD[22]) report highlights the importance of regional integration, particularly for smaller countries in the region. International infrastructure could allow countries to harness regional public goods and enable deeper economic growth. Access to the ACE submarine cable and the future West African Power Pool regional infrastructure will reduce the cost for the countries neighboring Guinea-Bissau, and will result in positive effects on prices and capacity, increased availability of end-to-end high-capacity bandwidth at competitive rates and hence broadband provisioning within the region. Studies have confirmed that for every 10 percentage point increase in high-speed Internet connections, there is an increase in economic growth of 1.3 percent.[23]

[21] The Systematic Country Diagnostic identifies several urgent priority areas are: improving basic service delivery, raising productivity in agriculture, diversifying the economy, strengthening market support services, and addressing allocative, technical, and regressive inefficiencies in public spending.

[22] AICD - ECOWAS' Infrastructure: A Regional Perspective, July 2010.

[23] Word Bank - *Information and Communications for Development 2009: Extending Reach and Increasing Impact.*

(b) **WARCIP Guinea-Bissau has a strong regional rationale.** WARCIP's program development objective is to contribute to increasing the geographical reach of broadband networks, and reducing the cost of communications services in West Africa. First, the implementation of the project would better integrate Guinea-Bissau within the region, allowing increased regional trade, as well as improving Guinea-Bissau's opportunity to become more competitive internationally. Providing Guinea-Bissau with diversity of access to international connectivity via access to the ACE submarine cable is vital to achieving an acceptable level of service reliability (currently inadequate due to cuts on existing terrestrial cable connections) and competitive pricing. The country is facing interruptions in service caused by cuts in the existing terrestrial connectivity infrastructure deployed by telecommunications operators. Second, connectivity financed under the WARCIP Guinea-Bissau Project contributes to a fully redundant regional network (thanks to the interconnection between the ACE station in Guinea-Bissau and the OMVG/Organization for the Development of the Senegal River network), allowing landlocked and coastal countries to access alternative and competitive routes to submarine landing stations in coastal countries. This will lead to lower wholesale costs for connectivity throughout the region, which will feed into lower retail prices for consumers and businesses.[24]

(c) **When WARCIP Guinea-Bissau is implemented, it is expected to increase the country's efforts on climate resilience, in response to climate change.**[25] Among other factors, climate change is expected to affect Guinea-Bissau by way of a sea-level rise that would increase its risk of flooding, increase in waterborne diseases in the hot and humid environment, and change its soil composition that would negatively impact on agricultural production. The investments in the international and national connectivity infrastructure will facilitate important redundancy in the network to protect against outages caused by climate events; and facilitate the monitoring (and timely response) of weather and climate affected impacts in water and soil systems. Furthermore, through its impact on the penetration rates of ICT services, the project will generate economic gains in efficiency, including for the transportation industry, and other polluting industries. It is estimated that 100 percent of the project investment will generate climate co-benefits.

[24] This is supported by the experiences of other WARCIP Projects: in Mauritania, for instance, access to international connectivity was provided through satellite before the country was connected to ACE in 2012, allowing for a significant reduction in the wholesale cost of international capacity: the average monthly price of wholesale international E1 capacity (i.e. 2 Mbps) link from Nouakchott to Europe decreased from US$1,200 when provided by satellite to US$82 once the ACE cable was operational. Neighboring countries, such as Mali, which is buying international capacity from Mauritania via the SOGEM network, also benefited from this price reduction.

[25] A growing literature is providing evidence on the link between ICT and climate change. See for instance: Ospina and Heeks (2012), *ICT-Enabled Responses to Climate Change in Rural Agricultural Communities.* For more references see*:* http://niccd.org/resilience

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

18. The Project Development Objectives (PDO) are to contribute to increasing the geographical reach of broadband networks, and reducing costs of communication services in the territory of the Recipient and between the Recipient and ECOWAS Countries.

B. Project Beneficiaries

19. The proposed project will benefit the entire population of Guinea-Bissau including telecommunications operators and users:

- Direct beneficiaries of the project include people who use the communications network in Guinea-Bissau (including telecommunication services and Internet users, schools, hospitals, banks, businesses, government, and public administrations). Beneficiary satisfaction surveys will be organized at the beginning, at midterm and shortly before project closing to better analyze the qualitative impact of the Project on direct beneficiaries.
- Indirect beneficiaries include all of Guinea-Bissau's population, since increased communications capabilities at affordable rates will eventually benefit all.

C. PDO Level Results Indicators

20. Achievement of the development objective of the proposed project will be assessed through the key monitoring and evaluation indicators summarized below in line with indicators of the earlier phases of the WARCIP Program.

21. The PDO indicators to be monitored for Guinea-Bissau will include (Annex 1):

- Volume of international traffic: international communications (Internet, Telecoms and Data) in Kbits per second per person
- Access to Internet services (number of subscribers per 100 people)
- Access to telephones (fixed mainlines plus cellular phones per 100 people)
- Average monthly price of international wholesale E1 capacity link from Bissau to Europe (amount in United States dollars)
- Direct project beneficiaries (number), of which female beneficiaries (percentage)
- Grievances registered related to delivery of project benefits that are actually addressed (percentage).[26]

[26] A core indicator on Citizen Engagement will be measured through the grievance redress mechanisms put in place within the PIU (estimated cost is US$20,000).

III. PROJECT DESCRIPTION

A. Project Components

22. In line with other WARCIP projects, the Government of Guinea-Bissau is committed to establishing a Public-Private Partnership (PPP) with private sector operators so as to share the cost of the investment in international and national connectivity and to ensure an efficient management of the submarine cable landing station. To achieve this, the Government of Guinea-Bissau will create a Special Purpose Vehicle (SPV – i.e. a company created for the sole purpose of the PPP) and will divest its shares in the SPV to the private sector (Construction and Management Agreement, signed between the ACE consortium and the Government of Guinea-Bissau on April 13, 2016). Both Orange Bissau and MTN Bissau, leading mobile operators in the country, will purchase some of the Government's shares in the SPV. A Memorandum describing the commitments of the Government and the private sector was signed on November 1, 2016 by the Ministry of Economy and Finances (MoF), and the CEO of Orange Bissau. The SPV will take the form of a Sociedade Anonima SA (i.e. a limited company), with a majority of shares to be held by the private sector. An SPV Special Project Account will be opened in a commercial institution acceptable to the Bank where the proceeds of the private sector investment in the SPV will be deposited. These proceeds are defined as a cofinancing to the WARCIP Project, and will be used to finance the activities described in Component 4 of the WARCIP Project. It is expected that the proceeds will come in tranches after the project is effective.

Component 1: Supporting Connectivity (US$31.596 million estimated)

Subcomponent 1.1. Connection to the ACE international submarine cable ACE (US$30.45 million estimated)

23. This subcomponent will support the connection to the ACE international submarine cable by covering the cost of the ACE Consortium Fee, including the construction of a domestic landing station in Guinea-Bissau and the construction of a submarine fiber optic link connecting the domestic landing station in Guinea-Bissau to the ACE landing station in Senegal.

Subcomponent 1.2. Building a Critical Terrestrial Fiber Optic Missing Link(US$1.15 million, estimated)

24. This subcomponent will support the construction of a terrestrial fiber optic missing link connecting the ACE landing station in Guinea-Bissau to the entry point of the regional power transmission infrastructure (West Africa Power Pool, WAPP, and its sub-program OMVG/OMVS).

Component 2: Creating an Enabling Environment for Connectivity (US$2.043 million, estimated)

25. This component will finance technical assistance for sector reforms in key areas, aimed at increasing competition and promoting broadband use. It will finance the design of the PPP transaction and implementation of the PPP transaction (investment bank and transaction advisor)

needed for Component 1. The PPP framework will be consistent with open access principles to create an enabling environment for improved connectivity. Once created, the SPV will be 100 percent government-owned for a maximum period of three months. This will provide sufficient time to all parties to finalize the negotiation on the status of the SPV, and shareholding agreement. The Government will then divest some of its shares to the interested private stakeholders. The private stakeholders will spread their payments over the project implementation period (a maximum period of three years will be imposed for telecom operators so as to allow the implementation of activities of Component 4 at the end of Year 3).

Subcomponent 2.1. Transaction Design for PPP (US$0.303 million, estimated)

26. This subcomponent will support, through technical assistance, the design, commercial and financial closing of the transaction and operating model for the ownership and management of the international, regional and national infrastructure (financed under Component 1 of the Project) using PPP frameworks consistent with open access principles to create an enabling environment for improved connectivity, including signature of the Contractual Arrangement by public-private shareholders).

Subcomponent 2.2. Strengthening the Institutional Capacity of the Secretary of State for Transport and Communications (US$0.78 million estimated)

27. This subcomponent will support the institutional capacity of MTC in: (i) developing a Master Plan for the ICT sector, including strategic orientations on e-government and universal access; (ii) revision of the outdated telecom law of 2010, including preparation of laws and decrees; (iii) feasibility study for the implementation of an Internet Exchange point in Guinea-Bissau under the PPP and open access principles; (iv) strategic study on regulation of public domain occupation and cross sector synergies between civil works conducted under public infrastructure project (transport, telecom, water and sanitation and electricity); (v) strategic study on telecom taxation; and (vi) an audit and due diligence of the Universal Service Proceeds and e-government agency.

Subcomponent 2.3. Options for the Strategic Repositioning of GuineTelecom/GuineTel (US$0.28 million, estimated)

28. The Government intends to restructure GuineTelecom/GuineTel. Direct access to international connectivity will likely increase the interest of potential investors. In order to promote the level of competition and reduce the costs of communication services, and in line with a request from Minister of Finance (dated February 5, 2016), this subcomponent will support the preparatory work for the restructuring of GuineTelecom/GuineTel by carrying out a scoping study to identify options for the strategic repositioning of GuineTelecom/GuineTel, including recommendations, actions plan and preparation of necessary legislations. The aim of the study is to assess the potential for restructuring both GuineTelecom and GuineTel and eventually ease the process of a possible future transaction.

Subcomponent 2.4. Regulatory Capacity Building (US$0.68 million, estimated)

29. This subcomponent will support the institutional capacity of ARN in regulating a competitive telecom market through: (i) the definition of procedures and preparation of

regulation decisions to attribute licenses and authorizations to new market players (i.e. internet service providers, infrastructure operators, Mobile Virtual Network Operators -MVNOs); (ii) preparation of regulation decisions on passive infrastructure sharing and national roaming practices; (iii) and preparation of cost model, wholesale catalogs, and regulation decision on dominant positions in relevant markets; and (iv) preparation of a feasibility study for the implementation of an ICT observatory, including recommendations and actions plan.

Component 3: Project Implementation (US$1.36 million estimated)

30. This component will finance: (a) environmental and social studies and (b) support needed for the Government of Guinea-Bissau to implement Components 1 and 2. This includes setting up a Project Implementation Unit (PIU) located within the MTC, and covering PIU staff costs, office equipment, operating costs, and training. The component will cover the cost of audits, communications, and monitoring and evaluation (M&E), and will contribute to monitoring project elements such as citizen engagement, climate change, and environmental and social studies.

Component 4: National Backbone and Restructuring of GuineTelecom/GuineTel (US$16 million, estimated, subject to change and dependent on the amount of private sector contribution)

31. This component will finance: (a) the construction of terrestrial fiber optic missing links connecting Bissau city to the main secondary cities; (b) the preparation of a privatization transaction for GuineTelecom/GuineTel in line with the recommendations of the options study to be financed under subcomponent 2.3. This component will be entirely financed by the proceeds resulting from the divestiture of SPV's Government shares, and its implementation will start when the proceeds are deposited in the SPV Special Project Account (i.e. within the first three years of project implementation). This component will be implemented by the PIU, so as the management of the SPV divestiture proceeds.

Subcomponent 4.1. Construction of the National Backbone (US$15.5 million, estimated, subject to change and dependent on the amount of private sector contribution)

32. This subcomponent will finance mainly the construction of terrestrial fiber optic missing links connecting Bissau city to the secondary cities (e.g. Bafata, Buba, Cacheu, Famir, and Gabu). The total distance of these fiber optic link is estimated at around 500 kilometers. This subcomponent will also finance a technical assistance to: (a) determine the technical aspects related to the design of the missing terrestrial links and their exact itinerary, through an engineering survey; (b) identify and select the PPP arrangement for the national backbone through a detailed feasibility of backbone ownership and management options;[27] and (c) prepare the bidding documents for the construction of the terrestrial missing links and the necessary control/evaluation contracts. As part of the construction of terrestrial fiber optic missing links,

[27] Experiences has shown that owning and managing the backbone is usually not a core function of mobile operators. It is expected that the most likely PPP arrangement would be to have the backbone owned by the State (with 100 percent public investment) through a national holding company (e.g. case of Gabon, Mauritania, Senegal, etc.) and managed by the private sector (being either the SPV or another operator selected through a competitive process) in the context of a PPP contract (lease, concession, management contract, etc.).

Subcomponent 4.1 could finance the deployment of electricity infrastructure deemed critical for the functioning of the national backbone, and that would contribute directly to increasing the geographical reach of broadband networks and reducing costs of communication services in the Recipient's territory.

Subcomponent 4.2. Preparation of the Restructuring of GuineTelecom/GuineTel (US$0.5 million, estimated, subject to change and dependent on the amount of private sector contribution)

33. In line with the recommendations of the options study to be financed under subcomponent 2.3, this subcomponent will finance a technical assistance aimed at preparing a privatization transaction for GuineTelecom/GuineTel privatization. This could include support to the Government to cover expenses related to the transaction, such as: accounting, human resources and skill gaps analysis, asset valuation, etc.

B. Project Financing

Project Cost and Financing

34. **Lending will be via Investment Project Financing, with an IDA credit of a total amount of US$35 million equivalent.** It is expected that the use of IDA resources for the WARCIP Project will allow the Government to leverage at least US$16 million in private investment. The Government agrees to use these additional resources to fund Component 4 of the WARCIP Project.

35. **The project is financed by regional and national IDA allocations**. Out of the total project cost of US$35 million, US$25 million would come from regional IDA and US$10 million from national IDA. As outlined above, the project has strong regional impacts. These regional effects include fostering trade and economic integration within ECOWAS, providing greater telecommunications reliability for Guinea-Bissau and its neighboring countries, and lowering the costs of connectivity throughout the region, which will feed into lower retail prices for consumers and businesses.

Table 1. Project Financing

Project Components	Project Cost (US$ million)	IDA Financing (US$ million)	Financing (%)
1. Supporting connectivity	31.596	31.596	100
2. Creating an enabling environment	2.043	2.043	100
3. Project implementation	1.360	1.360	100
4. National Backbone and Restructuring of GuineTelecom/GuineTel	0.00[28]	0.00	0
Total Costs	35.0	35.0	

[28] Funding for Component 4 will depend on the outcome of the negotiations between the Government and the private investors. Total amount for Component 4 is not available yet.

36. **A project preparation advance (PPA) of US$6 million was signed on December 7, 2015**. PPA resources will cover the first installment to the ACE consortium of US$5 million. The remaining US$1 million will be used : (a) to establish the SPV, and the finalize all legal documents related to the management, maintenance, operation and commercialization of fiber optic infrastructure under an open access regime; (b) to carry out environmental and social studies; (c) to establish the PIU; and (d) to launch the technical assistance pertaining to Subcomponents 2.3 and 2.4.

37. **Involvement of IFC and MIGA in the operation has been considered.** Some private operators or potential ISPs in Guinea-Bissau have approached or may approach IFC and/or MIGA for financing and/or the provision of political risk insurance.

C. Series of Project Objective and Phases

38. **The proposed operation is part of the third phase in a Series of Projects (SoP) under the WARCIP Program that was approved on January 20, 2011.** WARCIP is a regional program using the Investment Project Financing/SoP instrument with the objective to contribute to increasing the geographical reach of broadband networks and reducing costs of communications services in West Africa.[29] As indicated in the first WARCIP Appraisal Document, countries join different phases of the program based on their readiness. Criteria include: (a) Government commitment to liberalization and open access principles; (b) existence of a PPP framework (or willingness to formulate one as part of preparatory activities); and (c) Government commitment to increased sector competition, as evidenced by pro-competitive policy and regulatory frameworks.

39. **Guinea-Bissau meets the readiness criteria to join WARCIP**. The Government opened the sector to competition in 2004, and policy dialogue has confirmed awareness and readiness for further private sector participation. The principle of open access is also well understood at the line ministry and the regulator. Therefore all criteria above are fully endorsed by the authorities, as reflected in procurement documents to design the legal and financial scope of the future SPV. In the Government's letter (dated December 7, 2015) requesting the PPA, it commits to the principle of PPP and open access.

D. Project Processing under Emergency Procedures

40. Guinea-Bissau is part of the 2016/17 harmonized list of Fragile and Conflict affected Situations countries and therefore the project triggers paragraph 12 of OP 10.00 Investment Project Financing and subsequently paragraph 20 of the World Bank's OP 11.00 Procurement in order to apply flexibilities and simplification to facilitate procurement implementation.

[29] WARCIP series of projects: 1A (Sierra Leone, Liberia –P116273-; effective June 2011, closed in September 2016), 1B (Guinea, Gambia, Burkina Faso –P122402-; effective December 2011, closed in December 2016), 1C (Benin –P130184; effective March 2013, closing in June 2017), 2 (Mauritania, Togo –P123093-; effective March 2014, closing in November 2018.)

E. Lessons Learned and Reflected in the Project Design

41. **The project builds on specific lessons learned in preparing and implementing other regional connectivity projects in West Africa, Central Africa, Eastern and Southern Africa, as well as the Caribbean Region.** These can be summarized as follows: (a) payment mechanisms for membership fees to the structure owning and managing the submarine cable should follow a simple timetable reflecting key milestones until effective operationalizing of the cable connection; (b) safeguard assessments related to the landing stations need to be thorough; and (c) the formulation of a tailored PPP arrangement and open access principles should be defined and agreed upon by stakeholders as early as possible in the project life. These lessons have informed the way the PPP arrangements for this operation have been structured.

42. **The PPP structure needs to allow easy on-boarding of new investors and address adequately possible resistance of Government to divest, as well as adaptation to changing market conditions**. International submarine cable connectivity projects using PPPs, often led by private consortia, have attracted significant private capital, have been completed relatively quickly, and have tended to be more successful in structuring partnerships between the public and the private sectors that involve equity ownership of both parties, through SPVs, with the operation left to the private sector. Challenges in structuring PPPs have included: (a) inadequate trust and cooperative relationships between the government and the private sector, and between competitors, in the face of which the World Bank has been instrumental in developing transparent governance frameworks; (b) inability of governments to provide essential and effective regulations, in response to which the World Bank has supported the development of robust transaction agreements which include clear rules of engagement; and (c) high cost of quality expert advisory services for design, management of tenders, and negotiation of contracts—all of which have been addressed through World Bank-financed technical assistance. It is important to embed flexibility in the PPP design to allow changes in shareholdings and access to the capacity.

43. **Country commitment is a key success factor**. Without continuous government support for the reforms accompanying an international connectivity project, the outcomes may be diminished. As mentioned earlier, the Government's "Terra Ranca" economic program has identified the ICT sector as a key contributor to economic growth. The Government requested the World Bank's support and PPA and adheres to the principles of private sector participation and open access.

44. **Technical assistance to support implementation of project activities can play an important role in areas new to the government**. Significant capacity is needed for negotiating with the private sector and establishing PPP arrangements. The Project provides resources to enhance the Government's capacity to enter into such transactions, with the best advice possible.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

45. **The project will be implemented by a Project Implementation Unit (PIU)**, under the aegis of the Secretary of State for Transport and Communications. The PIU core team has been

selected and hired. The PIU's procurement and financial management (FM) capacity was assessed during appraisal. Risk to Procurement has been rated "Substantial"; a more comprehensive assessment of fiduciary capacities will be carried out once the PIU is operational. The level of FM risk has been rated as "Substantial." FM training was provided to some PIU team members and other technical staff of the MTC to mitigate the FM risk. The staff of the WARCIP PIU (i.e. coordinator, financial management specialist, procurement specialist, and accountant) have been selected, and contracts have been prepared by the MTC and were signed on November 9, 2016. Until the project's PIU is fully operational, the project's preparatory activities are being carried out by another existing PIU (for the World Bank-funded energy sector project). In the transition period between the hiring of the WARCIP Project Coordinator and the rest of the PIU's members, transfer of files and PPA implementation documents will take place in a manner satisfactory to the World Bank. The Project Coordinator will report to the MTC.

46. **Designation of project focal points.** Instead of a steering committee, and building on the existing "*comité de suivi*"[30] created by the Government during the early phase of project preparation, there will be project focal points working in close collaboration with the WARCIP PIU. Focal points will represent the MoF, the MTC, the ARN (the national regulatory authority), and the private sector.[31] The WARCIP PIU and the focal points will set up regular meetings to take stock of project implementation, anticipate potential problems, share solutions, and keep project-related data flow on a near-real time basis. The focal points are not consultants hired under the project and therefore will not be paid by the project. They will however benefit from training and capacity building activities.

B. Results Monitoring and Evaluation

47. The PIU will be responsible for project M&E, and as such, will establish standard formats and guidelines for data collection and reporting and will organize training sessions for all public and private entities that will contribute to data collection, and evaluation. The PIU will review and validate the information and data received, and will recommend improvements as needed. The views of beneficiaries, including telecommunications operators, service providers, firms, and individual users of telecoms services, will be brought into the M&E process. The WARCIP PIU will collect data on a regular basis from ARN, the national regulatory authority, and from the SPV that will manage and commercialize ACE international connectivity services in Guinea-Bissau. Regarding the Citizen Engagement indicator "Grievances registered related to delivery of project benefits that are actually addressed (percentage)", grievances will be recorded at all time of the project implementation. The PIU will be in charge of an in-depth analysis of the results framework at the midterm review, and propose corrective actions needed, in consultation with stakeholders and the World Bank.

C. Sustainability

48. The sustainability of the project's benefits will depend on the Government's commitment to maintaining the enabling environment for an open, competitive, private sector driven

[30] During the appraisal mission, and in line with IDA's recommendations, the MTC has sent invitation letters on October 11, 2016 to private stakeholders proposing them to be part of the *comité de suivi*.
[31] At appraisal, on October 11, 2016, the MTC invited private stakeholders be part of the focal points committee.

telecommunications sector, and its good faith support for the PPP arrangement. The economic and financial analysis (Annex 5) demonstrates the sustainability of the infrastructure investment.

49. Improved service access and quality at more competitive prices for international and national connectivity will be sustained to the extent that these will create opportunities for job creation, higher incomes, and new applications and content creation, in turn increasing traffic and bandwidth usage. International experience has shown that increased access to Internet capacity, including through connection to submarine cable, translates rapidly into value creation especially in an environment with open competition and effective regulation.[32]

50. Regulatory reform and capacity building is expected to have a sustainable impact. Capacity building in the area of open access to shared infrastructure will contribute to magnify the impact of the project, by exposing staff and decision-makers in Guinea-Bissau to international best practice and allowing them to learn from these experiences.

V. KEY RISKS

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	High
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	High
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	Moderate
9. Other	
OVERALL	High

A. Overall Risk Rating and Explanation of Key Risks

51. The overall risk at preparation is rated "High" based on the identified risks, rated "High" or "Substantial" as described in the SORT. Implementing the project will require substantial World Bank supervision of implementation to avoid a delay in execution. The activities financed under the PPA will help mitigate some of the identified risks, particularly on the design of the SPV (legal and financial status).

[32] WDR 2016, Digital Dividends, Chapter 2 – How the Internet promotes development

52. **Political and governance.** There is "High" risk that political and governance factors could impede achievement of the project's objectives. Corruption in the public sector also may hinder the creation of an environment conducive to private sector development. The Corruption Perception Index (2015) ranks Guinea-Bissau 158 out of 168 countries. The Government has taken initial steps to begin improving transparency and accountability, but with the telecommunications sector generating significant impact on GDP and government revenues, combined with the bankruptcy of GuineTelecom/GuineTel in 2014, governance issues are a major risk.

53. ***Mitigation measures***. The project will facilitate continued dialogue with all stakeholders and share past experience and lessons learned from countries that participate in the WARCIP Program. Additionally, the project will design the SPV to ensure transparency and fairness and allow private sector investors to acquire the Government's shares without any delay. The project will finance external international consultants to support the implementing entity, and the establishment of the SPV according to international best practice standards, to ensure that stakeholders' accountability is increased.

54. **Sector strategies and policies.** The sustainability of the project's outcomes depends on a set of reforms to fully liberalize the international gateway, as well as the retail and wholesale broadband market. There is a high risk that this set of reforms is delayed for reasons ranging from vested interest to political interference. There is also a high risk that the recommendations of the strategic study on the options to restructure GuineTelecom/GuineTel are not accepted and followed by the Government. Also, GuineTelecom/GuineTel may not be able to pay its part of the SPV's operation and maintenance cost; which would cause tension between the shareholders of the SPV, and affect the efficiency of its management and operation.

55. ***Mitigation measures.*** The project will finance external international consultants to prepare liberalization reforms and to support the Government in implementing them (through actions plan and preparation of legislation and decrees). The SPV legal structure (financed by the PPA and project) will include a state divestiture clause to allow the private sector to increase their participation swiftly with the aim to balance the public and private sectors' shares and access, with no envisaged cap (at this stage) on the private sector-level of participation. Building on lessons learned from other WARCIP projects, the SPV has been designed so that one private shareholder cannot hold more than 30 percent of the SPV shares to avoid overconcentration of shares and related decision making power. The Memorandum describing the commitments of the Government and the private sector in the SPV (see paragraph 22) states that the SPV's operation and maintenance costs are fully paid by the nongovernmental shareholders in the SPV.[33] If supported by the recommendations of the strategic study, the project would bring a partner (e.g. Global Infrastructure Facility to support the actual privatization transaction during the project's lifetime). The Government agreed to wait for the recommendations of the strategic study before making decisions on the restructuration of GuineTelecom/GuineTel. The Government agreed not to transfer any of its shares in the SPV to GuineTelecom/GuineTel before the latter is restructured, and financially operational.

[33] They are divided between shareholders proportionate to their equity interest in the share of the SPV capital held by other nongovernmental shareholders.

56. **Technical Design of Project.** The proposed PPP structure entails several risks: (a) a possible absence of future prospects for GuineTel and thus a potential monopolization of the SPV by the Government; (b) a lack of interest from potential private investors in the SPV; and (c) mismanagement of the divestiture proceeds. In spite of clear legal covenants included in the Financing Agreement, there is still a "Substantial" risk associated with the technical design due to the strategic aspect of the landing station, and the political instability that has characterized Guinea-Bissau for the last decade.

57. ***Mitigation measures.*** During project preparation and negotiations, the Government of Guinea-Bissau and the World Bank agreed on key elements to be included in the future Shareholders Agreement. These elements will reassure potential investors and will prevent GuineTel from taking over the SPV. In addition, the Financing Agreement explicitly mentions the use of divestiture proceeds for the financing of Component 4.

58. **Institutional Capacity for Implementation and Sustainability.** Weak institutional capacity for implementing and sustaining the project is a major risk. Other ongoing World Bank projects have experienced moderately satisfactory performance by their respective PIUs. Even with the PIU fully staffed and trained, technical and administrative weaknesses in the MTC and other government agencies will remain risk factors.

59. ***Mitigation measures***. During project preparation and the first months of implementation, the Bank team will make sure that: (a) all institutional arrangements are in place; (a) a project implementation manual is adopted (effectiveness condition); (c) the PIU team is hired and adequately trained before effectiveness; and (c) the terms of reference for the consultants are drafted to include capacity building; their performance will be assessed accordingly.

60. **Fiduciary.** The fiduciary risk is "Substantial." The 2013 European Union – World Bank Public Expenditure and Financial Accountability showed that financial systems and financial controls have been systematically by passed in the expenditure chain since the coup of April 2012, directly affecting good governance in the public sector. Even so, over the past years, Guinea-Bissau's track record in implementing World Bank projects has not been affected by major fiduciary issues. The recruitment of the PIU fiduciary team was completed in October 2016. The assessment revealed the following weaknesses: the project's implementation manual of procedures that includes financial management arrangements as well as project accounting software are not in place.

61. ***Mitigation measures.*** To mitigate the fiduciary risk to the extent possible, the following actions need to be implemented: (a) preparation of a project implementation manual of procedure acceptable to the World Bank; (b) acquiring an accounting information system and training staff on its use; (c) ensuring that there are adequate internal and external audit arrangements in place; (d) putting in place financial reporting arrangements, starting with agreement on the project's format for the interim financial report (IFR) format; and (e) training the fiduciary staff on the use of World Bank fiduciary procedures.

62. **Stakeholder.** There is a moderate risk of lack of interest from private sector (at least from Orange-Bissau and MTN-Bissau) to adhere to the SPV and acquire the Government's shares, as the early indication shows strong commitment from the private telecommunications

operators. However, there is a risk that the main private sector stakeholders may not have the same immediate interests as the Government, and may have issues with different aspects of the operations.

63. ***Mitigation measures***. This risk is already mitigated by the signed Memorandum through which Orange-Bissau (and MTN-Bissau soon) commit to participate to the SPV. This risk will be mitigated further through the drafting of the shareholding agreement (to be adopted three months after the creation of the SPV – see Memorandum described in paragraph 22) which will clearly mention the SPV's governance rules, and the rights/obligations of each of its stakeholders.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

64. With the approximately 300 Mbps of international capacity being purchased at present by Guinea-Bissau, an ACE connection and landing station in Guinea-Bissau providing capacity at between US$ 100/Mbps/month in 2018 (decreasing to US$50/Mbps/month in 2026) should represent an annual saving to operators of about US$5 million in 2018 when compared to current costs of about US$1,500/Mbps/month for satellite bandwidth.[34] A financial and economic analysis was prepared and incorporates the following assumptions: (a) ACE investment participation costs assumes all US$30.4 million is paid in 2017 and 2018, and maintenance costs are 2.6 percent of CAPEX; (b) investment cost for the terrestrial link between the landing station in Suro and the OMVG point of presence in Antula is estimated at US$1 million; (c) a discount rate of 10 percent in the base case with a sensitivity analysis with 12 percent; and (d) revenues from the ACE cable begin in Q4 2018, after expected completion of the infrastructure during 2018.

65. The financial analysis is based on predicted bandwidth demand for Guinea-Bissau that is estimated according to three trajectories (i.e. scenarios) for wholesale price evolution. Wholesale price and would decrease from US$100 per Mbps in 2018 to US$47 in 2027 in the high penetration scenario, to US$60 in the medium penetration scenario and US$69 in the low penetration scenario. Based on these assumptions, the investment in ACE for Guinea-Bissau will breakeven between 2025 and 2030, depending on the development speed of broadband penetration. The Internal Rate of Return (IRR) would range between 11 percent and 22 percent in 2027 and between 19 percent and 27 percent in 2032. The net present value (NPV) to 2032 would range between US$17.6 and 47.8 million. It is shown that the cumulated discounted cash-flows (in US$ million) will grow quickly after being positive, which is critical to finance potential further investments (reinvestment in ACE forecasted in 2036 or other submarine cable to come in the future).

[34] Taking into account only terrestrial connectivity, with an average price of US$185/Mbps/month, the savings would be around US$300,000 per year, and taking account a balanced usage of satellite and terrestrial connectivity, the savings would be US$2.65 million per year.

B. Technical

66. **International connectivity.** Guinea-Bissau has two options to connect, through an open access entry point, to international connectivity: a real entry point or a virtual entry point.[35] The Government is interested in obtaining support from the World Bank to finance only a real entry point in the form of a direct access to the ACE submarine cable, which is the best available submarine cable operated under open access principle and which is not saturated or obsolete (see Annex 2). During the policy dialogue conducted by the Bank in FY 2015,[36] the Government declined the virtual entry point option (despite its lower cost), arguing that Guinea-Bissau would not be independent from neighboring countries for its transit of international capacity and this could affect national security.

67. Also, the Government argued that Guinea-Bissau is a coastal country and as such it deserves direct access to ACE, similarly to other coastal countries in the region and in line with the support given by the World Bank under WARCIP for Benin, Gambia, Guinea, Liberia, and Sierra Leone. As explained earlier, the access costs for Guinea-Bissau will be higher than other WARCIP participating countries, because the country was not part of the initial ACE design in 2011[37] and cannot be connected with a standard branching unit as other coastal countries. Instead, Guinea-Bissau will be connected to ACE through a direct link (called a festoon)[38] to Dakar where the core of the ACE system is located.[39] This would necessitate additional costs to lay the additional submarine cable/festoon over a distance of 464 km between the landing stations at Suro in Guinea-Bissau and Dakar. This additional cost has been estimated at US$10.446 million by the constructor of the ACE cable (ALCATEL) and explains that the total investment cost for connecting Guinea-Bissau to the ACE submarine cable will be US$30.446

[35] According to their geographical position and the availability of access to the sea, African countries can either directly connect (case of coastal countries) to international connectivity via a "real entry point" (i.e. submarine cable landing station) or connect indirectly (case of a landlocked country) via a "virtual landing point." A virtual landing point takes the form of an access point (i.e. a technical building located on the territory of the country concerned) interconnected via fiber optic links to one or more existing submarine cable landing stations in the subregion. OMVG is primarily an energy transmission infrastructure; the fiber optic along this infrastructure will provide redundancy capacity primarily, bringing this closer to a "backbone" than to an "entry point".

[36] Under FY15 Technical Assistance (P152148) the alternatives of physical versus virtual landing stations from different perspectives (economic, redundancy, quality of service and private sector appetite to participate) were assessed.

[37] In 2011, the political situation in Guinea-Bissau leading to a "de facto" Government prevented the ACE operation from moving forward and setting up a branching unit in Guinea-Bissau at the same time as the other coastal countries supported under WARCIP.

[38] ARN, the national regulatory authority has already financed (in 2012/2013) the feasibility studies prepared by ALCATEL for the connection of Guinea-Bissau to ACE. These studies have considered different options and have concluded that the best technical connection option was a festoon to Dakar. This technical option has been endorsed by the ACE consortium and is presented in the amendment to the CM&A prepared by the ACE consortium for Guinea-Bissau.

[39] This technical option for connecting Guinea-Bissau to ACE has been designed and the CM&A has been amended so that Guinea-Bissau will not be dependent on Senegal for its connectivity.

million (see Annex 2) instead of US$25 million in Guinea, Gambia, Liberia, Sierra Leone, and US$30 million in Benin.[40]

68. In spite of its higher cost, the ACE connection would provide Guinea-Bissau with three advantages compared to other coastal countries already connected. First, the expected life time of the submarine festoon linking Guinea-Bissau (Suro i.e. 28 Km from Bissau) to the ACE landing station in inshore Dakar (since it is not repeated can be estimated at 30 years) is higher than a connection to a branching units (as in the case of other WARCIP countries) that would involve repeating active equipment. Second, the connection to the ACE landing station in inshore Dakar offers the possibility for Guinea-Bissau to connect to other cables: Sat3 today and Main One and Glo 1 in the near future when the branching units of these two cables will be activated by Senegal. Third, having a festoon to Dakar allows a higher reliability on the submarine cable system. On the one hand, the system is "unrepeated," meaning that there is no powering on the cable, and no repeaters, which are elements that may fail during the lifetime of the system, and may cause outages. On the other hand, being connected to Dakar (instead of being connected to Gambia or Guinea) will decrease the risk of outages due to possible cable faults on the Gambian or Guinean branches (cuts on the Gambian branch already occurred twice due to fishery since the beginning of the project).

69. **National connectivity.** The terrestrial fiber link to be financed under IDA resources by the WARCIP Guinea-Bissau project will be the connection from the domestic Beach Man Haul and landing station in Suro to the entry point (i.e. around 28 km) of the regional power transmission network OMVG in Antula around Bissau. More details are in Annex 2. This link is particularly strategic for Guinea-Bissau since it would allow redundant fiber optic connectivity through interconnection of Bissau with the OMVG network to be operational in 2018[41] (which incorporates fiber optic capacity for telecommunications[42]) and that will eventually be connected to the submarine cable stations in Gambia, Guinea and Senegal. This redundancy will offer Guinea-Bissau opportunities to either buy international capacity, if available, from Gambia or Guinea or Senegal in case of a cut on the festoon linking Guinea-Bissau to Dakar or sell possible excess capacity available at the ACE landing station in Guinea-Bissau to neighboring countries that would be interested.

70. The ACE consortium is deemed to be technically qualified and structured according to best practice in the industry. It is led by major industry players (Alcatel, Orange). Given the

[40] In Benin, the connection to ACE cost US$30 million because at the time of the WARCIP Benin project, the cable laying activities had already passed Benin and this had necessitated some additional costs to lay the additional cable to connect to the branching unit that has been left in anticipation of Benin's participation to the? ACE project.

[41] The "OMVG interconnection project" (P146830) has just been approved by the World Bank Board. This means that the construction of the power transmission network that will be built by the project will not be finalized until 2018, not including the backhaul links from the OMVG network to the landing stations in Guinea, Senegal and The Gambia. Hence, it is OMVG that would provide redundancy on an open access basis to Guinea-Bissau (in addition to the fiber optic links owned by Orange Group between Guinea-Bissau and Senegal.

[42] The OMVG interconnection project includes a component that will finance the roll-out of optical ground wire fiber optic cable along the power transmission lines that will be built by the OMVG interconnection project. The optical ground wire cable will be used for operation and maintenance of electricity system (control and monitoring) and for the transit of international connectivity between Guinea-Bissau, Gambia, Guinea, and Senegal.

experience of key consortium members in designing, commissioning and operating submarine cables, the implementation risk is minimal.

71. Legal due diligence on ACE has been conducted for transactional and regulatory aspects, to ensure that it contains adequate provisions for transfers of parties' rights (Annex 2).

C. Financial Management

72. An assessment of FM for the WARCIP PIU was conducted in December 2015 for the PPA and updated during the appraisal mission conducted in October 2016. The objective of the assessment was to determine whether WARCIP PIU has acceptable financial management arrangements in place that satisfy the World Bank's Operation Policy/Bank Procedure (OP/BP) 10.00. The arrangements would ensure that the PIU: (a) uses project funds only for the intended purposes in an efficient and economical way; (b) prepare accurate and reliable accounts as well as timely periodic interim financial reports; (c) safeguard assets of the project; and (d) have acceptable auditing arrangements. The FM assessment was carried out in accordance with the Financial Management Manual for World Bank Investment Project Financing Operations that became effective on March 1, 2010 but was issued (retrofitted) on February 4, 2015. The assessment concluded that the overall FM residual risk is "Substantial."

73. In order to strengthen the FM arrangements of the WARCIP PIU, it will be essential to have accounting policies and procedures documented in the project's FM Manual, acquire a computerized accounting information system and train staff on how to effectively use it and ensure that there are adequate internal and external audit arrangements in place. Annex 3 shows an action plan for FM with details on actions to be taken, and their timing.

D. Procurement

74. The project will be implemented by a PIU under the aegis of the MTC. The PIU will be set up with the PPA under which four staff of the PIU were hired (Coordinator, Procurement Specialist, Financial Management Specialist, and Accountant). In October 2016, the recruitment of the Procurement Specialist responsible the Project's procurement activities in the PIU was completed. The candidate has had limited exposure to World Bank's procedures, but has the required skills to implement the project.

75. The procurement risks identified comprise: delays in project implementation, and poor quality in deliverables. To mitigate risks and reduce the risk level, it is agreed that another existing PIU (for the energy sector project) which is established at the MoF, and is already in charge of implementing the Multi-sector Infrastructure Rehabilitation Project, the Emergency Electricity and Water Rehabilitation Project and the PPA of the WARCIP Project) will support the new PIU to carry out procurement activities during the first year. The MoF's PIU will assist WARCIP's PIU to develop the project implementation manual and the Procurement Specialist of the MoF's PIU, who has a strong experience in the World Bank procedures, will mentor the newly recruited Procurement Specialist.

76. The overall project risk for procurement is assessed as "**Substantial**."

E. Social (including Safeguards)

77. The proposed project activities are not expected to have significant physical displacement or restriction of access to livelihoods of populations in the project areas. However, construction of the domestic landing station in Suro and the building of the terrestrial fiber optic missing link could cause temporary nuisances to populations living in and around the project areas. As the proposed area for the landing station is vacant state property and the terrestrial connectivity cables are expected to follow the major roads between Suro and Bissau, no land acquisition is expected as a result of project activities. However, during the construction phase, some temporary displacement of populations and disruption of certain livelihoods such as those of local fisherman and small business around construction sites cannot be ruled out. Since the exact site for the Landing Station and the precise route of the terrestrial fiber optic cables are not yet determined, to mitigate any potential adverse impacts, the Borrower has prepared a Resettlement Policy Framework (RPF), which has been reviewed, consulted upon, cleared and disclosed in-country and at the World Bank InfoShop on March 30, 2016, prior to appraisal. The RPF outlines measures to avoid and/or reduce impacts through appropriate mitigation measures such as compensation and livelihood restoration, where applicable. As soon as the exact nature and locations of civil works are known, a Resettlement Action Plan (RAP) will be prepared, consulted upon, disclosed and implemented prior to the commencement of civil works.

78. In addition, to address any concerns/complaints that may arise during project implementation, the PIU will establish a project level Grievance Redress Mechanism (GRM), to gather, sort, record and respond to beneficiary concerns related to project activities. The existence and conditions of access to the GRM register (where, when, how) will be widely disseminated at an early stage of implementation in a form and language that is accessible to all the stakeholders.

F. Environment (including Safeguards)

79. The project is classified as a Category B for Environmental Assessment purposes. The activities supported through the project may induce minor to moderate but manageable adverse impacts, including temporary or permanent displacement of populations, restriction of access to livelihoods, short-lived effects on ocean water and marine life during the laying of the underwater cable, other temporary nuisances to people living in the vicinity of civil works sites, limited vegetation clearing, and potential destruction of covered cultural artifacts. Therefore, four safeguard policies were triggered to ensure the appropriate mitigation of the aforementioned issues: OP 4.01 on Environmental Assessment; OP4.04 on Natural Habitats; OP 4.11 on Physical Cultural Resources; and OP 4.12 on Involuntary Resettlement.

80. As the precise route and civil works associated with the terrestrial connectivity is not yet determined, the Borrower has prepared an Environmental and Social Management Framework (ESMF) and a RPF. Both documents have been consulted upon, reviewed, cleared and disclosed in-country and at the World Bank prior to appraisal (October 2016). As soon as the exact nature and location of civil works and other project activities are known, site specific Environmental and Social Management Plans (ESMP) will be prepared, reviewed, consulted upon and disclosed in-country and at the World Bank.

81. The ESMF, RPF and the subsequent ESMPs and RAPs will be shared with the concerned nongovernmental organizations and development partners, and will be disclosed in country and at the World Bank. The PIU will hire a dedicated safeguards specialist/focal point at least one month prior to the start of civil work to oversee all safeguards aspects of the project. The PIU safeguards specialist/focal point will ensure that all project affected groups and local nongovernmental/civil society organizations are adequately consulted on the project's environmental and social aspects. The PIU will initiate these consultations as early as possible and will provide relevant material in a timely manner and in a form and languages that are understandable and accessible to the groups being consulted.

G. World Bank Grievance Redress

82. Communities and individuals who believe that they are adversely affected by a World Bank WB 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 in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB'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 GRS, please visit http://www.worldbank.org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

Country: Africa

Project Name: West Africa Regional Communications Infrastructure Project - SOP3 (P155876)

Results Framework

Project Development Objectives

PDO Statement

The Development Objectives of this project are to contribute to increasing the geographical reach of broadband networks, and reducing costs of communication services in the territory of the Recipient, and between the Recipient and ECOWAS countries.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Volume of international traffic: international communications (Internet, Telecoms and Data) per person Kbits per second per person (Number)	3.7	4.9	6.3	8.1	10.3	12.9
Access to Internet Services (number of subscribers per 100 people) (Number) - (Core)	4.60	6.50	9.10	12.40	16.70	22.00
Access to Telephone Services (fixed mainlines plus cellular phones per 100 people) (Number) - (Core)	72.00	76.00	79.00	81.00	82.00	82.00
Average monthly price of international wholesale E1 capacity link from Bissau to Europe (Amount(USD))	4000.00	4000.00	200.00	189.00	179.00	169.00
Direct project beneficiaries	1296222.0	1404440.0	1498332.0	1578530.0	1646165.0	1702619.0

(Number) - (Core)	0	0	0	0	0	0
Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	51.00	51.00	51.00	51.00	51.00	51.00
Grievances registered related to delivery of project benefits that are actually addressed (%) (Percentage)	0.00			22.00		90.00

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Retail Price of Internet Services (per Mbit/s per Month, in US$) (Amount(USD)) - (Core)	736.00	560.00	429.00	332.00	260.00	206.00
Impact on Telecom sector of World Bank Technical Assistance (composite score: 1- low impact to 5-high impact) (Number) - (Core)	0.00	1.00	2.00	3.00	3.00	3.00
number of operators and ISPs buying capacity from the infrastructure deployed (Number)	0.00	0.00	2.00	2.00	3.00	3.00
Number of cross border interconnection built (Number)	0.00	0.00	2.00	2.00	2.00	2.00

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Volume of international traffic: international communications (Internet, Telecoms and Data) per person Kbits per second per person	Kbits/sec/person	every 6 months	Operators	ARN, PIU
Access to Internet Services (number of subscribers per 100 people)	It measures the number of people who pay for access to the Internet per 100 people in a given country. Guidance: Access to the Internet includes: dial-up, leased line, and fixed broadband. It also includes the so-called "free Internet" used by those who pay via the cost of their telephone call, those who pay in advance for a given amount of time (prepaid), and those who pay for a subscription (either flat-rate or volume-per usage based). It should include wireless Internet users that have a specific subscription covering Internet access (e.g., WiMAX users, or 3G data card subscribers). The number of people who pay for access to the Internet (i.e. subscribers) is different from the number of users which is always larger than the number of subscribers. If breakdown data is available, the Task Team Leader can opt to include data (using optional breakdowns in the ISR system) by access modes (dial-up, leased line or fixed broadband), rural or urban areas (as per the government's definition), public/shared or household access, or female/male subscribers. This indicator is applicable for projects targeted at the national level. With baseline data, this indicator shows the additional number of people who subscribe to Internet in	every 6 months	operators	ARN, PIU

	a country as a result of the Bank's technical assistance or investment. Because this indicator is applicable to projects targeted to the whole country, it is a good proxy for the contribution of the project to improvements in access. Data is readily available from telecommunications operators, regulators and ITU.			
Access to Telephone Services (fixed mainlines plus cellular phones per 100 people)	It measures the total number of fixed telephone lines and mobile cellular phone subscriptions per 100 people in a given country. Guidance: Fixed telephone lines refer to telephone lines connecting a subscriber's terminal equipment to the public switched telephone network, and which have a dedicated port on a telephone exchange. This term is synonymous with the terms "main station" and "Direct Exchange Line" that are commonly used in telecommunication documents. It may not be the same as an access line or a subscriber. The number of ISDN channels and fixed wireless subscribers are included. Mobile cellular telephone subscriptions refer to the number of subscriptions to a public mobile telephone service using cellular technology, which provide access to the Public Switched Telephone Network. Post-paid and prepaid subscriptions are included. If breakdown data is available, the Task Team Leader can opt to include data (using optional breakdowns in the ISR system) for rural and urban areas (as per the government's definition), with public/shared or household access, or female/male subscribers. This indicator is applicable for projects targeted at the national level. With baseline data, the indicator shows improvements in access to telecom services in the country as a result of the Bank's technical assistance or investment. Since this indicator is applicable to projects targeted to the whole country, it is a good proxy for the contribution of the project to improvements in access. The penetration data ("per 100	every 6 months	operators	ARN, PIU

	people") is readily available from telecommunications operators, regulators, and the ITU.			
Average monthly price of international wholesale E1 capacity link from Bissau to Europe	Unit of measure: amount per month 2 Mbits	Annual	Operators	ARN, PIU
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	Annual	Survey	ARN, PIU
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	No description provided.	No description provided.	No description provided.
Grievances registered related to delivery of project benefits that are actually addressed (%)	- Project beneficiaries of the project include people who are connected to use the communications network in Guinea-Bissau (including telecommunication services and Internet users, schools, hospitals, banks, businesses, government and public administrations).	A grievance redress mechanism will be put in place through a hotline and email to address concerns raised by project beneficiaries.	PIU	PIU

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Retail Price of Internet Services (per Mbit/s per Month, in US$)	This measures the price for access to the Internet at an equivalent rate of 1 Mbit/s per month in a given country. Guidance: The rate would include monthly line rental, line usage charge plus any tax that may be levied. Rates could be compared at the start and end of the period. It is assumed that improvements in the supply of international bandwidth (e.g., as a result of a new submarine cable facility) or improvements arising from a more competitive marketplace (e.g., new market entry or liberalization of the international gateway facility) would be passed on to consumers in the form of lower prices, improved quality of service and greater choice. This requires conversion of the advertised speed to the standardized unit (e.g., a 256 kbit/s connection would be multiplied by 4 whereas a 4 Mbit/s connection would be divided by four). This measures the retail price available to consumers rather than the wholesale price (e.g., price of an E1 leased line). It can be applied equally to fixed or mobile connections and is expressed in US$ for cross-country comparisons. This indicator is applicable for projects targeted at the national level. With baseline data, the indicator shows the reduction in the unit price of connectivity (for instance as a result of greater market competition, or an increase in the supply of bandwidth), in a country as a result of the Bank's technical assistance or investment. Since this indicator is applicable to projects targeted to the whole country, it is a good proxy for the contribution of the project to reductions in the unit price. Data is available from ITU (for cross-country comparisons), from OECD (for trends over time) and locally from operators.	Annual	Operators	ARN, PIU

Impact on Telecom sector of World Bank Technical Assistance (composite score: 1- low impact to 5- high impact)	It measures the extent of the impact of World Bank TA on the sector. It is a qualitative measure since a quantitative attribution of World Bank TA on sector performance is unlikely to be possible. World Bank technical assistance covers a range of areas and it is difficult to capture them all. It is intended as a meta-indicator to guide whether to include the sector-level indicators or only project-level ones. This measure is a composite measure comprising five key areas of our work (with no special weighting among them). These show the impact of the project on: (a) Making the legal and regulatory framework more effective at delivering sector performance. (b) Improving the capacity of the regulatory institution(s) to deliver on their mandate(s). (c) Increasing the level of competition in the ICT sector. (d) Improving the ICT policy environment in the country. (e) Reforming state-owned assets in the ICT sector. Guidance: The score is a measure of impact. It therefore includes both the objective of the project (e.g. was there a privatization component in the project?) and the impact (e.g. was the SOE successfully reformed?) Each component is given a score of n.a. (not applicable in the project), 1 (low impact) to 5 (high impact). The table (Annex 2) illustrates an example of impact assessment. Scores 2 and 4 are intended as intermediates scores. It is expected that the baseline value for this indicator will be zero. The aggregate score is calculated by taking the average of the individual scores where applicable to the project. If the composite impact score is above 3, then the TTLs should include applicable sector-level indicators (i.e. indicators 2, 3 and 4) to show the contribution of the project to sector performance. Scaling indication for the indicator is available in Annex 2 in the Guideline Note. Please refer to this section for the further clarification.	6 months	Stakeholders	PIU
number of operators and	No description provided.	6 months	ARN/PIU	ARN/PIU

ISPs buying capacity from the infrastructure deployed				
Number of cross border interconnection built	This indicator measures the number of cross-border interconnections built under the project. This indicator measures the progress towards a fully redundant regional network.	year	ARN/PIU	ARN/PIU

Annex 2: Detailed Project Description

WARCIP GUINEA-BISSAU

1. The Project Development Objectives of this project are to contribute to increasing the geographical reach of broadband networks, reducing costs of communication services in the territory of Guinea-Bissau and between Guinea-Bissau and ECOWAS countries.

2. Similarly to the previously approved WARCIP Projects, the WARCIP Guinea-Bissau project comprises three components: Component 1. Supporting connectivity, Component 2. Creating an enabling environment for connectivity; and Component 3. Project implementation. In addition, the project will have a Component 4. Cofinancing for the construction of the National Backbone and the preparation of the restructuring of GuineTelecom/GuineTel, which will be funded by the cofinancing coming from the sale of Government's shares in the SPV to private stakeholders.

3. The project activities will contribute to the PDO of the proposed project by addressing the key issues of limited geographical reach of broadband networks and high costs of broadband services in the territory of Guinea-Bissau, through: (a) focused investments on the basis of a PPP to connect Guinea-Bissau to the ACE submarine cable and to roll out the missing terrestrial fiber backbone link (to connect the ACE cable in Guinea-Bissau to the entry point of the regional power transmission infrastructure (West Africa Power Pool, and its subprogram OMVG/OMVS) in Antula near Bissau); as well as (b) technical assistance to strengthen the legal, regulatory and institutional framework to ensure open access to the submarine cable and the terrestrial fiber optic backbone links and promote a competitive environment to foster investments from telecoms operators and Internet service providers.

Component 1: Supporting connectivity (US$31.596 million)

4. The connectivity component will focus primarily on supporting Guinea-Bissau to have access to the ACE submarine cable. A small national connectivity component is also added to build a crucial missing terrestrial fiber optic link that will allow Guinea-Bissau to be interconnected to neighboring countries.

Subcomponent 1.1. Connection to the ACE international submarine cable (US$30.446 million estimated)

5. Guinea-Bissau is the only country on the West African coast not connected to international connectivity provided by submarine cables. As a result, each operator is constrained to deploy its own satellite, microwave or fiber optic networks in order to bring international connectivity in Guinea-Bissau. Deploying such networks is extremely costly (due to high levels of CAPEX and OPEX that are not mutualized) whereas their reliability is limited. This situation affects both the quality and price of services and explains why the broadband market is still in the initial stage of development. Without improved access to international (via submarine cable) and national terrestrial connectivity by every operator (i.e. under open access principles), Guinea-Bissau cannot expect substantial improvement in the coverage, quality, and price of broadband services.

6. While Guinea-Bissau has two options to connect, through an open access entry point, to international connectivity (i.e. Real entry point or Virtual entry point), the Government is only interested in obtaining support from the World Bank to finance a Real entry point in the form of a direct access to the ACE submarine cable. A comparative analysis of the main technical specifications of six (ACE, MAIN ONE, GLO-1, WACS, SAT-3/WASC, and Atlantis-2) existing submarine cables around Guinea-Bissau was conducted and concluded that although ACE, MAIN ONE and GLO-1 are feasible options for Guinea-Bissau, connection to ACE is the best available submarine cable operated under open access principle and which is not saturated or obsolete (Table 1). However, because Guinea-Bissau was not part of the initial ACE design in 2011, Guinea-Bissau can only be connected to ACE through a direct link (called a festoon) to the ACE core system in Dakar, due to operational constraints. This implies a cost of US$ 10.446 million to lay the additional submarine cable/festoon over a distance of 464 km between the landing stations at Suro in Guinea-Bissau and Dakar, and explains that the total investment cost for connecting Guinea-Bissau to the ACE submarine cable will be US$30.446 million.

Table A2.1. Comparative analysis of technical specifications of existing submarine cables

Cables	Date of first use	Design Capacity (maximum capacity)	Technology used	Existing landing stations	Comment
ACE	2012	12.8 Tbit/s[43]	Fiber optic / WDM	Landing stations in Dakar, Banjul and Conakry.	No branching unit in Guinea-Bissau. The option to connect Guinea-Bissau to ACE is through a (non repeated) submarine festoon linking Guinea-Bissau (Suro i.e. 28Km from Bissau) to the ACE landing station in Dakar (**inshore**). This festoon option has two main advantages: - The expected life time of the festoon (since it is not repeated can be estimated at 30 years) is higher than a connection to a Branching Unit that would involve repeated active equipment, and would be limited to the life time of the connected submarine system. - The connection to the ACE landing station in Dakar offers the possibility to Guinea-Bissau to connect to the landing stations in Dakar: SAT-3 today and Main One and Glo-1 in the near future if the branching units of these two cables are deployed in Senegal.
MAIN ONE	2010	The submarine cable currently delivers high speed bandwidth of 1.92 Tbps and has been proven to provide capacity of at least 4.96 Tbps	Fiber optic / WDM	Landing stations in Ghana and Nigeria.	No branching unit in Guinea-Bissau but existence of several non-activated branching units, including one in front of Dakar, and one in front of Tenerife. The connection of Guinea-Bissau to the branching unit in **offshore** Dakar has three cons: - This offshore connection would not allow Guinea-Bissau to connect at low cost to other landing stations in Dakar. - This submarine connection would be around 600km, with repeating equipment and thus very costly (it can be estimated that the total cost would be around 50 USD million). - The life time of this offshore submarine connection would be lower that a non-repeated connection, and would terminate when the submarine system is decommissioned. - The branching unit in offshore Dakar was initially designed for Senegal and not for Guinea-Bissau. The capacity of the cable is limited compared to ACE. This cable is owned and managed (under the open access principle) by an infrastructure operator owned by private investors.
GLO-1	2011	2.5 Tbit/s	Fiber optic / WDM	Landing stations in Ghana and Nigeria.	Existence of several non-activated branching units, including some in front of Dakar, Conakry, Banjul and Bissau. The connection of Guinea-Bissau to the branching unit in **offshore** Bissau has three cons: - This submarine offshore connection would not allow Guinea-Bissau to connect to other landing stations (submarine cables). - This submarine offshore connection would be with repeated equipment and thus more costly than a festoon. - The life time of this offshore submarine connection would be lower that an unrepeated connection. - This cable is owned by the Nigerian mobile operator Globacom and was deployed for its own needs. Commercialization was therefore not the main purpose. Thus GLO-1 is not the ideal partner for Guinea-Bissau. The capacity of the cable is limited compared to ACE.

[43] Initially the design capacity was 5.12 Tbit/s but following upgrades made on the cable the design capacity has been increased.

WACS	2012	14.5 Tbit/s	Fiber optic / WDM	Landing stations in Canarian islands, Cape Verde and Côte d'Ivoire.	No other branching units.
SAT-3/WASC	2002	440 Gbit/s[44]	Fiber optic / WDM	Landing station in Dakar.	No other branching units. Despite the recent upgrade at 100G, the capacity of the cable is limited compared to ACE, and could also be used by Guinea-Bissau as an alternative route extending from the ACE unrepeated festoon.
Atlantis-2	2000	160 Gbit/s	Fiber optic / WDM	Landing stations in Dakar and Cape Verde and Canarian islands.	No other branching units. The capacity of the cable is limited compared to ACE.

Source: Due diligence conducted under P155876 in FY16

7. As with previous WARCIP Projects, the World Bank will finance the participation of Guinea-Bissau in the ACE consortium owning the ACE submarine cable and the construction of a domestic landing station (in Prabis, 9 km away from the Beach Man Haul in Suro and 19 km away from Antula around Bissau) connected to Dakar (US$20 million). The World Bank will also finance the extra construction costs (US10.446 million) caused by the technical requirement for an ad-hoc solution to connect Guinea-Bissau to the ACE system after the cable was designed, installed and put in service, consisting of a festoon from Dakar in Senegal to Suro in Guinea-Bissau. Total cost of international connectivity is thus US$30.446 million.

8. While the initial cost of the international connectivity component was previously established at US$35.446 million (US$25 million for participation to ACE and US$10.446 million for the submarine festoon linking Bissau to Dakar); it has now been reduced to US$30.446 million (US$20 million for participation to ACE and US$10.446 million for the submarine festoon linking Bissau to Dakar) since the ACE consortium lowered the cost that Guinea-Bissau has to pay to become a member of the consortium from US$25 million to US$20 million. This exceptional decision of decreasing the cost of Guinea-Bissau's ACE participation fee was made at the last board meeting of the ACE consortium held in Paris on September 26th 2016. This US$5 million cost reduction is due to 3 factors: (a) first, the contribution of each ACE member to the construction cost of the main cable (i.e. central trunk of the ACE cable) has been re-estimated after five years of operation (ACE started in 2011), and the ACE consortium has calculated that the initial contribution made by members was overestimated; (b) second, the new amount charged by ACE to Guinea-Bissau takes into account the amortization of the cable after five years of operation; (c) third, while other ACE members have recently benefited from a free of charge capacity upgrade, this will not be the case for Guinea-Bissau. Guinea-Bissau will have the same initial capacity that other ACE members had, but if Guinea-Bissau needs more capacity, the SPV to be established in Guinea-Bissau will have to pay US$1.29 per Miu.km, until another capacity upgrade (expected in two to three years) is made by the ACE consortium.

9. For fiscal and economic efficiency reasons, and in line with other WARCIP experiences, the participation of Guinea-Bissau to the ACE consortium will be done through a SPV. The SPV will be a PPP with telecommunications operators and the Government being shareholders. This design will allow involved parties to share the cost of the investment and ensure an efficient management of the landing station. The SPV will be in line with international and regional best

[44] Recent upgrade has been made in 2015 and the design capacity has been slightly increased up to an estimated maximum of 2 Tbit/s (although the real figure is unknown).

practices such as Guinea, The Gambia, Sao Tome and Principe, Liberia and Benin. The project will cover the cost of the Government's adhesion to the ACE consortium through the SPV, with a planned divestiture to allow private operators to gradually buy the Government's shares to the SPV and thus the rights to connect to the ACE cable. In the construction and maintenance agreement (CM&A) signed by the Ministry of Finance (MoF), Guinea-Bissau is committed to assign the whole of its right under the CM&A to an SPV. The CM&A signed between the ACE consortium and the Government of Guinea-Bissau on April 13, 2016 will need to be entered into force before March 31, 2017. In order to enter into force, the WARCIP Project would need to be approved by the World Bank's Board.

10. Project preparation reveals a strong interest from private sector – both telecom operators and ISPs[45] – to participate in the SPV. The final shareholding will be defined with support of the PPP advisor. Similarly to the operations in Gambia, Guinea and Benin, the Government (through the Minister of Finance) will cover the full cost of the ACE landing and will thus have 100 percent of the shares in the SPV. However, the Government's shares in the SPV will be made available to other parties under a divestment plan. At negotiation stage, the MoF agreed with the World Bank (through the Financing Agreement) to open a SPV Special Project Account in a commercial institution acceptable to the World Bank where the proceeds of the private sector investment in the SPV will be deposited. These proceeds are defined as a Co-financing to the WARCIP Project, and will be used to finance the activities described in Component 4 of the WARCIP Project. It is expected that the proceeds will come progressively after project effectiveness.

Subcomponent 1.2. Building a critical terrestrial fiber optic missing link (US$1.15 million estimated)

11. The WARCIP Guinea-Bissau project would also support the construction of a terrestrial fiber optic missing link in Guinea-Bissau for a total of around 28 km. This link will consist of a fiber optic terrestrial connection from the Beach Man Haul in Suro to the entry point of the regional power transmission network OMVG in Antula around Bissau. As agreed with the Government, additional terrestrial fiber optic links in Bissau, and complementing those already deployed by the private sector, would be financed under Component 4.

12. This missing link is particularly strategic for Guinea-Bissau since it would allow redundancy fiber optic connectivity through interconnection of Bissau with the OMVG network (that incorporates fiber optic capacity for telecommunications[46] and that is planned to be operational in 2018)[47] that will eventually[48] be connected to the submarine cable stations in

[45] Orange-Bissau, MTN Bissau and EGUITEL, a local ISP.

[46] The OMVG interconnection project includes a component that will finance the roll-out of Optical Ground Wire (OPGW) fiber optic cable along the power transmission lines that will be built by the OMVG interconnection project. The OPGW cable will not only be used for operation and maintenance of electricity system (control and monitoring) but also for the transit of international connectivity between Guinea-Bissau, Gambia, Guinea and Senegal.

[47] The "OMVG interconnection project" (P146830) has just been approved by the board of the WB and this means that the construction of the power transmission network that will be built by the project will not be finalized until 2018, not included the backhaul links from the OMVG network to the landing stations in Guinea, Senegal and The

Gambia, Guinea and Senegal. This redundancy will offer Guinea-Bissau opportunities to either buy international capacity, if available, from Gambia or Guinea or Senegal in case of a cut on the festoon linking Guinea-Bissau to Dakar or sell possible excess capacity available at the ACE landing station in Guinea-Bissau to neighboring countries that would be interested.

13. The fiber optic terrestrial link will be included in the PPP arrangement of the landing station (to avoid a backhaul bottleneck on the terrestrial links). In other words, the SPV that will be established to own and manage the international connectivity infrastructure will also own and manage the national fiber optic terrestrial link.

Component 2: Creating an enabling environment for connectivity (US$2.043 million estimated)

14. The proposed WARCIP Guinea-Bissau project would also support, through technical assistance, the government in increasing the competition level and promoting broadband usage by addressing sector reform challenges in key areas. First, it will finance (under the PPA and the project) technical assistance for the design of the transaction and operating model for the ownership and management of the international, regional and national infrastructure (financed under Component 1) using PPP/SPV frameworks consistent with open access principles to create an enabling environment for improved connectivity (see para 28). Second, it would strengthen the institutional capacity of the Secretary of State for Transport and Communications in: (a) developing a Master Plan for the ICT sector, including strategic orientations on e-government and universal access;[49] (b) revision of the outdated telecom law of 2010, including preparation of laws and decrees; (c) feasibility study for the implementation of an Internet exchange point in Guinea-Bissau under the PPP and open access principles; (d) strategic study on regulation of public domain occupation and cross sector synergies between civil works conducted under public infrastructure project (transport, telecom, water and sanitation, and electricity); (e) strategic study on telecom taxation; and (f) an audit and due diligence of the universal service fund and e-Government agency (CEVATEGE). Third, it would finance a study to identify options for the strategic repositioning of GuineTelecom/GuineTel with the goal of easing the process of a future transaction. The Government will have to take a number of accompanying steps towards effectively preparing GuineTelecom/GuineTel for a next phase of strategic repositioning, in particular to cover aspects such as cost accounting, human resources and skill gaps analysis, asset valuation, etc. In the course of project preparation, the IFC and MIGA were approached, information was shared with counterparts, but no collaboration was discussed at the time of this PAD finalization. In addition, the task team has explored potential financing from the Global Infrastructure Facility to support the government in the transaction. As agreed with the

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Gambia. Hence, it is OMVG that would provide redundancy on an open access basis to Guinea-Bissau (in addition to the fiber optic links owned by Orange Group between Guinea-Bissau and Senegal.

[48] As in Guinea-Bissau, there are also some missing links to be built in these countries so that their submarine cable landing stations are connected to the OMVG/OMVS network.

[49] The Universal Service Fund was created in 2011 and is receiving financial contributions from operators who pay 1 percent of their annual turnover for the operation of the Fund and 1 percent for the financing of projects. To date, the FSU significantly is underused mainly due to the absence of strategic study identifying key projects to finance. Sub component 2.2 will cover the financing of an audit and due diligence of the universal service fund and e-government agency (CEVATEGE).

government, a support to the preparation of a transaction for privatization would be financed under Component 4. Fourth, it would strengthen the capacity of the regulator in: regulating a competitive telecom market through: (a) the definition of procedures and preparation of regulation decisions to attribute licenses and authorization to new market players (i.e. ISPs, infrastructure operators, mobile virtual network operators); (b) preparation of regulation decisions on passive infrastructure sharing and national roaming; (c) preparation of cost model, wholesale catalogs, and regulation decision on dominant positions in relevant markets; and (d) preparation of a feasibility study for the implementation of an ICT observatory, including recommendations and actions plan.

Component 3: Project Implementation (US$1.360 million estimated)

15. This component will: (a) finance environmental and social studies, (b) support needed for the Government of Guinea-Bissau to implement the Components 1 and 2. This includes setting up a PIU located with the MTC and covering PIU staff, office equipment, operating costs, and trainings. The component will also cover the cost of audits, communications, and M&E and will contribute towards monitoring project elements such as citizen engagement, climate change and environmental and social studies.

Component 4: Cofinancing for the construction of the National Backbone and the preparation of the restructuring of GuineTelecom/GuineTel (US$16 million estimated)

16. This component includes two subcomponents funding infrastructure investment (terrestrial fiber optic) and technical assistance in line with subcomponents 1.2 and 2.3 and the WARCIP project's PDO. This component will finance: (a) the construction of terrestrial fiber optic missing links connecting Bissau city to the main secondary cities; and (b) the preparation of a transaction for GuineTelecom/GuineTel privatization in line with the recommendations of the options study to be financed under subcomponent 2.3.

Subcomponent 4.1. Construction of the national backbone (US$15.5 million, estimated)

17. This subcomponent will mainly finance the construction of terrestrial fiber optic missing links connecting Bissau city to the secondary cities (e.g. Bafata, Gabu, Cacheu, Buba and Famir). The total distance of these fiber optic link is estimated at around 500 kilometers. This subcomponent will also finance technical assistance to: (a) determine the technical aspects related to the design of the missing terrestrial links and their exact itinerary, through an engineering survey; (b) identify and select the PPP arrangement for the national backbone through a detailed feasibility of backbone ownership and management options;[50] and (c) prepare the bidding documents for the construction of the terrestrial missing links and the necessary control/evaluation contracts. As agreed with the Government, and as part of the construction of terrestrial fiber optic missing links, Subcomponent 4.1 could finance the deployment of electricity infrastructure deemed critical for the functioning of the national backbone, and that

[50] Experiences has shown that owning and managing the backbone is usually not a core function of mobile operators. It is expected that the most likely PPP arrangement would be to have the backbone owned by the State (with 100 percent public investment) through a national holding company (e.g. case of Gabon, Mauritania, Senegal, etc.) and managed by the private sector (being either the SPV or another operator selected through a competitive process) in the context of a PPP contract (lease, concession, management contract, etc.).

would directly contribute to increasing the geographical reach of broadband networks and reducing costs of communication services in the Recipient's territory.

Subcomponent 4.2. Preparation of the restructuring of GuineTelecom/GuineTel (US$0.5 million, estimated)

18. In line with the recommendations of the options study to be financed under subcomponent 2.3, this subcomponent would finance technical assistance aimed at preparing a transaction for GuineTelecom/GuineTel privatization. This could include support to the Government in order to cover aspects such as accounting, human resources and skill gaps analysis, asset valuation, etc.

Annex 3: Implementation Arrangements

WARCIP GUINEA-BISSAU

Project Institutional and Implementation Arrangements

1. The project will be implemented by a PIU under the aegis of the MTC. The PIU's procurement and FM capacity was assessed during appraisal. The PIU was set up with the PPA under which four staff of the PIU were hired (Coordinator, Procurement Specialist, Financial Management Specialist, and Accountant). The PPA also financed four technical assistance activities related to project preparation, before the project's PIU was set up, the project's activities were carried out by another existing PIU (for the energy sector project). In the transition period between the selection and hiring of the WARCIP Project Coordinator and the rest of the PIU's members, transfer of files and PPA implementation documents took place in a manner satisfactory to the World Bank. The Project Coordinator reports to the Minister of MTC.

2. The PIU will be assisted by focal points, composed of representatives from Secretary of State for Transport and Communications, MoF, ARN, the National Regulatory Authority, and the private sector representing the SPV. The PIU and the focal points will set up regular meetings to take stock of project implementation, anticipate potential problems, share solutions, and keep project-related data flow on a near-real time basis. The focal points are not consultants hired under the project but rather staff of their respective institutions. Focal points will benefit from training and capacity building activities as necessary.

Project administration mechanisms

3. The PIU will serve as Administrator of the project and will handle all administrative matters in accordance with the Project Implementation Manual. It will also ensure financial management and handle project disbursements. The PIU will also be responsible for (i) maintaining a Management Information System (MIS) for tracking progress in all project subcomponents, both in terms of financial performance and meeting implementation targets and monitor the performance of all contractors under the project; (ii) preparing annual work programs and budgets, and if necessary, reviewing, in consultation with IDA, the reallocation of resources across the various components of the project as lessons emerge as to patterns of demand and development impact.

Financial Management, Disbursements and Procurement

Financial Management

Planning and Budgeting Arrangements

4. The Annual Work Plan (AWP) and budget along with the disbursement forecast will be consolidated into a single document by the MTC; the AWP will then be approved by the National Steering Committee and submitted to the World Bank no later than December 31 of the year preceding the year the work plan should be implemented.

5. The implementing entities will monitor its execution with the accounting software in accordance with the budgeting procedures specified in the FM manual of procedures and report on variances along with the quarterly interim financial report. The budgeting system needs to forecast for each fiscal year the origin and use of funds under the project. Only budgeted expenditures would be committed and incurred so as to ensure the resources are used within the agreed upon allocations and for the intended purposes. The quarterly IFRs will be used to monitor the execution of the AWP.

Accounting Arrangements

6. **Accounting staff:** The PIU has hired a Financial Management Specialist and an Accountant, contracts were signed after appraisal on November 9th, 2016.

Internal Control System

7. As part of the Project Implementation Manual (PIM), a FM manual acceptable to the Bank will be prepared by effectiveness which will detail out key internal control procedures from transaction initiation, review, approval recording and reporting. The manual will be updated as necessary as possible throughout the implementation of the project. There should be clear separation of duties within the financial management unit.

8. **Financial Management Manual:** This will be part of the PIM. A FM Manual of Procedures will be developed for the project and agreed with the Bank. This will be an effectiveness condition.

9. **Accounting standards:** Guinea-Bissau is a member of the "*Organisation pour l'Harmonisation en Afrique du Droit des Affaires"* (OHADA), hence adheres to its accounting standards, (Syscohada), in line with the international accounting standards. Hence Syscohada accounting standards will apply to this project.

10. **Information and Accounting System:** The project code and chart of accounts will be developed to meet the specific needs of the project and documented in the FM Manual. These software programs will be upgraded for the proposed project. The upgraded system is expected to include a general diary, auxiliary diaries, general balance, cash record, fixed assets record. The chart of accounts should be prepared according to the wording used in tables for sources and uses of funds for the accepted eligible expenditures as agreed during negotiations of the project. These diaries and records should be maintained with the support of financial management software that should be operational no later than three (3) months after project effectiveness. Newly recruited fiduciary staff should also be trained in the use of the software by the same date.

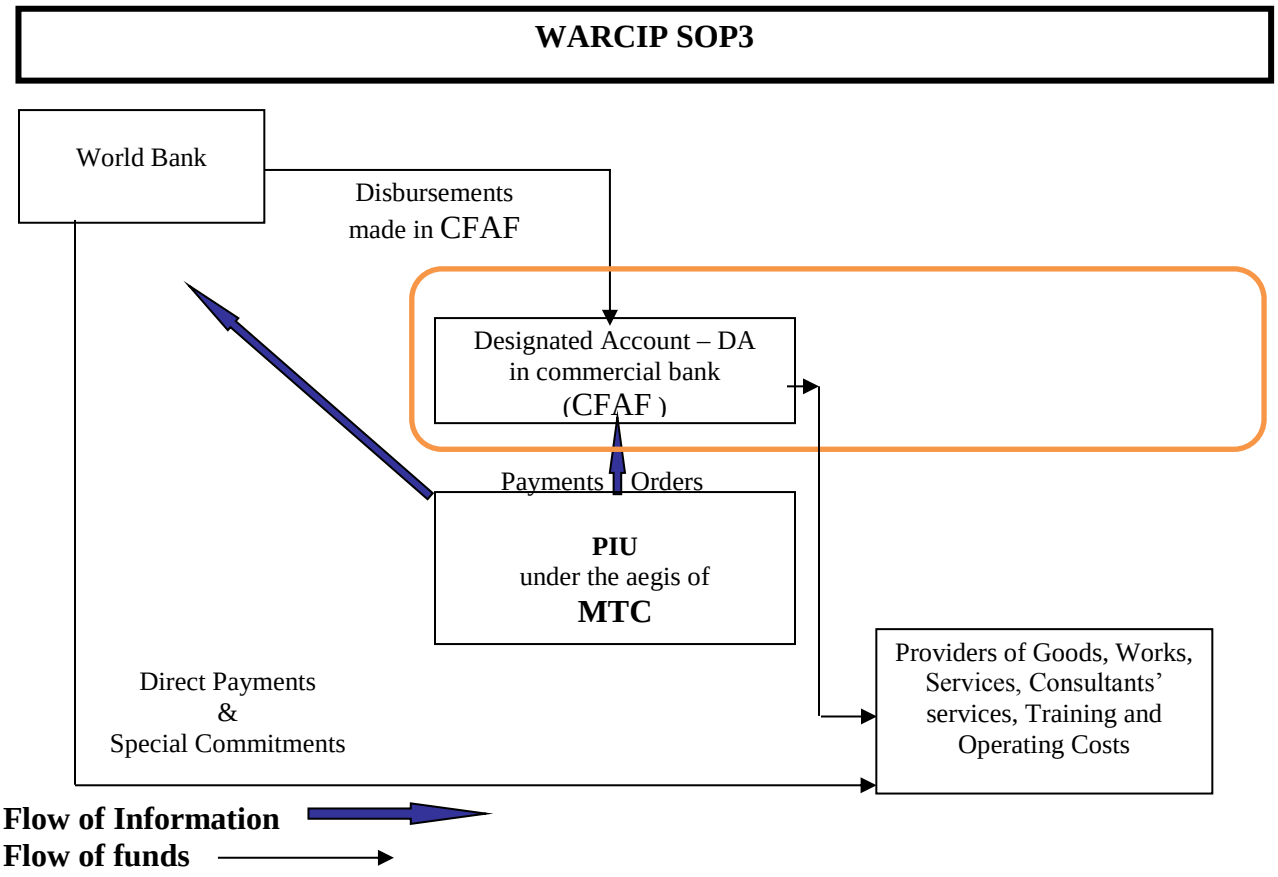
Internal Audit

11. The internal auditor will report directly to the MTC and the MoF. S/he will undertake periodic assessments on the strengths and weaknesses of the internal control system at all levels. All control deficiencies or circumvented practices identified will be communicated in a timely manner to the overall senior management of the project for immediate corrective action as appropriate. As part of the World Bank's supervision, the World Bank will review the internal audit reports.

Funds Flow Arrangements

12. A Designated Account (DA) denominated in CFA Franc will be opened in a commercial bank on terms and conditions acceptable to IDA under the fiduciary responsibility of new unit. The ceiling of the Designated Account will be documented in the disbursement Letter. The DA will be used to finance all eligible project expenditures under the different components. Payments will be made in accordance with the provisions of the PIM (e.g., two authorized signatures will be required for any payment). Replenishment of these accounts will be done at least once a month by the project upon submission of acceptable expenditures recap along with supporting documents. Payments from the advance account will be subject to acceptable arrangements for the World Bank. The DA will be replenished against withdrawal applications supported by Statements of Expenditures and other documents evidencing eligible expenditures as specified in the Disbursement Letter. All supporting documents should be retained at the project and readily accessible for review by periodic IDA implementation support missions and external auditors.

Chart A3.1 Funds Flow Diagram



Disbursement Arrangements

13. Upon Credit effectiveness, transaction-based disbursements will be used during the first year of the project implementation. Thereafter, the option to disburse against submission of

quarterly unaudited Interim Financial Report (also known as the Report-based disbursements) could be considered subject to the quality and timeliness of the IFRs submitted to the World Bank and satisfactory FM systems being maintained by the project, including no issues with respect to accountability of funds. Other disbursement methods will include direct payments, reimbursements and special commitments that include letters of credit. Details concerning disbursements will be included in the Disbursement Letter.

Expected Disbursements (in USD Million)							
Fiscal Year		2017	2018	2019	2020	2021	2022
Annual		5.00	15.50	5.50	3.50	3.50	2.00
Cumulative		5.00	20.50	26.00	29.50	33.00	35.00

Financial Reporting Arrangements

14. For this proposed project, the fiduciary team in the MTC unit will be required to prepare monitoring interim financial reports (IFRs) as defined in the financial agreement for the Project. These reports will be submitted to IDA on a quarterly basis within the 45 days following the end of each quarter. The formats for IFRs have been agreed by the World Bank during negotiations. This report will include: (a) a statement of sources and use of funds; (b) statement of use of funds by category/component; and (c) bank statement for the DA as well as its bank reconciliation. Financial statements will be prepared for each financial year covering twelve (12) months within three months following the end of the year. They will later on be submitted for audit and the audit report submitted to the World Bank within six months after the end of the financial year.

External Audit Arrangement

15. The financial statements for the project will be audited by an independent private external audit firm acceptable to the World Bank. Audit reports and the management letter produced by this auditor should be submitted to IDA six months after the end of each fiscal year before June 30. The audit terms of reference have been discussed with the World Bank during negotiations. The external auditors should be appointed within six months after effectiveness. Audit reports will be publically disclosed by the World Bank in accordance with the World Bank's disclosure policy.

Governance and Accountability

16. The risk of fraud and corruption within project activities is substantial. In the context of the project, the effective implementation of the fiduciary mitigation measures should contribute to strengthen the control environment. Also, the appropriate representation and oversight of the Steering Committee involving key actors, as well as the transparency in both operation implementation and dissemination to stakeholders and the public should constitute a strong starting point to tackle governance and corruption issues during project implementation

Financial Management Action Plan

17. The Financial Management Action Plan described below (Table 3.1.) has been developed to mitigate the overall financial management risks.

Table A3.1. Financial Management Plan

Issue	Remedial action recommended	Responsible entity	Completion date
FM staffing	Recruitment of Financial Management Specialist.	MTC Unit	Done, contract has been signed on November 9th, 2016.
FM staffing	Recruitment of Accountant.	MTC Unit	Done, contract has been signed on November 9th, 2016.
Accounting software	Acquiring an accounting software and training the fiduciary staff on the use of that software.	MTC Unit	Within 3 months after effectiveness (Dated Covenant)
FM and accounting Manual of procedures	Prepare the FM manual as part of the PIM. The FM Manual will contain accounting policies and procedures to be used by the project.	MTC Unit	Before effectiveness (Effectiveness Condition)
Reporting (IFRs)	Agree on the format and content of Unaudited Interim Financial Reporting's (IFRs)	MTC Unit	During negotiation
External auditing	Agree on the external audit terms of reference	MTC Unit	During negotiation
External auditing	Selection of external auditor	MTC Unit	six months after effectiveness

Implementation Support Plan,

18. Supervision will be conducted over the project's lifetime. The project will be supervised on a risk-based approach. It will comprise inter alia, the review of audit reports and IFRs, and advice to task team on all FM issues. Based on the current risk assessment which is substantial the project will be supervised at least twice a year and may be adjusted when the need arises. The ISR will include a FM rating of the project. To the extent possible, on-site supervision missions will be undertaken with procurement, monitoring and evaluation and disbursement colleagues.

19. Based on the outcome of the FM risk assessment, the following implementation support plan is proposed:

Table 3.2. Implementation Support Plan

FM Activity	Frequency
Desk reviews	
Interim financial reports review	Quarterly
Audit report review of the program	Annually
Review of other relevant information such as interim internal control systems reports.	Continuous as they become available
On site visits	

FM Activity	Frequency
Review of overall operation of the FM system	Annually (Implementation Support Mission)
Monitoring of actions taken on issues highlighted in audit reports, auditors' management letters, internal audit and other reports	As needed
Transaction reviews (if needed)	As needed
Capacity building support	
FM training sessions by World Bank FM team	Before effectiveness and thereafter as needed.

20. The objectives of the above implementation support plan are to ensure the project maintains satisfactory financial management systems throughout the project's life.

Financial Covenants

21. Financial covenants are the standard ones as stated in the Financing Agreement Schedule 2, Section II (B) on Financial Management, Financial Reports and Audits and Section 4.09 of the General Conditions.

22. Conclusions of the FM Assessment: The overall residual FM risk of the project is substantial. The financial management arrangements for this project are considered adequate to meet the World Bank's minimum fiduciary requirements under OP/BP10.00. Implementation of the action plan will strengthen the FM arrangements.

Procurement

23. Procurement under the proposed project will be carried out in accordance with the World Bank guidelines: "Guidelines: Procurement of Goods, Works and Non- Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July, 2014, "Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers" dated January 2011 and revised July, 2014, and the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants," dated October 15, 2006 and revised in January 2011, and other provisions stipulated in the Financing Agreement.

24. The PIU, bidders, and service providers, i.e. suppliers, contractors and consultants shall observe the highest standard of ethics during the procurement and execution of contracts financed under the project in accordance with paragraphs 1.16 of the Procurement Guidelines and paragraphs 1.23 of the Consultants Guidelines.

25. A General Procurement Notice will be prepared and published in United Nations Development Business online, on the World Bank's external website, and in at least one national newspaper after the project is approved by the World Bank Board and before project effectiveness. Specific Procurement Notices for all goods and works to be procured under International Competitive Bidding, and Requests for Expressions of Interest for all consulting services to cost the equivalent of US$300,000 and above will also be published in the United Nations Development Business online, World Bank's and the Borrower's external websites, and the national press. For works and goods using NCB procedures, the Specific Procurement Notice will be only published nationally.

26. Institutional Arrangements for Procurement: The project will be implemented by a PIU under the aegis of the MTC. The PIU will be set up with the PPA under which four staff of the PIU were hired (Coordinator, Procurement Specialist, Financial Management Specialist, and Accountant). The recruitment of the procurement specialist who will carry out the procurement activities of the project in the project PIU was completed in October 2016 and the World Bank provided no objection on the selected candidate. The candidate has had limited exposure to the World Bank's procedures, but has the required skills to quickly get up to speed.

27. The procurement risk before mitigation measures is rated "high". To mitigate this risk and reduce it to "Substantial", it is agreed that another existing PIU (for the energy sector project) which is established at the MoF, and is already in charge of implementing the Multi-sector Infrastructure Rehabilitation Project, the Emergency Electricity and Water Rehabilitation Project and the PPA of the WARCIP Project will support the new PIU to carry out procurement activities during the first year. The MoF's PIU will assist WARCIP's PIU to develop the PIM and the Procurement Specialist of the MoF's PIU, who has a strong experience in the World Bank procedures, will mentor the new recruited one.

28. **Procurement approval process**. The Project Implementation Manual will clearly describe the decision making mechanism in procurement. It is recommended to introduce flexibility to avoid delays in contract approval.

29. **Filing and record keeping**. The Procurement Procedures Manual will set out the detailed procedures for maintaining and providing readily available access to project procurement records, in compliance with the Financing Agreement. The Implementing Agencies will assign one person responsible for maintaining the records. The logbook of the contracts with unique numbering system shall be maintained.

30. The signed contracts as in the logbook shall be reflected in the commitment control system of the Borrower's accounting system or books of accounts as commitments whose payments should be updated with reference made to the payment voucher. This will put in place a complete record system whereby the contracts and related payments can be corroborated.

31. **Procurement Plan.** The Borrower has prepared a detailed 18-month procurement plan. This plan will be concluded and agreed on by the Government and the World Bank at negotiations. The Procurement Plan will be updated in agreement with the World Bank Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

32. The recruitment of civil servants as individual consultants or as part of the team of consulting firms will abide by the provisions of paragraphs 1.9 to 1.13 of the Consultants Guidelines.

33. **Special Considerations.** Guinea-Bissau is part of the 2013/14 harmonized list of Fragile and Conflict affected Situations countries and therefore the project will trigger paragraph 12 of OP 10.00 Investment Project Financing and subsequently paragraph 20 of the World Bank's OP 11.00 Procurement in order to apply flexibilities and simplification to facilitate procurement implementation. These procurement arrangements therefore draw on the Guidance Note on

Simplified Procurement Procedures for Situations of Urgent Need of Assistance or Capacity Constraints issued in April 2013.

34. The expenditures for the following categories shall be financed from the Credit under the Project: Works and Goods to be procured under this project would include, but are not limited to the building of three terrestrial fiber optic missing links for a total of 60 km and, the purchase of Vehicles, Office items and IT equipment. Consulting services will include of Technical Assistances, Technical, Environmental and Social Studies

35. **Training, workshops, study tours, and conference, workshops, seminars and conferences.** Training activities would comprise workshops and training, based on individual needs, as well as group requirements, on-the-job training, and hiring consultants for developing training materials and conducting training. Selection of consultants for training services follows the requirements for selection of consultants above. All training and workshop activities (other than consulting services) would be carried out on the basis of approved Annual Work Plans/ Training Plans that would identify the general framework of training activities for the year, including: (a) the type of training or workshop; (b) the personnel to be trained; (c) the institutions which would conduct the training and reason for selection of this particular institution; (d) the justification for the training, how it would lead to effective performance and implementation of the project and or sector; (e) the duration of the proposed training; and (f) the cost estimate of the training. Report by the trainee(s), including completion certificate/diploma upon completion of training, shall be provided to the Project Coordinator and will be kept as parts of the records, and will be shared with the World Bank if required.

36. A detailed training and workshops plan giving nature of training/workshop, number of trainees/participants, duration, staff months, timing and estimated cost will be submitted to IDA for review and approval prior to initiating the process. The selection methods will derive from the activity requirement, schedule and circumstance. After the training, the beneficiaries will be requested to submit a brief report indicating what skill have been acquired and how these skills will contribute to enhance their performance and contribute to the attainment of the project objective.

37. **Operational costs**: financed by the project would be incremental expenses, including office supplies, vehicles operation and maintenance cost, maintenance of equipment, communication costs, rental expenses, utilities expenses, consumables, transport and accommodation, per diem, supervision costs, and salaries of locally contracted support staff. Such services' needs will be procured using the procurement procedures specified in the PIM accepted and approved by the World Bank.

38. **Procurement manual**. Procurement arrangements, roles and responsibilities, methods and requirements for carrying out procurement shall be elaborated in detail in the Procurement Manual which may be a section of the PIM. The PIM shall be prepared by the Borrower and agreed with the World Bank before project effectiveness.

39. **Procurement methods.** The methods as indicated in the below table and within the thresholds indicated in the below tables can be used. The thresholds for the World Bank's prior review requirements are also provided in the table below:

Table. 3.3. Thresholds,* Procurement Methods, and Prior Review

No	Expenditure Category	Contract Value Threshold* [eq. USD]	Procurement Method	Contracts Subject to Prior Review /[eq. US$]
1	Works	C ≥ 3,000,000	ICB / LIB	All
		200,000 ≤ C < 3,000,000	NCB	None
		C < 200,000	Shopping	None
		All Values	Direct Contracting	All Contracts ≥ 100,000
2	Goods and non-consulting services	C ≥ 300,000	ICB / LIB	All contracts ≥ 300,000
		100,000 ≤ C < 300,000 3	NCB	None
		C<100,000	Shopping	None
		All Values	Direct Contracting	All Contracts ≥ 100,000
3	Consulting Services	C ≥ 200,000 (firms) **	QCBS, QBS LCS, FBS,	All contracts
		C < 200,000 (firms)	As above and CQS	Contracts for procurement and legal services. TOR and Shortlists for the remaining contracts.
		All values	IC	All contracts ≥ 100,000. TOR and Shortlists for the remaining. Contracts. The entire process for the contracts for procurement and legal services regardless of the value.
		All values	SSS	All contracts ≥ 100,000
4	Training, Workshops, Study Tours	All Values	Based on approved Annual Work Plan & Budgets (AWPB)	All

*These thresholds are for the purposes of the initial procurement plan for the first 18 months. The thresholds will be revised periodically based on re-assessment of risks. All contracts not subject to prior review will be post-reviewed.

** Short lists of consultants for services estimated to cost less than US$200,000 equivalent per contract for Nigeria may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. However, if foreign firms have express interest, they will not be excluded from consideration

40. **National Competitive Bidding Procedure:** The following additional provisions will apply: (a) four weeks will be provided for preparation and submission of bids, after the issuance of the invitation for bids or availability of the bidding documents, whichever is later; (b) for all

procurement of goods and works, standard bidding documents acceptable to the Association will be used; (c) bids will be advertised in national newspapers with wide circulation and will be presented and submitted in one envelope; (d) bid evaluation and bidder qualifications criteria will be clearly specified in the bidding documents; (e) no preference margin will be granted to domestic bidders; (f) no eligible firm, whether foreign or domestic, will be excluded from the competition; and (g) the results of the bid evaluation and of the award of the contract, and procedures for bidders to object, will be published.

41. **Bidding documents.** Procurement for works, goods and nonconsulting services will be carried out using the Bank's Standard Bidding Documents (SBD) for all International Competitive Bidding (ICB) for goods and works and for Standard Request for Proposal for the selection of consultants through competitive procedures. In the case of National Competitive Bidding (NCB), the National SBD as agreed with the World Bank can be used or, if not available, shall be developed and agreed with the World Bank.

42. In the case of shopping, the procurement will be done in accordance with the World Bank's Memorandum "Guidance on Shopping", dated June 9, 2000 (provided this Memorandum does not contradict the Procurement Guidelines) and the "Guide for the Procurement of Small Contracts" issued on February 1, 2011.

43. **Procurement implementation support plan.** In addition to the day-to-day assessment of Procurement files under prior review by the World Bank, procurement supervision will be undertaken at least twice a year. This supervision will include: (a) the review of the procurement plan to be updated from time to time by the PCU ensuring the necessary linkages with the procurement transactions under the existing financing; (b) necessary advice to the PIU on procurement files under preparation; (c) a procurement post-review during one annual supervision mission of procurement transactions which have not been prior reviewed by the Bank; (d) the review of the organization and the performance of the procurement function within the PIU (capacity of both procurement staff and other technical staff, including archiving); and (e) any other procurement-related matters

Environmental and Social (including safeguards)

44. The project is classified Category B for Environmental Assessment purposes. The activities supported through the project may induce minor to moderate but manageable adverse impacts, including temporary or permanent displacement of populations, restriction of access to livelihoods, short-lived effects on ocean water and marine life during the laying of the underwater cable, other temporary nuisances to people living in the vicinity of civil works sites, limited vegetation clearing, and potential destruction of covered cultural artifacts. Therefore, four safeguard policies were triggered to ensure the appropriate mitigation of the aforementioned issues: OP 4.01 on Environmental Assessment; OP4.04 on Natural Habitats; OP 4.11 on Physical Cultural Resources; and OP 4.12 on Involuntary Resettlement.

45. The extensive studies (carried out by ACE and its contractors) that take place prior to final cable laying tend to work as effective safeguards against any possible environmental disruption, since in large part they are intended to identify routes for the cable that will avoid

seamounts, volcanoes, canyons, vents, seeps, deep-water reefs, dissected terrain – all areas that tend to be associated with higher biological value than the general abyssal plain.

46. To mitigate any environmental and social impacts and risks related to project activities, the Borrower has prepared an ESMF and the RPF, both of which have been consulted upon, reviewed, approved and disclosed publicly in-country and at the InfoShop prior to project appraisal. The ESMF and RPF will provide guidance to the PIU to ensure that all the activities are properly screened for their social and environmental impacts and that mitigation measures are adequately incorporated into bidding documents, contracts, and construction work plans. When necessary and as soon as activity sites are selected and designs of civil works are completed, site specific ESMPs and RAPs will be prepared, consulted upon and disclosed prior to the commencement of works. The PIU will hire a dedicated safeguards specialist/focal point to oversee all safeguards aspects of the project at least one month prior to the start of civil works.

47. The safeguards specialist/focal point of the PIU will be trained in the World Bank's safeguard policies' implementation requirements and in the implementation of safeguards documents (ESMF, RPF and subsequent ESMPs and RAPs) governing the project. The World Bank Task Team's environmental and social safeguard specialists will provide continued guidance to the PIU during project implementation. During project implementation support missions, the World Bank team will assess the implementation of the ESMF and RPF and recommend additional strengthening, if required. All safeguards instruments prepared for the project, along with the requisite attachments, will be shared directly with the involved ministries (MoF and MTC), concerned nongovernmental organizations and development partners involved with the project.

48. At any time when necessary, the PIU and *Avaliação Ambiental Autoridade Competente* (Authority for Environmental Assessment) will consult project-affected groups and local authorities on the project's environmental and social aspects, and will take their views into account. The PIU will initiate these consultations as early as possible and to ensure meaningful consultations, will provide relevant material in a timely manner prior to consultation, in a form and language (s) that are understandable and accessible to the groups being consulted.

49. **Screening process**. Prior to its commencement, and as soon as the specific site is identified, each subproject or eligible activity will be systematically processed through the environmental and social screening procedure as detailed in the ESMF and RPF. The screening will be carried out by the PIU safeguard specialist/focal point. This process will result in the environmental classification of each subproject in Category B or C; Category A subprojects will not be eligible for financing under the project. For Category B activities, concise and accurate site specific Environmental and Social Management Plans (ESMPs) will be prepared, processed according to the national procedures, submitted for the World Bank's comment and then disclosed in-country and at the World Bank's InfoShop. The relevant measures will be integrated in the activity work break structure, costing (bidding documents) and implementation (contracts, annual work plan and budget structure, report). With Category C activities that are likely to induce minor concerns on environmental or social aspects, simple mitigation measures integrated into the implementation activities will suffice. As with all project categories, national environmental laws, as well as health and safety regulations would still apply.

50. ***Roles and responsibilities.***

- MTC: As the proponent, will have overall responsibility to: (a) ensure compliance with the safeguard instruments, through the PIU in collaboration with relevant stakeholders; (b) oversee implementation of specific mitigation measures as approved through the subproject ESMPs and RAPs; and (c) monitor and report through periodic project implementation reports. At the early stages of project implementation, the PIU will disseminate and clarify safeguard requirements and objectives to the key stakeholders and beneficiaries.
- The PIU will be responsible for implementing the safeguards measures. The PIU safeguards specialist/focal point may seek assistance from the competent Authority for Environmental Evaluation, *Avaliação Ambiental Autoridade Competente* for the screening of the eligible activities. The PIU safeguards specialist/focal point will ensure that appropriate mitigation measures and clauses are included in the bidding documents and enterprise contracts.
- *Avaliação Ambiental Autoridade Competente* will take the lead in: (a) approval of the screening results; (b) review of ESMPs and permit issuance; (c) ensuring ESMP and/ environmental clauses are included in bidding documents and contractors' contracts; and (d) monitoring of ESMP implementation.

51. ***Follow up and reporting of the mitigation measures***: Environmental and social mitigation measures will be executed, monitored and reported via: (a) approved screening sheets; (b) Safeguard Monitoring Reports; and (c) the Environmental and Social Safeguards section of the overall project periodic report. The PIU will share all relevant reports with *Avaliação Ambiental Autoridade Competente*. The indicators to be monitored as part of the project global monitoring system include:

- Percentage of eligible activities processed through the screening procedure;
- Number/Frequency of safeguard supervision and annual project reviews undertaken;
- Number of trainees on the implementation and requirements of the World Bank's safeguard policies;
- Section on safeguards implementation in the project periodic reports.

52. The key safeguard due diligence is summarized below, together with the time schedule and implementation responsibilities.

Table A3.4. Safeguard Action Plan

Actions	Timeline	Responsible
Dissemination of the safeguard instruments: - ESMF and RPF	Completed - Before appraisal	PIU
Safeguard processing of any eligible activity	Prior to implementation	PIU

Preparation and implementation of ESMPs	As part of the ESMF	PIU
Preparation and implementation of RAPs	As part of RPF	
Implementation and follow-up of the mitigation measures	Continuous	PIU
Capacity building of relevant stakeholders	As scheduled	PIU
Midterm and final audits of the implementation of environment and social recommendations and measures	As scheduled	PIU

Monitoring and Evaluation

53. The PIU will monitor and evaluate the project, bearing the primary responsibility for project M&E, and, as such, will establish standard formats and guidelines for data collection and reporting, and will organize training sessions for project stakeholders in their use.

54. An M&E system will be set up within the PIU to keep track of and evaluate implementation progress of the proposed IDA project within the broader context of the institutional framework for the telecommunications sector. Although increased geographical reach and reduction of costs at the country level remains the hallmark of success of an enabling environment, the project's M&E system will seek first to measure results that are closely associated with project activities. Hence, the first order of indicators that the M&E system will look at shall include indicators related to quality, quantity, and time (Annex 1). Ultimately, improvement of laws and decrees by the project activities (Component 2) will have positive ripple effects on the whole sector and on service delivery.

55. The views of direct beneficiaries will be brought into the monitoring and evaluation process. Comprehensive M&E reporting will be needed to monitor the results and performance of the project. It will involve mainly the direct beneficiaries of project activities, but will be extended to other beneficiaries such as telecommunications operators and private ICT firms, which ultimately are the main beneficiaries of the project's outcomes. The PIU will review and validate the reports on performance indicators and recommend corrective action if necessary.

Annex 4: Implementation Support Plan

WARCIP GUINEA-BISSAU

Strategy and Approach for Implementation Support

1. Resources under the PPA are expected to ensure that the policy, regulatory, environmental and social safeguards, as well as requisite capacity are in place before Board approval of the project. The PPA is also expected to ensure that the Government has the requisite Transaction, Legal and Regulatory experts to ensure open access, effective structuring of PPPs to own and manage communications infrastructure. Additional resources have been provided to support the Government to undertake environmental assessments and to put in place mitigation measures. These activities are in various stages of implementation and expected to be completed before project effectiveness. Additionally, the team has conducted preliminary assessments of the institutions expected to execute the Project to ensure that they meet the minimum requirements of the World Bank's fiduciary obligations.

2. The Project will make direct payments to the Cable consortium which is managing the submarine cable construction on behalf of consortium members. The PIU will only manage funds used primarily for institutional and implementation support and to improve the enabling environment.

Implementation Support Plan

3. The implementation support plan aims to provide the technical and administrative support necessary to facilitate achievement of the PDO as well as identify the minimum requirements to meet the World Bank's fiduciary obligations.

4. 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. The World Bank team will also help identify capacity building needs to strengthen financial management capacity and to improve procurement management efficiency.

5. The World Bank team members will be based either in Washington, D.C. or in the Africa region, and will be available to provide timely, efficient and effective implementation support to the client. Formal supervision and field visits will be carried out as needed, with a midterm review planned at the end of Year 2. The midterm review provides the opportunity of an overall, deeper review of progress achieved, analysis of the causes of possible delays or target unattained, and discussion over possible mitigation actions. These will be complemented with audio conferences to discuss project progress. The team will liaise with the legal department to support with the review on PPP instruments, licenses and corporate/contractual documents developed under the project.

6. In order to provide robust implementation support, the following team and skills would be envisaged:

- **Task team leader,** responsible for overall support and supervision to ensure that the operations are on track to achieve the objective, and compliance with the financing agreements.
- **Financial management specialist,** based in the region, will review submitted reports and provide real-time guidance as needed to the PIU, as well as frequent monitoring and supervision.
- **Procurement specialist,** based in the region, will review procurement documents and provide real-time guidance and training on the World Bank's procurement guidelines to the PIU as needed and will monitoring procurement progress against the detailed procurement plan.
- **Safeguards Specialists**, will provide implementation support through missions as well as training on World Bank safeguards policies to PIU as needed. The safeguards team will review the monitoring reports, ensure adequate implementation of safeguards instruments, assess the status of implementation of mitigation measures, and help address any unforeseen safeguards issues during project implementation.

7. The main focus of implementation support is summarized in Table A4.1.

Table A4.1. Implementation Support

Time	***Focus***	***Skills Needed***	***Resource Estimate***
First 6 months	Component 1: Supporting connectivity – Adhesion to ACE Component 3: project implementation unit in place and operational	Transaction and legal advisory skills Fiduciary Project coordination and communication	5 s/w
First 12 months	Component 1: Supporting connectivity - *Subcomponent 1.2 – Building of a terrestrial fiber optic missing link for a total of 28 km* Component 2: Creating an enabling environment *Subcomponent 2.1 – Transaction Design for PPP* *Subcomponent 2.2 – Strengthen the institutional capacity of the Secretary of State for Transport and Communications* *Subcomponent 2.3 – Options for the strategic*	ICT specialist Fiduciary (procurement, FM) Telecommunication policy advice Telecommunication legal and regulatory capacity building SOE restructuring strategic options	11 s/w

	repositioning of Guinetelecom/Guinetel *Subcomponent 2.4 – Regulatory capacity building*		
12-48 months	Component 1: Supporting connectivity - *Subcomponent 1.2 – Building of a terrestrial fiber optic missing link for a total of 28 km* Component 2: Creating an enabling environment *Subcomponent 2.2 – Strengthen the institutional capacity of the Secretary of State for Transport and Communications* *Subcomponent 2.4 – Regulatory capacity building*	ICT specialist Fiduciary (procurement, FM) Telecommunication policy advice Telecommunication legal and regulatory capacity building	21 s/w
48-86 months	Component 4: Cofinancing for the construction of the National Backbone and the preparation of the restructuring of GuineTelecom/GuineTel	ICT specialist Fiduciary (procurement, FM) Telecommunication policy advice Telecommunication legal and regulatory capacity building SOE restructuring strategic options	16 s/w
Duration of the project	Implementation support	Project coordination and communication	

Table A4.2. Skills-mix Required

Skills Needed	***Number of Staff Weeks***	***Number of Trips***	***Comments***
Task team leader	12 SWs annually	As required	Washington based and telecommuting from Rabat, Morocco
Technical focal point	8 SWs annually	As required	Washington based
Financial management specialist	5 SWs annually	As required	Based in the Region
Procurement specialist	5 SWs annually	0	Based in Dakar
Legal advisor	2 SWs annually	As required	Washington based

Annex 5: Economic and Financial Analysis

WARCIP GUINEA-BISSAU

1. This section aims at providing estimates of the impacts related to the development of the fiber optic network infrastructure that would be permitted by the WARCIP Project. Based on a survey of the literature regarding the impacts of broadband services on economic growth and job creation, Section 1 discusses the reasons why the potential of the telecommunication sector as an enabler of economic development is largely untapped in Guinea-Bissau. Section 2 discusses the benefits of the WARCIP Project. Section 3 presents the financial analysis of the WARCIP Project.

Section 1. Broadband services as an enabler of sustainable economic growth and job creation:

2. Recent empirical evidences have shown that broadband is a powerful driver for sustainable economic growth and job creation. Relying on an empirical study covering 120 countries, World Bank (2009) estimates that each 10 percentage points (ppts) increase in broadband penetration increases overall GDP growth in developing countries by 1.38ppts.

3. Improvements in broadband Internet infrastructure as a backbone of digital ecosystem can enhance economic growth and reduce poverty through the following mechanisms: Improved access to markets and services, e.g. export opportunities for businesses[51], job opportunities and/or access to basic services such as health and education for people; Increased efficiency including through higher labor productivity and enhanced capital utilization, and Reduced marginal costs and prices of final goods and services with respective benefits to producers and consumers. Academic literature has a variety of examples demonstrating the correlation between the increased access and/or adoption of broadband and improvements in various economic outcomes, e.g., Clarke and Wallsten (2006) found that a one percentage point increase in the number of Internet users is correlated with a boost in exports of 4.3 percentage points. A series of studies demonstrate that adoption of broadband-based processes by firms improves their employees' labor productivity on average by 5 percent in the manufacturing sector and by 10 percent in the services sector. Crandall *et al.* (2007) show that for every one percentage point increase in broadband penetration within a region, employment increases by 0.2-0.3 percent per year for the private, non-farm economy. In Sub-Saharan Africa, GSMA (2012) estimates that the mobile ecosystem (including mobile broadband) is significantly contributing to employment by generating 3.3 million of direct jobs. And, by 2020, it is projected that direct employment by the mobile ecosystem will grow to 6.6 million. Broadband also contributes indirectly to job creation by expanding the frontiers of traditional jobs, enabling new job and income opportunities, including ICT-based contracting, microwork and crowdsourcing, jobs in the virtual economy, and jobs related to the emerging app economy (Rossotto, Kuek, and Paradi-Guilford 2012). By 2020, it is estimated that 20 percent of all jobs will be operated exclusively online (World Bank, 2014).

[51] In the services sector one of the well-known examples is IT-enabled services exports such as Business Process Outsourcing (BPO)

4. Adoption of broadband Internet also promotes sustainable development—it is a foundation for ICT-enabled solutions ranging across different sectors of the economy: power, transportation, manufacturing, consumer and service, agriculture, and buildings. For examples, broadband enables "smart" infrastructure such as smart electricity grids that greatly enhance the performance of the electricity grid, reduce peak load energy requirements, allow for better integration of renewable energy sources, and promote effective energy use (Nocentini, Gavazzi, and Pupillo 2013).

5. In Guinea-Bissau, the potential of broadband as an enabler of economic growth is largely untapped because the uptake of mobile telephony and broadband services has been strikingly slow. The penetration of mobile services (number of sim cards as a percentage of the population) is 67 percent in 2015 while it reaches 93 percent in Senegal, 99 percent in Gambia and 103 percent in Mauritania (International Telecommunications Union [ITU], 2015). However, since the average number of cards per subscriber is 2.1, this suggests that only 41 percent the population has a mobile phone. Regarding mobile broadband services, the market is still nascent in 2016 with only 50,000 of mobile broadband subscribers or a penetration rate of 3.3 percent of the population at the end of 2015, and 4.6 percent expected at the end of 2016 compared to 16 percent in Mauritania and 24 percent in Senegal in 2015. This penetration rate is much below the Sub-Saharan region average of 14 percent. Guinea-Bissau also faces a significant lack of fixed infrastructure and landlines are almost nonexistent. This means that mobile is the only medium for accessing Internet.

6. There are two major explanatory factors to the low penetration levels of mobile services in Guinea-Bissau:

- First, access to services—via subscription—is too expensive for most of the population. It is estimated that, on average, a mobile subscriber in Guinea-Bissau spends more than 19 percent of his or her monthly income on mobile telecommunications services (voice and data), much higher than in other neighboring countries (14 percent in Côte d'Ivoire, 9 percent in Ghana, 12 percent in Senegal, and 4 percent in South Africa, and less than 1 percent in the United States and Europe). Affordability of broadband services is even more problematic due to the high cost of computer ownership and smartphone. The price of a 2 GB top-up[52] is as high as US$60 in purchase power parity in Guinea-Bissau, representing 51 percent on monthly GNI per capita, compared to US$40 in Mauritania, US$19 in Nigeria, or US$18 in Senegal, representing respectively 14 percent, 4 percent and 10 percent on monthly GNI per capita (in PPP).

- Second, the existing telecommunications infrastructures in Guinea-Bissau face important limits in terms of quality. Guinea-Bissau is the only country on the West African coast not connected, through an entry point in Guinea-Bissau, to international connectivity provided by submarine cables. As a result, there is no "open access" (i.e. shared) entry point for international connectivity in Guinea-Bissau, and each operator is thus constrained to deploy its own satellite, microwave or fiber optic networks in order to bring international connectivity in Guinea-Bissau. Orange-Bissau has a connection to the

[52] A 2 GB Top-up is a prepaid recharge card useable for a maximum volume of data of 2 GBytes, and valid for a limited duration, generally 30 days.

terrestrial optical fiber network owned by Orange's other subsidiary Senegal (via Ziguinchor) but the quality of this connection is very low due to frequent cuts. As a back-up, Orange-Bissau also has an expensive connection via microwave to Conakry and can rely on satellite. Despite MTN's presence in Guinea, terrestrial connections are not as developed as those of Orange-Bissau and the company relies on less dependable and more expensive micro-wave networks compared to Orange-Bissau's optical fiber networks. MTN has also deployed a fiber optic to Ziguichor in Senegal, but has not been yet authorized to use it. MTN is also partly relying on expensive satellite connectivity. Deploying such networks is extremely costly (due to high levels of CAPEX and OPEX that are not mutualized) whereas their reliability is significantly limited. This situation affects both the quality and price of services explains why broadband market is still in the initial stage of development. Without improved access to international (via submarine cable) and national terrestrial connectivity by every operator (i.e. under open access principle), Guinea-Bissau cannot expect substantial improvement in the coverage, quality, and price of broadband services.

Section 2. Benefits of the WARCIP Project:

7. The only existing and foreseeable international connections for Guinea-Bissau are satellite connections, microwave connections to Guinea and terrestrial fiber optic connection to Senegal. The cost of these connections is hampering the development of broadband in Guinea-Bissau. Indeed, the international connectivity cost per Mbps[53] would remain higher than US$130 to 150[54] (compared to US$375, on average in 2015) per month in the next five years, compared to US$72 to US$80 with ACE. In addition, the bandwidth requirement for a 4G subscriber will soon exceed 50 kbps.[55] It means that, for each operator, the international bandwidth cost per 4G customer would remain higher than US$6 to US$8. This is not compatible with mass market Average Revenue Per User (ARPU) which lie in the range of US$3 to US$6 in the region.[56] In other terms, it would limit penetration and use of broadband services to high end customers, which do not represent more than 5 percent of the population. On the other end, reducing the cost of international connectivity would allow a much more important penetration, estimated at a minimum of 50 percent to 60 percent in 2027.[57] It thus appears that the benefits of the project are significantly higher than the costs, even if not taking into account all the qualitative benefits for the population, in terms of accessing to a whole range of digital services for education, finance, health, entertainment, communication, etc.

[53] The international connectivity cost is the cost paid by the operators to access to international capacity. It is a part of their production cost, which also include national capacities, network equipment, licenses, administrative and commercial cost, etc. The price paid by the customers must cover all these costs.

[54] Based on information provided by Orange indicating that the bandwidth cost for international capacity at the Senegal border is US$116 per Mbps. To this cost must be added the transit cost from Bissau to the border, estimated in a US$15 to US$35, depending on the actual volume.

[55] It is estimated that the availability of 4G services will boost the consumption, similarly as in all countries, and that a minimum bandwidth of 50 kbps per customer is necessary to provide an acceptable quality of service. It is anticipated that Guinea-Bissau would face this situation in three to five years.

[56] For instance US$4.6 in Senegal according to Sonatel data

[57] Based on S-curves as observed in other emerging countries

8. The WARCIP Project will support the construction in Guinea-Bissau of a landing station for the ACE submarine cable and will also include a fiber optic link in Guinea-Bissau (for a total of around 28 km) so as to connect the ACE landing station in Suro to the entry point of the OMVG network in Antula (around Bissau where most of the broadband market is concentrated) that will provide Guinea-Bissau with connectivity redundancy in 2018 to 2019. This strategic infrastructure will allow operators to reduce their operational costs through much higher volumes of data traffic and to offer better quality of services.

9. Connecting locally to submarine fiber-cable systems minimizes transit costs and is the most cost-effective long-term option for Guinea-Bissau. Capacity requirements will expand dramatically in the next few years, fueled by broadband deployment and the expected price cuts on wholesale international capacity (to less than US$60/Mbps/month),[58] as well as reductions in tariffs for use of the national backbone (which constrains domestic use and traffic from neighboring countries). Taking this into account, Guinea-Bissau's requirement for international capacity is projected to grow up to 50 to 80Gbps by 2027. This pattern of rapid increases in bandwidth demand is expected to follow trends observed elsewhere on the continent such as in Kenya following the arrival of competitively priced international capacity in 2009, growing from 2Gbps in 2008 to over 50Gbps by the end of 2011. Considering the higher cost of purchasing terrestrial transit to a neighboring country and well as political considerations by the government, and the limited number of submarine fiber alternatives in the region (there are currently no plans for additional submarine cables on the west coast and none expected, given the capacity that will be available on ACE and WACS), an ACE connection and landing station is currently the best fiber option for the country. The effective cost of capacity through investing in ACE will be an order of ten times cheaper than purchasing capacity from Guinea-Bissau on other African submarine cables linking to Europe, which is between US$160 and US$1,500/Mbps/month, and averages US$500/Mbps/month[59] (Table A5.1.). To this would need to be added the cost of terrestrial transit to a neighboring country, which, aside from the sovereignty issues, could cost as much, if not more than the capacity on the submarine cable.[60]

10. For Guinea-Bissau, the key cost saving with ACE compared to other alternative fiber options is the high cost involved in the purchasing of terrestrial transit capacity to a neighboring country, combined with the cost of capacity purchased from the foreign landing station to the global backbones (Table A5.1). Guinea-Bissau's participation in ACE, which lands traffic directly at the most competitive hubs in Europe, will ensure that transit costs to the global backbones are minimized. Relying on a submarine cable landing station significantly reduces the purchasing cost of international capacity for operators. With the approximately 300Mbps of international capacity being purchased at present by Guinea-Bissau, an ACE connection and landing station in Guinea-Bissau providing capacity at between US$100/Mbps/month in 2018 (decreasing to US$50/Mbps/month in 2026) should represent an annual saving to operators of

[58] Following the connection of Mauritania to the ACE cable in 2011, the price of wholesale international capacity has been reduced to US$43 Mbps/month.

[59] The expected price for ACE will be US$100 in 2018, and will decrease to US$50 in 2026 in the most ambitious scenario (Table A5.3).

[60] For example in Nigeria, even although there are at least three domestic fibre operators on the main routes, it costs more to send traffic from Abuja to Lagos, than it does to send it from Lagos to London.

about US$5 million in 2018 when compared to current costs of about US$1,500/Mbps/month for satellite bandwidth.[61] This saving would be expected to increase dramatically as bandwidth use levels rise and as ACE pricing drops to levels seen elsewhere on the continent for wholesale submarine fiber capacity (US$50-US$65/Mbps/month). These cost savings resulting from access to ACE would benefit the local economy because it would provide significant potential to decrease retail prices for broadband services in Guinea-Bissau via mobile broadband access networks for residential and businesses. Recent research indicates for example that a compound annual decline of 3 percent in cost of broadband access in the Africa and Middle East region could increase penetration rate by more than four times between 2010 and 2015.[62]

Table A5.1. International connectivity price per 1Mbs paid in Guinea-Bissau by telecommunication operators (US$/month):

	Orange	**MTN**	**Average**
Via Senegal	150	170	160
Via Guinea-Conakry	127	290	210
Via Satellite	N/A	1,500	1,500

Note: referenced costs do not take into account the cost of channeling the international capacity bought at the landing stations to Bissau

11. Along with its effects on retail prices, the WARCIP Project would contribute to increase the quality of services offered by operators through better Internet speed permitted by fiber optic networks. Indeed, submarine fiber cable has also an advantage over terrestrial and satellite alternatives in terms quality of service (Table A5.2.). The latency factor introduced in satellite links can be a problem with some communication services, especially high data rate interactive multimedia applications. The almost one-second delays introduced by satellite connectivity significantly reduces performance of some services and limits the types of services that can be provided, such as the use of secure virtual private networks, which time out when performance is degraded by satellite links. While it is possible to circumvent these problems to some extent through use of sophisticated traffic shaping devices at each end of the link, this creates additional capital and human resource costs for the user. And the perceived disadvantages of satellite can limit foreign investment in the sector, especially among high bandwidth consuming interactive services such as business process outsourcing call centers and virtual private networks, where companies are reticent to establish these on the end of a satellite link, not only because of cost but also due to the latency issue. A new type of satellite service that is based on 'medium earth orbit' satellites, which provide lower levels of latency due to their greater proximity to earth,

[61] Taking into account only terrestrial connectivity, with an average price of US$185/Mbps/month, the savings would be around US$300,000 per year, and taking account a balanced usage of satellite and terrestrial connectivity, the savings would be US$2.65 million per year.

[62] Pyramid Research, New Undersea Cables Help Boost Africa's Broadband Prospects: The Role of African Regulators to facilitate market development and ensure affordable prices, presented by Sonia Jorge, Research Director, at the ITU-FTRA, Banjul, The Gambia, July 12 to 14, 2010.

could meet needs for improved international connectivity. However, the only proposed service of this type, called 03B, has yet to launch any satellites and is still relatively costly when compared to the fiber options, so it was also eliminated from further consideration as a national solution, although in some remote areas it may have value for providing localized connectivity where there is no fiber. In the same vein, as indicated above, terrestrial links to neighboring countries could be considered another alternative, however as with satellite solutions, these links ultimately do not scale economically to the levels of bandwidth that are expected to be required at an international level.

Table A5.2. Advantages and Disadvantages of Submarine Cable Compared to Increased Satellite Capacity and Terrestrial Links to Neighboring Countries

	Increased satellite capacity	**ACE Submarine Cable Systems**	**Terrestrial links to neighboring countries**
Advantages	Lower CAPEX and O&M; Bandwidth purchases grow in concert with demand growth; Less risk of service being discontinued for long periods.	Future proof in terms of capacity available and superior quality through higher performance (lower latency); Much lower cost for bandwidth. Fixed cost for capacity investment means prices go down as usage picks up.	Generally less CAPEX than submarine cable. Provides good opportunity for back-up of submarine access. Provides good opportunity for additional sales of transit traffic.
Dis-advantages	Far higher cost for bandwidth; High latency can limit the bandwidth quality and applications that can be used.	Higher CAPEX required (effectively a pre-purchase of bandwidth, most of which will be for future use); More expensive O&M; Slower repair times means need for backup via alternative cross-border fiber route or satellite in case of cable damage (if only one cable).	Higher CAPEX than satellite solution, and more expensive OPEX; Presents high risks if used as a stand-alone solution: quality of service, OPEX, cost of accessing bandwidth in neighboring countries, regulatory obstacles.
Socio/ Economic/ User Impact	Number of Internet users and extent of usage is constrained by high bandwidth prices and slower performance. Reduced potential for development of local ICT industry and fewer BPO opportunities. More limited potential value/use by government due to reduced Internet penetration in the population generally.	Greater, faster and broader uptake by households, businesses and governments and associated increased potential for development of local ICT industry and more BPO opportunities. More extensive use by government as Internet penetration reaches majority of people. improved educational opportunities through increase in access to information and education resources; Development of a regional sense of community through greater equality of Information sharing across geographical regions and across groups in society Economic benefits from the enhanced opportunities for new and small enterprises that may have previously been excluded from technologies by high costs; and macroeconomic benefits of the potential expansion of technology-reliant industries, such as information technology services and software development businesses.	Provides greater impact through an important available bandwidth, but less scalable than submarine cable, due to the fact that the cost of international capacity remains proportional to the bandwidth (limited fixed cost and scale economies).

12. The predicted bandwidth demand for Guinea-Bissau is shown in Table A5.3, according to three trajectories (i.e. scenarios) for wholesale price evolution. Wholesale price are shown in Table A5.3, and would decrease from US$100 per Mbps in 2018 to US$47 in 2027 in the high penetration scenario, to US$60 in the medium penetration scenario and US$69 in the low penetration scenario. The prospective demand is supposed to develop in line with international trends for broadband development and adoption by the population, and particularly the potential created by the explosion of mobile broadband[63] (3G/4G/LTE/Wi-Fi). It is expected that almost every mobile phone user would have access to broadband on their handset.[64] However, this is dependent on the availability of mobile devices at a reasonable price, on the availability of reasonably priced broadband radio spectrum, and also that the retail market will be competitive so that available bandwidth and decrease in prices are pushed to the consumers, otherwise the operators may not be encouraged to introduce low cost services the near future. Figure A5.1. shows the total international Internet bandwidth that would be necessary for each scenario. This bandwidth will exceed initial capacity on ACE in 2021 to 2023 according to the scenarios, which will be addressed by existing agreed conditions to extend initial capacity or future upgrades of ACE cable, as planned before 2020 (note that the current installed capacity on ACE is 200 Gbps compared to a maximum capacity of 12.8 Tbps).

Table A5.3. Bandwidth Demand Forecast for Guinea-Bissau (2027)

	Population (2027)	**Wholesale price in US$/Mbps per month** (in 2018 and 2027)	**Penetration rate (% of the population)** (2027)	**Estimated number of subscribers** (2027)	**International Kbps/ Subscriber** (2027)	**International Bandwidth (Gbps)** (2027)
Without the connection of Guinea-Bissau to ACE	2,390,164	500 and 200 (estimated)	10	239,016	25	5.9
Low broadband penetration and low usage	2,390,164	100 and 69	42	1,009,073	26	24.9
Medium broadband penetration and medium usage	2,390,164	100 and 60	59	1,417,905	37	49.7
High medium penetration and high usage	2,390,164	100 and 47	72	1,709,938	51	83.2

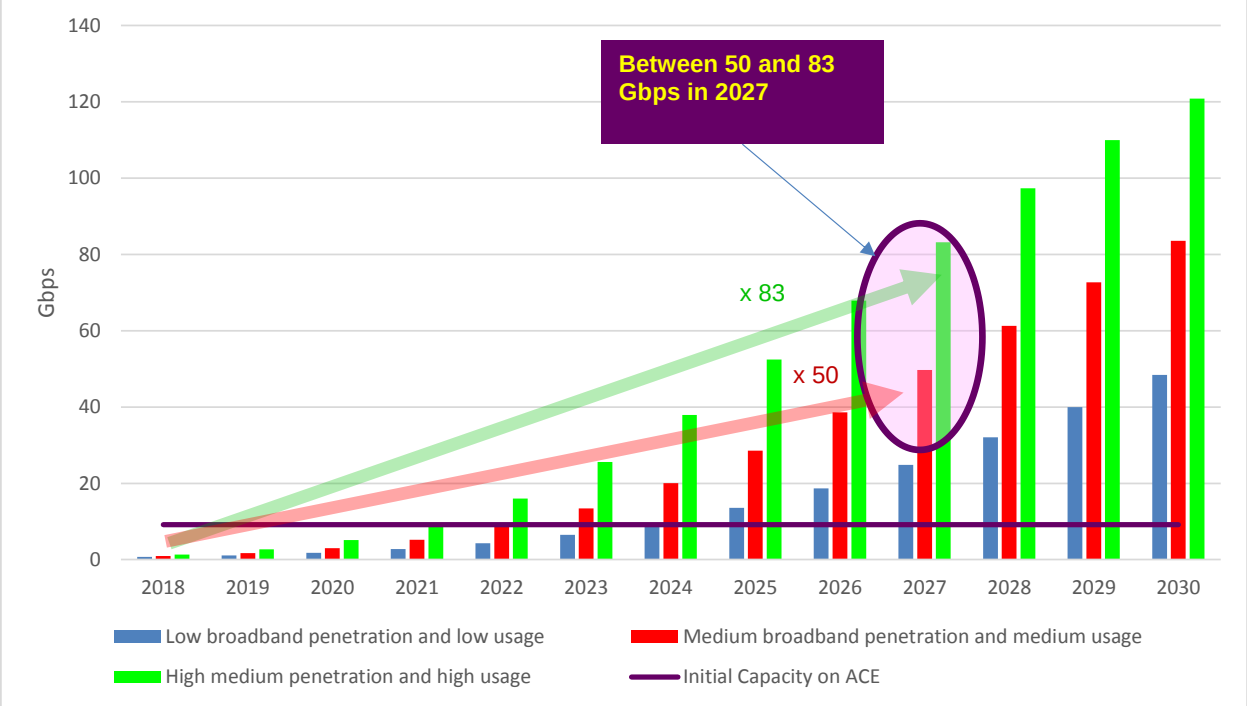
[63] 3G data service uptake from the consumer has been massive and unprecedented in other developing countries where competitively priced services have become available, and in most of these countries the majority of Internet access now takes place via the mobile networks.

[64] Brand new 3G capable smartphones are now being sold in Africa for US$75-100 (without contract or network locking), and prices are expected to come down much further over the next 10 years.

Table A5.4. Evolution of Penetration Rate and Price per Mbps for Guinea-Bissau (2018 to 2027)

Penetration rate	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Low broadband penetration and low usage (%)	7	9	12	15	19	23	27	32	37	42
Medium broadband penetration and medium usage (%)	9	12	17	22	28	35	42	48	54	59
High medium penetration and high usage (%)	11	16	22	30	39	47	55	62	68	72
Bandwidth price (US$/Mbps/month)	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**2026**	**2027**
Low broadband penetration and low usage	100	96	92	88	85	82	78	75	72	69
Medium broadband penetration and medium usage	100	95	89	84	80	75	71	67	64	60
High medium penetration and high usage	100	92	85	78	72	66	61	56	51	47

Figure A5.1. Evolution of International Internet Bandwidth for Guinea-Bissau (2018 to 2030)



13. Bandwidth requirements per user have the potential to advance rapidly with further social and economic development. The analysis is based on a growth of the international bandwidth following a S-curve starting-up immediately after the availability of low cost international capacity in 2018. Aside the provisos outlined suggesting that extrapolating trends in current

broadband subscriber growth will tend to under-estimate the future broadband user-base, there are similar provisos regarding extrapolating capacity requirements per user. Globally, the last 10 years has seen massive increases in end-user bandwidth demand resulting from the popularity of social networks, image and video sites such as Facebook and YouTube. Fortunately, these bandwidth demands have kept pace with technology developments, which are now seeing domestic broadband services delivering 100Mbps and even 1Gbps in some advanced countries. If we assume that Guinea-Bissau will have the opportunity to catch up at least partially with these developments over the next decade then we can expect a relatively high level of growth in bandwidth use. As a whole across Africa and the Middle-East, international traffic grew by 45 percent in 2010, and this includes many countries which have already had competitive fiber access and more affordable broadband services for some time and so growth rates may not be as high on average compared to countries that are only now obtaining competitively priced international capacity.

Section 4. Financial Analysis:

14. Financial comparisons of the options were made using the following assumptions:

- ✓ ACE investment participation costs assumes all US$30.4 million is paid in 2017 and 2018, and maintenance costs are 2.6 percent of CAPEX.[65]
- ✓ Investment cost for the terrestrial link between the landing station in Suro and the OMVG point of presence in Antula is estimated at US$1 million.
- ✓ A discount rate of 10 percent[66] in the base case with a sensitivity analysis with 12 percent.
- ✓ Revenues from the ACE cable begin in 2018 Q4, after expected completion of the infrastructure during 2018.

15. The key economic data is shown in Table A5.5. The investment in ACE for Guinea-Bissau will breakeven between 2025 and 2030, depending on the development speed of broadband penetration. The IRR would range between 11 percent and 22 percent in 2027 and between 19 percent and 27 percent in 2032. The NPV would range between US$1.4 and US$28.3 million to 2027, and between US$26.3 and US$62.1 million to 2032[67]. Table A5.5[68] show that the cumulated discounted cash-flows (in US$ million) will grow quickly after being

[65] Or US$800,000 per year. The OPEX is expected to be higher than in the Guinea Conakry WARCIP case (US$600,000) due to the specificity of Guinea-Bissau that will have to pay operation costs for the fiber optic festoon linking Suro to Dakar. An OPEX of 2.6 percent of CAPEX is thus a prudent assumption.

[66] The discount rate is the cost of capital (Weighted Average Cost of Capital). For Guinea-Bissau this assumption is prudent and takes into account the high country/political risk. Discount rate of 10 percent would improve the values of the projects financial indicators: NPV and breakeven point.

[67] The large spread of values for NPV to 2027 and 2032 is due to long term effects of market development that impact considerably the revenue line of the business plan but less the cost (infrastructure cost will be largely independent from the volume of traffic and revenues). The Weighteed Average Cost of Capital has been set at 10% taking into account a large uncertainty of long-term demand. However, it is to be noted that in any case, the NPV to 2027 and 2032 is largely positive.

[68] Complete tables until 2032 are available upon request

positive, which is important in order to finance potential further investments (reinvestment in ACE forecasted in 2036 or other submarine cable to come in the future). This profitability scheme is based on a wholesale price supposed to be regulated by the National regulatory authority, and corresponding to the wholesale price that the operators will offer to other players not present in the SPV. The operators present in the SPV will beneficiate directly from the capacities without paying the wholesale price (as having already paid the capacity through their investment in the SPV). The operators will therefore be incented to use their capacity (for a total of 9 Gbps connecting Guinea-Bissau)[69] with the most aggressive retail prices, in order to maximize the return on their investments.

[69] The initial capacity of ACE, as per the C&MA, is 190.840 Miu.km, corresponding to a total capacity of 9 Gbps for capacities used from Bissau to Paris.

Table A5.5. Profitability Indicators for Guinea-Bissau

Development scenario: Low broadband penetration and low usage

	Units	2016	2017	2018	2019	2020	2021	2022	2023	2024
FINANCIAL RETURN OF THE PROJECT										
(1) Mobile broadband Penetration Rate	%	3,3%	4,3%	5,6%	7,3%	9,3%	11,9%	15,0%	18,6%	22.8%
(2) Mobile Internet consumption per subscriber	GB per month	0,2	0,2	0,3	0,4	0,5	0,6	0,7	0,8	1.0
(3) International Bandwidth	Gbps	0,1	0,2	1,2	1,8	2,6	3,8	5,5	7,7	10.7
(4) Revenue from national market	US$	0	0	1 450 800	1 764 173	2 718 683	3 722 367	3 910 283	5 181 289	6,162,658
(5) Revenue from international transit	US$	0	0	1 595 880	1 903 450	2 406 703	2 190 635	2 965 572	3 051 992	4,103,392
(6) = (4) + (5) Total revenues	US$	0	0	3 046 680	3 667 622	5 125 386	5 913 002	6 875 855	8 233 281	10,266,050
(7) EBITDA margin	%	0%	0%	-34%	64%	74%	76%	79%	82%	85%
(8) = (6) * (7) Total EBITDA	US$	0	0	-1 048 637	2 343 614	3 768 804	4 522 882	5 451 204	6 773 077	8,735,238
(9) EBIT margin	%	0%	0%	-82%	18%	41%	48%	55%	62%	68%
(10) = (6) * (9) Total EBIT	US$	0	-642 870	-2 488 953	661 607	2 086 797	2 840 875	3 769 017	5 085 670	6,939,761
(11) CAPEX	US$	0	21 000 000	10 446 759	0	0	0	3 085	87 236	110,325
(12) Cash flow	US$	0	-21 000 000	-11 495 396	2 343 614	3 768 804	4 522 882	5 448 119	6 685 841	8,624,914
(13) = IRR(12) IRR 2027		**11%**								
(14) Discount rate		**10%**								
(15) = NPV(12, 14) NPV 2027		1 447 884								
(16) Discount rate		**12%**								
(17) = NPV(12, 16) NPV 2027		-1 682 052								
(18) = IRR(12) IRR 2032		**19%**								
(14) Discount rate		**10%**								
(19) = NPV(12, 14) NPV 2032		26 286 505								
(16) Discount rate		**12%**								
(20) = NPV(12, 16) NPV 2032		17 634 713								

	Units	2025	2026	2027	2028	2029	2030	2031	2032
FINANCIAL RETURN OF THE PROJECT									
(1) Mobile broadband Penetration Rate	%	27.4%	32.3%	37.3%	42,2%	46,8%	51,1%	54,7%	57,9%
(2) Mobile Internet consumption per subscriber	GB per month	1.2	1.4	1.6	1,8	2,1	2,3	2,5	2,7
(3) International Bandwidth	Gbps	14.6	19.3	24.9	31,2	38,1	45,3	52,5	59,6
(4) Revenue from national market	US$	8,256,448	7,178,226	10,387,551	12 827 085	12 899 207	16 081 143	16 147 895	18 909 968
(5) Revenue from international transit	US$	4,418,944	3,310,022	3,720,174	5 146 781	5 595 253	6 207 027	5 198 685	5 487 736
(6) = (4) + (5) Total revenues	US$	12,675,392	10,488,247	14,107,725	17 973 866	18 494 460	22 288 170	21 346 580	24 397 703
(7) EBITDA margin	%	88%	85%	88%	91%	91%	92%	92%	92%
(8) = (6) * (7) Total EBITDA	US$	11,106,889	8,880,936	12,460,456	16 319 455	16 797 688	20 547 781	19 561 280	22 566 163
(9) EBIT margin	%	73%	67%	75%	81%	81%	84%	83%	85%
(10) = (6) * (9) Total EBIT	US$	9,298,790	7,059,630	10,635,734	14 570 922	15 031 899	18 763 817	17 760 348	20 749 314
(11) CAPEX	US$	137,561	128,151	417,098	190 953	159 424	197 678	149 713	168 989
(12) Cash flow	US$	10,969,328	8,752,785	12,043,359	16 128 503	16 638 264	20 350 103	19 411 567	22 397 174

Development scenario: Medium broadband penetration and medium usage

		Units	2016	2017	2018	2019	2020	2021	2022	2023	2024
	FINANCIAL RETURN OF THE PROJECT										
(1)	Mobile broadband Penetration Rate	%	3,3%	4,6%	6,5%	9,1%	12,4%	16,7%	22,0%	28,1%	34.8%
(2)	Mobile Internet consumption per subscriber	GB per month	0,2	0,3	0,3	0,4	0,6	0,7	0,9	1,1	1.4
(3)	International Bandwidth	Gbps	0,1	0,2	1,6	2,5	4,1	6,5	10,0	14,9	21.3
(4)	Revenue from national market	US$	0	0	1 837 680	2 787 712	4 102 735	4 301 524	5 970 140	8 681 347	8,608,900
(5)	Revenue from international transit	US$	0	0	1 740 960	2 239 310	2 211 158	3 150 642	3 486 438	4 067 331	3,267,773
(6) = (4) + (5)	Total revenues	US$	0	0	3 578 640	5 027 022	6 313 894	7 452 165	9 456 578	12 748 678	11,876,672
(7)	EBITDA margin	%	0%	0%	-28%	74%	79%	81%	85%	89%	87%
(8) = (6) * (7)	Total EBITDA	US$	0	0	-1 006 080	3 703 014	4 957 312	6 062 046	8 031 927	11 288 473	10,345,861
(9)	EBIT margin	%	0%	0%	-74%	41%	52%	59%	67%	75%	72%
(10) = (6) * (9)	Total EBIT	US$	0	-963 729	-2 657 541	2 051 553	3 305 851	4 408 274	6 367 813	9 606 930	8,547,260
(11)	CAPEX	US$	0	31 446 759	0	0	0	39 590	148 984	192 342	189,327
(12)	Cash flow	US$	0	-31 446 759	-1 006 080	3 703 014	4 957 312	6 022 456	7 882 943	11 096 131	10,156,534
(13) = IRR(12)	IRR 2027		**17%**								
(14)	Discount rate		**10%**								
(15) = NPV(12, 14)	NPV 2027		14 731 630								
(16)	Discount rate		**12%**								
(17) = NPV(12, 16)	NPV 2027		9 604 510								
(18) = IRR(12)	IRR 2032		**23%**								
(14)	Discount rate		**10%**								
(19) = NPV(12, 14)	NPV 2032		47 652 846								
(16)	Discount rate		**12%**								
(20) = NPV(12, 16)	NPV 2032		35 230 739								

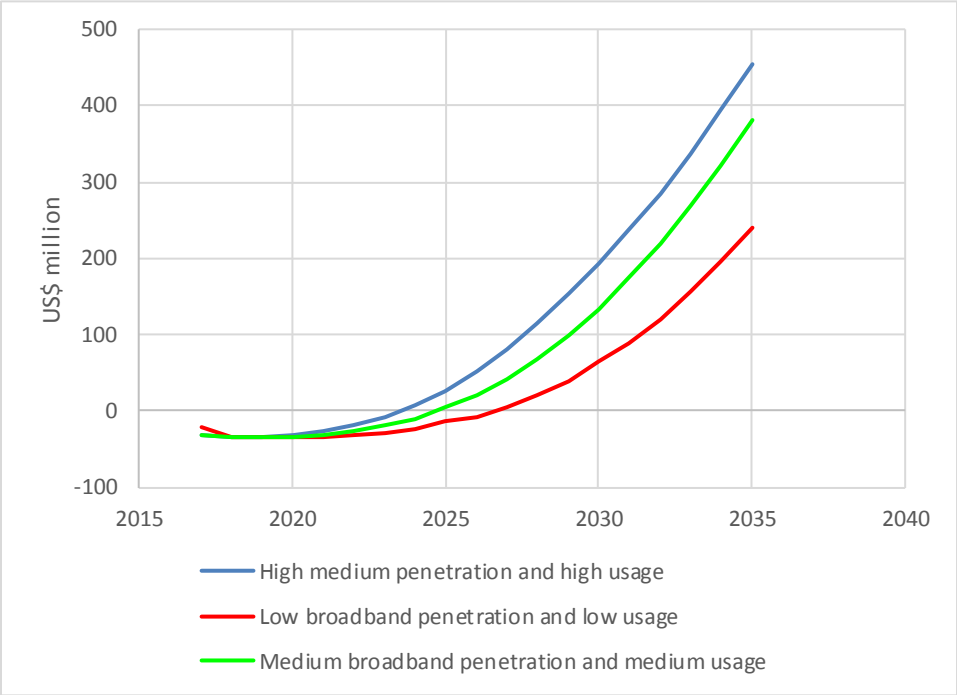
		Units	2025	2026	2027	2028	2029	2030	2031	2032
	FINANCIAL RETURN OF THE PROJECT									
(1)	Mobile broadband Penetration Rate	%	41.7%	48.3%	54.3%	59,3%	63,4%	66,6%	69,0%	70,7%
(2)	Mobile Internet consumption per subscriber	GB per month	1.7	2.0	2.3	2,6	2,9	3,2	3,4	3,6
(3)	International Bandwidth	Gbps	29.3	38.5	48.5	58,7	68,7	78,1	86,8	94,5
(4)	Revenue from national market	US$	12,268,860	13,961,114	14,860,430	19 294 714	19 981 894	20 387 949	23 364 707	23 195 897
(5)	Revenue from international transit	US$	4,038,413	5,083,479	5,797,916	5 102 189	5 501 614	5 890 724	5 988 597	6 294 452
(6) = (4) + (5)	Total revenues	US$	16,307,273	19,044,594	20,658,346	24 396 903	25 483 508	26 278 672	29 353 304	29 490 349
(7)	EBITDA margin	%	90%	92%	92%	93%	93%	93%	94%	94%
(8) = (6) * (7)	Total EBITDA	US$	14,738,770	17,437,283	19,011,077	22 742 492	23 786 736	24 538 283	27 568 004	27 658 808
(9)	EBIT margin	%	79%	82%	83%	86%	86%	86%	88%	87%
(10) = (6) * (9)	Total EBIT	US$	12,916,650	15,589,634	17,148,666	20 946 655	21 965 906	22 695 671	25 706 083	25 789 167
(11)	CAPEX	US$	267,931	246,251	527,241	277 119	230 519	208 759	221 501	151 463
(12)	Cash flow	US$	14,470,839	17,191,032	18,483,836	22 465 373	23 556 217	24 329 524	27 346 503	27 507 345

Development scenario: High broadband penetration and high usage

		Units	2016	2017	2018	2019	2020	2021	2022	2023	2024
	FINANCIAL RETURN OF THE PROJECT										
(1)	Mobile broadband Penetration Rate	%	0,2	0,3	0,4	0,5	0,7	0,9	1,2	1,5	47.3%
(2)	Mobile Internet consumption per subscriber	GB per month	0,1	0,3	2,0	3,7	6,5	11,1	18,0	27,4	1.9
(3)	International Bandwidth	Gbps	0	0	2 466 360	3 781 752	4 641 678	7 297 995	6 851 348	11 371 077	39.4
(4)	Revenue from national market	US$	0	0	1 982 760	1 610 581	2 750 624	3 404 225	4 386 027	3 852 830	13,410,144
(5)	Revenue from international transit	US$	0	0	4 449 120	5 392 333	7 392 302	10 702 219	11 237 376	15 223 907	4,172,123
(6) = (4) + (5)	Total revenues	US$	0%	0%	-21%	75%	82%	87%	87%	90%	17,582,267
(7)	EBITDA margin	%	0	0	-936 442	4 068 325	6 035 720	9 312 100	9 812 725	13 763 702	91%
(8) = (6) * (7)	Total EBITDA	US$	0%	0%	-58%	45%	59%	71%	72%	79%	16,051,456
(9)	EBIT margin	%	0	-963 729	-2 587 903	2 416 864	4 381 580	7 644 315	8 123 245	12 045 722	81%
(10) = (6) * (9)	Total EBIT	US$	0	31 446 759	0	0	45 907	201 058	228 291	325 475	14,201,125
(11)	CAPEX	US$	0	-31 446 759	-936 442	4 068 325	5 989 814	9 111 041	9 584 434	13 438 228	356,381
(12)	Cash flow	US$	0,2	0,3	0,4	0,5	0,7	0,9	1,2	1,5	15,695,075
(13) = IRR(12)	IRR 2027		**22%**								
(14)	Discount rate		**10%**								
(15) = NPV(12, 14)	NPV 2027		28 290 659								
(16)	Discount rate		**12%**								
(17) = NPV(12, 16)	NPV 2027		21 381 729								
(18) = IRR(12)	IRR 2032		**27%**								
(14)	Discount rate		**10%**								
(19) = NPV(12, 14)	NPV 2032		62 091 501								
(16)	Discount rate		**12%**								
(20) = NPV(12, 16)	NPV 2032		47 762 058								

		Units	2025	2026	2027	2028	2029	2030	2031	2032
	FINANCIAL RETURN OF THE PROJECT									
(1)	Mobile broadband Penetration Rate	%	55.4%	62.2%	67.6%	71,5%	74,3%	76,3%	77,6%	78,4%
(2)	Mobile Internet consumption per subscriber	GB per month	2.3	2.7	3.2	3,5	3,9	4,1	4,3	4,5
(3)	International Bandwidth	Gbps	53.0	67.4	81.4	94,2	105,6	115,4	123,7	130,8
(4)	Revenue from national market	US$	16,026,770	18,858,670	20,997,892	22 127 961	22 857 795	22 475 780	22 823 877	21 674 583
(5)	Revenue from international transit	US$	5,435,419	4,808,981	5,479,180	5 696 265	5 650 285	4 545 368	4 348 589	4 391 983
(6) = (4) + (5)	Total revenues	US$	21,462,189	23,667,651	26,477,072	27 824 226	28 508 080	27 021 148	27 172 466	26 066 566
(7)	EBITDA margin	%	93%	93%	94%	94%	94%	94%	93%	93%
(8) = (6) * (7)	Total EBITDA	US$	19,893,686	22,060,340	24,829,803	26 169 815	26 811 308	25 280 759	25 387 167	24 235 025
(9)	EBIT margin	%	84%	85%	86%	87%	87%	86%	86%	86%
(10) = (6) * (9)	Total EBIT	US$	18,005,126	20,132,360	22,874,688	24 274 294	24 886 940	23 335 643	23 435 213	22 288 222
(11)	CAPEX	US$	400,792	389,478	637,058	318 356	267 143	210 806	200 562	140 380
(12)	Cash flow	US$	19,492,895	21,670,862	24,192,746	25 851 459	26 544 164	25 069 953	25 186 605	24 094 645

Figure A5.2. Cumulated Discounted Cash-flows for the Project Guinea-Bissau (2017 to 2035)



Annex 6: Status of SPVs in Other WARCIP Projects

Country	Project cost	Conditions	Status
Sierra Leone P116273, APL-1A	US$31m Approved: Jan. 2011 Effective: June 2011 Closing: Sept. 2016	Setting up SPV for financing and managing landing station following divestiture of Government shares in SALCAB	SPV in place, opened to 9 private sector operators. Government nationalized SPV
Liberia P116273, APL-1A	US$25.6m Approved: Jan. 2011 Effective: June 2011 Closing: Sept. 2016	Setting up an SPV for financing and managing the landing station for ACE	SPV established- Cable consortium for Liberia (CCL) established as a condition of effectiveness. Shareholder agreement adopted. CCL's shareholders include Libtelco, GoL, MTN Liberia and Cellcom Liberia. Other operators have an opportunity to join CCL
Guinea P122402, APL-1B	US$33m Approved : June 2011 Effective: Dec. 2011 Closing: Dec. 2017	Setting up an SPV for financing and managing the landing station for ACE	GUILAB was created since Feb. 2011. Shareholder agreement adopted. Government retains only 20% of shares for its proper use. To date - Republic of Guinea (52,55%), Orange Guinée (26,25%), Areeba Guinée (7,20%), ETI (5,09%), CELLCOM Guinée (2,55%), Mouna Group Technology (2,55%), Intercel (1,27%), Skyvision Guinée (1,27%), VDC Telecom (1,27%)
Gambia P122402, APL-1B	US$33.8m Approved : June 2011 Effective: Dec. 2011 Closing: Dec. 2017	Setting up an SPV for financing and managing the landing station for ACE	Cable consortium for Gambia established, shareholder agreement adopted in Sept. 2011. This consortium includes GAMTEL, Government of The Gambia, All mobile operators, and Association for ISPs. In the past two years, the GSC has increased the frequency of board meetings and its sustainability and financial viability has improved significantly allowing operators to invest in network expansion including outside Banjul. The members are rapidly adjusting their marketing and business models to diversify their products and increase their customer base. The GSC procured from ACE 10GBs, of which 2.8GBs have been activated and approximately 1.8GBs is currently used by its members: four mobile operators, two ISPs (out of six) and Gamtel/Gamcel. One of the ISPs, NETPAGE, is said to be using all of its capacity and investing in LTE networks. Gamtel has on standby 310 MBs from SAT3 and redundancy capacity via SonaTel in case the ACE service is interrupted. The ICT Act of 2009 allows

			for all service providers to lay their own fibre.
Burkina-Faso P122402, APL-1B	US$22.24m Approved: June 2011 Effective: Dec. 2011 Closing: Dec. 2017	PPP framework for virtual landing station and for connectivity links	Studies to prepare PPP framework were launched.
Benin P130884, APL-1C	US$35m Approved : July 2012 Effective: March 2013 Closing: June 2017	SPV established with divestiture principle; CMA effective	Creation of the SPV is a condition of effectiveness. SPV was created on December 04, 2012.
Mauritania P123093, APL-2	US$30m Approved : May 2013 Effective: March 2014 Closing: Nov. 2018	The credit agreement for the WARCIP Mauritania stipulates four disbursement conditions related to the PPP arrangement: (#1) the SDIN is created and operational ; (#2) the transfer convention for the ownership of the backbone infrastructure between the government and the SDIN is effective; (#3) the concession contract (for the exploitation and maintenance of the backbone infrastructure) between the SDIN and the IMT is effective; (#4) the legal and regulatory status of the IMT is updated so that the IMT can operate the backbone infrastructure under the concession contract.	The SPV called IMT has been established in 2010 to own and operate the ACE submarine cable landing station under PPP and open access principles. As of November 2015, the SPV's shareholding structure was as follows: Government: 35%, Mauritel: 20%, Mattel: 20%, Chingintel: 15% BSA (private local company): 10%
Togo P123093, APL-2	US$37.5m Approved : May 2013 Effective: March 2014 Closing: Nov. 2018	SPV, PPP, Main contractual agreement are signed	