

Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: T7744-GM

REPUBLIC OF THE GAMBIA TECHNICAL ANNEX

ON A PROPOSED

GRANT

IN THE AMOUNT OF

SDR 21.6 MILLION
(US\$ 35 MILLION EQUIVALENT)

TO THE REPUBLIC OF THE GAMBIA

AS PART OF SDR 56.8 MILLION (US\$ 92 MILLION EQUIVALENT)
FOR THE SECOND SERIES OF PROJECTS UNDER THE FIRST PHASE OF WEST
AFRICA REGIONAL COMMUNICATIONS INFRASTRUCTURE PROGRAM (WARCIP
APL1B)

May 25, 2011

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without World Bank authorization.

CURRENCY EQUIVALENTS

(Exchange Rate Effective date April 29, 2011)

Currency Unit =
SDR 0.616921 = US\$1

FISCAL YEAR

January 1 – December 31

ABBREVIATIONS AND ACRONYMS

\$	United States dollar, all dollars are US dollars unless otherwise indicated
ACE	Africa Coast to Europe Submarine Cable
AfDB	African Development Bank
AICD	Africa Infrastructure Country Diagnostic
APL	Adaptable Program Loan
AU	African Union
BP	Bank Procedures
CAS	Country Assistance Strategy
C&MA	Construction and Maintenance Agreement
CPAR	Country Procurement Assessment Review
CSOs	Civil Society Organizations
ECOWAS	Economic Community of West African States
ESMP	Environmental and Social Management Plan
GAMTEL	Gambia Telecommunications Company
Gbit/s	Gigabit per second
GDP	Gross Domestic Product
GLO-1	GlobaCom-1 Cable
GNIC	Gambia National Insurance Company
GoTG	Government of The Gambia
GPT	General Purpose Technology
ICB	International competitive Bidding
ICT	Information and Communication Technology
IDA	International Development Association
IFMIS	Integrated Financial Management and Information System
IFR	Intermediate Financial reports
IRR	Internal Rate of Return
IsDB	Islamic Development Bank
ISP	Internet Service Provider

ISPAG	Internet Service Provider Association of The Gambia
ITU	International Telecommunication Union
IXP	Internet Exchange Point
JAS	Joint Assistance Strategy
Kbit/s	Kilobit per second
Mb	Megabit
Mbit/s	Megabit per second
M&E	Monitoring and Evaluation
MIS	Management Information System
MoF	Ministry of Finance
MoICI	Ministry of Information and Communications Infrastructure
NGN	Next Generation Network
NICI	National Information Communications Infrastructure
NPV	Net Present Value
OD	Operational Directives
OM	Operational Manual
PAD	Project Appraisal Document
PIM	Project Implementation Manual
PIU	Project Implementation Unit
PPA	Project Preparation Advance
PPP	Public-Private Partnership
PPP	Purchasing Power Parity
PRSP	Poverty Reeducation Strategy Paper
PURA	Public Utilities Regulatory Authority
RAP	Resettlement Action Plan
RPF	Resettlement Policy Framework
SAT-3	South Atlantic Three cable
SLA	Service level Agreement
SOE	Statement of Expenditures
SPV	Special Purpose Vehicle
ToR	Terms of Reference
VoIP	Voice Over Internet Protocol
VSAT	Very Small Aperture Terminal
WASC	West African Submarine Cable
WARCIP	West Africa Regional Communications Infrastructure Project
WBG	World Bank Group
UNDP	United Nations Development Program

Vice President:	Obiageli K. Ezekwesili
Director for Regional Integration:	Yusupha B.Crookes
Acting Country Director for The Gambia:	Benjamin McDonald
Sector Director:	Jose Luis Irigoyen
Sector Manager :	Philippe Dongier
Task Team Leaders for WARCIP APL 1B:	Boutheina Guermazi and Mavis Ampah
Task Team Leader for WARCIP-Gambia:	Boutheina Guermazi

Table of Contents

I.	Strategic Context.....	1
A.	Country Context.....	1
B.	Sectoral and Institutional Context.....	2
C.	Higher Level Objectives to which the Project Contributes.....	6
II.	Project Development Objectives.....	7
A.	PDO.....	7
i.	Project Beneficiaries	8
ii.	PDO Level Results Indicators	8
III.	Project Description.....	8
A.	Project components	8
B.	Project Financing.....	12
i.	Lending Instrument	12
ii.	Project Financing Table.....	12
C.	Lessons Learned and Reflected in the Project Design	13
IV.	Implementation	14
A.	Institutional and Implementation Arrangements.....	14
B.	Results Monitoring and Evaluation.....	14
C.	Sustainability.....	16
V.	Key Risks	16
VI.	Appraisal Summary	17
A.	Economic and Financial Analysis	17
B.	Technical	18
C.	Financial Management	19
D.	Procurement	20
E.	Social and Environment	20
F.	Legal conditions and covenants	21
	Annex 1: Results Framework and Monitoring.....	23
	Annex 2: Detailed Project Description	25
	Annex 3: Implementation Arrangements.....	30
	Annex 4 Operational Risk Assessment Framework (ORAF).....	48
	Annex 5: Implementation Support Plan.....	51
	Annex 6: Team Composition	54
	Annex 7: Economic and Financial Analysis.....	55

I. Strategic Context

A. Country Context

- 1. The Gambia's service sector contributes over half of national gross domestic product, even though almost three-quarters of the population still depend on agriculture for their livelihood.** The country has a population of about 1.8 million, and is territorially the smallest one on the African continent (11,295 square km). The Gambia has limited natural resources and its main domestically-produced exports are groundnuts, fish, and cotton lint. Most of its earnings in merchandise trade are derived from re-exports. The Gambia has sustained positive economic growth rates since 2003, averaging over 6 % per year up to 2010 with only a modest economic slowdown following the 2008 global financial crisis. GNI per capita in 2009 was US\$ 440. Recent poverty estimates still places 61 % of the population below the national poverty line, with over 34 % living on less than US\$1.25 a day (PPP).¹
- 2. Poverty Reduction Strategy.** The country's first Poverty Reduction Strategy Paper (PRSP I) was implemented between 2003 and 2005, and the second PRSP covers an implementation period of five years (2007 – 2011). This second PRSP outlines an overall policy framework for growth and poverty reduction based on five pillars: (i). Creating an enabling policy environment to promote growth and poverty reduction, (ii). Enhancing the capacity and output of productive sectors - agriculture, fisheries, industry, trade and tourism, with emphasis on productive capacities of the poor and vulnerable populations, (iii). Improving coverage of the basic social services and social protection needs of the poor and vulnerable, (iv). Enhancing governance systems and building the capacity of local communities and civil society organizations (CSOs) to play an active role in economic growth and poverty reduction, and (v). Mainstreaming poverty-related cross-cutting issues into poverty reduction. West Africa Regional Communications Infrastructure Program (WARCIP) is aligned with this Poverty Reduction Strategy. as well as with the 2008-2011 Joint Assistance Strategy (JAS). Support for the development of a competitive ICT sector with domestic access to international fiber optic cables resulting into affordable high speed Internet services and lower communications cost has the potential to strengthen the realisation of the PRSP pillars. Improvement of the availability and increased affordability of high-speed Internet infrastructure will also allow the introduction of applications to improve service delivery and strengthen economic management (JAS pillar 1). It will accelerate growth and competitiveness (JAS pillar 2).
- 3. Regional integration is critical for The Gambia's sustained economic growth.** The need for greater regional economic and infrastructure integration is obvious and the lack of such infrastructure holds The Gambia and other countries back from achieving greater economic growth and making progress on the Millennium Development Goals. For instance, the African Infrastructure Country Diagnostic (AICD) report posits that if West Africa's infrastructure could be upgraded to the level of the best performing country in Africa (Mauritius), the impact on per capita economic growth would be in the order of 5 percentage points². This estimate is important because The Gambia's growth is very dependent on

¹ UN Development Indicators- http://hdr.undp.org/en/media/HDR_2010_EN_Table5.pdf

² Africa Infrastructure Country Diagnostic Report – ECOWAS's Infrastructure: A Regional Perspective, April 2010

addressing regional challenges and more effective regional integration. Regional cooperation is high on the Government of The Gambia's (GoTG) national agenda, with a view to take advantage of regional infrastructure, allowing the country to benefit from growing regional trade and investment. The Gambia is an active member in the African Union (AU) and the Economic Community of West African States (ECOWAS).

4. **A regional telecommunications market is key for effective regional integration and growth.** Between 1995 and 2005, infrastructure improvements are estimated to have boosted West Africa's growth by about one percentage point per capita per year. This positive contribution to growth was almost entirely attributed to the Information and Communication Technology (ICT) revolution while it is believed that a deficient power infrastructure held back economic growth by about 0.1 percentage point per capita per year.³
5. **The WARCIP will contribute to a comprehensive solution to address connectivity gaps in The Gambia.** The focus of WARCIP- The Gambia is to contribute to a comprehensive solution to address connectivity gaps in the country, focusing on international, regional and national connectivity to enable the creation of a fully integrated network which will provide affordable high speed connectivity to the country. The project will improve connectivity in the region as a number of neighbouring countries, notably Guinea Bissau, will also be able to access to international cables through The Gambia connection.

B. Sectoral and Institutional Context

6. **The Gambia is in the top ten countries in Africa in terms of cellular penetration.** The telecommunication sector in The Gambia has been competitive since 2001, and The Gambia's mobile penetration is well above the African average. Mobile penetration has soared from 16% in 2005 to 84% in 2009, and reached approximately 95% of the population by the end of September 2010. Four mobile companies operate mobile services (Gambia Telecommunication or GAMTEL competes as GAMCEL against QCELL, AFRICELL and Comium). Nigeria's Globacom also received an authorisation to operate in 2010. AFRICELL was the first private operator to enter the mobile market in 2001, and is now the leading mobile operator with 45% share of the market with a mobile footprint that covers 91% of the country. QCELL offers 3G services and all other operators have authorization to operate 3G networks.
7. **Fixed-line penetration remains very low at 2.87%.** GAMTEL was established as a state-owned company in March 1984. GAMTEL is the only fixed-line operator. In 2007 the company was partially privatized through the sale of a 50% stake to Lebanese telecommunication company, Spectrum. The agreement also involved the sale of 50% of GAMCEL, the state-owned mobile phone operator. This agreement was revoked by the Government in November 2008 on the basis of a fundamental breach of contract. GAMTEL continues to be a state owned, limited liability company, with The Gambia government owning 99% of the shares, and Gambia National Insurance Company (GNIC) owning 1%. GAMTEL plans an expanded and upgraded national fiber backbone, as part of its Next Generation Network (NGN) strategy.

³ Africa Infrastructure Country Diagnostic Report – ECOWAS's Infrastructure: A Regional Perspective, April 2010

- 8. Internet penetration has only slowly been on the rise, despite competition and introduction of new technologies.** Internet services are available across the country provided by two of the mobile operators and six major Internet service providers (ISPs). In total there are about 15,000 Internet subscribers. The number is expected to increase with the mobile operator's 3G service offerings.
- 9. The sector suffers from the lack of adequate international connectivity.** The Gambia has one of the first fiber element of backbones on the continent, however, for international connectivity the country currently depends on a single unstable high-cost 155 Mbit/s terrestrial link to neighbouring Senegal, which has also contributed to high prices at the retail level and reduced the level of reliability. Additionally, international bandwidth is accessed through satellite links to Europe and North America for a total of 14 Mbit/s. International traffic is directed through Senegal and Guinea-Bissau using microwave radio links. The country also has a satellite earth station- 1 Intelsat. Average satellite prices are however between US\$4,000-5,000 for 1 Mbit/s (compared with about, US\$200 in the US, and approximately US\$500 in East Africa⁴) and result in high connectivity costs. Currently, The Gambia uses about 155Mbit/s of bandwidth of which 60-70 % is sold onto private ISPs who charge high end user prices. There are six commercial ISPs - Net Page Solution (GAMTEL's ISP), QuantumNet, Lainix, Connexion Solutions and Unique Solutions- who together form the ISP Association of The Gambia (ISPAG). Monthly packages for home users with private ISPs are from US\$30 per month for 128 Kbit/s plus an initial connection and equipment costs of around US\$500. This service represents roughly 120 % of GNI per capita (2009). Higher speed services are US\$150 per month (256 Kbit/s). Corporate companies pay US\$2500 per month for a 1 Mbit/s bandwidth data service.
- 10. The Gambia adopted a National Information and Communication Infrastructure (NICI) policy focusing on the role of ICT to implement Vision 2020.** The NICI policy and plan were adopted in 2004 and the National ICT policy adopted in 2010. The policy framework was designed to address the areas where ICT would facilitate the achievement of the Vision 2020 overall objective, which is to transform the nation into a middle-income country by 2020 through accelerating private sector development, restructuring economic management, developing the human capital base, and institutionalizing decentralized and democratic participatory government structures, processes and systems. The overall objective for the policy is to “leapfrog” several stages of development by establishing a participatory approach in building human resources and a conducive environment that utilises ICT as a platform to exchange data, information, and knowledge and as a tool to implement applications and provide services to achieve higher growth rates in all spheres of socio-economic activities. An Information and Communications Act -ICT Act- enacted in 2009 provides for the restructuring, development and regulation of the information and communication sector.
- 11. The GoTG has ambitious plans to support the uptake of the ICT sector.** The Ministry of Information and Communications Infrastructure (MoICI) has an ambitious program to become the ‘Silicon Valley of Africa’ focusing on human resource development, e-

⁴ After landing of the Seacom submarine cable in Kenya in July 2009, spot short-term pricing terms for 1 Mb were in the range of \$400 - \$600/Mb while longer term (e.g. 15-20 year IRU basis) pricing terms were as low as \$150 – 200/Mb. The Mombasa to London segment alone was estimated to be within the \$50-\$70/Mb price range.

education (including provision of Internet connections to all schools and tertiary institutions), and community-use of ICTs. As part of this, MoICI is participating in the AU's Panafrikan e-network supported by the government of India, developing a Technology Park with support from the governments of Egypt and Taiwan, China. MoICI is also working to establish e-government applications, an Internet Exchange Point (IXP) and provision of ICT training facilities. It is worth noting the government's grand plans for this comprehensive e-apps vision cannot be realized unless there is higher quality and more cost effective bandwidth capacity

12. The legal and regulatory environment encourages competition in the sector. The ICT Act of 2009 aims to create a regulatory environment under which more competition will be introduced to more sectors of the telecommunications market. Taking into account convergence, the new law aims to foster a technology-neutral licensing environment, which will also liberalise the use of Voice over Internet Protocol (VoIP) Internet telephony. The Gambia Public Utilities Regulatory Authority (PURA) was established under The Gambia Public Utilities Regulatory Authority Act, 2001 and is a multi-sector regulatory authority that regulates the activities of providers of certain public services including communications services. Currently, PURA and MoICI have been tasked with the regulation of certain aspects of the telecoms sector. PURA however, remains in need for capacity strengthening to assume its role in a fast changing ICT environment, and the institution faces limitations in terms of human and financial resources.

13. Incomplete liberalization further contributes to high international connectivity costs. While the new ICT Act has created the potential for a much more liberalized market environment, in practice this has yet to occur. A major contributing factor to the difficulty of obtaining bandwidth capacity at low prices is the monopoly on international fiber links by incumbent state-owned operator. The monopolization on the international gateway by GAMTEL promotes high prices and suppresses the demand of the country's nearly 2 million people. End users also experience an unreliable connectivity due to bandwidth filtering by the state-operator. As a consequence of the monopoly on the international gateway, outgoing international voice traffic is very low around 5 minutes per inhabitant (the ECOWAS average is just over 11 minutes per inhabitant.) International call charges are high, costing between US\$0.30-0.68 per minute depending on destination country. When the international gateway was liberalized for one year in 2006 the price of international calls dropped by 64%, demonstrating the high costs users are currently paying for international calls. The existing monopoly for Spectrum (Company managing GAMTEL's international gateway) will expire in early 2012 (before the cable becomes operational). The 2009 Communications Act prohibits new exclusivities on any segment of the market. In addition the law includes a technology neutral definition of services. Operators applying for an international gateway license have the option to either use satellite or cable technologies to terminate/originate their traffic.

14. Poor telecommunications services constrain social and economic development. Despite noteworthy developments since the initiation of the reform agenda, the sector's potential to improve the competitiveness of The Gambia's economy, facilitate economic growth and social reconstruction and ensure fuller integration of the country in the global economy is constrained. The lack of access to international submarine cables has resulted in low

bandwidth and high price Internet service, which prevents The Gambia from benefiting from the introduction of advanced ICT enabled applications. The lack of access to low price and high quality telecommunications services is a factor that limits the potential of The Gambia to create jobs, expand production of goods and services, and trade competitively with the rest of the world.

- 15. The Africa Coast to Europe (ACE) cable represents a unique opportunity for international connectivity in The Gambia.** For purposes of international connectivity along the coast of West Africa and with the rest of the world, the most attractive and efficient viable option for The Gambia is to connect to the ACE submarine cable, which is to be an approximately 17,000km submarine cable system connecting South Africa to Europe and connecting 23 countries including a landing station in The Gambia. The ACE cable is expected to become operational in the first half of 2012⁵. An analysis of other possible options for improving international connectivity in The Gambia clearly shows that connecting to other cables will involve a higher cost than connection through ACE. Existing cables like MainOne and the West Africa Submarine Cable (WASC) did not include proposed landing stations in The Gambia. GAMTEL, the incumbent fixed line operator signed the ACE submarine cable *Construction and Maintenance Agreement (C&MA)* on June 5, 2010 and have made payments to cover the first three installments. The GoTG is now seeking support from the Bank to cover the remaining payments, as neither GAMTEL nor the GoTG is in a position to cover the full cost without concessional financing. The GoTG is interested in replicating the approach followed by Liberia and Sierra Leone in which the World Bank financed the cost of ACE membership fees for both countries.
- 16. The World Bank has already conducted legal and regulatory due diligence on the ACE C&MA as part of project preparation of WARCIP APL 1-A for Liberia and Sierra Leone.** Similar to the cases of Liberia and Sierra Leone, a Special Purpose Vehicle (SPV) company will be created for the purpose of participating as an ACE member and managing and operating the landing station. In the case of The Gambia, support from the World Bank requires a change of the ACE member signatory from GAMTEL to the new SPV. The team started discussions with ACE and with GAMTEL to ensure timely completion of the process before the project becomes effective.
- 17. The World Bank has approved a Project Preparation Advance (PPA) to help The Gambia capitalize on the ACE opportunity.** An initial PPA for US\$ 2 million was granted to The Gambia to support project preparation activities. Under this PPA, support is being given to optimize the governance, ownership, and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE cable. Additional support for environmental and social safeguards acceptable to the World Bank was provided under the PPA and allowed the development of an Environmental and Social Management Plan (ESMP) and a Resettlement and Rehabilitation Plan (RRP) for the project. The PPA also included policy, legal and regulatory environment technical assistance to ensure open access⁶, the creation of a broadband policy and design of a

⁵ <http://www.ace-submarinecable.com/preview/documents/ACECapacityMagazine.pdf>

⁶ Open access is broadly defined as an equal opportunity for operators to have unfettered access to given infrastructure or services under similar terms and conditions

strategy to stimulate bandwidth demand, support for setting up the Project Implementation Unit (PIU) as well as capacity building support for the PIU.

18. GoTG committed to open access principles beyond the landing station. In Parallel to this support, The Gambia sought support from the Islamic Development Bank (IsDB) to roll out a more comprehensive fiber backbone initially operated by GAMTEL and requested World Bank support to help structure open access regime for the national backbone. The GoTG is interested to develop a communications infrastructure strategy with medium term targets looking at approaches for divesting the backbone and/or including private sector management for the backbone. The possibility for the SPV that will be established for the landing station to take more participation on backbone management was discussed and could be implemented following results of the study and incorporating lessons learned from the Public Private Partnership (PPP) experience in the landing station. This will dramatically accelerate the implementation of NICI strategy and allow the country to fully leverage connecting to ACE.

C. Higher Level Objectives to which the Project Contributes

19. A full connectivity solution will promote cheaper access to communications and promote more effective global integration. WARCIP Gambia proposes to contribute to a full connectivity solution, building on new and existing communications opportunities. The project is expected to focus on catalytic financing for additional links to international and national infrastructure (where gaps exist that cannot be addressed by the private sector, and where there's clear evidence of positive externalities) as well as targeted technical assistance to help The Gambia take full advantage of the resulting international connectivity. By gaining access to international cables, The Gambia will have better and cheaper access to communications and be able to connect more effectively with the rest of the world.

20. Intensification of broadband networks stimulates investment and economic growth. The contribution of broadband networks to economic growth is much more pronounced than that of narrowband networks. Additional studies have suggested that a 10 percent point increase in the penetration of broadband in developing countries equates to a 1.4 % increase in GDP per capita.⁷ The mobile platform is also highlighted especially as the single most powerful way to reach and deliver public and private services to hundreds of millions of people in remote and rural areas across the developing world. New businesses in the ICT and IT enabled services sector often result from improved access to broadband.

21. In allowing business to communicate more efficiently WARCIP Gambia will increase private business productivity and profitability. Furthermore, the project will assist in improving private sector development. The telecommunications and ICT sectors have been proven to improve business productivity and profitability. This, in turn has the potential to generate more tax revenues for the government. In this context, policy makers and regulatory officials in The Gambia will need to be well equipped to provide the most conducive environment for the private sector to invest and use ICT. Empowering the national regulator and key policy makers with adequate tools and skills to design,

⁷ World Bank, *Information and Communications for Development 2009: Extending Reach and Increasing Impact*.

implement, and upgrade the regulatory environment is a critical element for successful sector reform and development.

- 22. Increased bandwidth access will provide the opportunity for The Gambia to take advantage of the transformational impact of ICT.** As a cross-cutting enabler of service delivery, impacts of ICT have been well documented in particular in improving the quality, efficiency, and reach of basic services such as health, education, and other essential services, particularly to underserved and poorer communities. Availability of affordable telecommunications infrastructure is a key requirement to develop and roll out applications that benefit the poor and disenfranchised. For example in Kenya, a third of the population now has access to basic banking services using mobiles– while less than five % of the population previously had a bank account. As the cost of telecommunication services goes down in The Gambia, similar applications are likely to also surface. In addition, with the opportunity to obtain needed bandwidth to stimulate development of innovative applications for use in government institutions, the project will assist in improving governance and transparency of government functions.
- 23. The proposed operation is fully in line with the March 21, 2010 Regional Integration Assistance Strategy (RIAS) Update *Partnering for Africa’s Regional Integration and the West Africa Implementation Action Plan (2010)*.** The RIAS seeks to create economies of scale, facilitate intra-regional trade and exports and connect landlocked countries to regional and global trade routes by reducing barriers to movement of goods and services between countries and improve the regional business environment. Helping The Gambia connect to the global high speed Internet Networks very much support these objectives. In addition WARCIP is featured as a flagship project in the RIAS Update.
- 24. The proposed operation is fully in line with the new World Bank Africa Strategy *Africa’s Future and the World Bank’s Support to It (2011)*.** By facilitating cheaper access to internet and supporting the development of national and regional communications infrastructure, WARCIP The Gambia will promote sustainable employment (Competitiveness & employment) and will create a critical building block for ICT applications (Governance & Public sector capacity). The program also focuses on partnerships (a key element of the Africa Strategy) by leveraging private sector investment in the ACE submarine cable.

II. Project Development Objectives

A. PDO

- 25. The project development objective (PDO) of WARCIP-The Gambia is to increase the geographical reach of broadband networks and reduce costs of communications services in the territory of The Gambia.⁸**

⁸ All projects which are part of WARCIP APLs use the same PDO.

26. The project has three main components with the ultimate aim being to enhance The Gambia economic integration. WARCIP-The Gambia seeks to contribute to lowering the cost and improving quality of connectivity in The Gambia. In order to reach this objective, the project proposes an integrated approach focusing on (i) the connection of The Gambia to global broadband fiber optics infrastructure, (ii) creating an enabling environment, dealing with transactional issues related to the ACE cable and institutional strengthening to remove existing bottlenecks for private sector participation in both national and regional infrastructure development. The ultimate objective of the project is to reduce isolation of The Gambia’s economy and support its participation in the global economy.

i. Project Beneficiaries

27. WARCIP will benefit the citizens of The Gambia. All over Africa, businesses, governments, teachers, doctors, farmers, and fishermen, are using ICTs to communicate, share information, improve productivity and service delivery, find better prices, improve access to markets, and increase their bargaining power. The situation is the same in The Gambia. The proposed project will therefore benefit the entire population of the country including telecommunications operators, telecommunications users, universities, schools, hospitals, banks, corporate users, and GoTG ministries and departments. However, for the purpose of M&E, the PIU will define Direct Project Beneficiaries in a more restrictive way to include Number of active fixed and mobile subscribers (internet subscribers not accounted to avoid double counting).

ii. PDO Level Results Indicators

Table 1: PDO Level Results Indicators⁹

Outcome Indicators	At closing of the project
▪ Volume of international traffic (Kbit/s) per person	30
▪ Access to internet services (% of population)	3.0
▪ Average monthly price of wholesale international E1 capacity link from capital city to Europe	Less than US\$1,000
▪ Number of direct project beneficiaries, of which female	1.8 m (51%)

III. Project Description

A. Project components

28. WARCIP -The Gambia will have 3 components: (i) Infrastructure component to improve connectivity, (ii) Technical Assistance component to create enabling environment related to leveraging the international connectivity opportunity and transactional issues relating to the ACE cable, and (iii) Implementation support component.

⁹ For WARCIP The Gambia, the indicator related to access to telecommunications services (fixed and mobile services) will not be measured. The Gambia has a very high penetration rate (over 90%) and the project is not expected to increase access further.

Component 1 Supporting Connectivity (US \$25.75 million)

(a) International Connectivity- US \$ 24.5 million

- 29. International connectivity will be improved through the financing of The Gambia's consortium fee to the ACE submarine cable.** The bulk of this component will be used to finance The Gambia's participation in ACE. The ACE project is proceeding quickly, with substantial payment requirements of its members. The Gambia has already made three payments amounting to US\$ 7.5 million since June 2010. Given the schedule of payments, World Bank support of US\$ 7 million will be made under retroactive financing, and the remaining amount will take the form of direct disbursement to ACE.
- 30. GoTG payment for ACE will be made on behalf of the SPV and partly re-imbursed by the SPV's private participants before the project ends** The SPV is in the process of being created to finance and manage the access to ACE and the landing station in Banjul. Legal support was provided under the PPA to support the Government to set up the SPV with a target date for establishment no later than July 2011. Discussion with operators revealed high level of interest from the private sector (both from mobile operators and from Internet Service Providers) to co-finance the landing station and to be associated with operating and managing the facility and the resulting international connectivity capacity. The initial shareholding approach includes participation from GAMTEL (30%), private operators (AFRICELL, QCELL, Comium and the ISPAG for 51%). The remaining GoTG shares not subscribed by the private participants will be made available to new participants under a divestment plan. Original shareholders of the SPV could also be offered the opportunity to increase their shares and acquire additional capacity. Support is provided under the PPA for the establishment of the SPV. The GoTG also considers using a part of its shares (9%) to provide capacity for government and social use. The final details of the shareholder structure will be included in the shareholder agreement under preparation through PPA resources.

(b) Regional connectivity (US\$ 1.25 million)

- 31. Broadband will be provided to improve priority services.** While international fiber links could potentially facilitate better and cheaper access to communications in The Gambia, the full benefits of this access cannot be achieved without further investments in national infrastructure and effective use of ICT for critical services. IDA resources will therefore be used to fund: (i) the national Internet Exchange Point (IXP), (ii) development of high speed government virtual network for selected Government institutions and (iii) developing a feasibility study for connection between The Gambia and neighboring countries to commercialize excess capacity from ACE to less connected neighbors (i.e., Guinea Bissau). Implementation of this connectivity could be financed by the proceeds from the private sector participation in the SPV.
- 32. The GoTG is likely to complement IDA resources for the purpose of additional national backbone infrastructure.** It is expected that the GoTG will complement IDA resources for the purpose of additional national broadband infrastructure by investing the

proceeds from the sale of GoTG shares in the SPV. Resources from the PPA are helping to develop the framework, plans and support for the divestiture.

- 33. The IsDB will complement project funding.** IDA resources will be further complemented by funding projected to come from the IsDB for backbone development in The Gambia. The IsDB funding is expected to be made in parallel. Funding from IsDB was approved on April 30, 2011 and will be provided to GAMTEL for backbone development and Next Generation Network deployment. It is worth noting that for the international connectivity component the World Bank funded facilities are feasible on their own and are not dependent on other facilities being built by other donors. In addition, at the request of the GoTG, the project will coordinate with the GoTG and IsDB to ensure that the backbone is governed by open access principles to ensure that Gambian consumers benefit from lower cost connections.

Component 2 - Creating an enabling environment for connectivity (US\$ 7.25 million).

- 34. Support to optimize the governance, ownership and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE cable.** This component will provide Technical Assistance (TA) and the capacity building necessary to support the successful implementation of Component 1 of the project. Specifically, Component 2 will focus on the transaction design and operating model for ownership and management of international, regional and national infrastructure using PPP frameworks consistent with open access principles to create an enabling environment for improved connectivity.¹⁰ The PPP frameworks will focus on principles of open and non-discriminatory access while maximizing the role of the private sector. This component will also focus on strengthening the policy and regulatory environment to promote further sector reform in order to maximize benefits from access to international capacity and liberalized international gateway. The creation of a new Broadband policy as well as a strategy to stimulate bandwidth demand will be supported given the high bandwidth capacity that will enter the country. A number of the activities under enabling environment have been launched as part of the PPA.
- 35. Legal and regulatory safeguards for open access will be created.** In addition to transaction design, this component will focus on addressing policy and regulatory bottlenecks at the national level to maximize the benefits of the proposed connectivity agenda, and maximize benefits from access to international capacity and liberalized international gateway. Specific steps would need to be taken, however, in particular to establish a clear regulatory regime for access and operation of the landing station as well as develop an open access regime for the national backbone including regulatory regime for wholesale pricing, in order to ensure that The Gambia fully benefits from the potential connectivity that the cable offers. Most of the activities under enabling environment are also included as part of PPA. The activities have been designed so that key elements for the PPP framework (i.e. SPV for the landing station) are in place for the investment component.

¹⁰ Open access is broadly defined as an equal opportunity for operators to have unfettered access to given infrastructure or services under similar terms and conditions

- 36. Broadband policy and demand stimulation strategy and implementation support.** This activity will support the Government in developing a comprehensive policy to promote broadband use in The Gambia to facilitate uptake of demand and applications using the capacity that will be available to The Gambia following ACE landing. Implementation support will also be included under this activity to target key areas with significant growth potential for The Gambia.
- 37. Implementation support for strategic repositioning of GAMTEL** This component will assist the company with options and strategy to reposition GAMTEL in the market following the ACE landing with the objective of improving the efficiency, productivity, customer service delivery, and provide technical and capacity building support to facilitate overall financial and operational performance. The strategic repositioning could cover restructuring, a management contract or opening the company to private investment.
- 38. Support for MoICI on key policy issues:** The project will support the MoICI in three key activities related to (i) development of a communications infrastructure strategy looking at financing and management of communications infrastructure in general and backbone infrastructure in particular , (ii) development of policy and institutional framework for Top level domain name and (iii) support to cyber-security (including access to and freedom of information, data protection and privacy, e-transactions and authentication, cybercrime and related issues) to create enabling conditions for increased use of broadband services in The Gambia and for cross-border communications. The project will also include capacity building support to the ministry through training, study tours and hiring of advisors.
- 39. Strengthening the regulatory function.** The project will include support to PURA, the regulator to (i) develop a regulatory action plan, (ii) develop regulatory instruments in key regulatory priorities, (iii) design the structural separation of GAMTEL between its wholesale activities as a backbone service provider and its retail activities, (iv) formulate a license fee regime and carry out taxation study. This activity will also provide capacity building support including in-house training, study tours and financing of technical advisors.

Component 3: Project implementation including contingency (US\$ 2 million)

- 40. Support to establish Project Implementation Unit (PIU) and build capacity.** This activity will provide support needed to strengthen capacity of the GoTG to implement the connectivity project, including setting up the Project Implementation Unit and hiring dedicated staff to work on the project. The component will also cover office equipment, incremental operating costs, audits, monitoring and evaluation (M&E), communications and environmental and social studies.

B. Project Financing

i. Lending Instrument

41. The lending instrument is an Adaptable Program Loan (APL). WARCIP -The Gambia is part of the second series of projects under the first phase of WARCIP (WARCIP APL 1B). The objectives of WARCIP-The Gambia are fully in line with the objectives of the WARCIP program.

42. The Gambia met the readiness triggers identified in the WARCIP Appraisal Document. These triggers include (i) government commitment to liberalization and open access principles, (ii) existence of PPP framework (or willingness to formulate one as part of preparatory activities), and (iii) government commitment to increased sector competition as evidenced by pro-competitive policy and regulatory frameworks. The decision to include The Gambia is based on detailed analysis of country readiness and commitment to additional sector reforms. For The Gambia inclusion is also prompted by the urgent request of the Government to meet tight deadlines for participation in the ACE cable. GoTG is committed to creating a public private partnership (PPP) framework to own and manage the landing station and open access for cable and backbone capacity.

ii. Project Financing Table

Table 3: Project Financing Table

Activities	Total (US\$ million)
Component 1: Improving Connectivity	25.75
<i>Financing Participation in ACE</i>	24.5
<i>Financing Regional Connectivity</i>	1.25
Component 2: Enabling Environment for improved connectivity	7.25
<i>Support to optimize the governance, ownership and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE cable</i>	0.7
<i>Legal and regulatory safeguards for open access including gateway liberalization</i>	0.75
<i>Broadband policy and demand stimulation strategy and implementation</i>	1
<i>Supporting policy making activities to develop communication infrastructure strategy and providing, legal and regulatory framework for increased use of ICT services and capacity building support to MoICI</i>	1.5
<i>GAMTEL repositioning</i>	1.1
<i>Development of regulatory instruments and strengthening regulatory capacity</i>	2.2
Component 3: Project implementation, communications, and M&E	1.705
<i>PIU set up and operating expenses</i>	1.205
<i>Communications, M&E and environmental studies</i>	0.250
<i>Initial support to SPV</i>	0.250
Contingency	0.295
Total	35

C. Lessons Learned and Reflected in the Project Design

- 43. Country commitment to the proposed project is important.** The proposed project draws on lessons learned from previous and ongoing World Bank-financed projects in ICT and from ongoing efforts in countries in similar situations as The Gambia. Broad global experience in ICT project implementation indicates that an ICT project success is primarily contingent on strong country commitment to implementation. The proposed project design has been guided by the telecommunications sector national policy. GoTG actively sought support from the Bank to cover the remaining payments to connect to the ACE cable, as neither the incumbent nor the GoTG is in a position to cover the full cost without concessional financing. GoTG's request to include specific regulatory activity support as part of the project design reflects its commitment to pursue the reform of the ICT sector and accelerate the implementation of its NICI strategy.
- 44. Providing support for regulatory capacity building.** Regulatory capacity is necessary to enable fair competition as problems can and will develop over time. Building such capacity takes time. At the same time, The Gambia could benefit from the extensive experience of other countries in this area. The proposed project focuses on building this capacity in the regulatory authority by using in-house training, study tours, twinning arrangements and creating opportunities for peer-to-peer learning from more advanced regulators and the sharing of experiences.
- 45. There is a need for limited catalytic public funding for infrastructure to improve access to ICT.** For most developing countries, a major obstacle to the adoption of ICT remains the lack of adequate access to ICT infrastructure. A lack of investment in ICT infrastructure and access networks coupled with inefficient provision of services are the most important factors undermining the development of networked economies. Catalytic public funding for infrastructure development is justified in infrastructure market segments that fail to attract private investment. In this project, there were initial discussions about providing IDA funding for the total cost of international connectivity to ACE by providing funding to GAMTEL. This approach was rejected in favor of seeking contribution from private operators and focusing efforts on project preparation to create a PPP framework.
- 46. Providing alternative solutions to the use of satellite capacity can ensure sustainability.** While the proposed project could finance long term purchase of satellite capacity, this would not be sustainable in the long run, given the associated high prices of such service. The proposed project therefore builds on the fiber opportunity provided by ACE. The Gambia's decision to join ACE is the result of an analytical process comparing available and potential connectivity options. The World Bank commissioned a due diligence review of the process followed by Gambia to reach the decision to join ACE. The due diligence confirms that the decision was in line with the principle of efficiency, transparency and adherence to good practice in the industry, when considering options such as buying satellite capacity or gaining access to fiber by joining submarine cable consortia. The due diligence also confirms that the option selected is by far the most economical for The Gambia (For more details see Annex 7).

47. The project builds on general lessons learned in the ICT sector. Key lessons learned and applied to the project design are: (a) project development objectives should be realistic, focused and achievable in the country, sector and implementing agency context; (b) project components should support country priorities and have broad ownership among stakeholders; (c) project design should be flexible to adapt to a rapidly changing environment; (d) implementation support should be included in Project activities with a focus on retaining staff to ensure continuity and an accumulation of capacity within the implementing agency.

48. The Project builds also on specific lessons learned in preparation of phase of WARCIP APL 1-A Specific lessons from WARCIP APL 1A include payment mechanisms for membership fees for the ACE submarine cable, safeguard issues related to landing stations, formulation of tailored public private partnership (PPP) arrangements and open access principles.

IV. Implementation

A. Institutional and Implementation Arrangements

49. MoICI will coordinate the project. A PIU will be established within MoICI and will be responsible for the overall coordination, implementation, and supervision of the project. The PIU will be headed by a Project Coordinator who will report to the Minister of MoICI through the Permanent Secretary.

50. A PIU will implement the project with support of a focal point forum. The PIU will be assisted by a core project team composed of a Procurement and FM Specialist and a project coordinator. The recruitment process for PIU staff is already launched under the PPA. The PIU will be assisted by a project team called focal points forum, composed of one representative from MoICI, Ministry of Finance (MoF), PURA, GAMTEL and the private sector representing the SPV. The focal points are not consultants hired under the project but rather staff of their respective institutions. The PIU will be in charge of:

- (i) day-to-day activities under the project, in particular, procurement and monitoring activities;
- (ii) coordination with the other entities responsible for project implementation;
- (iii) preparation of annual work programs, budgets, and procurement plans under the project;
- (iv) dissemination of internal and external audit reports; and
- (v) Interaction with the World Bank for the requisite no objections of bidding documents, RFPs and evaluation reports etc,

Procurement for key staff is at selection stage and being financed through the Project Preparation Advance (PPA). In the interim the Integrated Financial Management and Information System (IFMIS) PIU based at the Ministry of Finance is managing the PPA.

B. Results Monitoring and Evaluation

- 51. The PIU will monitor and evaluate the project.** The PIU will bear the primary responsibility for project Monitoring and Evaluation (M&E) of both project progress and project outcomes, 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. The PIU will submit to the MoICI the M&E quarterly report that will include the updated Results Framework and the Action Table, listing the corrective actions to be implemented with deadlines and persons responsible clearly identified. The report will be sent to the Bank for information.
- 52. 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 proposed 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 proposed project's outcomes. The PIU will review and validate the reports on performance indicators and recommend corrective actions if necessary. There will be focal points as to who will be responsible for providing relevant information and monitoring progress, using relevant performance indicators.
- 53. Implementation support missions will be conducted at least twice a year.** The GoTG, through the PIU, may perform evaluations jointly with the World Bank team and conduct supervision or implementation support missions at least twice a year.

C. Sustainability

- 54. The GoTG is very committed to the project thus enhancing sustainability.** On the policy front, the GoTG continues to emphasize the aim of placing ICT at the center of its new growth strategy, as clearly demonstrated in its 2010 ICT policy. Additional commitment to telecommunications reform is clear in the GoTG's effort to adopt a new Communications law, the ICT Act in 2009.
- 55. Legal and regulatory reforms are expected to have sustainable impact.** Support for legal and regulatory reform is expected to have a sustainable impact. Predictability and transparency of the legal and regulatory framework that is conducive to private sector participation and competition will increase the demand for affordable quality ICT services, including advanced applications. Given that a number of private operators already exist in the market and that there is potential for additional players beyond the wireless sector, it is likely that the regulatory authority will have sufficient resources and capacity through license and regulatory fees to become a self-funded institution and sustain the required regulatory capacity to supervise sector development.
- 56. Improved coverage and prices will be sustained through the implementation of advanced applications.** Improved service coverage and quality at more competitive prices for international connectivity and for data services will be sustained as it will create opportunities for increased use and the introduction of advanced applications.
- 57. Local capacity will be strengthened through training and technical assistance.** The proposed project will make significant investments in capacity-building efforts through training and technical assistance to build technical expertise, social capital, and knowledge. With the focus on building sustainable capacity in key institutions such as the MoICI and PURA, the benefits of the proposed project are expected to last far beyond project completion as such capacity will support the creation of ICT policy and regulatory know-how to guide sector growth and applications in the future.

V. Key Risks

- 58.** Potential risks are summarized in the Operational Risk Assessment Framework (see Annex IV). The overall project risks are rated MI. Risks identified are manageable and mitigation measures are in place.

Table 4: Key risks and mitigation measures

Main risks	Mitigation measures
Inadequate interest from Private sector to finance connectivity PPPs	PPA approved to support PPP structures that will make it attractive for private investment. Promise of liberalizing the international gateway increases private sector appetite. Private sector already signaled significant interest under transparent conditions. The legal expert hired under the PPA is currently working with the different stakeholders to finalize the PPP arrangements ahead of project effectiveness.
Delays in Government implementation of divestiture of SPV shares to private operators	Targeted support will be provided under PPA to guide the process and ensure success.
Delays in implementation of reforms including liberalization of the international gateway	TA activities will be provided to address liberalization issues. Commitments on opening up the sector and securing an enabling environment are being discussed and addressed through Technical Assistance support and possible inclusion in DPO under preparation.
Potential "veto" by existing private licensees and government operators over different aspects of the program.	Detailed due diligence to identify incentives for existing operators to willingly participate in the proposed infrastructure is included under this project.
Limited institutional capacity	TA program to create and sustain capacity included both in the PPA as well as in component 2 of the project
Difficulties changing ACE CMA signatory and handing over rights and responsibilities of GAMTEL to new SPVs	Initial TA provided for The Gambia already outlined a process for the discussion with ACE. During the Lisbon Management Committee Meeting, GAMTEL initiated the discussion on the change of signatory rights with the other ACE members.
Risk of delays could result in penalty to clients for missing ACE payment milestone	Both the Bank and the GoTG are discussing with ACE Consortium flexibility of installment payments.
Project commercially not viable due to insufficient demand for services	Early results of traffic assessment confirm viability. Detailed traffic study will be conducted and Demand stimulating approaches will be explored under the project
.Risk of national backbone not materializing for lack of financing from other donors	Financing secured for the backbone from the Islamic Development Bank. The project will support the Government to put in place legal and regulatory safeguards for open access to the backbone including support for structural separation of GAMTELS wholesale and retail activities.

VI. Appraisal Summary

A. Economic and Financial Analysis

59. Connecting to ACE will see The Gambia breakeven between 2019 and 2020, depending on the wholesale price adopted, with an NPV to 2025 of US \$26.3 million. Using the same methodology that was developed for the economic and financial analysis of WARCIP 1-A, the IRR is 28.8% assuming an average bandwidth sale price of \$100/Mbit/s/month, and an IRR of 19.9%, assuming \$50/Mbit/s/month. The latter figure is likely to be more competitive and would stimulate more use¹¹, and takes into account bandwidth pricing

¹¹ It can be noted that the investment in the cable is a ‘sunk’ cost that provides an initial fixed 5.9Gbit/s of bandwidth, so downstream prices can be reduced as much as possible to maximize use of this available capacity.

trends in other regions such as East Africa. The final breakeven year will depend on actual capacity uptake and the wholesale price of bandwidth. After 2023 at the latest, the project would be cash-flow positive and substantial revenues would be made if these wholesale pricing levels are maintained. Investment data was calculated based on a discount rate of 15%. On this basis, membership in ACE, if accompanied by robust regulation by PURA to ensure competitive pricing releases demand, has potential to provide low cost international access to a broad range of the population.

- 60. Joining ACE represents the most cost-effective and effective way to improve international telecommunication access in The Gambia.** Countries and their companies' decision to join ACE is the result of an analytical process comparing available and potential connectivity options. The World Bank commissioned a due diligence review of the process followed to reach the decision to join ACE. The due diligence confirms that it was in line with the principle of efficiency, transparency and adherence to good practice in the industry, when considering options of buying satellite capacity or joining submarine cable consortia. Analysis of other possible options for improving international connectivity clearly shows that connecting to other cables or satellites would ultimately result in a less compelling business case than connection through ACE. Cables like MainOne and SAT-3/WASC did not include proposed landing stations in The Gambia. The option of obtaining further satellite capacity to connect The Gambia to satellite was also analyzed, but the significantly lower bandwidth costs obtained through ACE compensate for the higher investment and maintenance cost.
- 61. The project will increase access to internet, create jobs, improve education opportunities and public administration and increase government revenues.** The Project will bring significant benefits to The Gambia in a number of ways including (i) increased public access to Internet services (ii) a broad range of social benefits through increased labor productivity, employment creation, learning opportunities for youth, participation by women in the labor market, and improved public administration (iii) greater fiscal returns due to new sources of revenue for the GoTG. It must be noted, however, that the economic and financial benefits of a technical assistance component is generally difficult to quantify because of the inadequacy of data available at the outset.

B. Technical

- 62. The proposed project recognizes that infrastructure and policy environment bottlenecks need to be dismantled to ensure better communications access.** Technical design of the project reflects lessons learned in the ICT sector and international best practices. For most developing countries, a major obstacle to the uptake of ICT remains the lack of adequate access to ICT infrastructure. A lack of investment in ICT infrastructure and access networks, coupled with inefficient provision of services, are the most important factors undermining the development of networked economies. The main lesson derived is that success is mainly market driven. Creating a predictable legal and policy environment is key to improving investor confidence and restoring trust in the ICT sector. The focus of the proposed project is to create a PPP framework for international connectivity. The project will establish an enabling institutional and regulatory environment to help attract and sustain investment in the telecommunications sector.

- 63. The ACE consortium is deemed to be technically qualified and structured according to best practice in the industry.** The team’s assessment is that the ACE consortium is being structured in a manner consistent with international good practices in the industry, and is led by major industry players. Given the experience of key consortium members in designing, commissioning and operating submarine cables, the implementation risk is minimal. As with all cables, there is, however, a risk of breaks in the operational system.
- 64. Legal due diligence on ACE has been conducted for transactional and regulatory aspects:** The Construction and Maintenance Agreement (C&MA) permits certain transfers of parties’ rights in certain circumstances. In other circumstances, transfers would require to be made possible either in a specific amendment to the C&MA permitting GAMTEL to transfer its rights to a SPV or by obtaining the consent of the parties. The ACE C&MA permits a party to transfer its interest (without the other parties’ consent) to (i) a subsidiary (>50%), (ii) an entity that controls it (>50%), or (iii) a sister company (i.e., an entity controlled by the same entity as controls the original party (>50%)).
- 65. Regulatory Issues.** The main issues are ensuring “open access” (fair and transparent pricing) to the capacity provided by the ACE cable at the domestic level once the capacity comes on shore, as well as ensuring full liberalization of the international gateway. This is primarily a domestic regulatory issue. A review of the agreement indicates transparent access to known capacity at known prices. A review of sector regulatory framework, including licensing conditions, will be conducted at the national level. As indicated above, the PPA was designed to include technical assistance to support these activities

C. Financial Management

- 66. A financial management assessment of the PIU of the WARCIP Project under the oversight of the MoICI implementing the project was conducted.** The conclusion of the assessment is that financial management arrangements in MoICI have to be set up and do not yet meet the Bank’s minimum requirements under OP/BP10.02. The overall fiduciary risk rating is assessed as Substantial (Medium Impact). Once mitigation measures included in the action plan are implemented, the FM risk is expected to be moderate (Medium Likelihood).
- 67. The project financial management is weakened by a number of factors.** These include : (i) lack of fiduciary function: the FM staff is not yet in place and there is not a FM manual and an accounting software, (ii) non-familiarity of the staff and the Ministry of Information and Communication with IDA financed-projects and FM procedures, (iii) weak internal control environment and low capacity of the national internal audit unit.
- 68. Mitigation measures have been identified:** To mitigate the country and entity risks, i) a new stand-alone PIU will have the overall FM responsibility on the project and will work with Focal Points in charge of technical execution of the different components. (ii) A Financial Management Officer with competence and experience satisfactory to the Bank will be recruited to set up the fiduciary function. (iii) A computerized financial and accounting system will be set up (iv) A consultant will carry out ex-post audits of the project with TORs

acceptable for IDA and will issue a quarterly report basis for strengthening the project internal control environment within the first two years.

D. Procurement

- 69. IDA funding for component 1 (a) on international connectivity does not go towards a procurable item subject to compliance with World Bank procurement guidelines.** This is because such funding is for membership fees (paid in different installments) against a set of rights including use of a certain amount of capacity at preferred rates and a share of ownership of an indivisible cable infrastructure asset.
- 70. For other project components (component 1b, components 2 and 3), IDA procurement guidelines will apply** and procurement activities will be carried out by the PIU to be created in MoICI. This PIU will be staffed by a Project Coordinator, a Procurement Specialist, a Financial Management Specialist and an accountant. Meanwhile, the fiduciary function for WARCIP PPA is entrusted to the IFMIS project team at the MoF. This team comprises a qualified procurement specialist who has both the technical expertise and the experience necessary to carry out the procurement activities envisaged under the project and has been recruited on a competitive basis for a part time position.
- 71. A procurement assessment has been carried out.** An assessment of the capacity of the MoICI to implement procurement actions for the project has been carried out on March 21st, 2011. The assessment reviewed the organizational structure for implementing the project.
- 72. The Procurement risk of the project is substantial.** Risks have been identified and mitigation measures agreed as detailed in Annex 3.

E. Social and Environment

- 73. Connection to the ACE cable is not expected to have significant environmental and social impact.** The proposed project is rated as a Category B project. The safeguards policy triggered are Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Physical Cultural Resources (OP/BP 4.11) and Involuntary Resettlement (OP/BP 4.12). The cable system is likely to have a submerged or 'wet plant' part, and a 'dry plant' part which interfaces at proposed Landing Stations. The Landing Station is the location where a submarine or other underwater cable makes landfall. The landing (or termination) station can also be the point at which the submarine cable connects into the land-based infrastructure or network. Sections of the cable (particularly both wet and dry plants of each country's lateral connection to the main cable) lie within the territorial waters of the landing parties while remaining sections lie in international waters, normally in deep seas. The lateral connecting cable to Banjul connects to the main cable well beyond the 2500 m isobath. Deep ocean fiber optic cables are no larger than 17-21 mm diameter – about the size of a domestic garden hose- and are laid mainly upon the surface of the ocean floor.
- 74. . The final site of the Landing Station is already identified and the Environmental and Social Management Plan (ESMP) has been prepared, consulted upon, and disclosed before appraisal.** This project will affect less than 50 persons and therefore, the equivalent

of an abbreviated Resettlement and Rehabilitation Plan (RRP), has been prepared, consulted upon, and disclosed before appraisal, It provides a plan for the management of the few resettlement issues which have been identified, even though these may seem to be of minor significance (see Annex 3 for further details).

- 75. OP/BP 7.50-on “Projects on International Waterways” does not apply. While the main cables are to be placed in non-territorial, deep sea locations, OP/BP 7.50, Projects on International Waterways, does not apply.** The types of waterways covered under the policy do not contemplate an “open sea.” For purposes of the policy, international waterways include semi-enclosed coastal waters, closed seas, national rivers flowing into those waters, and transboundary groundwater¹².
- 76. The proposed project is expected to have positive social benefits.** The main social impacts of the proposed project are the increased possibility of better access to ICT services for the population and improved GoTG service delivery. The project will contribute to (i) enabling ICT to become a driver for sustainable economic growth; (ii) enabling the GoTG to use ICT to improve services; (iii) improving access and quality of ICT services for the general population, businesses, and the Government; and (iv) reducing isolation and enhance economic activities in rural areas.

F. Legal conditions and covenants

77. Effectiveness conditions:

- (a) The execution and delivery, on behalf of the Recipient, of the Construction and Maintenance Agreement, in form and substance satisfactory to the Association, and containing no prohibition of divestiture of the Recipient’s shareholding, has been duly authorized or ratified by all necessary governmental or corporate action.
- (b) The SPV has been duly created, registered and made operational 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, in form and substance satisfactory to the Association.
- (c) With GAMTEL’s acquiescence, the ACE Consortium has transferred to the SPV all the rights and obligations of GAMTEL in the Construction and Maintenance Agreement and has fully substituted GAMTEL with the SPV as the member of the ACE Consortium.
- (d) The Contractual Arrangement, in form and substance satisfactory to the Association, has been entered into between the Recipient and the SPV.
- (e) The Recipient shall have established the PIU under terms of reference and with staff in numbers and with qualifications satisfactory to the Association. As part of such staffing, there shall be in place for the PIU: (i) the project coordinator; and (ii) a financial

¹² It should be noted that the definition of international waterways under the policy is at variance with the definitions under the rules established by the *International Law Association*, as well as the United Nations Convention on the Law of the Non-Navigational Uses of International Waters Watercourses

management specialist and a procurement specialist, all of them under terms of reference and with qualifications and experience satisfactory to the Association.

- (f) The Recipient shall have adopted the Project Implementation Manual in form and substance satisfactory to the Association

Disbursement Conditions:

78. Set up a computerized financial and accounting system for the Project for disbursements for component 1.b, 2 and 3

Legal covenants:

1. The Recipient shall take all action necessary on its behalf: (i) to carry out the RRP with due diligence and efficiency and at all times provide the funds necessary therefore; (ii) to adequately monitor and evaluate the carrying out of the activities provided in the RRP in the carrying out of the Project and in the contracts to be concluded for the construction of the landing station there under; and (iii) to maintain the Association suitably informed of the progress in the implementation of the RRP.

2. The Recipient shall take all measures necessary to carry out the Environmental and Social Management Plan with due diligence and efficiency, ensuring that adequate information on the implementation the mitigation measures to be implemented to minimize any potential negative impact under the Project is suitably included in the Project Reports to be prepared pursuant to the provisions of the Financing Agreement.

3. The Recipient shall: (i) not later than three (3) months after the Effective Date, initially recruit a consultant to perform a quarterly review of the internal control system for the Project; and (ii) not later than four (4) months after the Effective Date, recruit an external auditor for the PIU, both on the basis of terms of reference and with qualifications and experience satisfactory to the Association.

4. The Recipient shall take all action required: (i) to ensure the proceeds of the Grant allocated from time to time to component 1.1 are transferred to the SPV in an efficient and timely manner; and (ii) to have in place a suitable legal framework to ensure the Grant is used for the intended purposes

Annex 1: Results Framework and Monitoring

THE GAMBIA WARCIP 1B

PDO: To increase the geographical reach of broadband networks and reduce costs of communications services in The Gambia

Program/Project DO Level Results Indicators*	Re	Unit of Measure	Baseline 2010	Cumulative Target Values**					Frequency	Data Source/ Methodology	Responsibility for Data Collection
				YR 1	YR 2	YR3	YR 4	YR 5			
Indicator One: Volume of international traffic: International Communications (Internet, Telecoms, and Data) bandwidth	<input type="checkbox"/>	In Kbit/s per person	10 [Dec 2010]	10	10	39	30	30	Annual	SPV	PURA/PIU
Indicator Two: Access to internet services (number of subscribers per 100 people)	<input checked="" type="checkbox"/>	Number per 100	0.75 [Sept. 2010]	1	1.6	2.4	3.0	3.0	6 months	Operators	PURA/PIU
Indicator three : average monthly price of wholesale international E1 capacity link from capital city to Europe	<input type="checkbox"/>	US\$/month/2M bit/s	\$5,000 [Dec 2010]	Less than \$ 5,000	Less than \$ 4,000	Less than \$ 2,000	Less than \$ 1,000	Less than \$ 1,000	Yearly	Operators	PURA/PIU
Indicator four : Direct project beneficiaries, of which female ¹³	<input checked="" type="checkbox"/>	Number, %	1.6 m 44% [Sep 2010]	1.620 45%	1.650 45%	1.680 48%	1.8 million 51%	1.8 million 51%	Annual	Survey ¹⁴	PIU
INTERMEDIATE RESULTS											
Intermediate Result (Component One):											
Intermediate Result indicator One: Volume of available international capacity: International Communications (Internet, Telecoms, and Data) bandwidth	<input checked="" type="checkbox"/>	In Gbit/s	0.155	0.155	5.9	5.9	5.9	5.9	yearly	PURA	PURA
Intermediate Result indicator One: Retail price of internet services (per		US\$/month	\$1,500	\$1,500	\$1,000	Less than 700	Less than 500	Less than 500	yearly	Operators	PURA/PIU

¹³ Direct Project Beneficiaries are defined in section II paragraph 27 of the core text. Number of active fixed and mobile subscribers (internet subscribers not counted to avoid double counting. Assumes % female on a pro-rata basis using publicly available ratio in the total population.

¹⁴ The Direct Project Beneficiaries survey will be coordinated by MoICI and will use different stakeholders of the ICT sector to collect information from a representative sample of beneficiaries.

Mbit/s per Month, in US\$)											
Intermediate Result (Component Two):											
<i>Intermediate Result indicator One:</i> Impact on Telecom sector of World Bank technical assistance (composite score)	<input checked="" type="checkbox"/>	1-low impact to 5-high impact	0	1	2	3	3	3	yearly		

Annex 2: Detailed Project Description

THE GAMBIA WARCIP 1B

1. **WARCIP -The Gambia will have three components.** WARCIP The Gambia will have 3 components (i) Infrastructure component to improve connectivity ii) Technical Assistance component to create enabling environment, and (iii) implementation support.

Component 1 – Supporting Connectivity (US\$25.75 million)

2. **The main focus of the project is to connect The Gambia to ACE.** Improving international connectivity through funding access to ACE submarine cable is the main focus of WARCIP The Gambia. Other connectivity priorities are treated as a secondary focus.

a) *International connectivity: US\$24.5 million*

3. **Connecting to ACE represents a unique window of opportunity.** For purposes of international connectivity along the coast of West Africa and with the rest of the world, the most attractive and efficient viable option for The Gambia is to connect to the ACE project, which is anticipated to be an approximately 17,000 km submarine cable system. The Cable system will connect 23 countries between South Africa and Europe, including a landing station in The Gambia. In all likelihood, there are no other opportunities for The Gambia to connect to another submarine cable for many years to come. Analysis has confirmed that other submarine cable projects under preparation in the region are not viable options for The Gambia.¹⁵
4. **In total The Gambia will pay US\$25 million for a 2.8% share of total cable capacity.** The total estimated cost of the ACE submarine cable is around US\$700 million based on the final basic system configuration with 23 landing points and is to be operational in 2012. On June 5, 2010, the Government of The Gambia (GoTG) signed the ACE Construction and Maintenance Agreement (C&MA) of the ACE consortium via GAMTEL and committed to paying its contribution of US\$25 million. The GoTG has paid for the first three instalments of the ACE cable (a total of US\$7.5 million) and is now seeking support from the Bank to cover the remaining payments, as neither the incumbent nor the GoTG is in a position to cover the full cost without concessional financing. Complete membership will ensure that a cable landing station is constructed in Banjul and that The Gambia thereby gains access to the international telecommunications capacity to be made available by ACE's planned submarine fiber optic cable.
5. **Discussion with operators revealed high level of interest from the private sector (both from mobile operators and from Internet Service Providers) to co-finance the landing station and to be associated with operating and managing the facility and related international capacity.** The remaining GoTG shares will be made available to other parties under a divestment plan. Original shareholders of the SPV could also be offered the opportunity to increase their shares and acquire additional capacity. The initial shareholding structure includes participation from GAMTEL (30%),

¹⁵ Mike Jensen Report entitled 'International Connectivity Options for The Gambia, Liberia and Guinea' for the World Bank (May 2010).

Private operators (51%) and Government (19%). Private sector will start with minimum equity and will increase it as they make investment in capacity in the cable.

6. **Part of the remaining Government shares in the SPV will be converted to capacity purchase-** Pre-purchase discounted bandwidth for ministries and designated institutions will be implemented as the need arises. GoTG could consider making payments for the cost of obtaining discounted price for Internet capacity (Internet access). In return for obtaining this advance from GoTG, the SPV would provide subsidized capacity to specific ministries and / or institutions to be designated from time to time by GoTG. Price paid by the designated ministries and institutions for this service would be a discounted price, lower than the normal wholesale or retail price for broadband capacity, possibly equal to the actual costs of operation of the SPV during the period in which the capacity is provided. Service level agreement and associate legal and regulatory instruments will be developed under the project to ensure the success of this activity.
7. **The GoTG intends to divest its remaining shares to new entrants.** This divestment approach will be supported by the project. Existing operators could be given the right of first refusal to increase their existing capacity following few years of operation of the cable.

Regional connectivity (US\$1.25 million)

8. Broadband will be provided to improve priority services. While international fiber links could potentially facilitate better and cheaper access to communications in The Gambia, the full benefits of this access cannot be achieved without further investments in national infrastructure and effective use of ICT for critical services.
9. The GoTG has expressed interest in the development of high speed government virtual private networks for selected institutions within Banjul. The United National Development Programme (UNDP) has provided some resources to undertake an initial needs assessment of these institutions. It is expected that World Bank funding will leverage this preliminary work.
10. IDA resources will therefore be used to fund a national Internet Exchange Point (IXP). This would likely include the hosting of shared time-servers, local Domain Name Servers (DNS) and caching servers. A fully functional Internet Exchange could help The Gambia to exchange traffic locally, and avoid paying high bandwidth prices.
11. It is expected that the GoTG will complement IDA resources for the purpose of additional national broadband infrastructure by investing the proceeds from the sale of GoTG shares in the SPV. Resources from the PPA are helping to develop the framework, plans and support for the divestiture.
12. In order to create more demand for the capacity and ensure better connection to its neighbours, GoTG intends to use part of the funding under this component to undertake a detailed feasibility study for a fiber link to Guinea Bissau. The study will identify funding needs as well as business plan for financing and managing the link with possible financing from the proceeds from Private Participants in the SPV.
13. IDA resources will be further complemented by funding projected to come from the IsDB, for additional national and cross-border infrastructure in The Gambia. The IsDB funding is expected to be made in parallel and likely to finance terrestrial broadband backbone fiber networks and broadband connections

within and between The Gambia and its neighbours. The Bank is working closely with the IsDB to ensure that open access principles apply to all communication infrastructure financed under both projects.

Component 2- Creating an Enabling Environment for improved connectivity (US\$7.25 million)

14. Support to optimize the governance, ownership and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE cable. This component will provide Technical Assistance (TA) and the capacity building necessary to support the successful implementation of Component 1 of the project. Specifically, Component 2 will focus on the transaction design and operating model for ownership and management of international, regional and national infrastructure using PPP frameworks consistent with open access principles to create an enabling environment for improved connectivity.¹⁶ The PPP frameworks will focus on principles of open and non-discriminatory access while maximizing the role of the private sector. This component will also include the strengthening of the policy and regulatory environment to promote further sector reform in order to maximize benefits from access to international capacity and liberalized international gateway. The creation of a new Broadband policy as well as a strategy to stimulate bandwidth demand will be supported given the high capacity that will enter the country. Most of the activities under enabling environment are included as part of the PPA.

15. Specifically the following activities will be implemented.

- (i) *Support to optimize the governance, ownership and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE cable.*

Under this activity legal and financial advisory services will be provided to put in place an optimal structure for the landing station and access to the cable capacity. Those services will include (i) designing and negotiating instruments and contracts and related stakeholders' agreements, (ii) defining the rights and obligation of different equity stakeholders (Government, GAMTEL, private operators etc.), and (iii) defining appropriate risk sharing and commensurate financial rewards between parties.

16. Because of the urgency to secure participation in the ACE cable and lead time needed to put in place the structure for ownership and management of the landing station, the proposed approach is to have Government take a controlling position on an interim basis while the final management arrangements are being finalized. This activity will support the GoTG to put in place the divestiture strategy for Government shareholding. In particular it will define the scope of the exit clauses, valuation of public shares, as well as timing and transition process for divestiture.

- (ii) *Legal and regulatory safeguards for open access including gateway liberalization*

17. This activity will finance a detailed assessment of current legal and regulatory framework and identification of needed reforms to ensure open and non discriminatory access to cable landing facility and associated cable capacity, including issues related to licensing of SPV: international gateway facilities, fully liberalized international gateway (landing station), open access regime (national and international backbone essential facilities), wholesale price cap control mechanism and quality outsourcing of O&M. The detailed development of instruments will be conducted under the project. The PPA financed the assessment and the action plan and Government policy statement. Additional support

¹⁶ Open access is broadly defined as an equal opportunity for operators to have unfettered access to given infrastructure or services under similar terms and conditions

for full implementation will be secured under the project. The project will also support establishing an open access regime for the national backbone infrastructure that will be financed through IsDB resources. Support will include regulation of wholesale pricing and needed regulatory safeguards for open access.

(iii) Broadband policy and demand stimulation strategy and implementation support

- 18.** This activity will support the GoTG to have a comprehensive policy to promote broadband use in Gambia to facilitate uptake of demand and applications using the capacity that will be available to Gambia following ACE landing. The policy and strategy will target a number of areas including additional infrastructure requirements within the country, regulatory actions for broadband development, priority areas where applications are likely to pick up. The activity will include specific implementation support. The policy and strategy will target a number of areas including additional infrastructure requirements within the country, regulatory actions for broadband development, priority areas where applications are likely to pick up. The activity will also include specific implementation support on a pilot basis to implement transformative applications in key areas. This could include programs to connect schools, university, hospitals and or targeted support to areas of significant growth potential in The Gambia like tourism, agriculture, etc. The priorities will be identified and validated under the demand stimulation study.

(iv) Implementation support for Strategic repositioning of GAMTEL

- 19.** This component will assist the company with options and strategy for improving the efficiency, productivity, customer service delivery, and provide technical and capacity building support to facilitate overall financial and operational performance. GAMTEL currently depends for much of its revenue on the high international voice termination and outgoing rates it is able to charge as the sole /monopoly gateway. As this revenue stream is expected to disappear when the international gateway is liberalised GAMTEL will need to become more efficient and responsive to operator concerns, implement Service Level Agreements and improve service levels.

(v) Strengthening the regulatory function of PURA, the regulator

- 20.** Under this component five activities will be supported (i) development of a regulatory and organizational action plan for PURA, (ii) development of key regulatory instruments in a number of areas related to licensing reform, spectrum reform, quality of service, enforcement, consumer protection, cost based pricing, interconnection numbering, (iii) conducting studies on license fees and taxation for the sector to guide sector reforms, mobile number portability and definition of significant market power (iv) support to implement structural separation between wholesale and retail markets and (v) capacity building and skill strengthening in areas related to wholesale market regulation, PPP framework and other emerging regulatory issues. Capacity building could take several forms including study tours, twinning arrangements, workshops, etc

(vi) Support for MoICI on key policy issues and building its capacity:

- 21.** The project will support the MoICI in three key activities related to (i) development of a communications Infrastructure strategy looking at financing and management models for infrastructure in general and backbone in particular that foster open and competitive access and guarantee lower ICT pricing to end users, (ii) development of policy and institutional framework for Top level domain name and (iii) Providing support to the MoICI to put in place cyber-security (including access to and freedom of

information, data protection and privacy, e-transactions and authentication, cybercrime and related issues) for national and cross-border data communications. The project will also include capacity building support to the ministry through training, study tours and hiring of advisors.

Component 3: Project implementation, communications and M&E including contingency (US\$ 2 million).

22. This component will include support for setting up the PIU, support for environmental studies, communications and M&E as well as initial support to the SPV that will manage the landing station.
23. A PIU will be established within the MoICI and will be responsible for the overall coordination, implementation, and supervision of the project. The PIU will be headed by a project coordinator who will report to the Minister. The PIU will be assisted by a core project team composed of a Procurement and external Financial Management Specialist and representatives from the MoICI. The PIU will be in charge of (i) day-to-day activities under the project, in particular, procurement and monitoring activities; (ii) coordination with the other entities responsible for project implementation; (iii) preparation of annual work programs, budgets, and procurement plans under the project; (iv) dissemination of internal and external audit reports; and (v) implementation of their recommendations.
24. *Environmental studies* This activity included funding and disclosure of environmental studies prior to appraisal of the project. Specifically an Environmental and Social Management Plans (ESMPs and a Resettlement and Rehabilitation Plan (RRP). It also includes activities related to monitoring and implementation of the said instruments, through hiring part time environmental consultant to the PIU.
25. *Communications and M&E support.* The PIU will recruit or designate a person responsible for M&E, based on the capacity assessment of the PIU staff right after project effectiveness. More specifically, the person responsible for M&E will liaise with all the project's stakeholders (through designated focal points) to gather relevant information and data regularly. Additional activities would include conducting the surveys to ensure a good monitoring and evaluation of the project. The project will also cover the costs related to communications strategy for the project and implementation of the strategy to reach out to the public and increase awareness of the project.
26. *Initial support to the SPV:* The project will provide initial support to SPV to cover immediate cost related to its set up as well as to hire a local legal expert to help with the legal paperwork related to the SPV.

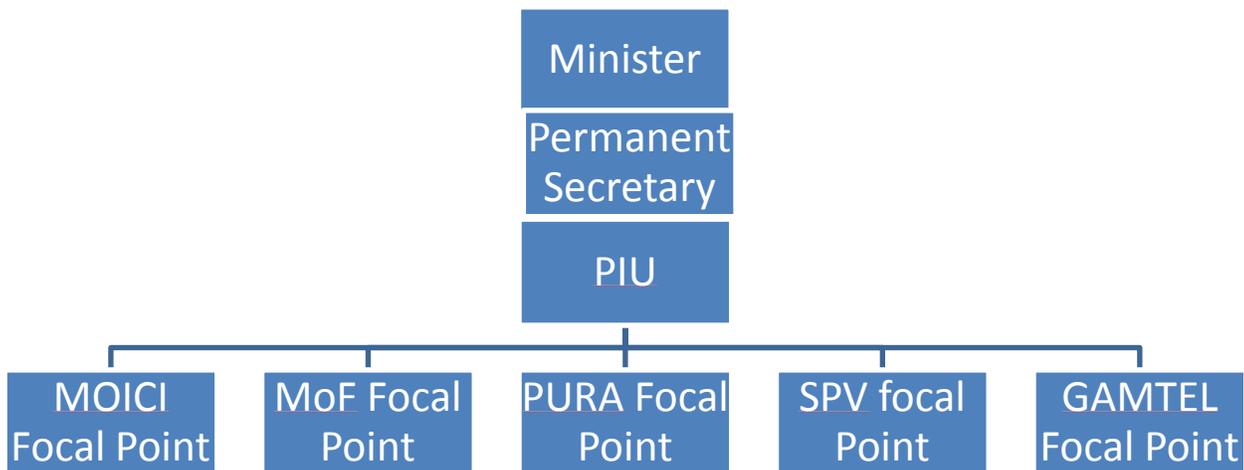
Annex 3: Implementation Arrangements

THE GAMBIA
WARCIP 1B

I. Project administration mechanisms

1. The proposed project will be implemented under the aegis of MoICI. Implementation arrangements involve creation of a Project Implementation Unit (PIU) that will be supported by five Focal Points. The PIU will be headed by a Project Coordinator who will report to the Minister through the Permanent Secretary.

Figure 3.1 Implementation diagram



The PIU will be composed of

- A project coordinator
- A procurement specialist
- A financial management specialist
- An accountant
- Support staff

2. The PIU will also hire M&E consultant and environmental and social specialist on a part time basis to ensure good implementation of safeguards instruments developed under the project. The process of hiring the project team started under the PPA. The FM and accountant position are at short listing stage, the procurement position is already filled. The Terms of Reference (ToRs) for the project coordinator position has been advertised.
3. The PIU will serve as the Grant Administrator of the project and will handle all administrative matters in accordance with the Project Implementation Manual (PIM) that is currently under preparation by MoICI under the PPA. It will also ensure financial management and handle project disbursements, and include the preparation and submission of replenishment requests to IDA. The Unit will also be responsible for (i) maintaining an 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. Development of the PIM and establishment of the MIS will be financed under the PPA. The new PIU will work closely with the IFMIS PIU handling the PPA to ensure a smooth transition.
4. The PIU will be assisted by a task team composed of five focal points.
 - Focal point recommended by the Minister MoICI on issues related to policy matters and overall coordination of the project;
 - Focal point recommended by PURA on issues related to regulatory component
 - Focal point recommended by GAMTEL on issues related to GAMTEL support
 - Focal Point designated by MoF for issues related to the SPV.
 - Focal point from the private sector designated by the SPV for issues related to component 1 (a)
5. The focal point will be responsible for facilitating activities related to their respective components, including developing ToR and draft procurement documents, and will be the focal points for monitoring progress of their components and for collecting and updating indicators for the components they manage. The focal points are not hired under the project as consultants. They are nominated by their respective entities to ensure effective implementation. The PIM will detail their respective roles and responsibilities.

II. Financial Management, Disbursements and Procurement

FINANCIAL MANAGEMENT

6. The objective of the Financial Management Assessment is to determine whether the implementing unit of the WARCIP Project under the oversight of MoICI has acceptable financial management arrangements in place to take on the project's fiduciary responsibility. These arrangements include accounting system and reporting, auditing, and internal controls. The financial management arrangements of the implementing unit are acceptable if: (i) it is capable of recording correctly all transactions and activities; (ii) it supports the preparation of regular and reliable financial statements; (iii) it safeguards its assets, and (iv) it is subjected to a satisfactory auditing process. The assessment complied with the Financial Management Manual for World Bank-Financed Investment Operations that became effective on March 1, 2010. It is worth noting that the PPA is being managed on an interim basis under IFMIS PIU established under the MoF. An assessment of this PIU has been conducted and confirmed the interim PIU meets OP 10.02 requirements.

7. The GoTG has set in place an IFMIS software for public funds. The software can be extended to projects and can capture project transactions and generate a general ledger. For example, the FM team of the IFMIS Project can process the project's transactions on line in a separate ledger account and keep the project bank accounts. But, IFMIS software is not fully customized to generate directly from system adequate financial reports: quarterly reports, budget execution report, automated bank reconciliations and annual financial statements. During The Gambia CPPR held on April 7, 2011, the IFMIS IT team committed to configure IFMIS in a short term in order to cover all financial management aspects. So, it can be reasonable to expect a full functional computerized financial management system before WARCIP effectiveness. For more assurance, an application should be set as back up and will be used for producing financial reports on basis of the general ledger generate from the IFMIS Software.

8. Payments to ACE will be made directly by the Project to ACE under direct disbursement. Setting up of a fully functional financial computerized system will be a disbursement condition for components 1.b, 2 and 3. Payments under component 1 (membership fee to ACE) will not have setting up the accounting system as a disbursement condition.

9. In order to meet the ACE payment schedule, the GoTG covered a number of payments to ACE from the National Budget. The project will cover a total of US\$ 7million under retroactive financing to allow the Government to recover the amounts paid.

Funds flow and disbursement arrangements

Disbursement methods

10. Disbursements under the Grant would be transaction based. Direct Payment and Statement of Expenditures (SOE) methods will apply as appropriate. The conversion to report-based disbursements may be envisaged when the PIU has capacity to produce acceptable IFRs. IDA will authorize an advance to the designated account of the PIU. Funds will be used to honor eligible expenditures. The minimum value of Direct Payment and Special Commitment will be 20 % of the designated account ceiling.

11. The project will submit on a monthly basis a Bank statement and a reconciliation of the designated account, together with the withdrawal applications. All supporting documentation for SOEs will be retained at the PIU and must be made available for periodic review by Bank' missions and external auditors.

Designated Account

12. The designated account will be located in the Central Bank and managed by the PIU. The currency of the designated account will be the US Dollars and the allocation will cover approximately four months of expenditures. The Designated Account will be managed according to the disbursement procedures described in the Administrative, Accounting and Financial Procedures Manual and Disbursement Letter.

Withdrawal of Proceeds

Table 3.1: Withdrawal of Proceeds

Category	Amount of the Grant Allocated (expressed in US\$)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Consortium Fees under Part 1.1 of the Project	24,500,000	100%
(2) Goods, works, services (consultants' and non-consulting), training and workshops under the Project, and Operational Costs	8,500,000	100%
(3) Refund of Preparation Advance No. Q758-GM	2,000,000	Amount payable pursuant to Section 2.07 of the General Conditions
TOTAL AMOUNT	35,000,000	

In application of the Country Financing Parameters for The Gambia, all expenditures will be financed at 100 %.

Budgeting arrangements

13. The budgeting process will be clearly defined in the FM Procedures Manual and will be adopted by Ministry of Information and Communications Infrastructure before the beginning of the year. Each Focal Point and the Project Coordinator will prepare budget related to their respective component. The project consolidated budget will be submitted to the IDA's no objection.

Accounting policies and procedures

14. Project accounts will be maintained on a cash basis, supported with appropriate records and procedures to track commitments and to safeguard assets. Annual financial statements will be prepared by the PIU in accordance with Generally Accepted Accounting Principles (GAAP).

Internal control

15. The FM manual will be set out with a clear description of the approval and authorization processes and internal controls and should be approved by the MoICI or their representative.

Reporting and Monitoring

16. The PIU would prepare Interim Un-audited Financial Reports (IFRs) on a quarterly basis and submit copies to the World Bank within 45 days following the end the calendar quarter. The IFR will include sources and uses of funds by project expenditures classification. It will also include a comparison of budgeted and actual project expenditures (commitment and disbursement) to date and for the quarter.

17. The PIU will produce Annual Financial Statements, and these statements will comply with The Gambia and World Bank requirements. These Financial Statements¹⁷ will comprise of:

- a Statement of Sources and Uses of Funds,
- a Statement of Commitments,
- Accounting Policies Adopted and Explanatory Notes,
- a Management Assertion that project funds have been expended for the intended purposes as specified in the relevant financing agreements

Audit arrangements

Internal Audit

18. Internal audit function for the project will be assumed by a consultant who will carry out ex-post audits within the oversight of the MoICI or their representative. The capacity of the Gambian internal audit unit will also be developed through the CFAA's action plan in order to perform ex-post audits for this project.

External audit

19. The Financing Agreement will require the submission of Audited Financial Statements for the PIU to IDA within six months after year-end. External auditor with qualification and experience satisfactory to the World Bank will be appointed to conduct an annual audit of the project's financial statements. A single opinion on the Audited Project Financial Statements in compliance with International Standards on Auditing (ISA) will be required.

20. The external auditors will prepare a Management Letter giving observations and comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the Financing Agreement.

The table below summarizes the auditing requirements:

¹⁷ It should be noted that the project financial statements should be all inclusive and cover all sources and uses of funds and not only those provided through IDA funding. It thus reflects all program activities, financing, and expenditures, including funds from other development partners.

Table 3.2: Auditing report dates

<i>Audit report</i>	<i>Due Date</i>
<ul style="list-style-type: none"> ▪ Financial Statements ▪ Management letter 	End of June

Financial Management Action Plan

Table 3.3: Financial Management Action Plan

ACTION	When	By whom
1. Appoint a Financial Management Officer to handle FM and accounting activities: <ul style="list-style-type: none"> • Process of appointment started • Financial management officer appointed 	By negotiation (Done) By effectiveness	PIU
2. Set up a computerized financial and accounting system	By disbursements for component 1.b, 2 and 3	PIU
3. Prepare and adopt the administrative, financial and accounting procedures manual in the PIU	By effectiveness	PIU
4. External Audit <ul style="list-style-type: none"> • Draft the ToR for the financial audit of the Project • Selection of the auditor 	By the negotiation 4 months after effectiveness	PIU
5. Internal Audit <ul style="list-style-type: none"> • Draft the ToR for internal audit to be performed by a consultant • Selection of the consultant to perform quarterly review 	By the negotiation 3 months after effectiveness	PIU

Conclusion of the assessment

21. The conclusion of the assessment is that financial management arrangements in MoICI have to be set up and do not yet meet the Bank's minimum requirements under OP/BP10.02. The overall fiduciary risk rating is assessed as **Substantial (Medium Impact)**. **Once mitigation measures included in the action plan are implemented, the FM risk is expected to be moderate (Medium Likelihood).**

PROCUREMENT

A) General

22. Procurement for the proposed project under components 1b, 2 and 3 will be carried out in accordance with the Procurement Guidelines: Guidelines of Goods, Works and Non-consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers of January 2011. The general description of various items under different expenditure category is described below. For each contract to be financed by the Grant, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame are agreed between the Borrower and the Bank project team in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

23. **A Country Procurement Assessment Review carried out in The Gambia in October 1998, flagged the main issues such as the lack of capacity regarding the Recipient's staff, the absence of standard bidding documents at the national level, the insufficient capacity of local contractors for contracts subject to International Competitive Bidding (ICB) and corruption.** Recommendations were made to address these issues. The Bank, through the Coastal Biodiversity and Management Project, provided support to strengthen the Recipient's capacity in procurement, modernize the procurement process and improve regulation (approval of Gambia Public Procurement Act). Thanks to this plan, some of the issues have been addressed, including: training staff responsible for procurement, designing standard bidding documents, including provisions in the Code against corruption. Nonetheless, the situation remained risky. A Country Procurement Issues Paper was prepared in 2005 as an update to the 1998 CPAR, and giving an updated action plan. The GoTG has recently (March 2010) issued its own procurement report along with a proposed action plan with several recommendations, including the need to strengthen capacity in procurement management and the need for institutional reinforcement through the establishment of a procurement regulatory body with an appeal committee, the strengthening of the private sector and judiciary reinforcement.
24. **For National Competitive method (NCB) can be used**, subject to the following additional requirements and modifications: (i) the Recipient shall use standard bidding documents for the procurement of goods, works and non-consulting services acceptable to the Association; (ii) in accordance with paragraph 1.16(e) of the Procurement Guidelines, each bidding document and contract financed from the proceeds of the Grant shall provide that the bidders, suppliers, and contractors, and their sub-contractors, agents, personnel, consultants, service providers or suppliers, shall permit the Association to inspect all their accounts, records and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Association. Acts intended to materially impede the exercise of the Association's inspection and audit rights provided for in paragraph 1.16(e) of the Procurement Guidelines constitute an obstructive practice as defined in paragraph 1.16(a)(v)(bb) of the Procurement Guidelines; and (iii) each bidding document and contract financed from the proceeds of the Grant shall include provisions on matters pertaining to fraud and corruption as defined in paragraph 1.16(a) of the Procurement Guidelines. The Association will sanction a firm or individual, at any time, in accordance with prevailing Association's sanctions procedures, including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (A) to be awarded an Association-financed contract; and (B) to be a nominated sub-contractor, consultant, supplier or service provider of an otherwise eligible firm being awarded an Association-financed contract.
25. **Procurement of Works:** Works procured under this project would include small civil works for the cable inland connection. No high value contract on civil works is expected to be financed under this project.
26. **Procurement of Goods:** Goods procured under this project would include and are not limited to:

Telecommunication equipment and accessories, vehicles, Internet connectivity, office furniture, office equipment (Office Space for WARCIP – PIU)

Most of the contracts are of small value and therefore ICB method is very limited. The procurement will be done using Bank's SBD for all ICB and for all NCB subject to any adaptation as required. Small contracts for goods may be procured using the shopping procedures as per paragraph 3.5 of the Procurement Guidelines.

- 27. Procurement of non-consulting services:** These services may concern operating expenses such as office maintenance, rent of Office Space for WARCIP - PIU, equipment maintenance, and non-consulting services related to the organization of workshops. The related contracts will be at small value and they may be procured using the shopping procedures as per paragraph 3.5 of the Procurement Guidelines.
- 28. Selection of Consultants:** Consulting services will include but are not limited to (i) Internet Exchange Point Study, ii) selection of an Advisor to optimize the governance, ownership and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE Cable, iii) Selection of an Investment Bank to support implementation of ownership and management of landing station including implementation of divestiture strategy for Government shareholding, iv) Legal and regulatory due diligence, safeguards for open access including gateway liberalization, v) Broadband study strategy and demand stimulation strategy and action plan, vi) Environmental Studies, vii) Restructuring of GAMTEL for the repositioning, viii) recruitment of PIU's key staff, (ix) Project's operation manual, x) financial audits.

Short lists of consultants for services estimated to cost less than US \$ 200,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines.

- 29. Operational Costs:** these costs may include office furniture, office maintenance, equipment maintenance and cost related to the project coordination needs; they are either goods or non-consulting services and they may be procured using the shopping procedures as per paragraph 3.5 of the Procurement Guidelines. The project operational manual should describe the procurement process for the related goods or non-consulting services.

B. Assessment of the agency's capacity to implement procurement

- 30. IDA funding for component 1 (a) on international connectivity does not go towards a procurable item subject to compliance with World Bank procurement guidelines.** This is because such funding is for membership fees (paid in different installments) against a set of rights including use of a certain amount of capacity at preferred rates and a share of ownership of an indivisible cable infrastructure asset.

For other project components (1 b, components 2 and 3), IDA procurement guidelines will apply and Procurement activities will be carried out by the PIU to be created in the MoICI. This PIU will be staffed by a Project Coordinator, a Procurement Specialist, a Financial Management Specialist and an accountant. A Monitoring and Evaluation consultant will also be hired under the project. Meanwhile, the fiduciary function for WARCIP Project Preparation Advance is entrusted to the IFMIS project team. This team comprises a qualified procurement specialist who has both the technical expertise and the experience necessary to carry out the procurement activities envisaged under the project and has been recruited on a competitive basis for a part time position.

- 31. An assessment of the capacity of the MoICI to implement procurement actions for the project has been carried out.** The assessment reviewed the organizational structure for implementing the project.

32. Most of the issues/ risks concerning the procurement have been identified and include:

- The PIU is not yet created, nor a procurement specialist appointed. MoICI has not implemented a former project under The World bank financing, and has not past experience on the World Bank procedures. The Ministry's Contract Committee members are not familiar with international procurement procedures, and may obstruct or delay the procurement process, especially the evaluation of bids and consultants' proposals;
- The prior review of the procurement documents and procurement decisions by the procurement control body in the country may not be enforced for all contracts, in particular those under foreign financing;
- As the project includes activities related to GAMTEL, PURA and other beneficiaries, including the Ministry of Finance, possible interactions between the PIU and the other actors (MoICI, GAMTEL and PURA) may affect negatively the procurement process.
- The MoICI doesn't have a Manual of Procedures nor a PIM but has an acceptable filing system

33. The corrective measures which have been agreed are:

- As mentioned in the implementing arrangements, a PIU will be created. The procurement function of the PIU will be performed by the Procurement Consultant of the IFMIS Project and extended her support to the Project Preparation Advance. Since she has been recruited on a competitive basis, and she has the necessary qualification and experience, at effectiveness, she might be considered to fill the procurement position of the PIU. The PIU procurement specialist will be assisted by the procurement officer under recruitment by MoICI so as to definitely build the procurement capacity within MoICI and will provide procurement capacity building to the technical staff of the project including all actors of the MoICI involved in the project's implementation. This approach would ensure that the technical specialists and experts will have basic procurement capacity so as to properly handle technical responsibilities in preparing procurement documents including terms of references and technical specifications.
- The procurement documents and procurement decisions might be submitted to the prior review by the procurement control body, (The Gambia Public Procurement Authority)
- The control that will be exercised by the country procurement control body might help mitigate any possible interference that may occur between the PIU and other actors.
- PIU will develop a Manual of procedures and will put in place a good filing system

34. The overall project risk for procurement is substantial.

C. Procurement Plan

33. The Recipient has developed a Procurement Plan for project implementation which provides the basis for the procurement methods. This plan was reviewed by the Bank and approved during appraisal On May 13, 2011. Once it is approved, the procurement plan will be made available in the Project's

database at the office of the PIU and at the MoICI in Banjul and at the Bank's external website. The Procurement Plan will be updated in agreement with the Project Team annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

D. Frequency of Procurement Supervision

- 34. In addition to the prior review** supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended one supervision mission at least every six (6) months to visit the field to carry out post review of procurement actions.

Appendix:

The procurement methods and prior review thresholds are indicated in the Tables below.

For Goods, works and non-consulting services

	Procurement Method	Prior Review Threshold	Comments
1.	ICB (Goods)	= or >US\$300,000	ICB for goods will be used for US\$ 300,000 and above
2.	NCB (Goods)	The first contract, irrespective of its cost estimate	NCB for goods will be used for less than US\$ 300,000
3.	ICB (Works)	= or >US\$3,000,000	ICB for works will be used for US\$3,000,000 and above
4.	NCB (Works)	The first contract, irrespective of its cost estimate	NCB for works will be used for less than US\$3,000,000
5.	ICB (Non-Consultant Services), if any	= or >US\$ 300,000	ICB for non-consultant services will be used for US\$300,000 and above
6.	NCB (Non-Consultant Services)	The first contract, irrespective of its cost estimate	NCB for non-consultants services will be used for less than US\$ 300,000
7.	Shopping	<US\$50,000 and the first contract under US\$50,000	Shopping for works, goods and non-consultant services will be used for less than or equivalent to US\$50,000. If more than US\$50,000, prior clearance is needed from IDA with relevant justifications. The cost estimate will not exceed US\$100,000.
8.	Direct contracting	All, irrespective of the cost estimate	None
9	Limited International Bidding	The first contract, irrespective of its cost estimate or =>US\$3,000,000	LIB for non consultant services will be used for US\$300,000 and above

For Consultant Services

	Selection Method	Prior Review Threshold	Comments
1.	Competitive Methods (Firms)	= or >US\$200,000	The first contract, irrespective of its cost estimate will be prior reviewed
2.	Single Source (Firms)	All, irrespective of the cost estimate	
3.	Individual Consultants	= or >US\$100,000	The first contract, irrespective of cost estimate will be prior reviewed
4.	Single source for Individual Consultants	All, irrespective of the cost estimate	All, irrespective of the cost estimate
5.	Contracts for specific assignments such as contracts for the elaboration of manual of the project implementation and the manual of procedures, contracts for monitoring and evaluation assignments; contracts for financial assistance assignments; contracts for financial audit; contracts for technical audit; contracts for environmental and social issues; contracts for legal assignments	All, irrespective of the cost estimate	Those contracts are not selection methods; but due to their sensitivity, they will be subject to prior review

Details of the Procurement Arrangement

List of contract Packages for Goods and non-consulting services.

1	2	3	4	5	6	7	8	9
Ref. No.	Contract (Description)	Estimated Cost US\$	Procurement Method	Prequalification (yes/no)	Domestic Preference (yes/no)	Review by Bank (Prior / Post)	Expected Bid-Opening Date	Comments
COMPONENT 1: CONNECTIVITY								
1	Provision of Local Area Networks for Government Connectivity(Telecommunication Equipment and accessories	US\$ 200,000	NCB	No	No	Prior	August 10 2011	
2	IXP equipment	US\$150,000	LIB	No	No	Post	March 30, 2012	
3	Servers for domain name re-delegation	US\$150,000	NCB	No	No	Post	February 15, 2012	
COMPONENT 3. PROJECT IMPLEMENTATION, COMMUNICATIONS AND M & E								
1	Vehicle	US\$ 45,000	Shopping	No	No	Post	August 18 2011	
2	Internet Connectivity	US\$ 30,000	Shopping	No	No	Post	July 14 2011	PPA
3	Office Furniture	US\$ 20,000	Shopping	No	No	Post	August 29 2011	PPA
4	Office Equipment(Laptops, PABX System, Overhead Projector	US\$ 30,000	Shopping	No	No	Post	October 4 2011	PPA
5	Logistics (Laptop(5 Nos.), PC(1No.),USB Flash Drives, etc	US\$ 25,000	Shopping	No	No	Prior	April 18 2011	PPA
6	Rent(Office Space for WARCIP – PIU)	US\$ 150,000	Shopping	No	No	Prior	May 18 2011	PPA
7	Operational Support for SPV	US\$ 150,000	Shopping	No	No	Post	October20, 2011	
8	Generator for PIU	US\$ 15,000	Shopping	No	No	Post	July 20, 2011	
9	Other Operational Cost	US\$ 105,000	Shopping	No	No	Post	Dec. 21 2011	Only the items that will need procurement procedures are concerned. For example: fuel and vehicle maintenance, insurance, building security and maintenance, translation services, photocopies and office supplies.

Works

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>
<u>Ref. No.</u>	<u>Contract (Description)</u>	<u>Estimated Cost US\$</u>	<u>Procurement Method</u>	<u>Prequalification (ves/no)</u>	<u>Domestic Preference (ves/no)</u>	<u>Review by Bank (Prior / Post)</u>	<u>Expected Bid-Opening Date</u>	<u>Comments</u>
COMPONENT 3: PROJECT IMPLEMENTATION, COMMUNICATIONS AND M & E								
<u>1</u>	Rehabilitation of PIU office	US\$ 16,000	Shopping	No	No	Post Review	July 11 2011	

Consultancy Assignments with Selection Methods and Time Schedule

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>
<u>Ref</u>	<u>Description of Assignment</u>	<u>Estimated Cost US\$</u>	<u>Selection Method</u>	<u>Review by Bank (Prior / Post)</u>	<u>Expected Proposals Submission Date</u>	<u>Comments</u>
SUPPORTING CONNECTIVITY						
1	Internet Exchange Point Study, supply of IT and Telecommunication Equipment Implementation	US\$50,000	CQS	Post	October 18, 2011	
2	Feasibility study for improved connectivity to neighboring countries	US\$ 400,000	QCBS	Prior	December 14, 2011	
3	Design and implementation of government connectivity	US\$ 275,000	QCBS	Prior	February 14, 2012	
2. ENABLING ENVIRONMENT FOR IMPROVED CONNECTIVITY(US\$7.250MILLION)						
1	International Advisor to optimize the governance, ownership and financing issues related to the operation of the landing station and provision of networks and services emanating from the ACE Cable	US\$200,000	IC	Prior Review	April 15, 2011	Done
2	Investment Bank to support implementation of ownership and management of landing station including implementation of divestiture strategy for Government shareholding	US\$500,000	QCBS	Prior Review	July 15, 2011	
3	Legal and regulatory due diligence, safeguards for open access including gateway liberalization	US\$500,000	QCBS	Prior Review	June 15, 2011	
4	Implementation support for open access to backbone	US\$ 250,000	QCBS	Prior Review	September 29, 2011	
5	Broadband study strategy and demand stimulation strategy and action plan	US\$500,000	QCBS	Prior Review	July 25, 2011	PPA
6	Implementation support for broadband strategy implementation	US\$ 500,000	QCBS	Prior	September 21, 2012	
7	Communications Infrastructure strategy	US\$ 500,000	QCBS	Prior	September 15, 2011	
8	Legal and regulatory support to increase ICT use	US 500,000	QCBS	Prior	October 30, 2011	

Ref	Description of Assignment	Estimated Cost US\$	Selection Method	Review by Bank (Prior / Post)	Expected Proposals Submission Date	Comments
9	Consultancy for Domain name re-delegation	US\$ 200,000	QCBS	Prior	October 12, 2011	
10	Regulatory and organizational action plan for PURA	US\$ 150,000	QCBS	Post	September 20, 2011	
11	Development of key regulatory instruments	US\$ 900,000	QCBS	Prior	October 15, 2011	
12	Fee and taxation study	US\$ 150,000	QCBS	Post	December 12, 2011	
13	Structural separation (operational + regulatory support)	US 700,000	QCBS	Prior	March 15, 2012	
14	Strategic support for GAMTEL repositioning	US\$600,000	QCBS	Prior	January 16, 2012	
15	Specific Management Consultancy Services for GAMTEL	US\$ 200,000	QCBS	Prior	November 15, 2011	
COMPONENT 3. PROJECT IMPLEMENTATION, COMMUNICATIONS AND M & E						
1	PIU Coordinator	US\$150,000	IC	Prior	June 27 2011	
2	PIU Procurement Specialist	US\$125,000	IC	Prior	June 27 2011	
3	PIU Financial Management Specialist	US\$125,000	IC	Prior	June 20 2011	
4	PIU Accountant	US\$75,000	IC	Prior	June 20 2011	
5	Support Staff	US\$75,000	IC	Post	Sept 10 2011	
6	Project Operational Manual including accounting manual	US\$50,000	CQS	Prior	June 10, 2011	
7	Design and installation and training of accounting software	US\$ 25,000	IC	Post	August 16, 2011	
8	ESMF and RPF	US\$54,000	CQS	Prior	April 11 2011	Done
8	M & E	US\$50,000	IC	Prior	Dec 22 2011	
9	Communications	US\$100,000	IC	Prior	Dec 22 2011	
10	Surveys	US\$ 46,000	IC	Post	April 4 2011	
12	External Audit	US 40,000	QCBS	Prior	Nov. 17 2011	
11.	Legal advisor for SPV	US\$ 100,000	IC	Prior	October 17 2010	

Implementing Agency Capacity Building Activities with Time Schedule

No.	Expected outcome / Activity Description	Estimated Cost	Estimated Duration	Start Date	Comments
1	Training for regulators(PURA)	300,000	To be determined	Sept 2011	A training plan will be developed for each year and sent to the Bank for review
2	Capacity building for PIU Staff	70,000	To be determined	October 2011	A training plan will be developed for each year and sent to the Bank for review
3	Capacity Building(Management Technical and Skills Re-engineering)	US\$300,000	To be determined	October 2011	A training plan will be developed for each year and sent to the Bank for review
4	Capacity building for Ministry	US\$ 300,000	To Be determined	October 2011	A training plan will be developed for each year and sent to the Bank for review

•**Anti-Corruption Action Plan:** 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. The Bank team intends to maintain customary oversight and will carry out prior review of all major contracts according to the established thresholds within the country may be reviewed and adjusted as needed in the Procurement Plan. The following measures will be carried out to mitigate corruption risk:

- *Training of fiduciary staff:* Starting from the project launch periodical trainings on procurement will be conducted at the country level for all PIUs’ fiduciary staff
- *Prior review:* Intensive and close supervision by Bank procurement accredited staff. In addition, all contract amendments will be subject to prior approval by the Bank;
- *Publication of Advertisements and Contracts:* All publications of advertisements and contract awards, will be done in accordance with the Guidelines requirements and published through client connection system, on external websites, i.e. UNDB and dgMarket websites;
- *Debarred Firms:* Appropriate attention will be given to the need to ensure that debarred firms or individuals are not given opportunities to compete for Bank-financed contracts;
- *Complaints:* All complaints by bidders will be diligently addressed and monitored in consultation with the Bank;
- *Evaluation Committee:* The Bank will review and comment on qualifications and experience of proposed members of the Evaluation committee(s) with a view to avoid that unqualified or biased candidates are nominated. All members will require to sign a disclosure form (sample will be included in Operational Manual)
- *Monitoring of contract awards:* All contracts are required to be signed within the validity of the bids/proposals and, in case of prior review contracts, promptly after the no objection is issued. Procurement Plan format shall include information on actual dates (of no objections and award) and will be monitored for cases of delay which will be looked at on a case-by-case basis to identify the reasons. The PIU will maintain up to date procurement records and to be available to all concerned Bank staff, auditors and INT members of the Bank.
- *Monitoring of Payments:* All contracts shall include bank account information. The bank account shall be in the name of the same supplier/consultant that submitted the bid and awarded the contract. Payments to local suppliers -consultants shall be made in local currency only and paid to the accounts of banks located within the country.
- *Timeliness of Payments:* Payment to suppliers and consultants will be monitored through semi-annual interim un-audited financial reports (IFRs) to ensure timely payments. The PIU will maintain a system/database to ensure payments to the suppliers and contractors are made without delay according to the conditions of the contract.

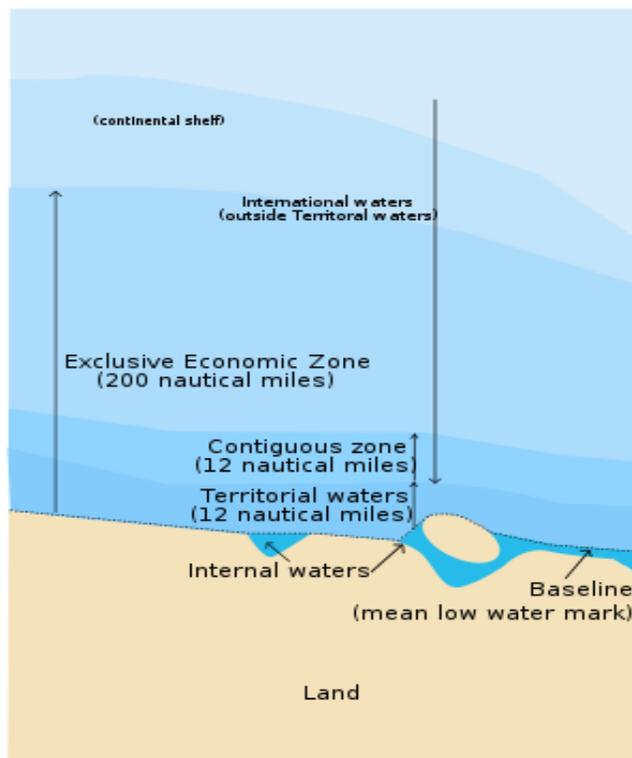
E. Environmental and Social safeguards

35. The proposed project is rated as a Category B project. The safeguards policy triggered are Environmental Assessment (OP/BP 4.01), Natural Habitats (OP/BP 4.04), Physical Cultural Resources (OP/BP 4.11) and Physical Cultural Resources (OP/BP 4.11). The physical cable system will comprise two fiber pairs that provide two separate bi-directional paths (i.e., one fiber in each pair carries signals in the outbound direction and the other fiber in the return or inbound direction). The cable system is likely to have a submerged or ‘wet plant’ part, and a ‘dry plant’ part which interfaces at proposed Landing Stations.

Safeguards for Deep Sea¹⁸ Activities

36. Deep ocean fiber optic cables are no larger than 17-21 mm diameter – about the size of a domestic garden hose and are laid mainly upon the surface of the ocean floor (“surface laid”). Sections of the cable (including both wet and dry plants) lie within the territorial waters of the landing parties while remaining sections lie in the exclusive economic zones of such states. The Gambia is a party to the 1982 United Nations Convention on the Law of the Sea (UNCLOS), and has declared exclusive economic zones of 200 miles. In the exclusive economic zones, states have no sovereign rights but can enforce laws on pollution, taxation, customs and immigration (see figure 3.2, below). Within their territorial waters, on the other hand, countries have sovereign rights. Foreign nations have the freedom of laying submarine pipes and cables in the exclusive economic zones.

Figure 3.2: Designated ocean zones according to UNCLOS.



¹⁸ "Deep Sea", as used here, describes areas beyond which cable burial is not required (mainly because threats to the cable from trawling activities are non-existing). This starts usually after 1000/ 1500 meters depth.

37. In general, however, the section of the cable that lies in the deep sea has minimal impact on marine mammals and fish. The threat of whale entanglements has diminished significantly with improvements since 1956 in the design of cable and in the precision with which they can be laid in close conformity with the seabed profile, and without loops and twists.
38. Generally speaking, there are no significant environmental issues concerning fiber cables in the deep sea (significant issues are concentrated on shallow waters and the coastal areas/beach). The operation phase of the submarine cable will not have any significant adverse impact on the bio-physical and social environment except during cable repairs and recovery. There will be very limited maintenance of the cable. The cable will have a passive influence on the environment. Impacts during cable repair and recovery activities will be similar to impacts during the construction phase activities.
39. The extensive studies 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, deepwater reefs, dissected terrain – all areas that tend to be associated with higher biological value than the general abyssal plain.
40. Given that much of the deep ocean lie beyond national jurisdictions, few EIAs for any marine activities have been undertaken in this zone and thus there is little evidence of any environmental issues, except in cases of oil and gas exploration and very deep sea trawling. No specific environmental studies are undertaken for submarine cables; rather the detailed Cable Route Survey effectively serves this purpose. At the surface, pollution of the high seas by oil and wastes discharged from vessels can be effectively controlled if those vessels observe compliance with maritime conventions.
41. Based on these experiences, it may not be necessary The Gambia to conduct EIAs of the deep sea, though this should not deter The Gambia from considering in the screening and scoping phases of their EIAs whether there are areas of deep sea traversed by ACE and within the geographical limits of application of its domestic EIA legislation to which attention should be paid.

Safeguards for Shallow Water Activities

42. The site selected for cable landing or Terminal Station is at Brusubi Phase III Institutional Area and currently lies fallow. It is approximately 3km from the Beach Man Hole at the beach. The land currently has no permanent structures and borders the Brufut-Sukuta Coastal road. The site is about 2,800m² (40m x 70m) and has the following coordinates N13o24.785' and W16o43.126'. The major facilities/infrastructure to be installed at the beach and the Brusubi sites include the Landing Station building, Zero manhole, BMH, connections conduits and ducts, generators, fuel tanks, transformer, switch board and cable drums. The cable station is expected to take about 45m x 25m land space with approximately half of this space for equipment and the balance for maintenance, training, and office spaces. GAMTEL/PIU is committed to ensuring that environmentally conscious practices are carried out during construction and operation of the submarine and landing station project, including: (a) incorporating environmental considerations into its planning, management and operational activities; (b) Having an Environmental and Safety Coordinator/consultant to be directly responsible for environmental and safety issues during construction and operation; and (c) allocating and maintaining resources for the effective implementation of the ESIA/ ESMP.

- 43. This project will affect less than 50 persons and therefore the equivalent of an ARAP, an RRP, has been prepared, consulted upon and disclosed before appraisal.** It is a plan that will guide the management of the few resettlement issues which have been identified, even though these may seem to be of minor significance. The project will affect 27 persons and will not cause any permanent or temporary structure to be demolished. It will only create temporary inconveniences during the construction phase and limited economic disadvantages to business concerns. There are no land acquisition issues as the site for the Landing Station is state property which has been allocated to the project for the purpose. Key stakeholders for consultation included current inhabitants (where applicable) of landing sites, the Environmental Protection Agencies. Limited funding is needed for compensation for inconveniences resulting from the project

Monitoring & Evaluation

- 44.** The PIU will monitor and evaluate national projects. They will bear the primary responsibility for project monitoring and evaluation (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.
- 45.** 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 lower indicators related to quality, quantity, and time (see 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.
- 46. 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 PIUs will review and validate the reports on performance indicators and recommend corrective action if necessary.

Role of Partners

- 47.** The World Bank is collaborating with the IsDB to develop a seamless communications network for The Gambia. The IsDB is in the process of assisting a number of countries in West Africa to build their national backbone and to improve their connectivity to their neighbors. Support to The Gambia is already approved.
- 48. The World Bank will also coordinate with the International Telecommunication Union (ITU).** The program will also coordinate with ITU in the area of capacity building for regional regulatory authorities, given existing programs by ITU in this area.

Annex 4: Operational Risk Assessment Framework (ORAF)

THE GAMBIA WARCIP 1B

Project Development Objective(s)					
To increase the geographical reach of broadband networks and reduce costs of communications services in The Gambia					
PDO Level Results Indicators:	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">Volume of international traffic (Mbit/s per person)</td></tr> <tr><td style="padding: 2px;">Access to internet services (%)</td></tr> <tr><td style="padding: 2px;">Average monthly price of wholesale international E1 capacity link from capital city to Europe</td></tr> <tr><td style="padding: 2px;">Number of direct project beneficiaries, of which female</td></tr> </table>	Volume of international traffic (Mbit/s per person)	Access to internet services (%)	Average monthly price of wholesale international E1 capacity link from capital city to Europe	Number of direct project beneficiaries, of which female
Volume of international traffic (Mbit/s per person)					
Access to internet services (%)					
Average monthly price of wholesale international E1 capacity link from capital city to Europe					
Number of direct project beneficiaries, of which female					

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
Project Stakeholder Risks	MI	<p>Lack of collaboration of stakeholders</p> <p>Divestment process less successful than anticipated</p> <p>Difficulties changing ACE CMA signatory and handing over rights and responsibilities of GAMTEL to the new SPV</p>	<p>PPA approved and includes support for PPP structures that will make it attractive for private investment. Private sector already signaled significant interest under transparent conditions.</p> <p>Detailed due diligence to identify incentives for existing operators to willingly participate in the proposed infrastructure is contemplated under APL 1-B of the project.</p> <p>Initial TA provided for The Gambia already outlined a process for the discussion with ACE.</p>

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
Implementing Agency Risks	MI	<p>The Gambia implementing agencies have limited experience with the envisaged complex project arrangements. A very steep learning curve is anticipated.</p> <p>The Financial Management staff is not yet in place and there is not a FM manual and an accounting software</p>	<p>Extensive preparation work and due diligence has been carried out by the Task Team and the client to ensure ownership and identification of potential implementation issues. The PPA put in place will finance TA activities aiming at enhancing the implementing agencies' capacity to mitigate risks of slow start and missing the ACE's tight disbursement deadlines.</p> <p>A stand alone PIU will be established. FM action plan was agreed and will be implemented during the project including development of FM manual, acquisition of FM software and hiring of an FM specialist and an accountant.</p>
Project Risks			
<ul style="list-style-type: none"> Design 	MI	<p>Non conformance with linkage conditionality (cross-effectiveness conditions and cross-suspension remedies) for regional cooperation</p> <p>Risk of delays could result in penalty to clients for missing ACE payment milestone</p> <p>Project commercially not viable due to insufficient demand for services.</p> <p>Design of the project is complex and risky (Public Private Partnership)</p>	<p>Program structured so that if the Financing Agreement for any of the other two countries never enters into effect or if disbursements there-under are suspended, this would only reduce the scope but not affect the overall implementation of the independent Gambia activities.</p> <p>The CMA provides for installment payments; The Gambia Government has already provided the first 3 and concessional financing will be arranged to cover the balance.</p> <p>Early results of traffic assessment confirm viability. Detailed traffic study will be conducted and Demand stimulating approaches will be explored to address potential risk</p> <p>Support to PPP arrangement from PPA. For all other project components, the project is not relatively complex. The components are dedicated to well-specified structures which will designate a focal point.</p>

Risk Category	Risk Rating	Risk Description	Proposed Mitigation Measures
<ul style="list-style-type: none"> Social and Environmental 	ML	<p>Possible environmental and social impacts including possible impacts on critical habitats and/or physical cultural resources.</p> <p>The institutional responsibilities for preparing the various safeguards instruments would lie with the PIU and the SPV Given the need to ensure compliance with safeguards instrument preparation there will be the need for capacity building.</p>	The ESMP/EIA was developed and disclosed before appraisal. In addition the equivalent of an ARAP, an RRP, was developed to deal with inconvenience related to the project to the 27 affected persons. Finally, since the Program will involve PPP schemes, appropriate technical clauses will be prepared and included in the binding documents for the Private Entity when necessary, to ensure the execution of agreed environmental and social safeguards measures and implementation of the recommendations in the instruments.
<ul style="list-style-type: none"> Program and Donor 	ML	Potential difficulties securing funding for the national backbone	Funding already secured from IsDB with coordination to ensure open access for the backbone infrastructure and capacity.
<ul style="list-style-type: none"> Delivery Quality 	ML	The Project expected results depend on many factors sometimes outside the project's scope. This may also affect the sustainability of the Program's achievements.	The Project includes M&E activities that have been discussed in details with the clients during preparation. The M&E system will ensure an efficient monitoring of results achievement and should prevent major implementation issues. The commitment of the Project's stakeholders to the new PPP arrangements as well as the institutional and policy framework improvement will ensure sustainability of project results beyond its completion.

Overall Risk Rating at Preparation	Overall Risk Rating During Implementation	Comments
MI	MI	Major issues and risks will be dealt with by effectiveness through targeted activities financed by the PPA. The MI rating for implementation is mainly due to the risky country and institutional contexts, outside the project scope.

Annex 5: Implementation Support Plan

THE GAMBIA WARCIP 1B

1. **Policy, regulatory, environmental and social safeguards are being put in place prior to full implementation** PPA granted to The Gambia is expected to ensure that the policy, regulatory, environmental and social safeguards, as well as requisite capacity are in place before Board. 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.

2. **The team has conducted preliminary assessments of the institutions expected to execute the project.** The strategic partnerships and collaboration, combined with active client engagement and upfront preparatory work, are expected to facilitate achievement of the PDO. Furthermore the team has conducted preliminary assessments of the institutions expected to execute the Program to ensure that they meet the minimum requirements of the World Bank’s fiduciary obligations.

3. **Payment to ACE will be through direct Disbursement.** Beyond this, and to further mitigate risks, the team is structuring the WARCIP Gambia to ensure that direct payments are made to the Cable consortium which is managing the submarine cable construction on behalf of consortium members. This will mean that at least 70% of funds will be paid directly to the Cable Consortium, and the countries manage less than 20% of the targeted funds which will be used primarily for institutional and implementation support and to improve the enabling environment.

What would be the main focus in terms of support to implementation?

Table 5.1: Main focus of support to implement

Time	Focus	Skills Needed	Resource Estimate	Partner Role
First twelve months	Creation/Strengthening of PIUs Transaction/Legal Advisory Work	Procurement, FM, Program Coordinators Experienced Transaction and Legal Teams	US\$ 100,000	NA
12-48 months	Divestiture of Gov. Shares in SPV	Transaction/Legal Teams	US\$ 100,000	NA
Other	Strengthening of regulatory and policy capacity	Regulatory and ICT specialists	US\$ 100,000	NA

Implementation Support Plan

4. The Bank team members will be based either in Washington DC 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 semi-annually initially, with possibility for annual visits in later years of the project. Detailed inputs from the Bank team are outlined below:

- **Technical inputs.** Technical telecommunications and regulatory related inputs are required to review bid documents to ensure fair competition through proper technical specifications and fair assessment of the technical aspects of bids. ICT Policy Specialists and regulatory specialists will provide technical support and conduct supervision visits whenever needed.
- **Fiduciary requirements and inputs.** Training will be provided by the Bank’s financial management specialist and procurement specialist before the commencement of project implementation as needed. The team will also help identify capacity building needs to strengthen its financial management capacity and to improve procurement management efficiency. Both the financial management and the procurement specialist will be based in the region to provide timely support. Formal supervision of financial management will be carried out semi-annually or annually, while procurement supervision will be carried out on a timely basis as required by the client.
- **Safeguards.** Inputs from an environment specialist and a social specialist may be required, though the project’s social and environmental impacts are limited and client capacity is generally adequate. No field visits are likely to be required, but this will be confirmed - the social and environmental specialists will be available on a need basis.
- **Operation.** The Task Team will also provide day to day supervision of all operational aspects, as well as coordination with the client and among Bank team members. If needed, a consultant may be used to support this role.

The main focus of implementation support is summarized below.

Table 5.2: Implementation support

Time	Focus	Resource Estimate in Staff Weeks	Partner Role
Project duration	Team leadership, technical and procurement review of the bidding documents and Institutional arrangement and project supervision coordination	ICT Policy Specialist 15 SWs	NA
	Procurement training	Procurement specialist(s) 2 SWs	NA
	FM training and supervision	FM specialist 2 SWs	NA
	Environmental and Social Issues	Social specialist 0.5 SWs Environmental specialist(s) 0.5 SWs	NA

Staff skill mix required is summarized below.

Table 5.3: Staff skill mix

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task team leaders	15 SWs annually	Fields trips as required.	DC or Country office based
Procurement	2 SWs annually	Fields trips as required.	Country office based
Social specialist	0.5 SWs annually	Fields trips as required.	Country office based
Environment specialist	0.5 SWs annually	Fields trips as required.	Country office based
Financial management specialist	2 SWs annually	Fields trips as required.	Country office based
Legal support	1 SW	Fields trips as required	DC based

Annex 6: Team Composition

THE GAMBIA WARCIP 1B

Name	Title	Unit
Boutheina Guermazi	Sr. Regulatory Specialist	ICT Sector Unit
Mavis Ampah	Sr. ICT Policy Specialist	ICT Sector Unit
Doyle Gallegos	Lead ICT Policy Specialist	ICT Sector Unit
Laurent Besancon	Regional Coordinator	ICT Sector Unit
Marc Lixi	Sr. Operations Officer	ICT Sector Unit
Sarah Brierley	STC	ICT Sector Unit
Michele Ralisoa Noro	Sr. Program Assistant	ICT Sector Unit
Gurcharan Singh	Sr. Procurement Specialist	ICT Sector Unit
Duncan Wambogo Omole	Information Analyst	ICT Sector Unit
Deo Ndikumana	Sr. Operations Officer (AFCRI)	AFCRI
Carlos Cavalcanti	Country economist	AFTP4
David Satola	Sr. Counsel	LEGPS
Harvey van Veldhuizen	Lead Environmental Specialist	MIGEP
Beatrix Allah-Mensah	Social Development Specialist	AFTCS
Bienvenu Rajaonson	Sr. Environmental Specialist	AFTEN
Sidy Diop	Procurement Specialist	AFTPC
Wolfgang Chadab	Sr. Finance Officer	CTRFC
Claudia Pardiñas Ocaña	Sr. Counsel	LEGAF
Alexandra Sperling	Paralegal	LEGAF
Maimouna Fam	Sr. Financial Management Specialist	AFTFM
Ngor Sene	Financial Management Specialist	AFTFM

Annex 7: Economic and Financial Analysis

THE GAMBIA WARCIP 1B

- 1. Connecting locally to a submarine fiber-cable system minimizes transit costs and is the most cost-effective long term option for The Gambia.** The analysis to assess the merit of The Gambia's connectivity options examined a variety of satellite and optic fiber options. The analysis finds that in the case of The Gambia a submarine fiber link with domestic landing station is the best overall option in terms of long-term cost effectiveness and bandwidth availability. More specifically, considering the limited number of fiber alternatives and their higher cost, the Africa Coast to Europe (ACE) cable project is currently the best fiber option for this country. The cost of capacity on ACE will be an order of ten times cheaper than the current cost of capacity on existing African submarine cables linking to Europe (e.g. MainOne or SAT-3/WASC), which is between US \$280 and US\$ 800/Mbit/s/month, and averages \$500/Mbit/s/month. The cost advantages of ACE are even greater when compared to satellite capacity costs, which are at least US\$ 4000/Mbit/s/month. Aside from low bandwidth costs, the high quality of fiber bandwidth provided is also a factor which has to be taken into account in comparing options.
- 2. Benefits of fiber-cable investment: low transit costs; lower prices; and increased reliability in accessing international bandwidth.** In the case of The Gambia, although up-front costs are higher, the key cost saving with the ACE compared to existing alternative fiber options is the high cost involved in the purchasing of capacity from an existing landing station in Africa to the global backbones. The Gambia's participation in ACE, which lands traffic directly in Europe, will ensure that transit costs to the global backbones are minimized. ACE also has an advantage over a cross-border fiber option in terms of speed and costs, and is without the need for independent management, planning and maintenance. For international connectivity the country currently depends on a single unstable high-cost 155Mbit/s terrestrial link to neighbouring Senegal, which has contributed to high prices at the retail level and reduced the level of reliability. A dedicated domestic landing station will both reduce the cost of international bandwidth as well as increase reliability. To approximate the relative savings produced by fiber compared to satellite consider that in 2010 The Gambia used approximately 155 Mbit/s of international bandwidth. Purchased through satellite this costs approximately US \$3.7 million, compared to ACE which would be US\$558 000 (conservatively assuming US\$ 300/Mbit/s/month). This cost savings would also benefit the local economy as it also means much less funds would move off-shore in payments to international satellite operators. If ACE pricing drops to levels seen elsewhere on the continent for wholesale submarine fiber capacity, (US\$ 50-US\$ 100/Mbit/s/month), the savings for operators would be correspondingly greater.
- 3. Fiber cable systems that serve the West Africa region and the upcoming ACE cable use well-proven technologies and involve no appreciable technology risk.** The new ACE cable design is both "state of the art", uses well-established procedures, and involves no significant technology risk.

- 4. Fiber cable has an advantage over satellite in terms of price and quality of service.** Use of satellite bandwidth to meet international connectivity needs was eliminated as too costly and suffering from lower quality than fiber. The latency factor introduced in satellite links can be a problem with some communication services, especially high data rate interactive multimedia applications. The almost 1-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 (VPNs), 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 centres and VPN networks where companies are reticent to establish these on the end of a satellite link because of the latency issue.
- 5. ‘Medium earth orbit’ (MEO) satellites (MEO) and terrestrial microwave options are relatively more costly compared to fiber option.** There have been suggestions that a new type of satellite service based on 'medium earth orbit' satellites (MEOs), which provides lower levels of latency due to their greater proximity to earth, could meet needs for improved international connectivity. However, the only proposed service of this type, called O3B, 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 connectivity where there is no fiber. In the same vein, improved terrestrial microwave links could be considered another alternative, however as with satellite solutions, these links do not scale economically to the levels of bandwidth that are expected to be required at an international level. This is evidenced by the efforts of international mobile operators to replace their existing international microwave links with fiber.

Table 7.1: Advantages and Disadvantages of submarine fiber cable compared to Satellite

	Increased satellite capacity	ACE Submarine Cable Systems
Advantages	Lower CAPEX and O&M; Bandwidth purchases grow in concert with demand growth;	Future proof in terms of capacity available and superior quality through higher performance (lower latency);
	Less risk of service being discontinued for long periods	Much lower cost for bandwidth. Fixed cost for capacity investment means prices go down as usage picks up .
Disadvantages	Far higher cost for bandwidth;	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)
	High latency can limit the bandwidth quality and applications that can be used.	
Socio/Economic/ User Impact	Number of Internet users and extent of usage is constrained by high bandwidth prices and slower performance.	Number of Internet users and extent of usage grows rapidly, less constrained by high bandwidth prices and slower performance. 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
	Reduced potential for development of local ICT	

industry and fewer BPO opportunities.

increase in access to information and education resources;

More limited potential value/use by government due to reduced Internet penetration in the population generally.

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 macro-economic benefits of the potential expansion of technology-reliant industries, such as information technology services and software development businesses.

6. Assumptions of financial analysis. Financial comparisons of satellite versus fiber options were made using the following assumptions:

- ACE investment participation costs assumes US\$12million in 2010, US\$11million in 2011, US\$2million in 2013
- A discount rate of 15%
- Revenues from the cable begin in 2013 (they could start in mid 2012 if the cable is commissioned on time)
- Average geostationary satellite transponder costs: US\$2000 per month per Mbit/s.
- Cost for capacity on existing West African cables landing in nearby countries (MainOne/SAT-3): US\$280-800 per month per Mbit/s.

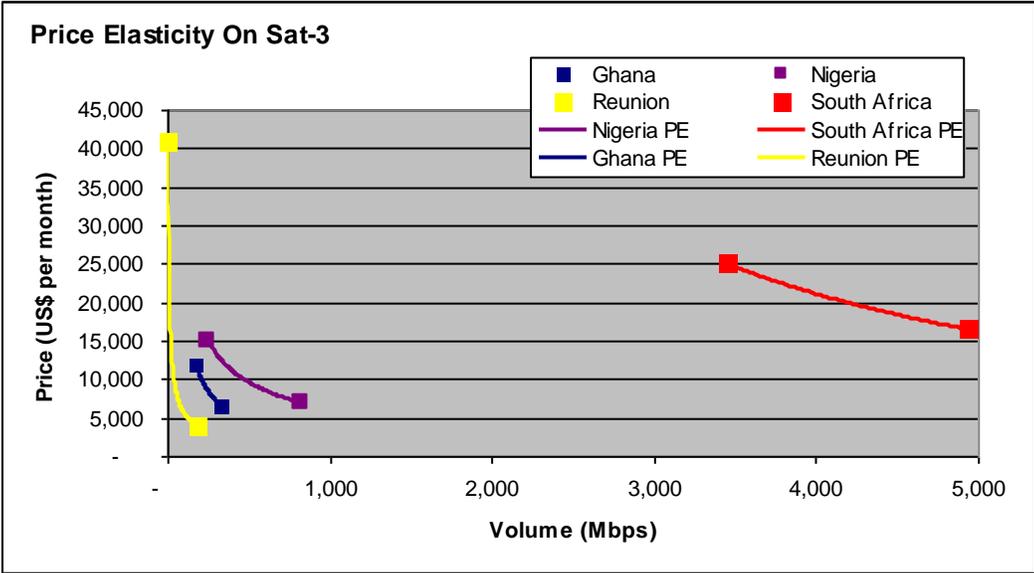
7. Enhanced connections to West Africa’s submarine fiber-cable systems for The Gambia breakeven between 2019 and 2020 after which substantial revenues would be made if wholesale pricing levels are maintained. The IRR is 28.8% assuming an average bandwidth sale price of US\$100/Mbit/s/month, and an IRR of 19.9%, assuming US\$50/Mbit/s/month. For The Gambia, pricing capacity on ACE for traffic with Europe in the US\$50/Mbit/s/month range is likely to be sustainable and would stimulate more use¹⁹. This also takes into account bandwidth pricing trends in other regions such as East Africa. For The Gambia, the final breakeven year will depend on actual capacity uptake and the wholesale price of bandwidth. After 2024 at the latest, the projects would be cash-flow positive and substantial revenues would be made if these wholesale pricing levels are maintained.

¹⁹ It can be noted that the investment in the cable is a ‘sunk’ cost that provides an initial fixed 5.9Gbit/s of bandwidth, so downstream prices can be reduced as much as possible to maximise use of this available capacity.

Table 7.2: Bandwidth demand forecast for The Gambia						
Estimate Basis	International Bandwidth (Mbit/s)	Estimated number of Subscribers	Penetration (%population)	Population	International Kbit/s/ Subscriber	Bps/ total population
Current Status in Gambia (2010)	155	15,000	0.82%	1,828,000		85
Senegal comparison (2009)	3,500	54,200	0.40	13,700,000	65	255
<u>2021 Forecasts:</u>						
Expanded cross border link to Senegal	900	38,403	2	2,453,313	23	367
ACE Fiber	22,000	268,824	11	2,453,313	82	8,967
Bandwidth Requirement Estimates Based on (cross check):						
Low Broadband Definition (256Kbit/s), Low Penetration Scenario (10%)	2,010	245,331	10.00	2,453,313	205	819
Low Broadband Definition (256Kbit/s), Low-Medium Penetration Scenario (20%)	3,517	490,663	20.00	6,647,190	179	529
Medium Broadband Definition (1Mbit/s), Low Penetration Scenario (10%)	7,851	245,331	10.00	6,647,190	800	1181
Medium Broadband Definition (1Mbit/s), Low-Medium Penetration Scenario (20%)	13,739	490,663	20.00	2,453,313	700	5600
Optimal Broadband Definition (20Mbit/s) Low Penetration Scenario (10%)	157,012	245,331	10.00	2,453,313	16000	64000
Medium Broadband Definition (1Mbit/s), Medium Penetration Scenario (40%)	19,627	981,325	40.00	2,453,313	500	8000
Optimal Broadband Definition (20Mbit/s) Medium Penetration Scenario (40%)	392,530	981,325	40.00	2,453,313	10000	160000

8. **Previous experience with fiber cables shows a rapid increase in demand when price of bandwidth decreases.** As indicated above, lowering the cost of access has a strong impact on the amount of bandwidth sold. This can be modeled using a price elasticity curve. The SAT-3 example (SAT-3 is between Portugal and South Africa), for which the most data is available, shows a clear relationship between volume and tariffs. The chart below compares the price of access on SAT-3 (per E1 half-circuit to Sessimbra, Portugal) against the volume of international bandwidth sold. This shows the effect that price decreases between 2004 and 2006 have had on the volume of bandwidth sold in each of four countries where comparable data was available. The increase in international bandwidth demand increases because broadband services first become more viable for operators to deploy, and secondly because as retail prices decrease the service become increasingly affordable and penetration increases. Réunion is included here as a particularly clear case which shows that when price was US\$20,466 per Mb the volume was just 4 Mbit/s, but when it decreased to US\$1,967 volume increased to 180 Mbit/s. If the price were to drop further to US\$500 per Mbit/s, it is projected that the volume would increase to 1.656 Gbit/s. If the price were to decrease to US\$250 per Mbit/s per month, the volume is projected to grow to 5.02 Gbit/s, which translates to a 50% price reduction resulting in a 300% increase in bandwidth demand. This increase comes about because of the multiplier effects: monthly prices for broadband decrease, in turn improving affordability and increasing uptake of services.

Figure 7.1: Bandwidth Price Elasticity



9. **The predicted bandwidth demand for The Gambia with direct access to fiber is 22,000 Mbit/s compared to 900 Mbit/s with satellite or expanded cross border link with Senegal.** Extrapolating current usage and growth in users could provide an indication of future bandwidth demand, however due to the current high cost of service (relative to income levels) and the relatively slow speeds available, this would tend to substantially underestimate pent-up demand when bandwidth availability improves and costs decrease. Given the trends worldwide in broadband adoption levels, and especially encouraged by the explosion of mobile broadband²⁰ (3G), the estimates used appear relatively conservative, especially toward the end of the analysis period (2021), by which date it is expected that almost every mobile phone

²⁰3G data service uptake from the consumer has been massive and unprecedented in other developing countries such as Kenya.

user would have access to broadband on their handset²¹. However, this is dependent on the introduction of high-bit-rate mobile services into the market, and unless increased competition is introduced into the sector, the operators may not be encouraged to introduce these types of new services in the near future. Extrapolating current usage and growth in users could provide an indication of future bandwidth demand, however due to the current high cost of service (relative to income levels) and the relatively slow speeds available, this would tend to substantially underestimate pent-up demand when bandwidth availability improves and costs decrease. 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 100Mbit/s and even 1Gbit/s in some advanced countries. Given the trends worldwide in broadband adoption levels, especially encouraged by the explosion of mobile broadband²² (3G/4G/LTE), the estimates used in this analysis appear relatively conservative, especially toward the end of the forecast period, when it is expected that almost every mobile phone user would have access to broadband on their handset²³. This also follows current trends which show that 2010 traffic in Africa and the Middle-East grew by 45%, this includes many countries which already have fiber access, so the growth rates for those which will have access to fiber for the first time are expected to be much higher.

10. Bandwidth requirement per user has the potential to advance rapidly with further social and economic development, especially with the development of The Gambia's tourism and BPO sector.

There can be a wide divergence in forecasting bandwidth requirements per user. The last 10 years has seen massive increases in end-user bandwidth demand resulting from the popularity of social network, 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 100Mbit/s and even 1Gbit/s in some advanced countries. If we assume that The Gambia will have the opportunity 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. There are also some special sources of additional demand which could also significantly increase international transmission requirement: Tourism and development of Business Process Outsourcing (BPO) sector. Tourism is currently a significant part of the economy in The Gambia (with the service sector contributed to over 50% of the economy), and tourism in The Gambia and West Africa could increase significantly in future. Tourism creates demand for international telecommunication services through demand of administrative and marketing service as well as demand for internet access, international calls and money transactions. BPO and Internet call centre service companies can generate significantly more Internet traffic if bandwidth prices can be reduced and fiber connections made available. Sourcing channels for television rebroadcasting is currently carried out by satellite but could be substituted by fiber if bandwidth prices are sufficiently competitive. Finally, it is worth noting that also expected to contribute to increased bandwidth demand is Ministry of Information and Communication Infrastructure (MoICI) ambitious program to become the 'Silicon Valley of Africa' focusing on human resource development, e-education (including provision of Internet connections to all schools and tertiary institutions), and community-use of ICTs. As part of this MoICI is participating in the AU's e-health network supported by the government of India, developing a Technology Park with support from the governments of Egypt and Taiwan, China. MoICI is also

²¹ Brand new 3G capable smartphones are already being sold in Kenya for less than \$100, and prices are expected to come down much further over the next 10 years.

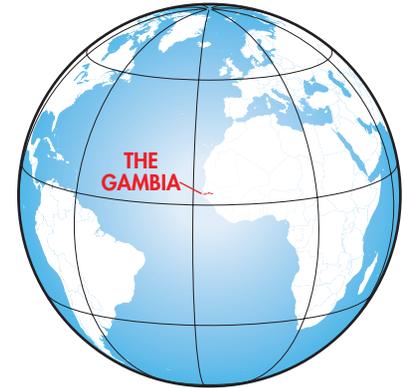
²² 3G data service uptake from the consumer has been massive and unprecedented in other developing countries such as Kenya, and in Nigeria the majority of Internet access now takes place via 3G.

working to establish e-government applications, an IXP and provision of ICT training facilities. Gambia will also be hosting one of the network operations centers of the Regional African Satellite Communications Organization's satellite system for which the government has already made land and funds available.

11. Fast internet has been shown to boost the productivity of firms as well as generate employment opportunities. New growth theory suggests that long-run economic growth emanates from spillover arising from innovation and investment in new technologies. Fast internet access can be considered one important new technology, and broadband is increasingly recognized to promote productivity and boost aggregate economic growth (OECD, 2003). Analytical studies have shown that firms using standard broadband (defined as connection speeds above 256 Kbit/s (OECD, 2002) were on average 10 % more productive than firms using dial-up internet access. Faster internet speeds are also causally related to increased employment opportunities with analysis showing that for every one percentage point increase in broadband penetration within a region, employment increases by 0.2-0.3 % per year for the private, non-farm economy (Crandall et al, 2007). Indeed, studies show a clear positive relationship between employment and broadband penetration in the manufacturing and service industries, with business growth shown to be particularly significant for larger businesses and for IT intensive sector (Lehr et al, 2006). The results of these studies support the hypothesis that broadband penetration enhances economic activity. Increased broadband speeds and less expensive data access have the potential to promote economic activities in West Africa, supporting the growth and productivity of businesses and gradual transfer of employment from agricultural to service industries and expansion of the region's nascent ICT and BPO sector.

THE GAMBIA

- SELECTED CITIES AND TOWNS
- ⊙ LOCAL GOVERNMENT AREA "DIVISION" HEADQUARTERS
- ⊕ NATIONAL CAPITAL
- ~ RIVERS
- MAIN ROADS
- LOCAL GOVERNMENT AREA "DIVISION" BOUNDARIES
- - - INTERNATIONAL BOUNDARIES



This map was produced by the Map Design Unit of The World Bank. The boundaries, colors, denominations and any other information shown on this map do not imply, on the part of The World Bank Group, any judgment on the legal status of any territory, or any endorsement or acceptance of such boundaries.

