Report Number : ICRR0021086

1. Project Data

Project ID P116273	**Project Name** 3A West Africa Reg. Comm. Infrast. Progr	
Country Western Africa	**Practice Area(Lead)** Transport & Digital Development	
L/C/TF Number(s) IDA-48550,IDA-48560	**Closing Date (Original)** 30-Sep-2015	**Total Project Cost (USD)** 56,600,000.00
Bank Approval Date 20-Jan-2011	**Closing Date (Actual)** 30-Jun-2017	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	56,600,000.00	0.00
Revised Commitment	56,536,034.47	0.00
Actual	56,330,432.32	0.00

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) for the West Africa Regional Communications Infrastructure Project (APL1A) as stated in the Financing Agreements for Liberia (Schedule 1, page 6), Sierra Leone (Schedule 1, page 6) and the Project Appraisal Document (PAD, page 12) was:
"to increase the geographical reach of broadband networks and to reduce the costs of communications services in each of the territory of Liberia and Sierra Leone."

b. Were the project objectives/key associated outcome targets revised during implementation?

No

c. Will a split evaluation be undertaken?

No

d. Components

The West Africa Regional Communications Infrastructure Program (WARCIP), is a regional program, with a program development objective “to increase the geographical reach of broadband networks and reducing costs of communications services in West Africa”. Specifically, the program focused on international, national and regional connectivity to enable the creation of a fully integrated network which would eventually link all countries’ networks in the region and provide affordable high-speed connectivity within countries. This APL Phase 1 A project under the program focused on Liberia and Sierra Leone; and APL Phase 1B project that was approved in included investments in Burkina Faso, Guinea and Gambia. APL 2, approved in 2013 included Mauritania and Togo.
The project had the following three components:
Component 1- Supporting connectivity. Appraisal cost estimateUS$47.8 million (US$21.0 million for Liberia and US$26.8 million for Sierra Leone); Actual cost US$48.3 million (US$20.4 million for Liberia, US$27.9 million for Sierra Leone).

(a) International Connectivity and (b) Regional/National Connectivity which leverages alternative Infrastructure.
This component tried to improve connectivity in the region by covering international connectivity to ACE sub-marine cable through financing membership fee that included a share of ownership in the ACE cable and access rights to the submarine cable capacity. Both Liberia’s and Sierra Leone’s participation in ACE were financed under open access principles and within a PPP structure (open access is defined as equal opportunity for all operators to access available infrastructure under similar terms and conditions).

In Liberia the sub-component 1a covered the government’s participation in ACE; private GSM operators (Lonestar and Cellcom) had already contributed US$5 million to Liberia’s ACE membership, prior to project approval. Sub-component 1b, regional connectivity, (established a Universal Access Fund and IDA resources provided seed capital to launch the fund.

In Sierra Leone, sub component 1a, international connectivity, US$ 25 million) covered the government’s participation in ACE. Sub component 1b, national connectivity, (US$1.75million) developed national connectivity by investing in national infrastructure for: i) a high-speed government virtual private network of selected priority Ministries, Departments and Agencies (MDAs) within Freetown, ii) a national emergency communications network, and iii) support for the national Internet Exchange Point (IXP). IDA resources were complemented under sub component 1b by the Islamic Development Bank (IDB) who funded 660km terrestrial fiber optic ECOWAS Regional Backbone and e- Governance Program (ECOWAN) Sierra Leone Project. ECOWAN financing was separate from WARCIP APL1-A.

2. **Creating an enabling environment for connectivity.** Appraisal cost estimateUS$6.3 million (US$3.3

million for Liberia and US$2.9 million for Sierra Leone); Actual cost US$5.1 million (US$3.4 million for Liberia, US$1.7 million for Sierra Leone).

This component aimed to create an enabling environment for connectivity and applications and institutional strengthening to remove existing bottlenecks for private sector participation, and improving viability of incumbent operators where necessary to be competitive**.**

In Liberia Sub component 2a, created the PPP framework for a special purpose vehicle (SPV) to own and operate the ACE cable landing station and guidance for the ultimate divestiture of government shares in the SPV. Sub component 2b, focused on addressing policy and regulatory bottlenecks at the national level, including legal and regulatory support for improved connectivity, formulation of the Universal Access Fund, and support for repositioning of the national incumbent operator, Liberia Telecommunications Corporation (LTC), in the market. Sub component 2c, provided capacity building for the Ministry of Posts and Telecommunications (MoPT) and the national regulator, Liberia Telecommunications Authority **(**LTA).

In Sierra Leone activities included a) developing a legal and financial framework for the PPP b) preparing the divestiture strategy for Sierra Leone Cable Limited (SALCAB), c) strengthening policy and regulatory capacity e) supporting the privatization of Sierra Tel, and f) supporting the management for liberalization of the international gateway.

Sub component 1b and Component 2 were revised for Sierra Leone through a level II restructuring. The establishment of an Internet Exchange Point (IXP) and the creation of a national emergency communications network, were both cancelled since they were progressing slowly and the funds allocated to them were not significant enough to have material impact. The funds for the cancelled activities were reallocated to the connectivity activity in sub component 1b which was expanded to include more institutions and implemented as a priority. The privatization of Sierratel under component 2 was also cancelled as the GoSL entered into a $6 million, 3-year contract in March 2012 with Management Development International Company (MDIC) to manage Sierratel.

3. Project implementation.
Appraisal cost estimateUS$2.6 million (US$1.3 million for Liberia and US$1.3 million for Sierra Leone); actual cost US$3.1 million (US$1.7 million for Liberia, US$1.5 million for Sierra Leone).

This component financed project management and coordination activities including setting up of project implementation units, resettlement costs where relevant, and Monitoring and Evaluation.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. Estimated cost at appraisal was US$56.6 million (US$25.6 million for Liberia, US$31.0 million for Sierra Leone. Actual project cost was 99.6% of the appraisal estimate at US$56.4 million (US$25.4 million for Liberia, US$31.0 million for Sierra Leone.
Project Financing. The project was 100 percent financed by IDA grants to Liberia and Sierra Leone. Therefore, project financing amounts are the same as project costs reported above.

Borrower Contribution. No borrower contribution was planned.
Dates. The project closing date was extended by 21 months from Sep 30th 2015 to June 30th 2017 through four level II restructurings (dates Sep 2015, Mach 2016, March 2017). The reasons for extensions were delays caused by Ebola outbreak in Liberia and weaknesses in financial management and procurement as well as project suspension in Sierra Leone, and after suspension was lifted to allow sufficient time to complete the connectivity activity in Sierra Leone. Due to government terminating the divestiture agreement violating the conditions of the Financial Agreement the government was suspended from making further withdrawals from the credit for 19 months from March 4th 2014 to October 1st 2015. After the suspension was lifted, all project activities, except divestiture of shares in SALCAB were completed.
Restructuring. The following changes were made through two Level 2 restructurings. (a) in Liberia, the restructuring on March 30th, 2016, reallocated proceeds among categories of expenditures; (b) in Sierra Leone, the restructuring approved on January 30th 2017 reallocated proceeds to correct over drawn balances of the project categories, revised components, made unutilized refinanced PPF funds under category 3 & 4 and pay the consortium fees.

3. Relevance of Objectives & Design

a. Relevance of Objectives

The PDO was highly relevant to the country and sector strategies. Before appraisal, Liberia's economy was devastated by 14 year civil war, leaving the country as the second poorest country in the world. Similarly, Sierra Leone's social, economic and physical infrastructures were damaged by a civil war, which lasted from 1991-2002 and led to a post conflict fragile state classified as one of the poorest countries in the world. The ICT sectors in both countries, were constrained by lack of access, limited coverage, and high prices of ICT services. In Liberia, while mobile telephone networks were expanding (22 percnt of penetration rate), high data costs and the lack of a national backbone network led to great difficulty in expanding the availability of internet services. Internet penetration in 2010 was not only among the lowest in Africa, at 0.5% of the population but the price was typically 2 to 3 times more than the regional average. Sierra Leone's telecommunications sector was characterized by weak infrastructure, an absent national back bone, poor internet penetration rates and a monopoly over the international voice and internet gateway. Only 0.03% of the population subscribed to the internet and less than 1000 people subscribed to broadband services.

The PDO was in line with the country's long term vision for socioeconomic development, as laid out by the government in Liberia Rising 2030, and in its Medium Term Economic Growth and Development Strategy (2012-2017), Agenda for Transformation: Steps Toward Liberia RISING 2030 (AfT) and with the country's Telecommunications and ICT Policy (2010-2015), which has the objective of developing telecommunications infrastructure to support the deployment of ICT services.

The GoSL plans to achieve middle income status by 2035 as articulated in their 'Agenda for prosperity, road to middle income status (2013 – 2018) by using ICT to reduce poverty and boost prosperity. This strategy recognizes WARCIP APL1-A's role in laying the foundation to expand ICT to other sectors including agriculture, mining, fisheries, and tourism. The GoSL intends to empower their citizens through ICT and reduce poverty. WARCIP Sierra Leone is aligned to both the agenda for prosperity and The National ICT policy (2016)' which are all designed to support Sierra Leone's political, social and economic development. WARCIP APL1-A remains relevant to the current Country Partnership Framework (CPF.

The World Bank's Country Partnership Strategy (CPS) 2013-2017 identifies the growth of the telecom sector as a priority for the World Bank's ongoing engagement in Liberia. The CPS' pillars are aligned with those of AfT, and Pillar 1 of the CPS includes a focus on telecommunications. The CPS mentioned the WARCIP APL1-A's impact on the availability of high quality internet in Liberia, and lays out a variety of areas where the Bank could support Liberia consolidating these gains.

The PDOs were aligned with the recent Bank strategy documents for the participating countries: [World Bank: World Development Report 2016 - Digital Dividends] that emphasized the importance of the ICT sector for strengthening competitiveness, creating jobs, improving service delivery and accelerating economic growth in the respective countries.

Rating
High

b. Relevance of Design

The statement of project development objectives was clear and the links between project activities, outputs and their outcomes was logical. The intended outcomes were in principle, measurable.

To achieve the PDO- to increase the geographical reach of broadband networks and to reduce the costs of communications services - the project sought to foster open and cost-effective access to communications infrastructure. Under Component One, the financing of Liberia's and Sierra Leone's contribution to the ACE submarine cable on an "open access basis" through PPP arrangement would provide the international connectivity to broadband network services and would contribute to the project objectives of increasing geographical reach and reduction in prices.

The project's technical assistance activities under Component two supported the creation of the enabling environment for the development of the ICT sector in both countries. The TA comprised a PPP framework for a special purpose vehicle (SPV) to own and operate the ACE cable landing station and guidance for the ultimate divestiture of government shares in the SPV. In addition, the component focused on addressing policy and regulatory bottlenecks at the national level, including legal and regulatory support for improved connectivity, formulation of the Universal Access Fund, and support for repositioning of the national incumbent operators. A universal access fund, would help reach areas with lower population density, this would help increase geographical reach of broadband networks. These activities would also result in a more competitive environment, with more private sector participation that would help further reduce prices.

Rating
Substantial

4. Achievement of Objectives (Efficacy)

Objective 1

Objective
To contribute to increase the geographical reach of broadband network services.

Rationale
Outputs:
For Liberia the outputs included:

- Liberia was connected to the ACE submarine cable. The bulk of the project financing provided Liberia's share of the cost to participate in ACE, and was complemented by US$ 5.0 million coming from private operators.
- A Universal Access Fund was established to support the roll-out of terrestrial broadband backbone fiber networks and last mile connectivity. IDA resources were contributed as seed capital to allow the fund to be established. The Universal Access Fund will leverage future private investment to reach rural parts of the country.
- Project guided development of a PPP framework by supporting establishing the Cable Consortium of Liberia (CCL), including providing for legal and financial advisory studies. The CCL was created prior to project approval, with funds from the first PPA. These funds supported CCL's design, negotiations among stakeholders, and the drafting of transaction documents. CCL was established as a SPV to own and manage the ACE cable landing station under open access principles. It was established as a PPP, where the GoL owned a 60% share, LTC a 20% share, and private service operators 20% (Lonestar/MTN and Cellcom with 10% each).
- Capacity building was provided to the Ministry of Post and Telecom and LTA on a range of topics, including study tours, in-country workshops, and hands-on trainings.

For **Sierra Leone** outputs included:

- Sierra Leone was connected to ACE sub-marine cable. The bulk of the project financing provided Sierra Leone's share of the cost to participate in ACE. This membership fee provided for the ACE cable's landing in Sierra Leone, the construction of a landing station and its equipment, and the availability of broadband capacity through the cable.
- The national connectivity activities provided connectivity to 10 Ministries, Departments and Agencies (MDAs), 10 schools and 10 universities.

A disbursement condition required the GoSL to offer its shares in Sierra Leone Cable LTD (SALCAB) for sale in an amount and manner `satisfactory to the Bank before a final $1.25 million payment would be made to ACE'. The Bank and the GoSL agreed that a minimum of 50% of shares would be offered. This condition was met on October 2012 when the GoSL signed a Memorandum of Understanding (MOU) with 9 operators including GSMs and Internet Service Providers (ISPs), each acquired 6.5% of ownership in SALCAB, totaling 58.5%. However, 7 months later the government reversed this decision, terminated the divestiture agreement violating conditions of the Financing Agreement. The government required that private sector operators purchase the whole sale capacity from SALCAB at uncompetitive rates. According to SALCAB, the private operators defaulted on contractual payments, mismanaged the landing facilities and failed to substantially reduce retail prices even though wholesale prices had dropped. At project closure, SALCAB operated as 100% Government owned. At project closing, only Africell, Online, and Airtel remained shareholders of SALCAB as the others relinquished their shares. The remaining shareholders do not exercise any control over SALCAB and are required to purchase wholesale capacity as customers.

Rating
Substantial

Objective 2

Objective
To reduce the costs of communications services.

Rationale
Outputs
The outputs listed above for Objective 1 were also relevant for this objective. Many of them contributed to reduced prices for communication services.
Outcomes.

Liberia
- Average monthly price of wholesale international capacity) to European Hub (E1) dropped from US$8,000 at the baseline to US$750 at project closure. This exceeded the original target of US$2,000. (ICR, Data Sheet, PDO Indicator 4).
- Retail prices of Internet Services (Mbit/s per month) dropped to US$400 exceeding the original target of US$500 and as compared to US$1,200 at the baseline (ICR, Data Sheet, Intermediate Outcome Indicator 2). This is still above regional averages, due largely to the absence of terrestrial network to distribute service to customers. Furthermore, fixed broadband prices remain very high compared to average income in the country (GNI per capita of US$380 per year in 2015). However, retail prices are likely to continue to fall as the announced Monrovia metro fiber project becomes effective and smaller ISPs.
- The largest new market of internet users in Liberia are those reached by mobile broadband service. While not a project indicator, the introduction of the ACE cable allowed for mobile broadband to be offered to many Liberians. Since its widespread launch in 2013, the estimated price for service has fallen from US$38.87 for

500 MB per month, to around US$4 by the end of the project, reaching affordable prices for many in the country are able to enter the market.

Sierra Leone

- Average monthly price of wholesale international capacity) to European Hub (E1) dropped from US$8,000 at the baseline to US$174.3 at project closure. This exceeded the original target of US$2,000. (ICR, Data Sheet, PDO Indicator 9).
- Retail prices of Internet Services (Mbit/s per month) dropped to US$180 exceeding the original target of US$800 and as compared to US$1,500 at the baseline (ICR, Data Sheet, Intermediate Outcome Indicator 5).
- The decrease in wholesale prices trickled down to fixed broadband retail prices. Prices dropped from $1500 before ACE to $180 at project closing but remains unaffordable for the average Sierra Leonean. The gap in the market has been filled by mobile broadband which is in high demand and has become increasingly affordable since ACE, with average users paying $4.7 for 500 MB per month.

Outcomes.

Participation in ACE was the primary channel for achieving the PDO, greatly expanding Liberia's and Sierra Leone's access to international bandwidth. ACE provides Liberia and Sierra Leone's sole linkage to high speed international bandwidth. In **Liberia**:

- Volume of International traffic: International Communications (Internet, Telecoms and Data) bandwidth per person grew before project from 1Kbits per person to 35 at project closing (slightly below the target of 40) (ICR Data Sheet, PDO indicator 1).
- Volume of available international capacity. International Communications (Internet, Telecom and Data) bandwidth measured in Gbits/per second increased from 0.065 at baseline to 6.5 at closure, exceeding the target of 1.12. (ICR Data Sheet, Intermediate Outcome Indicator 1).
- Access to internet services (number of subscribers per 100 people), grew from 1.5 % to 30.8 % at project closing (exceeding the target of 3 %). Introduction of 3G mobile internet service coupled with low prices provided an avenue for greatly expanded internet access in Liberia. (ICR Data Sheet, PDO indicator 2).
- Access to telephone services increased with the arrival of the ACE cable, telecom competition lowered prices and drove network coverage increases. Fixed mainlines plus cellular phones per 100 people increased from 25 % before project to 85 % at project closing (exceeding the target of 47 %). (ICR Data Sheet, PDO indicator 3).

In **Sierra Leone**:

- Volume of International traffic: International Communications (Internet, Telecoms and Data) bandwidth per person grew before project from 3 Kbits per person to 80.2 at project closing (exceeding the target of 40). Increase in traffic is a direct result of this project. In addition, ECOWAN project and expansion of national backbone enabled higher penetration of services. (ICR Data Sheet, PDO indicator 6).

- Volume of available international capacity. International Communications (Internet, Telecom and Data) bandwidth measured in Gbits/per second increased from 0.04 at baseline to 80.5 at closure, exceeding the target of 6. (ICR Data Sheet, Intermediate Outcome Indicator 4).
- Access to internet services (number of subscribers per 100 people), grew from 0.28 % to 32 % at project closing (exceeding the target of 2 %). Demand has increased as prices have dropped, coverage has increased and more 3G mobile services and applications have been launched. (ICR Data Sheet, PDO indicator 7).
- Access to telephone services increased with the arrival of the ACE cable, telecom competition lowered prices and drove network coverage increase. Fixed mainlines plus cellular phones per 100 people increased from 25 % before project to 80 % at project closing (exceeding the target of 43 %). (ICR Data Sheet, PDO indicator 8).

Rating
Substantial

5. Efficiency

Economic Efficiency:

Cost Effectiveness: At appraisal, a cost effectiveness analysis was done by comparing cost of ACE sub-marine cable connection with other options for international connectivity, and determined that ACE provided the best opportunity for Liberia and Sierra Leone to secure long term and reliable bandwidth at lower costs. In general, it was determined that fiber options are the best overall option in terms of long-term cost effectiveness and bandwidth availability. While connecting through a new fiber link requires significantly more CAPEX than satellite (VSAT), over the long term, fiber was determined to offer the lowest price for connectivity, in addition to other long term benefits such as improved speed, and quality. The key expense driving the long term cost benefits is the cost of transit. For satellite, costs were estimated at $2000 per month per Mbps. Fiber options were estimated at between $230-$800 per month per Mbps and transit costs through the ACE cable would be $50-$100 per month per Mbps.

Financial Analysis: At appraisal Internal Rate of Return (IRR) was estimated at between 4% and 12% for Liberia, and 15%-24% for Sierra Leone, depending on the bandwidth pricing adopted (US$50 or US$100/Mbps/month). The assumptions for these calculations were: wholesale bandwidth pricing (US$50-100/Mbps/month); uptake forecast of 7-18 Gbps), 10 years duration. It was expected by 2017 at the latest, for the most conservative estimate. Based on these assumptions, at appraisal it was calculated that Liberia and Sierra Leone would breakeven between 2015 and 2017 with an NPV by 2025 of US$20.2 million.

The ICR conducted a financial analysis of CCL and SALCAB, using historic financial statements 2010-2016 period; and future cash flows over the next 20 years. The analysis showed that both CCL and have been covering their operational expenditures. However, the generated net revenues (defined as the gross revenue minus the operational expenditures and the income tax) are not sufficient to cover the massive capital expenditures that were required to build the asset. CCL is not making excessive revenues for its private stakeholders over the near or medium term based on their initial investment (with an IRR of 1% between 2010-2029 when considering only private capital expenditures), and that public sector investment was necessary in order to make the project viable (with an IRR of -10% when considering public and private capital expenditures during the same period. Similarly, for SALCAB the internal rate of return (IRR) of the project when considering overall CAPEX is 2% over the estimated 2010-2029 period, which confirms that the project could not have taken place without the assistance of public funds.

Economic Analysis: According to World Bank research, each 10-percentage point increase in broadband penetration increases overall GDP growth in developing countries by 1.38 percentage points. The ICR estimated broadband penetration rates based on a linear increase in line with growth over the last three years (since ACE went into operation in both countries) and without the project were estimated assuming a linear increase based on the three years prior to the operation of ACE in Liberia (with a similar increase assumed in Sierra Leone).Using this assumption, the ICR estimated that by 2016 the project had contributed more than $300 million to Liberia’s economy and nearly $1 billion to that of Sierra Leone. Projecting to 2022 (the last year that GDP estimates are available), the yearly impact on GDP will reach $650 million in Liberia, and $1.6 billion in Sierra Leone.

Administrative and Operational Costs. The project closing date was extended by 21 months from Sep 30th 2015 to June 30th 2017 through four level II restructurings (dates Sep 2015, Mach 2016, March 2017). The reasons for extensions were delays caused by ebola outbreak in Liberia and wekanesses in financial management and procurement as well as project suspension in Sierra Leone. Due to Sierra Leone government terminating the divestiture agreement violating the conditions of the Financial Agreement the government was suspended from making further withdrawals from the credit for 19 months from March 4th 2014 to October 1st 2015. After the suspension was lifted, all project activities, except divestiture of shares in SALCAB were completed.

Due to fiduciary problems in Sierra Leone as well as not completing the key activity of SALCAB’s divestiture of its shares in contradiction with the open access principle of the project and thus not complying with the Financing Agreement conditions resulting in 19 months of suspension of the project in Sierra Leone, efficiency of the project is rated modest.

Efficiency Rating

Modest

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 ☐Not Applicable
ICR Estimate		0	0 ☐Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

The project development objectives were highly relevant to the priorities of the participating countries in the West Africa region and to the Bank's strategy for the participating countries. Relevance of design was rated as Substantial due to a causally linked results framework that established a clear theory of change. Achievement of two objectives – the geographical reach of broadband networks and to reduce the costs of communications services was rated as Substantial. Efficiency was rated as Modest due to fiduciary weaknesses and non-compliance with the Financing Agreement in Sierra Leone, therefore a long suspension of project funds. The overall outcome rating is therefore Moderately Satisfactory.

a. Outcome Rating

Moderately Satisfactory

7. Rationale for Risk to Development Outcome Rating

Government Commitment. In Liberia, the government's lack of divestiture of shares in CCL was identified as a potential risk during design and the divestiture has not occurred yet. This lack of divestiture was explained as a desire to maximize the potential return on its investment as completion of upcoming terrestrial backbone projects are expected to increase the value of the government's shares in CCL. However, World Bank experience with similar projects in the region highlights the tendency for governments not to divest and in doing so it impacts the confidence of potential investors in the sector. Until divestiture takes place, this poses a substantial risk to the project's results over the medium to long term. Another risk is the continued uncertainty concerning the future of the national incumbent operator, LTC, which may limit future gains in the sector and Liberia's ability to fully capitalize on the project. The project provided support to LTC, funding a repositioning study and a 5-year business plan and hands-on technical support. Yet, these plans have not yet gone into effect, and LTC's sectoral and political positioning going forward remains unclear. This has injected some uncertainty into the market as a whole and could potentially limit future investments in infrastructure by private operators.

In Sierra Leone, the risk to development outcome due to lack of government commitment is high. The government needs to continue the structural reforms. The success of the low cost fixed broadband investment is dependent on the implementation of the pending structural changes in the telecoms market. This risk is two-

fold because fixed broadband is not universally affordable and accessible to the average Sierra Leonean. The government has indicated a new divestiture model in line with the project model. However, before proceeding with the proposed divestment of government assets in SALCAB, the earlier liabilities and losses to the private operators due to the 2013 PPP agreements need to be settled. If not addressed, there is the risk of legal action being filed which may disrupt the development outcomes. In addition, and regulatory reforms pose the greatest risk to the PDOs. The positive effects of liberalization could be hampered by the imposition of additional levies and price caps on mobile and international gateway termination by NATCOM. Delays in regulatory processes may also reduce investor confidence.
Political Risk in Liberia: Liberia's status as a fragile state makes it impossible to preclude political risk entirely.

a. Risk to Development Outcome Rating

High

8. Assessment of Bank Performance

a. Quality-at-Entry

Project preparation was conducted under tight timelines due to ACE requirements, with the World Bank team providing timely and intensive response to the government. Building on broad experience, the World Bank established a PPP model for the ownership and operation of CCL and SALCAB. This structure was designed for rapid buy in from a wide variety of participants in the telecom sector and sustainable operation of the landing station to promote the lowest possible prices for end users. In addition, the World Bank supported both governments and private partners to negotiate effectively with each other and the ACE consortium, to allow the countries to participate in the cable and avoid jeopardizing the stakeholders' financial obligations. The TA and capacity building put in place as part of component 2 enabled the project to successfully secure membership in the ACE cable and ensure an enabling environment by which the capacity could be harnessed by a competitive private sector and government entities to deliver lowest cost service to end users.

The project design identified the lack of political commitment from the government for divestiture of SALCAB shares in Sierra Leone but mitigation measures were not sufficient. The project design could have benefited from a comprehensive communications strategy to sensitize stakeholders and obtain their continuous commitment for the structural reforms in both countries. Alternatively, Development Policy Financing (DPF) could have been considered instead of Investment Financing.

Quality-at-Entry Rating

Moderately Satisfactory

b. Quality of supervision

The Bank team closely supervised the project; supervision missions, averaging two per year, were supplemented by support in between missions. The team provided continuous support even during the ebola crisis, and missions were still ongoing in line with the plans. The aide memoires were comprehensive and implementation status results were on time with candid ratings. Bank's senior management got actively involved in resolving legal breaches by the Government and the team continued the support even during suspension. Although project cancellation was justified, the team made an adequate decision to continue to work with the Sierra Leone government towards compliance, that resulted in positive outcomes. The effective communication between the Bank team and the stakeholders was also verified by the implementing agency reports.

Quality of Supervision Rating

Satisfactory

Overall Bank Performance Rating

Moderately Satisfactory

9. Assessment of Borrower Performance

a. Government Performance

Liberia

The Government was strongly committed to the project's development outcomes, despite low technical capacity in some areas and difficult conditions and changing priorities due to the Ebola outbreak. Strong coordination among a variety of government agencies led to favorable results. The government provided day to day support to the project through the Ministry of Finance's PFMU, which handled all Financial Management responsibilities for the project. However, divestiture of the government's share in CCL remains a challenge to the project's long term success, identified as a potential risk during project design.

Sierra Leone

The government supported the project by providing financial and personnel resources when needed. During project preparations and negotiations, it was made clear and agreed that private sector participation was critical to the success of the project and formed the basis of the Bank's support to Sierra Leone. Nonetheless, the Government deviated from the agreed design without following due process which compromised the core principle of the project, the sustainability of the PDOs and the confidence of the private sector operators. A more constructive approach would have been to request for a review of the PPP model in line with the economic, social and political needs. A revised model could have been developed to balance the development objective, the private sector operator's investments and the mitigation of the potential risks

Government Performance Rating

Moderately Satisfactory

b. Implementing Agency Performance

Liberia

Liberia Telecommunications Authority (LTA) was responsible for project coordination and implementation.

LTA managed the project reportedly in an efficient and proactive manner, through including and coordinating with all stakeholders. Compliance on procurement and safeguards was done in a satisfactory manner. Overall, reports and audits were submitted in a timely manner. Generally, LTA and the PIU remained appropriately staffed throughout the project, with the Chairperson of LTA and the PIU's project coordinator remaining onboard and committed throughout the life of the project. Although the difficulty securing an M&E specialist delayed data collection, this did not negatively impact the performance of the project.

Sierra Leone
The PIU was reportedly efficient at coordinating and monitoring activities. Despite all the project extensions, the PIU operated within their initial budget. However, the capacity was limited in procurement and financial management, therefore, financial audits were delayed and some procurements were cancelled due to inefficient processes. The PIU continued to work during the period of suspension and after project closing. Through hard work and coordination with the Bank, procurement processes, contract management and disbursements improved. The M&E data was collected efficiently except during the period of suspension.

Implementing Agency Performance Rating
Moderately Satisfactory

Overall Borrower Performance Rating
Moderately Satisfactory

10. M&E Design, Implementation, & Utilization

a. M&E Design
The key outcome indicators for this project were the same as the outcome indicators for the regional program and were standard quantitative ones that covered geographic reach, usage and the price of ICT services. The geographic reach of the broadband network is measured by proxy as the share of the population with access to internet and telephone services, as well as the total number of users and volume of traffic per population. Share of the country reached (by land area, for instance) is not available. The price of communications is measured directly, by the average wholesale cost and the average retail price of internet services.

Therefore, outcome indicators were adequate to measure the achievement of the objective, with one caveat being targets were set too high and not revised during implementation.

b. M&E Implementation
Both countries struggled to recruit a M&E specialist at the onset. As a result, M&E data was only collected in Liberia from May 2013. In Sierra Leone, MoIC staff were seconded to the PIU to collect M&E data until a specialist was recruited in February 2013. M&E was collected from private mobile operators, LTA and NATCOM on a semiannual basis. Both NATCOM and LTA continue to collect this data for their own records

after the project closed.

c. M&E Utilization

The indicators were used for monitoring project progress. However, it is not clear whether the data collected were used to inform decision-making and resource allocation.

M&E Quality Rating

Substantial

11. Other Issues

a. Safeguards

The project was rated category B for safeguards, triggering social and environmental safeguards policies. An Environmental and Social Management Framework (ESMF) was developed (consistent with national laws and any applicable treaty concerning international waters, and OP 4.01), as well as a Resettlement Policy Framework (RPF) for lateral cables and any associated equipment to be laid from the junction with the main cable through territorial waters and onto national shores. No adverse impacts were observed or reported during the project in line with the ESMF risk assessment.

In Liberia, no resettlement was required, and social impacts were negligible. In Sierra Leone 6 settlers were compensated who had previously occupied the land where the landing station was built, with US$13,000. The GoSL consulted with the affected community and kept the country informed through publications and broadcasting.

b. Fiduciary Compliance

Financial Management (FM). Liberia: Financial management arrangements for all World Bank projects in Liberia are secured by the PFMU in the Ministry of Finance. The working relationship between the PIU and the PFMU is governed by an MOU signed between both institutions. The PFMU reportedly maintained satisfactory financial management arrangements for the project, with all Interim Financial Reports submitted on time and deemed satisfactory throughout the life of the project. All audits were unqualified.

Sierra Leone: FM initially suffered serious delays and was not compliant with the Bank's financial management requirements so the government did not renew the FM specialist's contract. In 2012, disbursements of $23.7 million were delayed due to limited FM capacity, PIU errors, and slow responses from Ministry of Finance on e-signatures. These delays prevented the government from paying their ACE contribution. So, penalty fees were charged, but their portion of the cable was not activated until their arrears were settled. The project team also observed various accounting irregularities including missing double entry record systems for financial

transactions, missing consistent month end close processes, missing supporting documents for expenses related to overseas travels, missing prenumber payment vouchers, FM specialist performing incompatible duties such as preparing and reviewing payment vouchers and recurring high transaction costs. The ICR noted (p. 15) that internal audits were not being conducted as the audit team was denied access to the financial records by the PIU. The Bank team built fiduciary capacity through various trainings including peering the FM specialist
Subsequently, FM and Contract Processing compliance ratings improved from moderately unsatisfactory to moderately satisfactory. Nonetheless, FM arrangements still registered weaknesses as financial reports continued to be delayed especially during project suspension. As at project closing, the risk remained substantial**.**

Procurement. Liberia. Procurement was without major incident in Liberia. The late recruitment of a procurement specialist delayed the procurement process. On average, procurements complied with all World Bank procurement guidelines. Procurement was supported by a World Bank ICT procurement specialist throughout the life of the project.

Sierra Leone. The procurement risk was rated high throughout the duration of project as procurement capacity was limited and the PIU struggled to recruit and retain procurement experts. Subsequently, the PIU managed procurement without a dedicated procurement staff which led to important procurements being delayed or cancelled. The ICT sector strategy for example which was key to sector reform was cancelled due to the poor quality of firms selected. Once the project suspension was lifted, key procurements had to be completed within a short period of time. Approval was therefore granted for procurements to be accelerated for the remaining period. The World Bank procurement team continued to support the PIU.

c. Unintended impacts (Positive or Negative)

No Unintended impacts were observed.

d. Other

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12. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Satisfactory	Moderately Satisfactory	Due to fiduciary problems in Sierra Leone as well as not completing the key activity of SALCAB's divestiture of its shares in contradiction with the open access principle of

			the project and thus not complying with the Financing Agreement conditions resulting in 19 months of suspension of the project in Sierra Leone, efficiency of the project is rated modest.
Risk to Development Outcome	Substantial	High	In Sierra Leone, the risk to development outcome due to lack of government commitment is high. The government needs to continue the structural reforms. The success of the low cost fixed broadband investment is dependent on the implementation of the pending structural changes in the telecoms market.
Bank Performance	Satisfactory	Moderately Satisfactory	There were shortcomings for quality at entry.
Borrower Performance	Moderately Satisfactory	Moderately Satisfactory	---
Quality of ICR		Substantial	---

Note
When insufficient information is provided by the Bank for IEG to arrive at a clear rating, IEG will downgrade the relevant ratings as warranted beginning July 1, 2006.
The "Reason for Disagreement/Comments" column could cross-reference other sections of the ICR Review, as appropriate.

13. Lessons

Two of the lessons that were developed by the ICR, are as follows (with some revised language):

- **A more robust approach that tackles both demand and supply side of the ICT sector, ideally in parallel or a programmatic phased approach would ensure sustainability and ensure higher adoption rates to further drive down costs**. International connectivity infrastructure and national backbone infrastructure are key to creating supply side effects. The result has been increased penetration based on increased demand. The next stage is the development of digital skills and creation of demand from citizens, businesses, government agencies, etc was outside of the scope of the project. Failing to address this this gap will result in citizens of both countries not leveraging the available capacity.
- **For some difficult reforms in the ICT sector such as privatization of an incumbent operator, passing a PPP law, a Development Policy Operations (DPO) may be a viable option, particularly if the**

governance structures are weak. Despite their social, economic and historical similarities, Liberia and Sierra Leone had completely different experiences establishing their PPPs. The difference in outcomes can be attributed to government commitment, sector policies and governance structures. Moving forward, the strength of governance structures needs to be assessed to determine the appropriateness and simplicity of PPP models. Where governance structures are considered too weak to sustain the management of a PPP, then consideration should be given to including DPO as an instrument to strengthen implementation.

Using other regional project lessons, IEG developed the following lesson:

- **A thorough political assessment of high-level national commitment to regional commitment coupled with communication campaign is required for regional projects that include tough reforms.** For regional projects such as this,a communications strategy and implementing agencies is necessary to ensure that all stakeholders understand the objectives and desired results of the project.

14. Assessment Recommended?

Yes

Please explain

Due to unfinished structural reforms under the project, the risk to development outcome is high. The outcome rating was downgraded by IEG. It is important to evaluate the project within several years to see if outcomes were sustainable.

15. Comments on Quality of ICR

The ICR is reasonably well-written. It reports both outputs and outcomes of the project and its assessment of the project is evidence-based. However, it is not clear from the ICR why and how the project suspension was lifted for Sierra Leone.

a. Quality of ICR Rating

Substantial