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Report No: 49700 - AFR

PROGRAM APPRAISAL DOCUMENT

ON A PROPOSED

CREDIT OF SDR 6.4 MILLION
(US$9.9 MILLION EQUIVALENT)
TO THE REPUBLIC OF CAMEROON

GRANT OF SDR 4.8 MILLION
(US$7.3MILLION EQUIVALENT)
TO THE CENTRAL AFRICAN REPUBLIC

GRANT OF SDR 5.8 MILLION
(US$9 MILLION EQUIVALENT)
TO THE REPUBLIC OF CHAD

FOR A TOTAL OF SDR 17 MILLION (US$26.2 MILLION EQUIVALENT)
FOR THE COMMUNICATIONS INFRASTRUCTURE AND TECHNOLOGY APL PROJECT
(APL1A)

IN SUPPORT OF THE FIRST PART OF THE FIRST PHASE
OF A US$215 MILLION EQUIVALENT
CENTRAL AFRICAN BACKBONE PROGRAM

August 19, 2009

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CURRENCY EQUIVALENTS

(Exchange Rate Effective June 30, 2009)

Currency Unit	=	SDR
0.6442 SDR	=	$1
1.5522 $	=	SDR 1

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

$	United States dollar, all dollars are US dollars unless otherwise indicated
AfDB	African Development Bank
APL	Adaptable Program Loan
APL1A	Communications Infrastructure and Technology APL Project which is the First Part of the First Phase of CAB Program
APL1B	Second Part of the First Phase of CAB Program
AU	African Union
BP	Bank Procedures
CAB	Central African Backbone
CAB APL1	First Phase of CAB Program. CAB APL1 is composed of APL1A and APL1B
CAR	Central African Republic
CAS	Country Assistance Strategy
CDMA	Code Division Multiple Access
CEMAC	Central African Economic and Monetary Community
CIT	Communications Infrastructure and Technology
CITCAR	Communications Infrastructure and Technology APL Project – Central African Republic Grant
CITCD	Communications Infrastructure and Technology APL Project – Chad Grant
CITCM	Communications Infrastructure and Technology APL Project – Cameroon Credit
CPIA	Country Policy and Institutional Assessment
DFIs	Development Financial Institutions
DRC	Democratic Republic of Congo
EASSy	Eastern Africa Submarine Cable System
ECCAS	Economic Community of Central African States
EMP	Environmental Management Plan
ESMF	Environmental and Social Management Framework
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GSM	Global System for Mobile Communication or 2G
ICI	Information and Communications Infrastructure
ICT	Information and Communication Technology
IDA	International Development Association
IFC	International Finance Corporation
ISP	Internet service provider

ITU	International Telecommunication Union
IXP	Internet Exchange Point
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
OBA	Output-Based Aid
OD	Operational Directives
OP	Operational Manual
PAD	Project Appraisal Document
PPF	Project Preparation Facility
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-Private Partnership
PRSP	Poverty Reduction Strategy Paper
RAP	Resettlement Action Plan
RCIP	Regional Communications Infrastructure Program
RPF	Resettlement Policy Framework
SIL	Specific Investment Loan
SPV	Special Purpose Vehicle
STP	Sao Tome and Principe
WBG	World Bank Group

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AFRICA
Central African Backbone Program

PROGRAM APPRAISAL DOCUMENT

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CENTRAL AFRICAN BACKBONE PROGRAM
COMMUNICATIONS INFRASTRUCTURE AND TECHNOLOGY APL PROJECT (APL1A)

PROGRAM APPRAISAL DOCUMENT

AFRICA

CITPO

Date: August 19, 2009	Team Leader: Yann Burtin
Country Director: Richard Scobey	Sectors: Telecommunications (60%); General information and communications sector (20%); General industry and trade sector (20%)
Sector Manager/Director: Philippe Dongier	Themes: Regional integration (P);Regulation and Competition Policy (P);Infrastructure services for private sector development (P)
Project ID: P108368	Environmental screening category: Full Assessment
Lending Instrument: Adaptable Program Loan	

Program Financing Data

[ ] Loan [X] Credit [X] Grant [ ] Guarantee [ ] Other:

For Loans/Credits/Others:
Total Bank financing ($m.): 26.20
Proposed terms:

Program Financing Plan ($m)

Source	Local	Foreign	Total
Borrower: Republic of Cameroon	0.53		0.53
International Development Association (IDA)	1.80	8.10	9.90
Recipient: Central African Republic			
International Development Association (IDA)	1.60	5.70	7.30
Recipient: Republic of Chad			
International Development Association (IDA)	1.60	7.40	9.00
Total IDA	5.00	21.20	26.20
Borrower (Cameroon)	0.53	0.00	0.53
Total:	5.53	21.20	26.73

Borrower:
APL1A : Cameroon (CITCM), Central African Republic (CITCAR), Chad (CITCD)

Responsible Agency:
In each country, relevant Ministry in charge of Telecommunications
Cameroon:
- Ministry of Posts and Telecommunications (MINPOSTEL)

Central African Republic:
- Ministry of Posts, Telecommunications and New Technologies (MPTNT)

Chad:
- Ministry of Post Telecom and ICT (MPTIC)

Estimated APL 1A disbursements (Bank FY/$m)							
FY	10	11	12	13	14	15	16
Annual	4.00	6.00	6.00	3.00	3.00	3.00	1.20
Cumulative	4.00	10.00	16.00	19.00	22.00	25.00	26.20

Project implementation peri	Start	September 1	September 2(
Expected effecti date	December 2009		
Expected closi late	1 2016	AFL1A (and	for

Does the project depart from the CAS in content or other significant respects? ***Ref. PAD A.3***	[ ]Yes [X] No
Does the project require any exceptions from Bank policies? ***Ref. PAD D.7***	[ ]Yes [X] No
Have these been approved by Bank management?	[ ]Yes [ ] No
Is approval for any policy exception sought from the Board?	[ ]Yes [X] No
Does the project include any critical risks rated "substantial" or "high"? ***Ref. PAD C.5***	[X]Yes [ ] No
Does the project meet the Regional criteria for readiness for implementation? ***Ref. PAD D.7***	[X]Yes [ ] No

Project development objective ***Ref. PAD B.2, Country Technical Annexes***

The development objective of the Central African Backbone Program is to contribute to increase the geographical reach and usage of regional broadband network services and reduce their prices.

Project description *[one-sentence summary of each component]* ***Ref. PAD B.3.a, Country Technical Annexes***

Providing broadband connectivity in Central Africa to all capital cities, main secondary cities and establishing redundancy linkages is estimated at about $700 million for the following eleven (11) Central African countries: Cameroon, Central African Republic (CAR), Chad, Republic of Congo, Democratic Republic of Congo (DRC), Equatorial Guinea, Gabon, Nigeria, Niger, Sao Tome and Principe (STP) and Sudan.

The World Bank will contribute a portion of the overall cost for broadband connectivity in Central Africa through the connection of capital cities and establishment of redundancy links. The proposed amount of IDA and IBRD contribution for the CAB Program is $215 million over the ten-year period. The CAB Program is aiming at leveraging additional $97.8 million from the private sector.

Other development partners are included in the process. The AfDB will provide parallel financing to extend the network beyond the capital cities and has also financed several preparatory studies for the CAB Program. It is expected that other Donors will provide approximately the same level of financing as

the World Bank (about $200 million). The African Union is also playing an important role in facilitating inter-governmental cooperation and policy harmonization, in conjunction with the CEMAC.

World Bank proposed financing

The World Bank will finance activities included in the following three components:

(i) **Enabling environment.** The program will provide technical assistance to implement a strategy of effective regional connectivity, to promote further sector liberalization and to resolve market efficiency gaps including the reform of selected state-owned enterprises.

(ii) **Connectivity.** The program will catalyze and leverage private investment for the deployment of regional and national backbone infrastructure to link at competitive prices all capital and major cities in Central Africa.

(iii) **eGovernment applications.** In selected countries, the program will support the deployment of selected key eGovernment applications and services making use of improved connectivity in order to increase government efficiency.

The first phase of the CAB proposed for IDA financing (APL1A and APL1B) will cover Cameroon, Central African Republic and Chad. The first Phase will be structured as a vertical APL. The first part of the first phase of the CAB Program – also called the Communications Infrastructure and Technology APL Project (APL1A) - will cover first the technical assistance to strengthen the enabling environment and prepare the PPP structure for the establishment of the CAB network. The second part of the first phase of the CAB Program (APL1B) will focus on financing the connectivity infrastructure of the CAB network.

To establish the CAB infrastructure in Cameroon, CAR and Chad (that will utilize the existing 1000 km fiber-optic backbone laid next to the oil Chad-Cameroon oil pipeline), approximately $40m will be directly contributed by the world Bank and additional $27.8 million will be mobilized from the private sector (private equity, off-take agreements and commercial debt). As structured, the World Bank supported activities will not be affected if the AfDB financing does not materialize.

The IFC is playing a key role as part of the World Bank Group's support to the CEMAC and to Governments as they finalize an optimal structure for the public-private partnership (PPP). The structure of the PPP will be designed to (i) maximize the use of private financing (or minimize the use of public financing); (ii) ensure feasibility and attractiveness of the transaction; and (iii) secure open access to regional connectivity infrastructure and ensure competitive, reasonable tariff of international, regional and national capacity. If needed IFC may also provide part of the private financing.

Subsequent phases will be submitted to the Board based on the readiness of countries applying for support under the Program as well as availability and eligibility of IDA/IBRD financing. Countries that have already expressed interest for subsequent phases include Republic of Congo, DRC, Equatorial Guinea (IBRD), Gabon (IBRD) and STP. APL1B will be triggered after (i) the establishment by the recipients and other stakeholders of a legal structure which will install and manage the CAB network in accordance with PPP principles and Open Access regime; and (ii) the CAB legal structure has received the legal rights to install, manage and operate the CAB network on the Recipient's territory.

	CAB APL1A	CAB APL1B (est.)		CAB APL2+ (est.)		Total CAB Program		Total
	IDA	IDA	Private Sector	IDA	Private Sector	IDA	Private Sector	
Enabling Environment*	20.0			27.8		47.8	-	47.8
Connectivity (Infrastructure)		37.1	27.8	100.0	70.0	137.1	97.8	234.9
eGovernment	1.2			15.0		16.2	-	16.2
Project management	5.0			8.9		13.9	-	13.9
Total	26.2	37.1	27.8	151.7	70.0	215.0	97.8	312.8

Which safeguard policies are triggered, if any? ***Ref. PAD F, Country Technical Annexes***

The proposed Environmental Category for the Program is B.

The physical components of this Program will mostly be limited to the establishment of the regional backbone which consists of terrestrial networks (e.g. fiber-optic cables laid next to main national roads), rural networks, and landing stations, in the few cases where the latter might be required. The risks associated with the kind of infrastructure financed under this Program are generally low, and the project is therefore assigned to environmental category B under OP 4.01.

Even though not required for the implementation of APL1A, the ESMF and the RPF for CAB APL1(APL1A and APL1B) have been prepared, reviewed by the Bank and publicly disclosed prior to appraisal in all countries participating in CAB APL1. They are available at the InfoShop. Specific costed Environmental Management Plans (EMP) and Resettlement Action Plans (RAPs) will be prepared as necessary for the terrestrial facilities for APL1B implementation, in line with the ESMF and RPF, once the exact locations of those facilities have been identified. The institutional responsibilities for preparing the various safeguards instruments would lie with the implementing agency of each participating country. These agencies will be assisted by consultants financed by the World Bank.

Since the CAB APL1 project will only finance fiber-optic cables laid next to main national roads (no rural networks and landing stations will be financed by CAB APL1), OP 4.10 for indigenous peoples, OP 4.36 for Forests and OP 4.11 for Cultural Property will not be triggered.

OP4.12 for Involuntary Settlement will be triggered: Due to the fact that the project activities will cross cities, land acquisition for terrestrial facilities will be managed in compliance with OP 4.12 Involuntary Resettlement considerations, as described in the RPF.

Significant, non-standard conditions, **if any**, for: ***NA***
Ref. PAD C.7
Board presentation: September 17, 2009
Loan/credit effectiveness: December, 2009

Covenants applicable to project implementation:
(for additional details see Country Technical Annexes, Section C.5)

Cameroon Effectiveness Conditions :

(a) Establishment of the Steering Committee, the Project Coordination Unit and the CAB Technical Committee with functions, members and resources satisfactory to IDA;
(b) Adoption of a sound Project Implementation Manual acceptable to IDA;
(c) Install a computerized financial management system in a manner satisfactory to IDA

Cameroon Dated covenant :

(a) Recruit independent external auditors acceptable to IDA not later than 4 months after effectiveness.

CAR Effectiveness conditions .

(a) Establishment of the CAB Technical Committee with functions, members and resources satisfactory to IDA;
(b) Recruitment of an accountant and an internal auditor;
(c) Install a computerized financial management system in a manner satisfactory to IDA ;
(d) Adoption of a sound Project Implementation Manual acceptable to IDA.

CAR Dated covenant .

(a) Recruit independent external auditors acceptable to IDA not later than 4 months after effectiveness.

Chad Effectiveness conditions .

(a) Establishment of the Steering Committee and the CAB Technical Committee with functions, members and resources satisfactory to IDA ;
(b) Recruitment of a procurement specialist, a financial manager, an accountant and an internal auditor ;
(c) Install a computerized financial management system in a manner satisfactory to IDA;
(d) Adoption of a sound Project Implementation Manual acceptable to IDA.

Chad Dated covenant .

(a) Recruit independent external auditors acceptable to IDA not later than 4 months after effectiveness.

Note

This document is the Program Appraisal Document for the Central African Backbone Program. It is complemented by the Country Technical Annexes which are country-specific and are prepared for each country joining the Central African Backbone Program at the time of their application for IDA or IBRD financing.

I. STRATEGIC CONTEXT AND RATIONALE

A. Regional and sector issues

Sector issues

1. This section highlights the main regional and sector issues that are relevant to the countries covered by the program. More details, particularly with regards to country specific issues, are provided in the Country Technical Annexes.

2. **Some reforms have been accomplished but the Region is still suffering from an Access and Price Deficit**[1]**.** At the policy, legal and institutional levels for the eleven (11) countries covered by this Central African Backbone (CAB) Program[2], most countries have updated or are in the process of finalizing new sector policies (i.e. Cameroon and CAR in 2006, Chad in 2007, Republic of Congo and DRC in 2009), nine (9) countries have established separate regulatory authorities[3], nine (9) countries have two or more mobile operators[4], and four (4) countries have partially privatized their incumbent telecom operator[5]. In terms of access and affordability of Information and Communication Techonolgy (ICT) services, each country covered by the program is at a different stage of development. However, most of the countries are lagging behind not only the world average but also the Sub-Saharan Africa (SSA) average. The countries covered by the Program are suffering from an access and price deficit:

(a) Fixed teledensity is well below the SSA average (1.24 VS. 1.81 lines per 100 people in 2007)

(b) Mobile teledensity varies widely among the countries, however several of them still lag well-behind SSA average (Table 1).

[1] Data sources for this section: International Telecommunication Union (ITU) or WB ICT4D database.
[2] The CAB Program is open to Cameroon, Central African Republic (CAR), Chad, Republic of Congo, Democratic Republic of Congo (DRC), Equatorial Guinea, Gabon, Niger, Nigeria, Sao Tome y Principe and Sudan.
[3] Including Cameroon, CAR, Chad, DRC, Gabon, Niger, Nigeria, Sao Tome and Principe, and Sudan.
[4] Including Cameroon, CAR, Chad, Republic of Congo, DRC, Gabon, Niger, Nigeria, Sudan.
[5] Including, Equatorial Guinea, Niger, Sao Tome and Principe, and Sudan.

Table 1. Mobile Teledensity in CAB countries

Mobile teledensity (per 100 people)	2007	Mobile teledensity (per 100 people)	2007
World	**49.79**	Equatorial Guinea	43.35
Sub-Saharan Africa	**22.79**	Gabon	87.88
Cameroon	24.48	Niger	6.34
Central African Rep.	2.99	Nigeria	27.30
Chad	8.53	Sao Tome and Principe	19.05
Republic of Congo	35.42	Sudan	19.36
DRC	10.56		

(c) The cost for Internet service is much higher in the CAB targeted countries ($ 67) compared to SSA average ($ 43) and the world average ($ 21) in 2007.

(d) International bandwidth tariffs for landlocked countries are up to 50 times higher than countries connected to competitive fiber-optic submarine cables (i.e. Chad and CAR are exclusively using satellites). Volume buyers in countries with access to global fiber-optic networks can buy international bandwidth at a much lower tariff. The international Internet bandwidth per person for CAB eligible countries is also well-below average (Table 2).

Table 2. International Bandwidth in CAB countries

International Internet bandwidth (bps per person)	2007	International Internet bandwidth (bps per person)	2007
World	2731.33	Equatorial Guinea	NA
Cameroon	10.95	Gabon	150.36
Central African Rep.	0.37	Niger	2.26
Chad	18.58	Nigeria	4.68
Republic of Congo	0.16	Sao Tome and Principe	75.94
DRC	NA	Sudan	18.29

3. **High cost structure restricts trade.** The isolation and high cost structure of Central African economies have held back the availability of affordable telecommunications infrastructure. Without access to low price and high quality telecommunications services, it is very costly for countries to trade with each other and with the rest of the world (opportunities to create jobs, expand production of goods and services are limited).

4. **Incomplete liberalization negatively affects the sector**. Several Central African countries have implemented reforms to reduce the cost of access through policy/regulatory reform and market liberalization in various ICT sub-sectors. However, incomplete liberalization (and lack of infrastructure) has allowed telecommunications operators in some instances to use their dominant position to keep prices artificially high for various ICT services such as international bandwidth, mobile and access to Internet.

5. **Limited and non-competitive access to existing submarine cable leads to high prices and constrained demand throughout the region.** Only one submarine cable along the West African Coast, SAT-3/WASC/SAFE (SAT3), built in 2002 can provide reliable and high quality international connectivity for most CAB countries (with the exception of Sudan which has access to several submarine cables). Access to the submarine cable and therefore international capacity have been limited to founding partners/ operators (mainly incumbent operators) who also control the price of capacity. However, significant interest from financiers and private sector operators (mainly mobile operators which are now dominant in Africa) is leading to the development of several West African Submarine projects that are expected to be operational in 2010 (see Africa maps in Annex 1). Competition for the provision of international capacity via submarine cable backbone is expected to increase access to, and significantly decrease the cost of, international bandwidth. The CAB Program focuses on terrestrial connectivity infrastructure and will complement one or several submarine cable projects currently under preparation. The presence of several alternative submarine cable projects under preparation enhances the viability of the CAB.

6. **The absence of 21st century backbone infrastructure[6] at the national level is a further key constraint.** Most telecommunication operators do not have broadband terrestrial networks and rely on expensive and poor quality satellite connectivity to link cities at the national level. Several projects for the region have been proposed in the past, but none have materialized due to a combination of factors including poor or inadequate regulatory, policy and investment climates, the complexity of a multi-country investment project and related concerns about financial sustainability. Recently, existing operators (fixed and mobile) and public authorities began to explore new business models that could foster the deployment of such infrastructure at the national level. This new infrastructure could be developed through Public Private Partnership (PPP)[7] under competitive pricing and Open Access principles[8]. Such national backbones would connect the capital and secondary cities (narrowing the urban-rural divide). Operators and service providers could then provide affordable and better quality ICT and eGovernment services to the citizens. Central African countries have realized that without cross-border initiatives, the individual countries may not be in a position to achieve low-cost broadband access and therefore may not be in a position to advance their growth agenda and overall global competitiveness. Landlocked countries in Central Africa are especially disadvantaged as they need to interconnect with incumbents or national long distance operators in intermediary countries to carry traffic to the landing point and often pay high prices in the process. Effective cross-border links and supporting regulatory frameworks are therefore critical for the region as a whole.

7. **ICT sector context in CAB APL1[9] countries (Cameroon, CAR and Chad),** all countries have a dedicated telecom Ministry, have established an independent telecom regulator

[6] For the purposes of this project, backbone infrastructure refers to a collection of high-capacity fiber optic or point-to-point wireless links both within countries and between countries.

[7] Public funding to complement private financing when the risk-return profile is unattractive and overall operation managed by the private sector.

[8] Open access is broadly defined as an equal opportunity for operators and service providers to have unfettered access to a specific infrastructure or services under similar terms and conditions.

[9] The first Phase, CAB APL1, includes two parts: APL1A (or Phase 1A) and APL1B (or Phase 1B). See Para 38 for more explanation on the CAP APL 1 structure.

and are currently revising their sector legislation to transpose the Central African Economic and Monetary Community (CEMAC) Directives for Electronic Communications Services which are in-line with good international practices[10] and consistent with the CAB project design (Cameroon, CAR and Chad are using their respective Project Preparation Facility (PPF) to finance this specific activity). The sector structure and issues in CAB APL1 countries can be described as follow.

8. Cameroon sector structure.

(a) In Cameroon, out of a total population of 18 million in December 2007, the number of main fixed lines in operation was 188,691 and the number of mobile subscriptions was 4.5 million, representing a fixed teledensity[11] of 1.02 and a mobile teledensity[12] of 24.48.

(b) CAMTEL, the telecom State Owned Enterprise (SOE) is currently providing fixed and mobile services (including Code Division Multiple Access - CDMA - network for fixed, mobile and Internet services and an unused Global System for Mobile Communication – GSM - mobile license) and wholesale services (long-distance services on a fiber-optic backbone to private mobile operators; limited wholesale for International connectivity via the submarine cable SAT3to the mobile operators and Internet Service Providers - ISP). CAMTEL currently retains a monopoly over long-distance and is the main provider of most international bandwidth. Following the failed privatization of CAMTEL in 2008, the Government has opted to restructure CAMTEL on the basis of a PPP. The CAB project will support the PPP process for the new entities and ensure consistency with the CAB regional network.

(c) Only two private mobile operators (Orange and MTN) are operating in Cameroon and represent more than 95 percent of overall subscriber base at year-end 2007. The mobile operators through their subsidiaries provide broadband Internet services (WiMAX). Due to its duopolistic structure, the Cameroonian mobile market is characterized by high per-minute prices and a lower user penetration than its GDP per capita would suggest. Under the PPF in Cameroon, a consultancy is currently supporting the award of a new mobile license to a private operator. This should provide significant fiscal revenues for the Government and put considerable pressure on existing operators to lower tariffs.

9. Central African Republic Sector Structure.

(a) In CAR, out of a total population of 4.3 million in December 2007, the number of main fixed lines in operation was 5,000 and the number of mobile subscriptions was 0.35 million, representing a fixed teledensity of 0.12 and a mobile teledensity of 7.99.

(b) SOCATEL, the incumbent fixed operator, is 100 percent state owned. France Cable radio/France Télécom exited SOCATEL two years ago and bought a stand-alone mobile license. SOCATEL is a "distressed operator" with chronic operating losses given its low market share in a competitive sector (about 1 percent of the overall subscribers for the telecom fixed and mobile segments). Funded by the PPF in CAR, a consultancy is currently

[10] E.g. the new CEMAC Directives are promoting competition (removing all exclusivities), infrastructure sharing, open access, and convergence for ICT services.
[11] Number of fixed telephone lines per 100 inhabitants.
[12] Number of mobile subscriptions per 100 inhabitants.

identifying restructuring options and recommendations for SOCATEL. This study will ensure consistency with CAB Program.

(c) Four (4) private mobile/GSM operators (Orange, Orascom, Moov and Nationlink) are currently providing mobile services and broadband Internet services in CAR (more than 25 towns are covered by existing mobile services as of December 2008; broadband services are only provided in the capital city).

(d) 100 percent of the domestic and international traffic is carried by satellites.

(e) In 2008, the telecom sector contributed 5 percent of the overall GDP and was growing at about 40 percent per annum. The Telecom sector is the most significant fiscal contributor for the country and attracted from the mobile operators more than $40 million FDI in 2008 (and the same FDI amount is expected in 2009).

10. Chad Sector Structure.

(a) In Chad, out of a total population of 10.8 million in December 2007, the number of main fixed lines in operation was 13,000 (5,000 additional CDMA lines are also operated by SOTEL) and the number of mobile subscriptions was 1.1 million, representing a fixed teledensity of 0.17 and a mobile teledensity of 10.26.

(b) SOTEL, the fixed incumbent operator is 100 percent state owned. SOTEL accounts for about 2 percent of the overall telecom fixed and mobile subscribers in Chad. SOTEL provides fixed and mobile services (including CDMA network for fixed, mobile and Internet services and GSM network for additional mobile license). SOTEL is a distressed operator with chronic operating losses. The Government is pursuing SOTEL restructuring prior to the launch of the privatization transaction (to be supported by the CAB Project).

(c) Only two private mobile operators (Zain and Tigo) provide mobile services in Chad. SOTEL, Tigo and some small private ISPs provide Internet services in the country.

(d) 100 percent of the international traffic and a good share of the domestic traffic are carried by satellites.

Background on the Central African Backbone Program

11. Prefeasibility study. A prefeasibility study has been conducted by a specialized international firm in CAB APL1 countries that demonstrates the economies of scale and cost efficiencies that a regional and fully integrated end-to-end backbone infrastructure network would bring about. The study further demonstrates the financial and technical feasibility of the CAB Program and recommends the implementation of CAB APL1 involving Cameroon, CAR and Chad. The study forms the basis for the design and framework for the CAB Program. The CAB APL1 network, as designed, is a regional telecommunications network made of terrestrial fiber connections to submarine fiber optical cable systems linking several Central African countries and providing the region with a digital broadband access to the global fiber network. In addition to the build-out of approximately 2,200 km of new fiber optic infrastructure, the planned broadband backbone would leverage the 1000 km existing fiber optic infrastructure laid along the oil pipeline between Kribi (Cameroon) and Doba (Chad). The study developed nine scenarios, the traffic demand and flows for the targeted countries and has set key principles

(CAB network is to be a shared infrastructure owned and operated according to PPP and Open Access principles).

12. **CEMAC heads of state Declaration.** In May 2007, based on the findings of the study, the CEMAC heads of state adopted a Declaration calling for the establishment of the CAB under open-access and PPP principles and asked for Donors' intervention. In line with the Regional Integration Assistance Strategy (RIAS) and national CAS/ PRSP, the World Bank Group (World Bank and IFC) and the African Development Bank (AfDB) have provided technical assistance to CEMAC and Central African countries to conduct preparatory studies. Regional and National technical committees have been set-up since 2007. In parallel, the World Bank has participated, as an observer, to the elaboration of the 2008 CEMAC Directives on Electronic Communications Services in-line with sector good practices and the CAB program as designed.

13. **New regional telecom operator(s).** The CAB structure calls for the establishment of new regional telecom operator(s) for reselling international, regional, national capacity to existing national operators and service providers at discounted rates compared to current pricing in the targeted countries. As such, the CAB network will increase competition for the provision of international and national capacity (new alternative infrastructure, fiber optic backbone, competing with satellite and microwave connectivity).

14. Key principles. Key principles have been defined in the study and have to be endorsed by all participating countries in order to be eligible for World Bank financing. They include: promoting Open Access regimes, developing wholesale markets and promoting PPP (see Annex 1). To keep some flexibility, the detailed arrangements in terms of ownership and management will be defined at the country-level given the difference of all eligible countries in terms of sector structure, level of development and access and, the operational and financial situation of the respective SOE.

15. **Role of the government.** Governments will focus on providing the right incentives for infrastructure and services to reach areas unattractive for the private sector on a purely commercial basis. Government participation through the financing of segments of the CAB backbone will be used to buy-down the cost of capital and therefore the prices that could be charged to consumers to recover the investment (regulatory mechanisms will be set-up to ensure that lower costs are passed to the consumer). Additional government support may take the form of a government participation in the new legal entity created for the build-out of the backbone networks (such as through contribution of existing assets), guarantees, subordinated debt, ensuring rights of way, and/or commitment to purchase certain capacity on the network for a given time period.

16. **Role of the private sector.** The private sector will participate in financing, and will install, maintain and operate the CAB network. The capital and financing structure will be a blend of public and private sector. The inclusion of the private sector and profit sharing can bring several benefits including: (i) access to private finance; (ii) reduced operational risk for public sector; (iii) faster delivery of capital projects; (iv) project management skills and; (v) entrepreneurship and innovation. The PPP structure will share the risks and rewards between the government and the private companies.

CAB PPP Structure and financing

17. The design and ownership structure of the PPP will (i) maximize the use of private financing (or minimize the use of public financing); (ii) ensure feasibility and attractiveness of the transaction; (iii) secure Open Access to regional connectivity infrastructure; and (iv) ensure competitive, reasonable tariff of international, regional and national capacity.

18. New legal entities will be formed for the purposes of owning and operating the CAB networks. This will take the form of a consortium including the private operators, private financers', incumbent operators and/ or governments. The private sector will install and maintain the CAB Networks. A contract will be set between the private sector and the existing public telecommunications operators on the management of the national backbones (the new structure could also be leveraged to manage these networks). Final ownership distribution will be based on the amount of private financing mobilized and final contributions made by the Governments.

19. The IFC is playing a role as part of the World Bank Group's support to the CEMAC and to Governments as they finalize an optimal structure for the PPP that ensures the feasibility and attractiveness of the transaction. If needed IFC may also assist in mobilizing funding or assist investors[13].

20. **Financing CAB Connectivity Infrastructure (First Phase)**. The cost to establish the CAB network and operations for the First Phase is estimated at approximately $69 million (not including the cost of support to the enabling environment, which represents an additional $20m) and will be financed from multiple sources. The CAB APL1 will support investment for the CAB network in Cameroon, CAR and Chad to complement the existing 1000 km fiber-optic network already installed next to the oil pipeline which is to be integrated in the future CAB network[14]. The new investment is expected to be financed by the private sector (operators and financial institutions) and by the three Governments under CAB APL1. The estimated cost structure and preliminary financing plan (backed by supporting financial analysis done as part of the prefeasibility study) of the CAB network and operations for the first Phase is detailed in Table 3.

[13] In consultation with the Conflict of Interest Office, the WBG has disclosed the potential risk of perception of conflict of interest to the Governments highlighting the expected benefits from the institution to intervene as a Group.

[14] In order to establish the CAB network, the use of the fiber optic network laid next the oil pipeline has been bought in 2007/8 by the Governments of Cameroon and Chad from the oil Consortium.

Table 3. CAB Network and Operations Cost Structure and Financing – First Phase

Cost structure	$ Million
Equipment Costs including installation	55.2
Right of use of the fiber laid next to the oil pipeline	1.7
Environmental studies and Resettlement costs	2.1
Project structuring, Start-up expenses and pre-operating expenses	4.9
Contingencies	5.0
Total	**69.0**

Financing Plan	$ Million
IDA	**40.0(a)**
Trust funds	1.8
Commercial debt	10.0
Private Equity/ off-take agreements	17.2
Total	**69.0**

Note (a) The IDA amount for the first phase is estimated and would include connectivity and a portion of project management costs as presented in the table on page ix.

21. In addition, the AfDB will provide parallel financing to establish complementary backbone infrastructure in the CAB APL1 countries. However, the cost and design of this additional infrastructure is not included in the CAB APL1. As structured, the World Bank CAB Program and CAB APL1 will not be affected if the AfDB financing does not materialize.

22. **Private sector interest**. The structure as recommended has been presented to all public and private operators in CAB APL1countries (but also in other eligible countries). Despite the economic and financial crisis, all operators[15] have confirmed their strong interest in the venture since CAB will lower significantly their operating cost and provide new opportunities for additional network coverage. Several operators have announced that they will explore the opportunity to contribute financially, and some international commercial banks have also expressed an interest.

B. Rationale for Bank involvement

23. This section summarizes the rationale for Bank involvement from a regional perspective. More details, particularly with regards to country-specific issues, are provided in the Country Technical Annexes.

24. **The World Bank Group (WBG) is well placed to contribute in the context of a multiple development partners' effort.** The WBG has been involved in the CAB program since 2005. The Declaration of the CEMAC heads of state adopted in May 2007 called explicitly for

[15] To provide a comparison, the project aim to raise about $30million from the private sector when more than $40 million has been invested in 2008 in the telecom sector in CAR alone. However, without key principles as set in the CAB project (shared infrastructure, Open Access and co-financing from CAB APL1), no operator could develop such broadband infrastructure in CAR.

WBG financial support for the implementation of the CAB program[16]. The overall program has been formulated with other key stakeholders and DFIs (the AfDB joined the initiative in 2007 and is providing parallel financing for the CAB Program; the African Union (AU) is also playing an important role in facilitating inter-governmental cooperation and policy harmonization, in conjunction with the CEMAC).

25. **The WBG has an analytical work program, an active policy dialogue and lending activities in the ICT sector in most eligible countries.** Also, the WBG (i.e. PPIAF) has financed several backbone studies focusing on business, commercial and financing structure options (CAR, Chad and Cameroon in 2007; Equatorial Guinea, Gabon, Republic of Congo and DRC in 2009) that are directly linked to the CAB program. The Bank has an active ICT policy dialogue in all CAB eligible countries. The WB team, as an honest broker, has helped to maintain a very constructive and unique dialogue between all parties (governments, regulators, public and private operators) and has participated to the preparation and adoption of the new CEMAC Directives for the sector. Finally, the IFC has been providing financing to the main private telecom operators (that should become the main users) in CAB eligible countries (e.g. Celtel/Zain, Orange, MTN, Millicom). This gives a comparative advantage of the WBG in infrastructure financing and in the policy and regulatory interventions[17].

26. The **CAB Program fits well with WBG's Regional Integration Assistance Strategy for Africa (RIAS), particularly within the framework of the Africa Action Plan.** The Bank's RIAS discussed at the Board in April 2004, identified advances in ICT as one of the three emerging positive trends in the 21st Century for Africa, and highlighted its role for the Regional connectivity objective. The CAB program will strengthen and implement partnerships at the regional level (including regulatory harmonization) and will support both Economic Community of Central African States (ECCAS) and CEMAC objective of creating a unified economic space in Central Africa. The CAB Program is also aligned with the RIAS pillars on the capacity building cross cutting theme, specifically with regard to M&E.

27. CAB also addresses key Millennium Development Goals including:

(a) MDG 1, Targets 1 & 2 (Eradicate extreme poverty and hunger). Significant evidence exists to support the assertion that sustained growth is key to poverty reduction. A large number of recent econometric studies suggest that the quantity and quality of telecommunications infrastructure may be connected to growth[18]. The recent cross-country growth analysis across 120 developed and developing countries indicates that the broadband

[16] The World Bank has also received an official request from the CEMAC Commission to support the preparation and the financing of the CAB Project (in coordination with AfDB, grants have been mobilized in 2008 for CAB preparation).

[17] The proposed approach is coherent with the WBG Strategy for ICT Sector Development in the region, (Connecting Sub-Saharan Africa, 2005) that recommend addressing incomplete sector liberalization and lack of infrastructure to leverage ICT for economic and social development.

[18] *Source: Canning 1997, Röller and Waverman 1995, Madden and Savage 1998, Riaz 1997, Easterly and Levine 1997*

provide a 1.38 percentage point GDP increase for each 10 percent points increase in broadband subscribers[19]. At the microeconomic level, ICT provides farmers, workers and entrepreneurs opportunities to reduce transaction costs (increase revenues of local population), increase market coverage and improve competitiveness.

(b) MDG 8, Targets 14 through 18 (Global Partnership for Development). This MDG reaffirms the need to support the special needs of landlocked countries (Target 14) and to cooperate with the private sector to "make available the benefits of new technologies, especially information and communications" (Target 18). People living outside the capital city and in remote areas tend to be poor and socially isolated. They lack information relevant to their particular situation and thus have difficulty interacting with other communities. ICTs, such as radio, telephone and email, can be of great value in bringing people together, bridging geographic distances and providing relevant information to the poor. The correlation across countries of the Human Development Index (HDI) and the Networked Economy Index (NEI) is above 0.8, suggesting a link between welfare and the use of ICT in developing countries.

28. **Country ownership and commitment are strong.** There is considerable interest among governments in the region to address the existing sector constraints and develop an efficient Central Africa telecommunications market to promote regional integration, economic growth and development of member states. The CEMAC heads of state have adopted a Declaration in 2007 to implement this Program as a key tool for regional integration and growth. Significant technical and financial resources have been mobilized by the countries and the CEMAC Commission to accelerate the CAB Program implementation.

C. Higher level objectives to which the project contributes

29. **Links to CASs and PRSPs are consistent.** While the countries that would benefit from this project vary in size and needs, common strategic themes identified in the various CASs and PRSPs - higher growth and economic opportunities for the poor; efficiently and effectively managed public sector; improved health management and enabling environment for economic growth and structural transformation – clearly benefit from improved communications infrastructure and cheaper access to ICT.

30. **The higher level objectives are to accelerate growth.** The CAB Program is expected to contribute to the objectives of accelerated and shared growth by: (i) accelerating the physical rollout of backbone infrastructure (investment intervention based on public-private partnerships to leverage private sector investment in infrastructure); and (ii) removing monopoly regimes through policy and regulatory support to ensure that once in place, the infrastructure is accessible to all operators on open, transparent and non-discriminatory terms.

[19] *Source: Qiang, Christine Z, Rossoto, Carlo M. , and Kimura Kaoru. 2009 "Economic Impacts of Broadband." Information and Communication for Development 2009 Report. World Bank, Washington, DC*

II. PROJECT DESCRIPTION

A. Lending instrument

31. **The lending instrument will be a Regional IDA horizontal and vertical Adaptable Program Loan (APL).** As opposed to a Specific Investment Loan (SIL), the APL instrument is well-suited to take into consideration the length of time it takes to achieve the overall objective of establishing a regional network for Central Africa. An APL is also flexible enough to accommodate the different level of readiness of the participating countries (horizontal APL) and to phase technical assistance if needed prior to the mobilization of the required financing for the infrastructure (vertical APL).

32. The rationale for utilizing the regional IDA envelope for this project hinges on the important economies of scale that will be reaped through the regional approach envisaged by this project and its important impact on furthering regional integration, currently high on the agenda of CAB countries. The positive externalities that will accrue to the participating countries by harmonizing policies and establishing a shared infrastructure are expected to be substantial and lie at the core of the rationale for the project in the first place. In this context, the first phase of the proposed program (CAB APL1) fits the eligibility criteria of the IDA15 regional program in the areas of regional economic integration. The CAB Program supports regional programs that build implementation capacity and increase harmonization and coordination between countries. The proposed operation involves three countries in the first phase (CAB APL1 -Cameroon, CAR and Chad), and up to nine other countries likely to join in subsequent phases. The proposed APL structure will allow countries eligible for IDA or IBRD financing at the time of their application for IDA/IBRD support under the CAB Program to join on a commitment and/or readiness basis.

33. **IDA and IBRD allocations will follow country considerations.** Since this is a regional project, supplementary regional IDA funding can be used to leverage country allocations for up to two-thirds (2/3) of the full proposed IDA amount of the project, with country allocations covering one third (1/3) of the project cost attributable to each individual country involved (taking into account that the National IDA allocation for a specific regional project cannot exceed 20 percent of the FY National Allocation). In the case of the "eGovernment and ICT Flagship" component, given that the impact of eGovernment activities is more national in nature than regional, and in consideration of the current constraint for the regional IDA allocation, the activities related to this component will be funded from the individual country IDA allocations with the exception of when there is a regional impact of the sub-component. The table below provides an estimate of the proposed lending by country, with the regional/national IDA breakdown for CAB APL1 and subsequent phases and the IBRD amounts (Table 4).

Table 4. IDA and IBRD Allocations by Country

Phase	Country	Source of funds	Total $ M	Source of funds	Total $ M
1A	Cameroon	IDA	9.90	Regional	5.80
				National	4.10
1A	CAR	IDA	7.30	Regional	5.20
				National	2.10[20]
1A	Chad	IDA	9.00	Regional	6.00
				National	3.00
1B	Cameroon	IDA	12.40	Regional	8.30
				National	4.10
1B	CAR	IDA	9.90	Regional	9.90
				National	0.00[20]
1B	Chad	IDA	14.70	Regional	13.90
				National	0.80
2+	DRC	IDA	80.00	Regional	53.00
				National	27.00
2+	Congo	IDA	15.00	Regional	10.00
				National	5.00
2+	Gabon	IBRD	18.00	Regional	0.00
				National	18.00
2+	Niger	IDA	9.80	Regional	6.30
				National	3.50
2+	Sudan	IDA	6.00	Regional	3.00
				National	3.00
2+	Equatorial Guinea	IBRD	17.00	Regional	0.00
				National	17.00
2+	STP	IDA	6.00	Regional	5.50
				National	0.50
	TOTAL CAB APL1	**IDA**	**63.20**	**Regional**	**48.20**
				National	**15.00**
	TOTAL CAB APL2+	**IDA**	**116.80**	**Regional**	**77.80**
				National	**39.00**
		IBRD	**35.00**		**35.00**
	TOTAL CAB Program	**IDA**	**180.00**	**Regional**	**126.00**
				National	**54.0**
		IBRD	**35.00**		**35.00**
		IDA & IBRD	**215.00**		**215.00**

Phase 2+ indicates second and subsequent phases.

B. Program objective and Phases

34. Providing broadband connectivity in Central Africa to all capital cities, main secondary cities and establishing redundancy linkages is estimated at about $700m for the following eleven (11) Central African countries: Cameroon, CAR, Chad, Congo, DRC, Equatorial Guinea, Gabon, Nigeria, Niger, Sao Tome and Principe and Sudan.

[20] The National IDA allocation cannot exceed 20% of the FY National Allocation. We have assumed that APL1B will be adopted in FY10.

35. The World Bank CAB Program will contribute a portion of the overall cost for broadband connectivity in Central Africa for the eleven countries mentioned above through the connection of capital cities and establishment of redundancy links. Broadband access and international and national traffic in the region and the targeted countries are expected to increase, while bandwidth and broadband access costs for end-users are expected to decline rapidly. Private investment opportunities and job creation in the region will be developed and the cost of doing business will decrease.

36. The proposed amount of IDA and IBRD contribution for the CAB Program is $215m over the ten-year period. The CAB Program is aiming at leveraging additional $97.8m from the private sector.

37. Other development partners are included in the process. The AfDB has been closely involved with the preparation of the CAB Program. The AfDB will provide parallel financing to extend the network beyond the capital cities and has also financed several preparatory studies for the CAB Program. Missions and respective Program and projects preparation are done jointly. It is expected that the AfDB will provide approximately the same level of financing as the World Bank (about $200 million). The African Union is also playing an important role in facilitating inter-governmental cooperation and policy harmonization, in conjunction with the CEMAC.

38. The first phase of the CAB proposed for IDA financing will cover Cameroon, Central African Republic and Chad. The first phase will be structured as a vertical APL. The first part of the first phase of the CAB program – which is also called the Communications Infrastructure and Technology APL Project (APL1A) - will cover the technical assistance to strengthen the enabling environment and prepare the PPP structure for the establishment of the CAB network for a total amount of $26.2m. The second part of the first phase of the CAB Program (APL1B) will focus on financing the connectivity infrastructure of the CAB network for an estimated total amount of $37.1m. APL1B will be triggered after (i) the establishment by the Recipients and other stakeholders of a legal structure which will allow for the installation and management of the CAB network in accordance with PPP principles and an Open Access regime; and (ii) the CAB legal structure has established the legal rights to install, manage and operate the CAB network in the Recipient's territory.

39. To establish the CAB network in Cameroon, CAR and Chad (that will utilize the existing 1000km fiber-optic backbone laid next to the oil Chad-Cameroon oil pipeline), it is expected that $40m will be contributed from the CAB APL1 and an additional $27.8m will be mobilized from the private sector (private equity, off-take agreements and commercial debt). As structured, the World Bank CAB Program and CAB APL1 will not be affected if the AfDB financing does not materialize.

40. The IFC is playing a key role as part of the World Bank Group's support to the CEMAC and to Governments as they finalize an optimal structure for the PPP. The PPP structure will be designed to (i) maximize the use of private financing (or minimize the use of public financing); (ii) ensure feasibility and attractiveness of the transaction; and (iii) secure open access to regional connectivity infrastructure and ensure competitive and reasonable international and national capacity tariffs. If needed IFC may also provide part of the private financing.

41. We expect all eligible countries to join the CAB program between FY09 and FY12. Subsequent phases will reach the Board based on the readiness of countries applying for support under the Program as well as availability and eligibility of IDA/IBRD financing. Countries that have already expressed interest for subsequent phases include Republic of Congo, DRC, Equatorial Guinea (IBRD), Gabon (IBRD) and STP (Table 5).

Table 5. IDA/ IBRD Financing by Component

	CAB APL1A	CAB APL1B (est.)		CAB APL2+ (est.)		Total CAB Program		Total
	IDA	IDA	Private Sector	IDA	Private Sector	IDA	Private Sector	
Enabling Environment*	20.0			27.8		47.8	-	47.8
Connectivity (Infrastructure)		37.1	27.8	100.0	70.0	137.1	97.8	234.9
eGovernment	1.2			15.0		16.2	-	16.2
Project management	5.0			8.9		13.9	-	13.9
Total	26.2	37.1	27.8	151.7	70.0	215.0	97.8	312.8

C. Program development objective and key indicators

42. . The overarching development objective of the CAB Program (including APL1A Project) is to contribute to increase geographical reach and usage of regional broadband network services and reduce their prices.

43. **The program will seek to achieve the objective by focusing on investments linked to fostering open and cost-effective access to communications infrastructure.** The main development outcomes will include: (i) increase in volume of international, regional and national traffic and, (ii) decrease in average price of international, regional and national communications.

44. **The primary beneficiaries of the Program will be the citizens, businesses and governments of Central Africa** through increased access to lower cost and higher quality communications and reduced transactions costs.

45. **The CAB Program will place significant emphasis on developing a results-based program.** The CAB program is placing significant emphasis on a results based program with dedicated resources to develop robust Monitoring and Evaluation (M&E).

46. Outcomes and indicators will be program and country specific (see Annex 3). Measuring outcome indicators at an aggregate regional level would not be appropriate. Specific indicators are only practical at the national level and will therefore be computed at the country level (see countries technical annexes).

Table 6. PDO and Outcome Indicators

Program and Project Development Objective (PDO)	Outcome Indicators	By the closing date of the Program	By closing of APL1A
Contribute to increase geographical reach and usage of regional broadband network services and reduce their prices	Volume of international traffic ▪ International Communications (Internet, Telecoms, and Data) bandwidth per person Volume of national traffic using 2 proxies: ▪ Internet users per 100 inhabitants ▪ Total teledensity (active fixed and mobile subscribers per 100 inhabitants) Average price of international communications using the proxy: ▪ Average monthly price of international capacity link (E1 or 2Mbts) from the capital city to Europe	See Country Technical Annexes for each participating country (where applicable)	See Country Technical Annexes for each participating country

As an example, for APL1A countries, the following targets have been set in terms of Total density in CITCM, CITCAR and CITCD (fixed and mobile subscribers per 100 habitants) by the closing of APL1A: (i) Cameroon : 70; (ii) CAR: 27; and (iii) Chad: 49.

D. Program components

47. **The CAB Program supports a customizable menu of options.** To maximize flexibility, client-responsiveness and the specific national situation of each country (in terms of existing infrastructure or policy environment), the CAB Program will include a customizable set of activities which have been grouped under four broad headings or components, described in more detail below. APL1A will cover components 1, 3 and 4 while APL1B will cover components 2 and 4.

48. **Component 1: Enabling environment**. This component aims to (i) promote further regional market integration; (ii) strengthen the legal, regulatory and institutional framework; (iii) support market liberalization; and (iv) promote the establishment of infrastructure that once in place is accessible to all service providers on open, transparent, competitive and non-discriminatory terms. It includes the following activities:

(a) Modernize and harmonize policy, legal, regulatory and institutional framework for the Electronic Communications Services and the Information Communications Technology (ICT) sector;

(b) Strengthen capacity of key public stakeholders (i.e. Sector ministry and independent regulatory agency);

(c) Promote a pro-competitive environment (i.e. develop regulatory tools to guarantee open access to international and regional infrastructure, competition regulation, interconnection;

liberalize the telecom sector, restructure and privatize public incumbent operators, establish PPP) to maximize the benefits from the regional backbone;

(d) Launch structuring and start-up consultancies required for the establishment of CAB networks;

(e) Finance CAB-related environmental and resettlements consultancies[21];

(f) Finance the establishment of national and regional Internet Exchange Points (IXP).

49. While it is expected that not all countries will require the same level of support in all these areas, this enabling environment component is eminently regional in nature, as it will support the further opening of the sector in the participating countries, with important spillover effects from increased traffic in the regional network and resulting reduction in overall costs. In addition, common areas of technical assistance and capacity building initiatives (in particular training courses) can be implemented as regional activities.

50. **Component 2: Connectivity.** This component will leverage the existing fiber-optic network laid along the Chad-Cameroon oil pipeline that will form the core CAB network and support the deployment of interconnected networks to form a Regional network. It includes the following activities:

(a) Finance the infrastructure for the establishment of the regional CAB network including fiber-optic cables, terminal equipments and switches, to guarantee the establishment of an open access network (open to all operators) on the basis of PPPs, leveraging private sector investment;

(b) Finance the establishment of government Virtual Private Networks (VPNs) to collect all the government communication needs (voice and data) to be routed via the CAB;

(c) Extend ICT in rural areas on the basis of PPPs with competitive award of subsidies[22].

51. With respect to CAB APL1 countries, the connectivity component will be financed in a subsequent phase expected to be presented for Board approval in April 2010 (CAB APL 1B).

52. **Component 3: eGovernment and flagship ICT applications.** The program will seek to improve the Government efficiency by supporting development and rollout of selected eGovernment applications making use of the improved connectivity. EGovernment applications apply the judicious use of ICT to enable governments to improve their internal systems, deliver services more efficiently and effectively, and make information more accessible to citizens. This component will support (i) selected major government services which would be candidates for transition to eGovernment through the use of technology, business process re-engineering to streamline processes, and change management; and (ii) flagship ICT application that have a high development impact. The eGovernment and ICT applications will be prioritized as follows: (a) activities which will have the greatest impact in terms of transparency and accountability; (b)

[21] Including specific Environmental Management Plans (EMP), Resettlement Action Plans (RAPs) and Indigenous Peoples Plan (IPP) if planned.
[22] This specific activity is not included in any CAB APL1country.

activities for which a champion and commitment have been identified; (iii) involvement of local communities, NGOs or local units of international agencies; (iv) possibility of private sector participation; (v) high potential for successful implementation and return on investment within a few years. While not required, a public-private joint venture approach will be favored to promote efficiency and sustainability. The project will also support, where required, the establishment of government web portals on which to anchor key eGovernment interventions, access to service delivery applications and information, and real-time M&E.

53. **A wide choice of eGovernment applications is available for selection by specific countries**, based upon the individual country's state of readiness. The following eGovernment services could be included: public finance, customs systems, income taxes, procurement, social security benefits, personal documents (passport, driving license), car & driver registration, building license, birth, marriage and death certificates, electronic payment (for utilities), property titling.

54. **However, only countries that have a core broadband network in their capital cities and are already deploying eGovernment and ICT Flagship applications will be eligible for this component. With respect to CAB APL1 countries, only Cameroon will implement limited "eGovernment and ICT Flagship" activities.**

55. **Component 4: Project Management.** This component will consist of support to finance management related issues at the Project level. Depending on the specific implementation arrangements for each country, this component may include elements such as human resources support with management, procurement, financial management, M&E, internal and external audit, and communications expertise, operating expenses and equipments.

56. **Below is attached a summary of CAB APL1 Cost by Component. Detailed activities to be financed in APL1A are included in attached Country Technical Annexes[23].**

Table 7. CAB APL1 Cost by Component

Project Cost by Component ($ Million)[24]	**Cameroon**		**CAR**		**Chad**		**CAB APL1**
	APL 1A	**APL 1B**	**APL 1A**	**APL 1B**	**APL 1A**	**APL 1B**	
Enabling Environment	6.9		5.7		7.4		17.0
Connectivity		11.7		9.4		14.0	38.1
EGovernment and ICT Flagship applications	1.2						1.2
Project management	1.8		1.6		1.6		5.0
Contingencies		0.7		0.5		0.7	1.9
Total	**9.9**	**12.4**	**7.3**	**9.9**	**9.0**	**14.7**	**63.2**

[23] Cameroon Technical Annex I (CITCM), Central African Republic Technical Annex II (CITCAR) and Chad Republic Technical Annex III (CITCD).
[24] Estimates for APL1B

E. Lessons learned and reflected in the Program design

57. **The program incorporates lessons learned from other regional horizontal APLs and projects** that provide support across countries within a common framework. Regional Programs reviewed include operations in Africa and outside the region, such as the Regional Communications Infrastructure Program (RCIP) as well as the Southern Africa Power Market Program.

(a) For example, the RCIP1 operations for Kenya, Burundi and Madagascar were reviewed by the World Bank Quality Assurance Group (QAG) as part of the eighth quality at entry assessment exercise (QEA8). While the assessment concluded that overall quality at entry was "Satisfactory", it identified a number of areas which could be improved. In particular, "weak implementation and capacity across participating countries" was identified as a key constraint to accelerating implementation. Contrary to RCIP, resources from on-going projects, grants and PPFs have been recently used to step-up World Bank project implementation capacity before CAB Program and APL1A goes to the Board. All countries have already fully benefited from this support in order to meet project readiness criteria by appraisal. Also, CAB APL1 structured as a vertical APL will enable to phase infrastructure investment when the enabling environment is reinforced.

(b) Political support to sustain regional operations. Regional programs like RCIP and CAB are complex due to the large number of participating countries. The endorsement of the CAB Program by the heads of state of the CEMAC Region during the May 2007 summit in Ndjamena has been very beneficial for the establishment of institutions to coordinate and oversee the CAB program at the national and regional levels (overall coordination given to the CEMAC Commission). To date, these institutions have proven to be efficient in moving forward key consultancies to structure the regional project (accepting to act cooperatively to develop CAB as a regional flagship program). Also, the project benefits from the political endorsement and support of the Secretariat of the African Union and the AfDB..

(c) Stronger Regional approach. The CAB program unlike RCIP has developed upfront a more integrated approach to involve in the Program all eligible countries. The CAB Program is aiming at the establishment of one Regional network and is strongly anchored in the regional political and economic agenda of the CEMAC, the ECCAS and the AU.

58. IDA Mid-term review of the IDA 14 pilot program for regional projects and IEG review for Bank-wide Regional projects highlight that (i) the World bank intervention facilitate the needed combination of global expertise and strong national level policy engagement and as a member of the Bank Group provides a valuable platform on which to build further regional integration efforts and also facilitate private investment and co-financing for many regional infrastructure programs; (ii) effective regional integration depends on countries harmonizing national policies. The CEMAC heads of state declaration and the collaboration between the CAB eligible countries, the World Bank, AfDB, AU, CEMAC, ECCAS and ITU have strengthen the overall commitment to implement this key program for the Region. Also, the program has benefited from the IFC involvement to increase attractivity and feasibility of CAB structuring.

F. Alternatives considered and reasons for rejection

59. **APLs work best in the regional context.** Closing the terrestrial connectivity gap in Central Africa requires the combination of two key interventions: (i) investment intervention based on a public-private partnership; and (ii) policy and regulatory support to ensure that once in place, the infrastructure is accessible to all service providers on open, transparent, competitive and non-discriminatory terms. Both elements are key to project success. As evidenced from previous experience in the Western Africa SAT-3 submarine cable, and by the absence of pure private infrastructure in Central Africa, other alternatives focusing exclusively on public investment or on policy reform, or relying solely on private sector financing, were discarded.

60. Financing long term satellite capacity is not sustainable. While the project could finance long term purchase of satellite capacity, this would not be sustainable in the long run, given the associated high prices. The project therefore builds on the opportunity of the capacity available on the West coast submarine cables currently under development, and proposes to transport that capacity terrestrially to CAB eligible countries.

III. IMPLEMENTATION

A. Partnership arrangements (see Annex 1 for more detailed information)

61. Following the Connect Africa Summit held in Kigali in November 2007, the AfDB has been closely involved with the preparation of the CAB Program. The AfDB is providing parallel financing on the CAB Program. AfDB has also financed several preparatory studies and has leveraged grants from partner institutions for this specific program. Missions and respective project preparation are done jointly. While the World Bank is financing the necessary adaptation of the enabling environment in the ICT sector and the main broadband infrastructure to the capital cities (extension from the existing fiber optic cable laid next to the oil pipeline to N'Djamena and Bangui, the extension from Ndjamena to Nigeria and extensions from Cameroon existing network to neighboring countries like Equatorial Guinea and Nigeria), the AfDB is focusing on redundancy routes and economic zones (from Bangui to Bria – economic zone; from Ndjamena to Abéché) and eGovernment activities. As structured, the World Bank CAB Program and CAB APL1 will not be affected if the AfDB financing does not materialize.

62. It is expected that the AfDB will provide approximately the same level of financing as the World Bank for the overall CAB Program (about $200 million). AfDB has also launched the preparation of the CAB Program for the First phase countries (planned to be approved in 2010). The first estimates for AfDB financing for CAB APL1 countries is about $58 million.

63. The WBG and the AU Commission have identified the CAB Project as a key regional project that could benefit from AU expertise and leverage. Since 2008, the AU team is working closely with the WBG. AU is playing an important role in facilitating inter-governmental cooperation and policy harmonization, in conjunction with the CEMAC.

B. Institutional and implementation arrangements

64. In May 2007, the CEMAC heads of state adopted a Declaration calling for the establishment of the backbone and asking donors to provide financing for the CAB implementation. In line with the heads of state declaration the CEMAC Commission coordinates the overall preparation of the program with various stakeholders and donors for this specific Program (see Annex 1 for more information on overall coordination and implementation between stakeholders).

65. To date CAB APL 1 countries have established: (i) an Inter-Ministerial Committee involving sector ministers, (ii) an Expert Commission involving three representatives from each country participating CAB APL 1, and one representative from the following institutions : the World Bank, the AfDB, the CEMAC, the ECCAS and the International Telecommunication Union (ITU); and (iii) national technical committees involving representatives from the government, the regulatory agency, the public and private operators and users groups (all technical studies conducted at national and regional level have and will benefit from their support).

66. Under the Secretariat of the CEMAC Commission (coordination unit for regional studies), the above institutions have mobilized and are managing several consultancies to finalize the technical aspects related to the establishment of the CAB (including consultancy on technical specifications, consultancy on legal and financial aspects, and consultancy on environment and social framework).

67. In order to integrate all eligible countries as soon as possible under the CAB Program, the CEMAC and the Inter-Ministerial committee and the Expert Commission have agreed the following: (i) Active dissemination prefeasibility and ongoing studies to all stakeholders; (ii) finalization of all CAB prefeasibility studies for Congo, DRC, Equatorial Guinea and Gabon by June 2009 (ongoing); (iii) Ongoing structuring of CAB network will allow integration of additional CAB financed network (but will take into account the specifies of each country).

68. For each individual CAB APL1 country (see arrangement in Country Technical Annexes), the sector Ministry will be responsible for the overall coordination, implementation, and supervision of the project. For all financed activity, the sector Ministry, through its Project Coordination Unit (PCU), will consult with and delegate to the relevant agencies and ministries. The implementation arrangements involve three organizational levels: (i) a Project Steering Committee (Comité de Pilotage) will be responsible for providing advice regarding cross-sectoral issues; (ii) the Project Coordination Unit will be responsible for project implementation, coordination of activities and fiduciary management; and (iii) a CAB Technical Committee that will provide technical input for the development of the regional backbone.

C. Monitoring and evaluation of outcomes/results

69. **See Annex 3.** Monitoring and evaluation of CAB Program will be embedded in the various components of the project, and technical assistance provided through the project will include support for M&E. The arrangements for results monitoring are specified for each

participating country in the relevant Country Technical Annex. Moreover, at the regional level, an IDF grant (CEMAC-Strengthening capacity in the Telecom & IT sector - IDF Grant P109923) has been approved and is providing short term technical assistance to adequately monitor regional telecom and IT activities and to develop a common M&E system shared by all CEMAC Member States. The CAB Program will benefit from the new M&E system.

D. Sustainability

Table 8. Sustainability of CAB APL1

Component	Sustainability
Component 1: Enabling environment	Technical assistance is being provided to improve sustainability through capacity building within the Ministry and regulator.
Component 2: Connectivity (a) Support for the rollout of a national backbone.	Any public financial support required would be calculated in such a way as to allow the operation to be profitable – and therefore sustainable – on an ongoing basis. However, the project will aim at maximizing the use of private financing (or minimizing the use of public financing) while ensuring reasonable tariffs of international, regional and national capacity. Once investment and infrastructure are in place, operational costs are relatively low. The project will guarantee the establishment of an Open Access network (open to all operators) on the basis of PPPs, leveraging private sector investment.
(b) Support for financing the governments' virtual communications network.	This component mostly relates to physical investments in infrastructure as usage charges would be covered by the support for capacity schemes. Sustainability risks would be minimized if availability of resources for network maintenance can be guaranteed.
(c) Support for the extension of ICT coverage in rural areas[25].	The government would launch a tender process for rural coverage and subsidies would be attributed to operators which ask for the least subsidy. The subsidy will be based on the actual delivery of services.
Component 3: eGovernment and flagship ICT applications [26]	Sustainability is ensured through PPP arrangements or by targeting beneficiary agencies where commercialization can be achieved for cost-recovery purposes or where significant cost savings can be realized.

E. Critical risks and possible controversial aspects

70. **CAB is a complex Program with significant risks and benefits at the regional and country level.** A number of risks related to the planning and execution of the CAB have been identified and mitigated during preparation. Some of these risks are also found in other regional programs supported by the Bank and underscore the importance of a coordinated approach. The table below covers the risks which are at the CAB Program level. CAB country-specific risks are covered in the relevant Country Technical Annexes.

[25] This specific activity is not included in any CAB APL1 country.
[26] This specific activity is included in Cameroon only for CAB APL1 countries.

Table 9. Risks and Mitigation Measurement

Main risks	Rating	Mitigation measures	Residual Risk
Security risk/ instability in targeted countries	S	As in many conflict-affected countries, a deterioration of the security situation constitutes the largest source of risk for the program in this region. In particular, a deterioration of the regional situation, whether in Sudan (Darfur) or in Chad, would leave Chad and CAR at risk. The capacity of the international community to support peacekeeping efforts in the region will be a major determinant of the extent of risk that persists. Uncertainties linked to DRC may also have some impact on the program. These country risks are exogenous and their mitigation falls largely outside the scope of this program. The current support of the UN system, France, and CEMAC countries in the area of security will help mitigate this risk. In addition, restoration of World Bank and AfDB support in CAR and other post-conflict countries should unleash greater financial support from the international community more broadly, enabling governments to extend basic service delivery and contribute to nation-building efforts thereby helping to mitigate domestic security risks.	S
Problem to access International Submarine cable (SAT3) at competitive prices	S	The prefeasibility study has already included a "price-cap" on potential capacity price to access SAT3 in Cameroon (presently the only international route). The Government of Cameroon, the regulator and the incumbent operator have used this price as a benchmark in the country. The process has been anchored in a very high level political process (Declaration from the heads of state of the CEMAC region) to avoid / reduce the risk of an opportunist decision affecting the program as a whole. The regional approach will enable the regional operator to bundle all international traffic and negotiate the international capacity price at much higher discount. Also, the CAB network is planned to connect additional third countries with international broadband access (like Cameroon) to increase competition and even further reduce international capacity tariffs (new West-African undersea international cables should to be operational in 2010 – WASC and Glo-1). Political and technical discussions have started to connect Nigeria (access to SAT3, Glo-1), Sudan (access via the Red Sea to SEA-ME-WE 3&4), Congo (WASC) and DRC (access via the Rwanda or Burundi Broadband cable to access EASSy, SEACOM, WASC).	L

Risk Rating: H = High, S = Substantial, M = Moderate, L = Low, N = Negligible.

Main risks	Rating	Mitigation measures	Residual Risk
Inadequate coordination could delay project implementation	S	Following the adoption by CEMAC heads of state of the Declaration supporting the establishment of the CAB, the telecoms sector ministries have set-up working groups at the national and regional levels to oversee program and project planning and implementation. Working groups include stakeholders from the government, regulatory agencies, public and private operators, user groups and Donors (WB and AfDB). During Program preparation the World Bank and AfDB identified activities to be financed by each stakeholder. The WB is focusing on the core/main routes mitigating the overall implementation risk if AfDB financing is delayed or canceled. Also, the Secretariat of the African Union is providing a strong political support to the CAB program as it is seen as a key regional project for Africa.	M
Implementation delays caused by insufficient consensus about ownership structure, business model, and inadequate implementation capacity	S	While there are high demands and interests from participant countries, and from the regional coordination body (CEMAC), the remaining steps to finalize infrastructure ownership structure and business model may cause delays in project implementation. Securing key principles both at national and regional levels have been established ahead of Board approval. Also, key institutions are currently strengthened (i.e. Backbones advisers are funded by CAB APL1 for Cameroon, CAR and Chad and within CEMAC – Trust Funds; Also CEMAC and; CAB APL1 Countries and CEMAC benefits from technical, legal and financial advisers financed by Trust Funds). IFC's involvement will promote the adoption of a pragmatic, operational and viable business model.	S

Risk Rating: H = High, S = Substantial, M = Moderate, L = Low, N = Negligible.

Main risks	Rating	Mitigation measures	Residual Risk
Inadequate financing	M	A prefeasibility study has been carried out to quantify risks and required public and private financing for the CAB basic configuration infrastructure requirements. Due to the ongoing financial and economic crisis, it may be more difficult to raise private financing for the CAB Program. For the time being, however, investment in the telecommunications sector continues to remain strong. The investment and legal advisers will test the market before finalizing/freezing the overall structure to ensure private sector adoption and adequate financing. IFC in collaboration with the World Bank will provide support to the CEMAC Commission and CAB APL1 countries to ensure adequate final structuring (feasibility and attractivity of the transaction) while ensuring long term economic viability and adequate return for potential investors. IFC could also consider mobilizing funding. All operators in targeted APL1 countries have expressed interest. Sub-regional financial banks have also been very active in the sector. Level of investment in the telecom sector for CAB eligible countries remains high (CAR FDIs in the Telecom sector in 2008 is 1.5 more important than the overall private financing needed for APL 1).	L
Governance issues with regards to build out of infrastructure by SOEs and private operators	S	While the participation of enterprises with poor efficiency records in the roll-out of the infrastructure may not be desirable, it cannot be completely avoided, especially in countries where the telecommunications market is not yet open to competition. Hence, the program will provide funds to promote policy and legal harmonization (in line with the new CEMAC Directives), liberalization, restructuring and privatization of public telecommunications incumbents.	M
Overall Risk	S		M

Risk Rating: H = High, S = Substantial, M = Moderate, L = Low, N = Negligible.

F. Loan/credit conditions and covenants

71. There are no conditions/covenants at the Program level. Loan and Credit conditions and covenants will be defined individually for CITCM, CITCAR, and CITCD.

IV. APPRAISAL SUMMARY

A. Economic and financial analyses (See Country Technical Annexes)

72. The benefits accrued in the targeted countries (i.e., increased access to quality and affordable ICT services) spill over country boundaries as: (i) higher volumes increase the viability of the regional communications infrastructure network, decrease cost of access and

increase trade between African countries, and (ii) cross-border initiatives provide countries with the incentives to develop missing infrastructure to increase ICT access. Indeed, the implementation of the CAB Program will have a transformational impact on regional connectivity which will impact regional trade and overall economic integration of the participating CAB countries.

73. A detailed traffic study and a financial model have been developed by International consultants for CAB APL1 countries and Nigeria. Results from the study shows that traffic will expand significantly due to the growth of mobile operators and the development of the Internet market (i.e. International bandwidth in Chad will increase from 32 Mb/s in 2006, to 338 Mb/s in 2011, to 560 Mb/s in 2016) . The CAB network will carry a significant portion of this traffic (especially for landlocked countries using exclusively satellites).

74. The opportunity cost in Cameroon, CAR and Chad calculated to measure economies from the cost of providing bandwidth relying on satellite connection as opposed to CAB Network until 2021 is estimated at $117m (discount rate of 13 percent and average annual decrease of satellite connection of 8 percent). The economic impact in Cameroon, CAR and Chad on a 10 year model is estimated at $94m out of which $76m as consumer surplus and $18m as producer surplus. Based on the financial projections and taking into account the existing public-private structure, it is expected that CAB network could generate a positive net income in the first twelve months of operations.

B. Technical

75. The design and ownership structure of the PPP to be established based on ongoing technical assistance provided at Regional-level and consistent with international best-practices will (i) maximize the use of private financing (or minimize the use of public financing); (ii) ensure feasibility and attractiveness of the transaction; and (iii) secure Open Access to regional connectivity infrastructure and ensure competitive, reasonable tariff of international, regional and national capacity.

C. Fiduciary

76. Financial and procurement assessments have been carried out at for all APL1A countries (see Country Technical Annexes) and in accordance with the World Bank's "Guidelines: Procurement under IBRD Loans and IDA Credits" dated May 2004 and revised in October 2006; and Guidelines: Selection of Consultants by World Bank Borrowers" dated May 2004, revised October 2006.

D. Social

77. **The Program will have many positive social impacts; negative impacts on land acquisition are unlikely.** The Program will have many positive social impacts, as indicated in other parts of this document. The only potential negative impact relates to land acquisition for

the construction of telecommunications and ancillary infrastructure which could prompt the need for involuntary resettlement of the affected populations. However, this potential impact is considered unlikely, given that the proposed telecommunications facilities (mainly buried fiber-optic backbone) will be constructed alongside existing national road infrastructure.

78. If land acquisition is necessary, a land acquisition framework and assessment will be conducted and a resettlement plan will be prepared. All resettlement compensation will be provided by the Government or in-kind. This arrangement will be included in the financing agreement as a Disbursement condition relating to the financing of the Connectivity infrastructure of the CAB Program[27]. Also the mechanisms to follow the supply and installation of the CAB networks (e.g. supervision engineer) will be included in the bidding documents for the CAB networks.

79. In the CAB APL1, the project will only finance fiber-optic cables laid next to main national roads (no rural networks and landing stations will be financed by CAB APL1). Therefore we expect limited negative social impact.

80. Taking account the specificity of each country (Chad, Cameroon and CAR), a RPF for CAB APL1 has been prepared in compliance with the policies and principles of the World Bank. The RPF has been reviewed and approved by the Bank and have been publicly disclosed prior to appraisal in all countries participating in the first phase of CAB. It is also available at the InfoShop.

81. Specific costed Resettlement Action Plans (RAPs) will be prepared as necessary for the terrestrial facilities during project implementation, in line with the RPF, once the exact locations of those facilities have been identified. However we expect low or no resettlement activities. Therefore the reliance on national capacity is therefore not needed. However, the project has planned to include an environmental expert in the national CAB committees and will provide training on the related issues to all sector stakeholders.

82. IDA will not finance Resettlements expenses under CAB APL1 (in CAB APL 1B, IDA will finance CAB infrastructure and counterpart financing will be mobilized to cover resettlement expenses).

E. Environment

83. **Environmental Assessment. The environmental impacts expected from this Program are moderate to minimal.** The infrastructure/backbone and rural ICT components are the only ones likely to have some environmental impact, either due to temporary disruption through the construction of ducts for laying the fiber optic networks or from the construction of ancillary infrastructure, notably access roads, associated with towers for microwave links and rural wireless systems.

84. In the CAB APL1, the project will only finance fiber-optic cables laid next to main national roads (no rural networks and landing stations will be financed by CAB APL1) within

[27] With respect to CAB APL1, this will be included in the CAB APL 1B.

the Rights-of-Ways of existing roads. Therefore we expect limited negative environmental impact.

85. An Environmental and Social Management Framework (ESMF) for CAB APL 1 countries (Cameroon, CAR and Chad) has been prepared to ensure that the project complies with the country's environmental policies and the World Bank's safeguard policies. The ESMF has been reviewed and approved by the Bank and have been publicly disclosed prior to appraisal in all countries participating in the first phase of CAB. It is also available at the InfoShop.

86. The ESMF has outlined the environmental and social screening process for sub-projects. It describes in detail the steps required to (i) screen the project for potential negative social and environmental impacts; (ii) assign the appropriate environmental category to the project; (iii) carry out the appropriate environmental work based on the screening results; (iv) review and approve the screening results, and, as required, environmental impact assessments; (v) carry out public consultations; (vi) carry out environmental monitoring and evaluation; and (vii) establish and follow-up on environmental monitoring indicators.

87. Specific costed Environmental Management Plans (EMP) will be prepared as necessary for the terrestrial facilities during project implementation, in line with the ESMF, once the exact locations of those facilities have been identified.

F. Safeguard policies

88. The proposed category for the CAB Program is B. See Annex 2.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP 4.01)	[X]	[ ]
Natural Habitats (OP/BP 4.04)	[ ]	[X]
Pest Management (OP 4.09)	[ ]	[X]
Physical Cultural Resources (OP/BP 4.11)	[ ]	[X]
Involuntary Resettlement (OP/BP 4.12)	[X]	[ ]
Indigenous Peoples (OP/BP 4.10)	[ ]	[X]
Forests (OP/BP 4.36)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]
Projects in Disputed Areas (OP/BP 7.60)*	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[ ]	[X]

G. Policy Exceptions and Readiness

89. The Program does not require any exception to the Bank policies.

* *By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas*

Annex 1: Program Overview

AFRICA: Central African Backbone

A. Background

1. The isolation and high cost structure of Central African economies have held back the availability of affordable telecommunications infrastructure. Some Central African countries have started to take steps to reduce the cost of domestic access through market liberalization and policy/regulatory reform. However, due to incomplete liberalization and lack of infrastructure, cost for ICT and telecommunications services have remained high. Without access to affordable and high quality telecommunications services, it is very costly for countries to trade between each other and with the rest of the world (opportunities to create jobs, expand production of goods and services are limited).

2. Central African countries also realized that without cross-border initiatives, the individual countries may not be in a position to achieve low-cost broadband access and therefore may not be in a position to advance their growth agenda and overall global competitiveness. Landlocked countries in Central Africa are especially disadvantaged as they need to interconnect with incumbents or national long distance operators in intermediary countries to carry traffic to the landing point and often pay high prices in the process. Effective cross-border links and supporting regulatory frameworks are therefore critical for the region as a whole.

3. A prefeasibility study of the Central African Backbone (CAB) was completed in March 2007 by all sector stakeholders from Cameroon, CAR and Chad with the assistance of an international consultancy firm. The CAB, as designed, is an international telecommunications network made up of suitable on-ward terrestrial fiber connections to submarine fiber optical cable systems linking several Central African countries and providing the region with a digital broadband access to the global fiber network. The planned broadband backbone would leverage the fiber optic infrastructure laid along the oil pipeline between Kribi (Cameroon) and Doba (Chad). More than 1000 km of fiber-optic cables that have been laid and are mainly unused at this stage. The CAB Phase 1 would include this unique asset/ existing network and extend it to CAR and Chad. The study developed nine scenarios, the traffic demand for targeted countries and has set key principles (CAB network is a shared infrastructure promoting open access regime, and PPP). It has demonstrated the financial and technical feasibility of the CAB Program and recommended the implementation of CAB APL1 involving Cameroon, CAR and Chad.

4. In May 2007, based on the findings of the study, the CEMAC heads of state adopted a Declaration calling for the establishment of the CAB under open-access and PPP principles and asked for Donors intervention. In line with the Regional Integration Assistance Strategy (RIAS) and national CAS/ PRSP, the World Bank Group (World Bank and IFC) and the African Development Bank have provided technical assistance to CEMAC and Central African countries to conduct preparatory studies.

5. To date CAB APL1 countries (Cameroon, CAR and Chad) have established: (i) an Inter-Ministerial Committee involving sector ministers, (ii) an Expert Commission involving three

representatives from each participating CAB APL1 country, and one representative from each of the following institutions the World Bank, the AfDB, the CEMAC, the ECCAS and the ITU and; (iii) national technical committees involving representatives from the government, the regulatory agency, the public and private operators and users groups.

6. Under the Secretariat of the CEMAC Commission (coordination unit for regional studies), these institutions have mobilized and are managing several consultancies to finalize the technical aspects related to the establishment of the Central African Backbone (including consultancy on technical specifications, consultancy on legal and financial aspects, and consultancy on environment and social framework).

7. In parallel, the World Bank has participated, as an observer, in the elaboration of the 2008 CEMAC Directives on Electronic Communications Services in-line with sector good practices and the CAB Program.

8. The CEMAC Commission and CEMAC Member States have requested the assistance from the World Bank and AfDB to provide financing for the establishment of a broadband telecommunications infrastructure for Central Africa. Other countries have already expressed a strong interest to participate in subsequent phases including Congo Republic, DRC, Equatorial Guinea, Gabon and STP. Both DFIs have responded positively to the country requests by conducting joint dialogue and missions, and clearly identifying activities and potential routes (broadband backbone networks) to be financed by each institution. The country projects financed by the World Bank under the CAB Program will be structured to minimize risks and ensure sustainability in the case AfDB financing does not materialize.

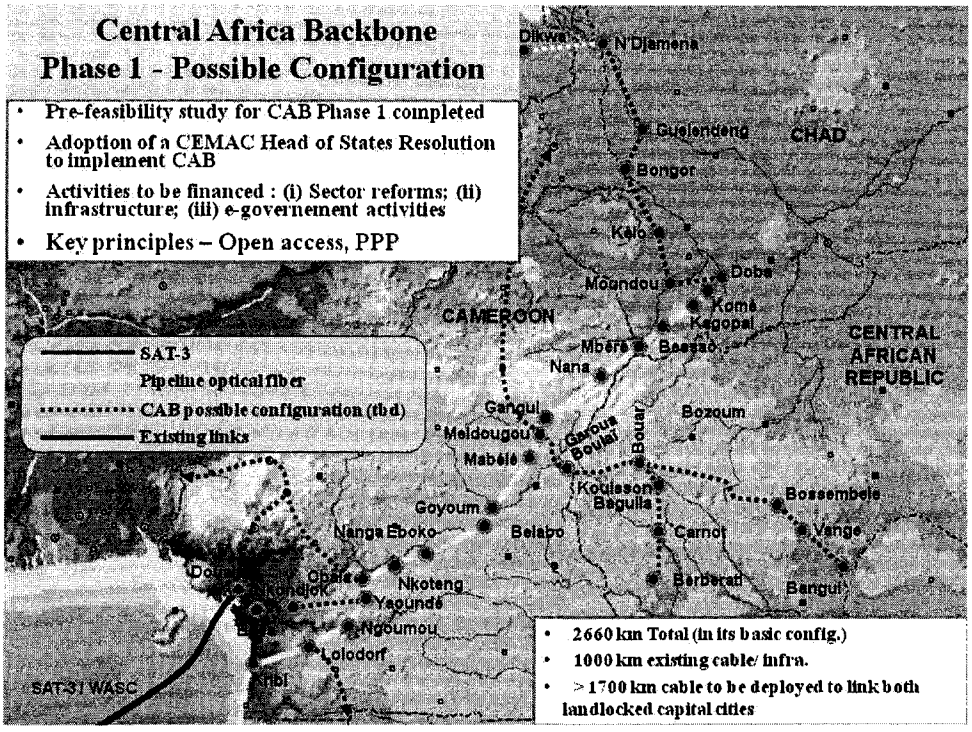
9. The AU Commission has also been involved in the CAB Project and stands ready to intervene if necessary in the case a political roadblock prevents or slows down project implementation.

B. CAB Program – Routes and Alternative Networks

10. The proposed CAB operation financed by the World Bank involves three countries including Cameroon, CAR and Chad in Phase 1 for an estimated total IDA amount of $63.2 million (APL1: $26.2m; APL1B estimation: $37.1m). The overall World Bank -financed CAB program is open to Cameroon, CAR, Chad, Republic of Congo, DRC, Equatorial Guinea, Gabon, Nigeria, Niger, STP and Sudan provided these countries are eligible for IDA or IBRD financing at the time of their application for IDA/IBRD support under the Program. Subsequent phases will reach the Board based on readiness of countries applying for support under the Program as well as availability of IDA/IBRD financing. Estimates for the combined IDA and IBRD volume for the above countries for the second and subsequent phases are $151.8 million (so the total World Bank financing for the CAB Program amounts to $215 million).

11. The routes to be financed by the World Bank CAB Program APL1 (Cameroon, CAR and Chad) have been identified (but the exact location still need to finalized) and are illustrated in Figure 1.

Figure 1. CAB APL1 Routing



12. While the World Bank is financing the necessary adaptation of the enabling environment in the ICT sector and the main broadband infrastructure to the capital cities (extension from the existing fiber optic cable laid next to the oil pipeline to N'Djamena and Bangui, the extension from Ndjamena to Nigeria and extensions from Cameroon existing network to neighboring countries like Equatorial Guinea and Nigeria), the AfDB is focusing on redundancy routes and economic zones (from Bangui to Bria – economic zone; from Ndjamena to Abéché) and eGovernment activities. As structured, the World Bank CAB Program and CAB APL1 will not be affected if the AfDB financing does not materialize

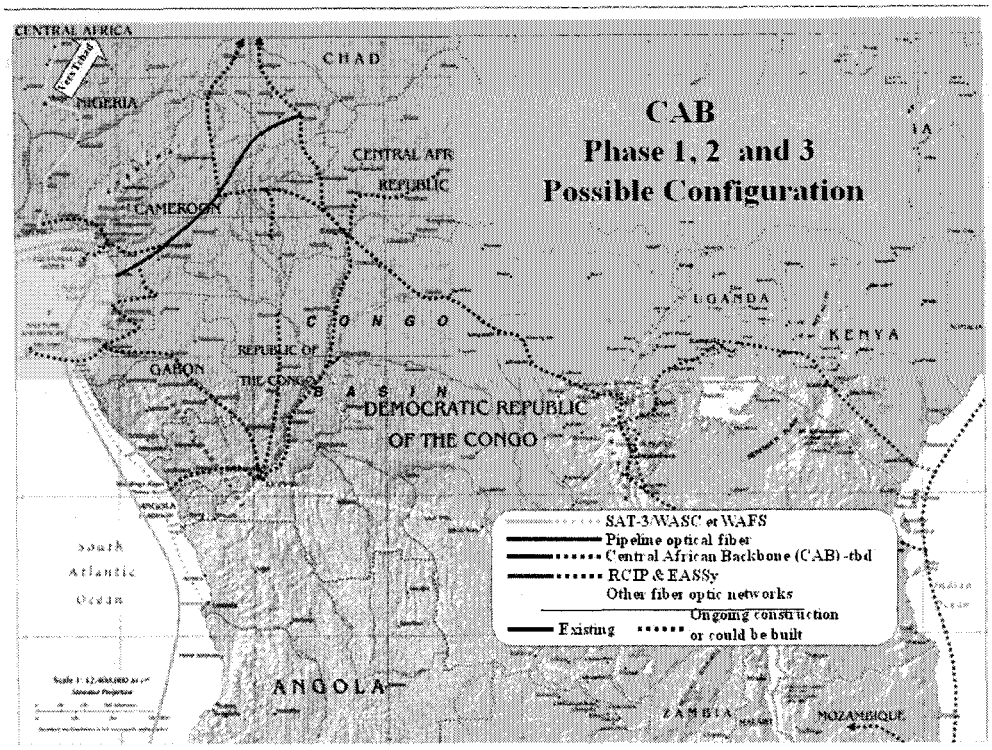
13. It is expected that the AfDB will provide approximately the same level of financing for the World Bank for the overall CAB Program (about $200 million). AfDB has also launched the preparation of the CAB Program for APL1 countries (planned to be approved in FY 2010). The first estimates for AfDB financing for CAB APL 1 countries is about $58 million. The estimated total financing from both DFIs for CAB APL1 countries is provided in Table 10.

Table 10. CAB APL1 Financing by Institutions

	CAB - Phase 1 (est. in $ million)	
	World Bank	AfDB
Cameroon	22.3	19.7
CAR	17.2	18.8
Chad	23.7	19.9
Total	**63.2**	**58.4**

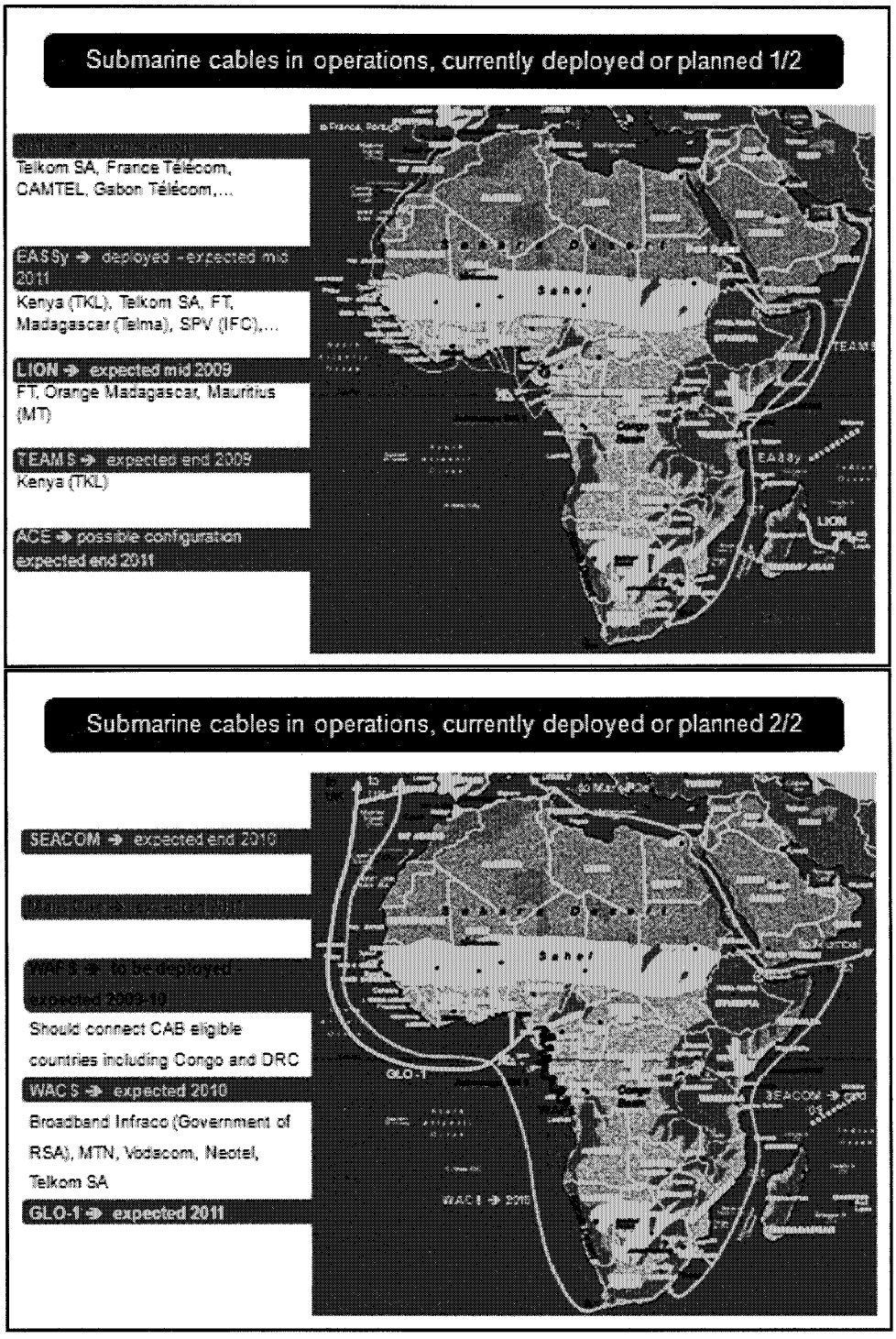
14. The routes that could be funded under the overall CAB program will evolve based on technical and feasibility studies conducted in CAB eligible countries (ongoing studies in Republic of Congo, DRC, Equatorial Guinea and Gabon). Total potential routing (only indicative) is represented in Figure 2 (including AfDB financed routes).

Figure 2. CAB Planned Routing



15. The CAB Program will connect to global broadband networks. These potential networks are highlighted in Figure 3, including existing and planned international routes (fiber optic submarine cables). Currently only SAT3 is connected to CAB eligible countries. However, based on current information on actual deployment of alternative submarine cables, we could expect GLO-1, Main-One and WACS to be possible routes to exit international traffic to global information highways (GLO-1 is currently deployed; Main-One and WACS financing are closed and installation and maintenance agreements have been signed).

Figure 3. Connection to the Global Broadband Networks



C. Key principles endorsed by the CAB Program

16. Key principles (promoting Open Access regimes, developing wholesale markets and PPP) have been defined in the prefeasibility study and have to be endorsed by all participating countries in order to be eligible for World Bank financing. To keep some flexibility, the detailed arrangements in terms of ownership and management will be defined at the country-level given the difference of all eligible countries in terms of sector structure, level of development and access, operational and financial situation of the respective telecom SOE.

Promoting Open Access Regimes

17. The CAB Program is currently designed so as to avoid technical issues of interoperability and promote Open Access than what would be achieved with a closed "club" model between incumbents. The Open Access approach is about creating a set of core values that can be summarized as follows: (i) a technology-neutral framework that encourages innovative, low-cost delivery to users; (ii) assurance of network access by all operators and services providers; and (iii) reasonable certainty that entrants will be able to compete on a level playing field (including transparency of terms and conditions; fair and coherent technical access and pricing).

18. The network represents a single infrastructure platform, the construction of which is supported by government and the private sector, and therefore should be used by any service provider at a cost that would be substantially lower than having to build its own network. In terms of competition policy, the national and or international CAB operator of the infrastructure may hold a 'dominant position' on different relevant markets (landing station, international gateway, national backbone infrastructure), and therefore must be regulated to mitigate the risks of unreasonable charges and conditions of use. The maximum developmental contribution will be derived where all stakeholders are treated in a non-discriminatory and transparent manner at reasonable costs. These principles of "open access" will facilitate market entry; a clear, transparent and coordinated national and regional access and interconnection regime will therefore need to be elaborated and implemented.

Developing Wholesale Market

19. The project will promote the development of new backbone operators so called carriers' carrier which could provide bandwidth at wholesale prices to other retail structures (fixed operators, mobile operators and ISP). Therefore the retail structure could involve multiple public or private operators and service providers accessing the cable on an Open Access and non-discriminatory basis (re-selling capacity and services to their own clients).

20. In the majority of cases in Sub-Saharan Africa, backbone networks are used only by the operators that built and own them. Wholesale markets in backbone capacity are poorly developed, there are few examples of joint ventures on the construction and operation of terrestrial backbone networks, and there is no sharing of backbone network facilities (the only shared networks are mainly the international submarine systems like SAT3 or EASSy). In

countries that have fully liberalized their infrastructure markets, some wholesale networks have emerged through the impact of market forces[28]. Investment and effective competition among backbone networks would also allow market forces to aggregate traffic onto higher capacity networks, which will reduce transmission/long-distance costs and stimulate downstream investment and competition among ISPs and other data users at the access level.

Promoting Public Private Partnership Framework

21. As explained the "Strategic Context and Rationale Section" the CAB Program will support the establishment of a PPP framework.

22. **The backbone network that will be installed at the country-level will be using a hybrid competitive and cooperative approach**. This reflects the need to differentiate the role of the government and the operators and to build strong partnerships with the private sector to develop telecommunications infrastructure.

23. The role of the government is to focus on providing the right incentives for infrastructure and services to reach areas unattractive for the private sector on a purely commercial basis, as well as in cases where large sunk initial investments are required. Government participation in the financing arrangements will be used to buy-down the cost of capital and therefore the prices that could be charged to consumers to recover the investment (technical assistance will be set-up regulatory mechanisms to ensure that lower costs are passed to the consumer). Additional government support may take the form of additional government participation in the new legal entity created for the build-out of the backbone networks (such as through contribution of existing assets), ensuring rights of way, and/or commitment to purchase certain capacity on the network for a given time period.

24. The private sector selected through an international bidding process (process funded by a grant mobilized by the AfDB) will install, maintain and operate the CAB network. The capital and financing structure will be mixed between the public and the private sector. The inclusion of the private sector and profit sharing can bring several benefits including: (i) access to private finance; (ii) reduced operational risk for public sector; (iii) faster delivery of capital projects; (iv) project management skills and; (v) entrepreneurship and innovation. The PPP structure will share the risks and rewards between the government and the private companies. A wide range of PPP models exists, which involve the sharing of risk between the government and the private companies. PPP can therefore take numerous forms with varying degrees of private participation: a consortium (like Sat-3/WASC/SAFE and WAFS), a private model (like GLO-1, MAIN-1), or a hybrid model (like EASSy). A consortium restricts direct access exclusively to its members, who control supply and are therefore able to set their own prices. In the other models the operating company which owns the cable can sell capacity to any eligible operator and prices are in theory likely to be more market oriented.

D. CAB Program Implementation

25. The prefeasibility study recommends letting the private sector invest in, maintain, and manage CAB Network. The precise arrangements for the establishment and management

[28] For example, wholesale backbone networks, known as "carrier networks", have been established in competitive markets such as Kenya and Nigeria.

between government and the operators will be developed at the regional and country levels. For CAB Phase 1 countries, a prefeasibility study has been conducted. Several scenarios have been developed with all stakeholders (ministries, regulatory authorities, all public and private telecom operators and service providers). In line with CAB Program key principles a cooperative arrangement between the public and the private sector will be set-up in CAR, Cameroun and Chad.

26. **A new operating model consisting of a new regional network and national telecom operators will become fully integrated driving prices lower.** The CAB structure as designed and supported by the proposed World Bank project calls for the establishment of a new regional telecom operator and national operators in charge of reselling international, regional, national capacity to existing national operators and service providers at discounted rates compared to current pricing in the targeted countries. In a medium term scenario, international bandwidth price reduction could be above 50 percent for landlocked countries the first year of operation. As such, the CAB network will increase competition for the provision of international and national capacity (new alternative infrastructure, fiber optic backbone, competing with satellite and microwave connectivity).

27. The level of private investment to complement World Bank financing for the main extension of the regional backbone (extension from Cameroon to Ndjamena, Cameroon to Bangui, Douala-Yaoundé, from Ndjamena to the Nigerian border and country redundancy linkages) is estimated at about $28 million (to cover the investment and management costs to operate the network). A technical firm (already contracted), a legal firm and a transaction adviser (recruitment underway) will finalize the arrangements[29], set-up the structure (sharing risks and incentives) and the regulatory arrangements and, mobilize the private financing needed to complement the World Bank financing.

28. **Design and implementation of the financial and ownership structures of the CAB Program will benefit from the combined expertise of the World Bank, IFC and AfDB.** The World Bank Group will supervise the activity and aim at maximizing the use of private financing (or minimizing the use of public financing) while ensuring reasonable tariffs of international, regional and national capacity. The IFC was a key actor in the development of the East African Submarine System (EASSy) where it gained invaluable experience and insights working and transacting among multiple governments and private operators. The WBG will work closely with CEMAC, CAB APL1 Countries and the transaction advisers to provide the private sector perspective, and determine an optimal structure that ensures the feasibility and attractiveness of the transaction. The CEMAC in coordination with the Governments of Cameroon, CAR and Chad, the World Bank, the AfDB, and the International Telecommunication Union (ITU) has launched the recruitment of the investment bank and legal adviser (transaction advisers) to finalize the structure and mobilize the private funding

E. Ongoing Activities to Prepare CAB implementation

29. Several ongoing regional and national activities/ consultancies have been launched ahead of the CAB Program and APL1A approvals. These studies contribute to the establishment of the

[29] Under the agreed scenario, all terms and conditions of the service, including guarantees of open access, would be spelled out in a service agreement.

CAB institutional and operational arrangements and, have contributed to increase capacity and readiness in CAB eligible countries.

30. **Regional activities**. Several key activities financed by Donors (World Bank, AfDB, and FAPA from Japan) have been launched and are currently implemented by the CEMAC and the CAB Expert Commissions.

31. The first consultancy "CAB technical specifications" is currently ongoing and aims at specifying the technical specifications for the CAB network for APL1 country (Cameroon, CAR and Chad). The consultant will assist the CEMAC, the Expert Commission and the Governments in finalizing the bidding documents and managing the procurement process (procurement process is expected to be launched in Q3 2009). Another task will be to draft an operation and maintenance contract for the installation, the management and the maintenance of the CAB network and launch a process to identify such network management capacity (expected to be launched in Q1 2010). Finally, the consultant will also conduct pre-feasibility studies in several other CAB eligible countries (Republic of Congo, DRC, Equatorial Guinea and Gabon). The pre-feasibility studies should be finalized by September 2009.

32. The second main consultancy "CAB Financial and legal advisers" is expected to start ahead of Board approval. The main output of the consultancy is to first identify an appropriate PPP arrangement (management and equity structure) to install, manage and operate the CAB network. After the adoption of the CAB legal structure by the Government, the advisers will launch the process to mobilize private financing to complement public financing for the establishment, the management and the maintenance of the CAB network. The CAB structure should be defined by 2009 and the process should be launched in Q1 or Q2 2010.

33. **National activities.** Based on the recent adoption of the CEMAC Directives on Electronic Communications Services which are consistent with the CAB Program (Open Access, PPP), several countries are currently launching the process to transpose the Directives. The PPFs set-up in Cameroon, CAR and Chad are currently financing legal advisers to prepare new legislations to be presented to the respective government in the last quarter of 2009. This activity will set a legal and regulatory framework which is compliant with the establishment of the CAB network.

34. In Cameroon, the PPF also finance a consultant to assist the Government in awarding a new mobile license to a private operator (the increased competition should lower significantly mobile tariffs). We could expect to have a new license/ concession awarded to a mobile operator by the first quarters of 2010. Others studies financed by the PPF in Cameroon and CAR are focused on frequency management and monitoring. The expected results should improve the management and use of frequencies (increased competition and efficiency of existing operators).

35. Finally, in Cameroon, CAR and Chad, PPFs are currently financing studies to look at options to restructure the incumbent operators and how to integrate them in a viable way in the CAB Project. All results, conclusions should be known by the end of 2009.

F. Other Regional Submarine Infrastructure

36. The **Regional Communications Infrastructure Program (RCIP)**, a $424 million regional program, .aims at assisting Eastern and Southern African (E&SA) countries to implement a strategy of effective regional connectivity and increased government efficiency

through the use of this connectivity, by (i) providing technical assistance to promote further sector liberalization and to resolve market efficiency gaps, (ii) leveraging private investment in the deployment of regional and national backbone infrastructure, as well as rural networks through public private partnership (PPP) arrangements and capacity purchase, and (iii) leveraging the infrastructure to increase government efficiency and transparency through the selective deployment of key e-Government services.

37. The first phase of RCIP was approved by the Board of the World Bank in March 2007, providing assistance to Burundi, Kenya, and Madagascar, with a combined IDA volume of around $164.5 million. The second phase, a $24 million IDA grant for Rwanda, was approved in September 2008. The Third phase, a $151 million credit of US$151 million for Malawi, Mozambique and Tanzania was approved in June 2009. RCIP complements regional undersea cable initiatives such as the Eastern Africa Submarine Cable System (EASSy) developed by telecommunications operators with support from IFC and other development partners.

38. Overall, the Program is open to Angola, Botswana, Burundi, Comoros, DRC, Djibouti, Eritrea, Ethiopia, Kenya, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Rwanda, Seychelles, Somalia, South Africa, Sudan, Swaziland, Tanzania, Uganda, Zambia, and Zimbabwe, provided these countries are eligible for IDA or IBRD financing at the time of their application for IDA/IBRD support under the Program. A public website has been developed to facilitate this process (www.worldbank.org/rcip).

Annex 2: Safeguard Policy issue

AFRICA: Central African Backbone

1. Introduction

The CAB Program has four components described below.

Component 1: Enabling environment.

This component will include the following activities:

- Modernize and harmonize ICT policy, legal and regulatory framework;
- Strengthen capacity of key public stakeholders (i.e. Sector ministry and independent regulatory agency);
- Promote a pro-competitive environment (i.e. develop regulatory tools to guarantee open access to international and regional infrastructure, competition regulation, interconnection; liberalize the telecom sector, restructure and privatize public incumbent operators, PPP promotion);
- Launch structuring and start-up consultancies required for the establishment of CAB networks;
- Finance CAB-related environmental and resettlements consultancies[30];
- Finance the establishment of national and regional Internet Exchange Points (IXP).

Component 2: Connectivity.

This component will include the following activities:

- Finance the infrastructure for the establishment of the regional network CAB including fiber-optic cables, terminal equipments and switches;
- Finance the establishment of government Virtual Private Networks (VPNs):
- Support to extend ICT in rural areas on the basis of PPPs with competitive award of subsidies[31].

Component 3: eGovernment and flagship ICT applications.

This component will include the following activities:

[30] Including specific Environmental Management Plans (EMP), Resettlement Action Plans (RAPs) and Indigenous Peoples Plan (IPP) if planned.

[31] This specific activity is not included in any CAB APL1 country.

- Finance the development of (i) selected egovernment applications making use of improved connectivity and (ii) flagship ICT applications that have a high development impact.

Component 4: Project Management.

This component will include the following activities:

- Finance project management related issues such as human resources support with management, procurement, financial management, M&E, internal and external audit, and communications expertise, operating expenses and equipments.

The environmental impacts and social negative of the CAB Program will come especially from the installation of the fiber-optic cable (excavation and crossing of the human settlements, the fields, the forests, etc) being able to involve: the erosion of the soil, the pollution of the soil and water, the loss of vegetation, the disturbance of the framework of life generation of solid and liquid waste; the occupation of private grounds, the destruction probable of cultures, the deforestation of the sites, etc. Additional impacts can also come from the supply equipments of the derivation and exit points.

Safeguard policies triggered

In consideration of the activities likely to be supported, the CAB Program has triggered the following safeguard policies:

OP 4.01 Environmental Assessment,
OP 4.12 Involuntary Resettlement

However, an assessment will be conducted and mitigation measure will be put in place prior to the approval of each Phase and Project to be financed under the CAB Program.

Environment

OP 4.01 Environmental Assessment. The environmental impacts expected from the CAB Program are moderate to minimal. The infrastructure/backbone and rural ICT components are the only ones likely to have some environmental impact, either due to temporary disruption through the construction of ducts for laying the fiber optic networks or from the construction of ancillary infrastructure, notably access roads, associated with towers for microwave links and rural wireless systems.

The OP 4.01 has been triggered because the implementation of the project may lead to negative environmental impacts, mainly of a localized nature associated with activities to be financed under the component regarding the connectivity, the deployment of regional and national backbone infrastructure to link all capital and major cities in Central Africa.

An Environmental and Social Management Framework (ESMF) has been designed in the context of preparation to ensure that CAB APL1 complies with the country's environmental policies and the World Bank's safeguard policies. The ESMF has been reviewed and approved by the Bank and have been publicly disclosed prior to appraisal in all countries participating in the first phase of CAB. It is also available at the InfoShop.

The ESMF outlines the environmental and social screening process for sub-projects. It describes in detail the steps required to (i) screen the project for potential negative social and environmental impacts; (ii) assign the appropriate environmental category to the project; (iii) carry out the appropriate environmental work based on the screening results; (iv) review and approve the screening results, and, as required, environmental impact assessments; (v) carry out public consultations; (vi) carry out environmental monitoring and evaluation; and (vii) establish and follow-up on environmental monitoring indicators. Since Cameroon, Chad and CAR's environmental procedures do not include a screening process for sub-projects, the ESMF has prepared screening form in compliance with OP 4.01 Environmental Assessment, which requires that all investments proposed for Bank financing should be screened to determine the level of environmental and social work needed.

Social

OP 4.12 Involuntary Resettlement. The Program will have many positive social impacts; negative impacts on land acquisition are unlikely. The Program will have many positive social impacts, as indicated in other parts of this document. The only potential negative impact relates to land acquisition for the construction of telecommunications and ancillary infrastructure which could prompt the need for involuntary resettlement of the affected populations. However, this potential impact is considered unlikely, given that the proposed telecommunications facilities (mainly buried fiber-optic backbone) will be constructed alongside existing national road infrastructure.

According to the RPF prepared for CAB APL1 in compliance with the policies and principles of the World Bank, the principal activity of the project which could generate the resettlement of population, is the release of the ways during the installation of fiber-optic cables. This release goes, in certain areas, to require degradation/disturbance of infrastructures and socio-economic activities (demolition of canteens, restaurants, bars, kiosks, garages, agricultural plantations, trees, etc) located in the way. It will be primarily about operation of demolition, cleaning, removal of cumbersome waste and other objects to release and cleanse the way. To mitigate these potential for involuntary resettlement, a Resettlement Policy Framework (RPF) has been prepared for the overall program and taken into account the specificity of each country (Chad, Cameroon and CAR). The RPF has been reviewed and approved by the Bank and have been publicly disclosed prior to appraisal in all countries participating in the first phase of CAB. It is also available at the InfoShop.

Specific costed Environmental Management Plans (EMP) and Resettlement Action Plans (RAPs) will be prepared as necessary for the terrestrial facilities during project implementation, in line with the ESMF and RPF, once the exact locations of those facilities have been identified.

Other safeguards policies

Since the CAB APL1 project will only finance fiber-optic cables laid next to main national roads (no rural networks and landing stations will be financed by CAB APL1), OP 4.10 for indigenous peoples, OP 4.36 for Forests and OP 4.11 for Cultural Property will not be triggered.

Implementation of the ESMF and the RPF

In CAB APL1 countries, PCUs are in charge of the safeguard documents' implementation. The ESMF and RPF described the institutional responsibilities "a chart of responsibilities" for implementing and preparing the various safeguards instruments, from the agency (national level) to the local level.

A compared analysis of the national legislations applicable to the cases of expropriation and related compensation in the three countries with the Policy of the World Bank puts forward as well convergences as divergences. Ultimately, the national legislations and the OP 4.12 of the World Bank are not always concordant. In some points, there is more or less a relatively clear discordance, in particular with regard to the alternatives of compensation, the abstract occupants, the management of the complaints, the consultations, etc. On these points of discordance, the policy of the World Bank OP 4.12 will be applied to guide the process of resettlement within the framework of the implementation of the activities of the project.

Capacity building on safeguards issues and technical assistance will be provided to PCU to implement the ESMF and the RPF accordingly.

Public Consultations:

Stakeholders have been interviewed in Bangui, Ndjamena, Yaoundé, Douala and Project Target Areas. Field Visits (potential areas of the layout) were also made at the level of the three countries. Research was carried out in a highly participative approach. Indeed, it consisted in identifying and implying in all the process, all the recipients with the implementation of the project. Thus all the key actors, called to play a part in this process, were consulted and informed. The stakeholders involve representatives of the various ministries, NGOs, local governments and the private sector. The potentially affected persons have been and will be consulted as part of the project environmental and social screening process.

The relevant documents (ESMF, RPF) have been publicly disclosed by the government via public conference press and local in newspapers.

Annex 3: Monitoring and Evaluation

AFRICA: Central African Backbone

1. Monitoring and evaluation of CAB Program will be embedded in the various components of the project. The arrangements for results monitoring are specified for each participating country in the relevant Country Technical Annex (See Annex 1 of CITCM, CITCAR and CITCD). Specific technical assistance provided through the project will support the strengthening of the M&E function to monitor adequately the program. For CAB APL 1A participating countries, indicators have been collected through two key institutions (sector Ministry and telecom regulatory authority). CITCM, CITCAR and CITCD projects will support these institutions to ensure adequate sector and project M&E.

2. Moreover, at the regional level, an IDF grant (CEMAC - Strengthening capacity in the Telecom & IT sector - IDF Grant P109923) has been approved and is providing short term technical assistance to adequately monitor regional telecom and IT activities and to develop a common M&E system shared by all CEMAC Member States. The CAB program will benefit from the new M&E system. The establishment of this M&E system will: (i) increase knowledge transfer between member states and reinforce CEMAC coordination and policy role for the region; (ii) improve sector visibility for the government (as a main growth contributor) and therefore improve sector policy decision to attract additional FDI. Once the M&E system is set-up at, the CAB Program will support its implementation at the Member States level.

3. For all CAB participating country will use the following template to M&E (Table 11).

Table 11. Monitoring and Evaluation Framework

Project Development Objective	Outcome Indicators	Use of outcome information
Contribute to increase geographical reach and usage of regional broadband network services and reduce their prices	Volume of international traffic ▪ International Communications (Internet, Telecoms, and Data) bandwidth per person	Assess level of access to communications services within targeted countries
	Volume of national traffic using 2 proxies: ▪ Internet user per 100 inhabitants ▪ Total teledensity (active fixed and mobile subscribers per 100 inhabitants)	
	Average price of international communications using the proxy: ▪ Average monthly price of	Assess competitiveness of

	wholesale international E1 capacity link from capital city to Europe	countries with regards to cost of capacity

Intermediate Results	Results Indicators for Each component	Use of results monitoring
Component 1: Enabling Environment, including Monitoring & Evaluation capacity-building		
Sound environment conducive to investment and competition	Price of mobile call and internet access ▪ Average cost of mobile call [three minutes, local, peak] ▪ Average monthly price of Internet access (256kbps)	Monitor sector competitiveness and efficiency of regulation
	Geographic reach of mobile services ▪ Coverage of mobile network (percentage of population covered)	Monitor efficiency of regulation
Component 2: Connectivity		
Unfettered access for all operators to regional infrastructure	▪ Number of operators and service providers buying capacity from the Regional infrastructure deployed	Monitor competitiveness and assess fair access to infrastructure
Increased access to ICT services	▪ Percentage of localities with broadband Internet access (128Kbts)	Monitor level of access to services countrywide
Component 3: eGovernment and flagship ICT applications		
Improved internal government functions and delivery of public services through eGovernment applications	▪ Number of Internet Servers registered under the Country Top-Level Domain (ccTLD)	Access bottleneck and use of Internet local resources
	▪ Number of Departments with deployed eGovernment applications	Assess eGovernment services demand and implementation

Annex 4: Project Preparation and Supervision

AFRICA: Central African Backbone

	Planned	Actual
PCN review	December 2007	December 2007
Initial PID to PIC	January 2007	January 2007
Initial ISDS to PIC	January 2007	January 2007
QER review	December 2008	March 2009
Decision Meeting (ROC)	March 2009	April 2009
Appraisal	June/July 2009	July 2009
Negotiations	July 2009	
Board/RVP approval	September 2009	
Planned date of effectiveness (CITCM, CITCAR, and CITCD)	December 2009	
Planned date of mid-term review (CITCM, CITCAR and CITCD)	September 2012	
Planned closing date (CITCM, CITCAR and CITCD)	September 2015	

Key institutions responsible for preparation of the project:

- Cameroon : Ministry of Posts and Telecommunications
- CAR : Ministry of Posts, Telecommunications and New Technologies
- Chad : Ministry of Posts, Telecommunications and New Technologies

Bank staff and consultants who worked on the Program included:

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Bank funds expended to date on project preparation:
Bank resources: $440,000 (at Board date)

Estimated Supervision costs:
Estimated annual supervision cost: $200,000 for CAB APL 1A

Annex 5: Documents in the Project File

AFRICA: Central African Backbone

1. Central African Backbone Prefeasibility Study, April 2007
2. CEMAC heads of state Declaration on CAB, May 2007
3. Minutes of the PCN review for CAB program, January 2008
4. Legal agreements between the Government of Chad and Esso and between the Government of Cameroon and COTCO for the use of rights of the fiber optic cable laid next to the Chad-Cameroon oil pipeline, April 2009
5. QER report for CAB program, April 2009
6. Integrated Safeguards Data Sheet (ISDS), July 2009
7. Environmental and Social Management Framework (ESMF), July 2009
8. Resettlement Policy Framework (RPF), July 2009