

Document of
The World Bank

FOR OFFICIAL USE ONLY

Report No: PAD1567

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED LOAN

IN THE AMOUNT OF US\$56 MILLION

TO THE

GABONESE REPUBLIC

FOR A

eGabon PROJECT

May 12, 2016

Transport & ICT Global Practice
AFRICA

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

CURRENCY EQUIVALENTS

(Exchange Rate Effective February 29, 2016)

Currency Unit = Euro
€0.91882207 = US\$1

FISCAL YEAR

January 1 to December 31

ABBREVIATIONS AND ACRONYMS

ACTE	Agency for Strengthening Technologies in Education (<i>Agence de Consolidation des Technologies de l'Education</i>)
ANGTI	National Agency for Large-Scale Works and Infrastructures (<i>Agence Nationale des Grands Travaux et des Infrastructures</i>)
ANINF	National Agency for Digital Infrastructure and Frequencies (<i>Agence Nationale des Infrastructures Numériques et des Fréquences</i>)
ANPI	National Agency for the Promotion of Investments (<i>Agence Nationale de Promotion des Investissements</i>)
CAB	Central African Backbone
CAB4	Central African Backbone SOP4 – Gabon Project
CEMAC	Economic and Monetary Community of Central Africa (<i>Communauté Economique et Monétaire des Etats de l'Afrique Centrale</i>)
CNAM-GS	National Health Insurance and Social Welfare Fund (<i>Caisse Nationale d'Assurance Maladie et de Garantie Sociale</i>)
CN TIPPEE	National Commission – Labor Intensive Small-Scale Public Infrastructure Works (<i>Commission Nationale des Travaux d'Intérêt Public pour la Promotion de l'Entrepreneuriat et de l'Emploi</i>)
CPS	Country Partnership Strategy (<i>Stratégie de Partenariat Pays</i>)
CQS	Selection based on Consultants' Qualifications
EHR	Electronic Health Record
EMR	Electronic Medical Record
EOI	Expression of Interest
FBS	Selection under a Fixed Budget
FM	Financial Management
FY	Financial Year
GDP	Gross Domestic Product
GIS	Global Information System
GoG	Government of Gabon
HDD	Health Data Dictionary
HDS	Health Data Standards
HIS	Health Information System
IBRD	International Bank for Reconstruction and Development
ICB	International Competitive Bidding

ABBREVIATIONS AND ACRONYMS (CONTINUED)

ICT	Information and Communication Technology
IDA	International Development Association
IFR	Interim Financial Reports
INPTIC	National Institute for Post and ICT (<i>Institut National de la Poste, des Technologies de l'Information et de la Communication</i>)
IT	Information Technology
LMICs	Low and Medium Income Countries
MENP	Ministry of Digital Economy and Post (<i>Ministère de l'Economie Numérique et de la Poste</i>)
mHealth	Mobile Health
MSH	Management Sciences for Health
MSPSSN	Ministry of Health, Social Welfare and National Solidarity (<i>Ministère de la Santé, de la Prévoyance sociale et de la Solidarité nationale</i>)
M&E	Monitoring and Evaluation
NCB	National Competitive Bidding
NCDs	Non-Communicable Diseases
NGO	Non-Governmental Organization
NHIC	National Health Information Center (<i>Centre National d'Information Sanitaire</i>)
NHIS	National Health Information System (<i>Système National d'Information Sanitaire</i>)
NPV	Net Present Value
ODS	Operational Data Store
OHADA	Organization for Harmonization of Business Law in Africa (<i>Organisation pour l'Harmonisation du Droit des Affaires en Afrique</i>)
PAD	Project Appraisal Document
PFM	Public Finance Management
PIU	Project Implementation Unit
PLR	Performance Learning Review
PNDS	National Health Plan (<i>Plan National de Santé</i>)
POM	Project Operations Manual
PPA	Project Preparation Advance
PSGE	Emerging Gabon Strategic Plan (<i>Plan Stratégique Gabon Emergent</i>)
QBS	Quality-based Selection
QCBS	Quality- and Cost-based Selection
RAS	Reimbursable Advisory Services
RBF	Results Based Financing
REOI	Request for Expressions Of Interest
SBD	Standard Bidding Documents
SDG	Sustainable Development Goals
SME	Small-and Medium-Enterprise
SMS	Short Message Service
SORT	Systematic Operating Risk-Rating Tool
TA	Technical Assistance

ABBREVIATIONS AND ACRONYMS (CONTINUED)

TTL	Task Team Leader
UNDB	United Nations Development Business
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNOPS	United Nations Office for Project Services
WHO	World Health Organization
XAF	CFA Franc, currency (<i>Franc CFA</i>)

Regional Vice President:	Makhtar Diop
Country Director:	Elisabeth Huybens
Senior Global Practice Director:	Pierre Guislain and Timothy Grant Evans
Country Manager:	Sylvie Dossou
Practice Manager:	Boutheina Guermazi and Trina S. Haque
Task Team Leader:	Michel Rogy and Dominic Haazen

GABONESE REPUBLIC
eGabon PROJECT

TABLE OF CONTENTS

	Page
I. STRATEGIC CONTEXT	1
A. Country Context.....	1
B. Sectoral and Institutional Context.....	2
C. Higher Level Objectives to which the Project Contributes	8
II. PROJECT DEVELOPMENT OBJECTIVES.....	9
A. PDO.....	9
B. Project Beneficiaries	10
C. PDO Level Results Indicators.....	11
III. PROJECT DESCRIPTION	12
A. Project Components	12
B. Project Financing	15
C. Project Cost and Financing	15
D. Lessons Learned and Reflected in the Project Design.....	16
IV. IMPLEMENTATION	17
A. Institutional and Implementation Arrangements	17
B. Results Monitoring and Evaluation	18
C. Sustainability.....	19
V. KEY RISKS	19
A. Systematic Operational Risk-Rating Tool (SORT)	19
B. Overall Risk Rating and Explanation of Key Risks.....	20
VI. APPRAISAL SUMMARY	21
A. Economic and Financial Analysis.....	21
B. Technical.....	22
C. Financial Management.....	24
D. Procurement	25
E. Social (including Safeguards).....	25

F. Environment (including Safeguards)	26
G. World Bank Grievance Redress	27
ANNEX 1: Results Framework and Monitoring	28
ANNEX 2: Detailed Project Description	35
ANNEX 3: Implementation Arrangements	49
ANNEX 4. Implementation Support Plan.....	71
ANNEX 5. Economic and Financial Analysis.....	76
ANNEX 6. Map Section	88

PAD DATA SHEET

Gabon

eGabon (P132824)

PROJECT APPRAISAL DOCUMENT

AFRICA

Report No.: PAD1567

Basic Information			
Project ID P132824	EA Category B - Partial Assessment	Team Leader(s) Michel Rogy, Dominic S. Haazen	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints []		
	Financial Intermediaries []		
	Series of Projects []		
Project Implementation Start Date 3-June-2016	Project Implementation End Date 3-June-2021		
Expected Effectiveness Date 3-Oct-2016	Expected Closing Date 5-Jan-2022		
Joint IFC No			
Practice Manager/Manager Boutheina Guermazi	Senior Global Practice Director Pierre Guislain	Country Director Elisabeth Huybens	Regional Vice President Makhtar Diop
Borrower: Gabonese Republic			
Responsible Agency: CN-TIPPEE			
Contact: Telephone No.: 24105190409	Richard Damas	Title: Email: tippegabon@cntippee.org	Permanent Secretary
Project Financing Data(in USD Million)			
[X] Loan	[] IDA Grant	[] Guarantee	
[] Credit	[] Grant	[] Other	

Total Project Cost:	57.50	Total Bank Financing:	56.00							
Financing Gap:	0.00									
Financing Source		Amount								
Borrower		1.50								
International Bank for Reconstruction and Development		56.00								
Total		57.50								
Expected Disbursements (in USD Million)										
Fiscal Year	2017	2018	2019	2020	2021	2022				
Annual	1.00	12.00	13.00	14.00	16.00	16.00				
Cumulative	1.00	13.00	26.00	40.00	56.00	56.00				
Institutional Data										
Practice Area (Lead)										
Transport & ICT										
Contributing Practice Areas										
Health, Nutrition & Population, Trade & Competitiveness										
Cross Cutting Topics										
[] Climate Change										
[] Fragile, Conflict & Violence										
[X] Gender										
[] Jobs										
[] Public Private Partnership										
Sectors / Climate Change										
Sector (Maximum 5 and total % must equal 100)										
Major Sector				Sector		%	Adaptation Co-benefits %		Mitigation Co-benefits %	
Public Administration, Law, and Justice				Public administration- Information and communications		20				
Information and communications				Information technology		10				
Information and communications				Telecommunications		10				
Information and communications				General information and communications sector		10				
Health and other social services				Health		50				
Total						100				
<input checked="" type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information										

applicable to this project.		
Themes		
Theme (Maximum 5 and total % must equal 100)		
Major theme	Theme	%
Public sector governance	e-Government	25
Financial and private sector development	Infrastructure services for private sector development	25
Financial and private sector development	Micro, Small and Medium Enterprise support	25
Human development	Health system performance	25
Total		100
Proposed Development Objective(s)		
The Project Development Objective (PDO) is to: (i) improve the timeliness and availability of information to support the delivery and management of public health services; and (ii) to foster the development and roll-out of eHealth applications and services, and Information and Communication Technology (ICT) services more generally.		
Components		
Component Name	Cost (US\$ Millions)	
Component 1: Strengthening the National Health Information System	40.08	
Component 2: Advancing the Digital Innovation Ecosystem Development	11.00	
Component 3: Project Management, coordination, monitoring and evaluation of the Project	4.78	
Systematic Operations Risk- Rating Tool (SORT)		
Risk Category	Rating	
1. Political and Governance	Moderate	
2. Macroeconomic	Moderate	
3. Sector Strategies and Policies	Moderate	
4. Technical Design of Project or Program	Substantial	
5. Institutional Capacity for Implementation and Sustainability	Moderate	
6. Fiduciary	Moderate	
7. Environment and Social	Moderate	
8. Stakeholders	Substantial	
OVERALL	Substantial	

Compliance				
Policy				
Does the project depart from the CAS in content or in other significant respects?			Yes []	No [X]
Does the project require any waivers of Bank policies?			Yes []	No [X]
Have these been approved by Bank management?			Yes []	No []
Is approval for any policy waiver sought from the Board?			Yes []	No [X]
Does the project meet the Regional criteria for readiness for implementation?			Yes [X]	No []
Safeguard Policies Triggered by the Project			Yes	No
Environmental Assessment OP/BP 4.01			X	
Natural Habitats OP/BP 4.04				X
Forests OP/BP 4.36				X
Pest Management OP 4.09				X
Physical Cultural Resources OP/BP 4.11				X
Indigenous Peoples OP/BP 4.10				X
Involuntary Resettlement OP/BP 4.12				X
Safety of Dams OP/BP 4.37				X
Projects on International Waterways OP/BP 7.50				X
Projects in Disputed Areas OP/BP 7.60				X
Name	Recurrent	Due Date	Frequency	
Upgrade of accounting software		03-Jan-2017		
Description of Covenant				
The Borrower shall, not later than three (3) months after the effective date, upgrade the PIU's accounting software, acceptable to the Bank for the Project.				
Conditions				
Source Of Fund	Name	Type		
IBRD	Project Operational Manual	Effectiveness		
Description of Condition				
The Project Operational Manual has been adopted in accordance with Section I.B of Schedule 2 of the Financing Agreement.				
Team Composition				
Bank Staff				
Name	Role	Title	Specialization	Unit
Michel Rogy	Team Leader	Program Leader	ICT Policy Advisor	AFCW3

	(ADM Responsible)			
Dominic S. Haazen	Team Leader	Lead Health Policy Specialist	NHIS	GHN07
Kouami Hounsinou Messan	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist		GGO07
Celestin Adjalou Niamien	Financial Management Specialist	Senior Financial Management Specialist		GGO19
Antoine V. Lema	Safeguards Specialist	Senior Social Development Specialist		GSU01
Charles Pierre Marie Hurpy	Team Member	Consultant	ICT Policy Specialist	GTI11
Jacqueline J. Dubow	Team Member	Consultant		GTI11
Maya Abi Karam	Counsel	Senior Counsel		LEGAM
Paul-Jean Feno	Safeguards Specialist	Senior Environmental Specialist		GEN07
Sonia Vanecia Boga	Team Member	Team Assistant		AFMGA
Sylvie Munchep Ndze	Team Member	Program Assistant		AFCC1
Emanuela Di Gropello	Team Member	Program Leader		AFCC1
Kaoru Kimura	Team Member	ICT Policy Specialist	Results framework	GTI11

Extended Team

Name	Title	Office Phone	Location
------	-------	--------------	----------

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments
Gabon	Woleu-Ntem	Province du Woleu-Ntem	X		
Gabon	Ogooue-Maritime	Province de l'Ogooue-Maritime	X		
Gabon	Ogooue-Lolo	Province de l'Ogooue-Lolo	X		
Gabon	Ogooue-Ivindo	Province de l'Ogooue-Ivindo	X		
Gabon	Ogooue-Ivindo	Province de	X		

		l'Ogooue-Ivindo			
Gabon	Nyanga	Province de la Nyanga	X		
Gabon	Ngounie	Province de la Ngounie	X		
Gabon	Moyen-Ogooue	Province du Moyen-Ogooue	X		
Gabon	Haut-Ogooue	Province du Haut-Ogooue	X		
Gabon	Estuaire	Province de l'Estuaire	X		
Consultants (Will be disclosed in the Monthly Operational Summary)					
Consultants Required ? Consultants will be required					

I. STRATEGIC CONTEXT

A. Country Context

- 1. Gabon has enjoyed steady economic growth, but the sharp fall in oil prices has resulted in lower growth and a deterioration in its economic outlook.** Real economic growth averaged 5 to 6 percent per annum from 2008-2013, but the recent decline in oil prices and subsequent loss of revenue has led to a slow-down, with gross domestic product (GDP) growth falling from 5.6 percent to 4.3 percent between 2013-2014. The Government of Gabon (GoG) data project growth of 4.0 percent in 2015, and 4.3 in 2016 due to oil prices remaining low. Fiscal measures have been adopted, but these may prove challenging—in the context of heightened social tensions—to implement as Gabon is heading towards elections (presidential and other).
- 2. Strong economic growth during the past decade has not translated into significant job growth, and unemployment is high, particularly for women and youth.** While the population of 1,688,000 (2014 estimate) is relatively small for a land area of 267,667 km², it is young and growing steadily, with over half of the population under the age of 19 and averaging 2.1 percent growth between 1998 and 2008. More than 80 percent of the population live in urban areas, predominantly: Libreville (the capital), Port-Gentil (the economic capital), Franceville (the mining region) and Oyem (the agriculture region). An estimated 10,000 to 15,000 people enter the labor market each year, significantly above the number of new jobs created. As a result, the unemployment rate stands at 20 percent, with women and youth being disproportionately affected.
- 3. Despite Gabon’s relative wealth, the benefits remain highly concentrated and human development outcomes fall short of countries with similar per capita income.** With a gross national income per capita estimated at US\$19,264 (purchasing power parity current price) in 2013, it is one of only six upper middle-income countries in Sub-Saharan Africa. However, Gabon’s ranking under the United Nations Human Development Index remained *quasi* unchanged at 110th in 2014, compared to 112th in 2008—well below countries with similar GDP per capita. Inequality is high, resulting in highly uneven living standards and opportunities. According to the latest household survey (2005), poverty is at 33 percent, an increase compared to 1997 when poverty stood at 25 percent.¹ A 2013 McKinsey report commissioned by the GoG suggests that about 30 percent of the population is economically vulnerable. Further, the study finds access to basic social services has deteriorated over time.
- 4. New approaches are needed to address the challenges of unbalanced growth and unequal social and economic opportunity, in particular those harnessing the potential of information and communication technology (ICT).**² In 2010, the GoG began to implement a new economic vision known as the “Emerging Gabon Strategic Plan” (PSGE), which aims to reduce the reliance on natural resource extraction and position the country as a top emerging market globally by 2025. The PSGE identifies ICT-enabled industry and services sectors, the “Digital Economy,” as a critical growth area to diversify the economy and improve both private-

¹ Recent poverty data is lacking due to a delay in the implementation of a new household survey planned for 2016.

² See World Development Report 2016 – Digital Dividends ; available at: <http://www.worldbank.org/en/publication/wdr2016>

and public-service delivery. The PSGE calls specifically to leverage investments in ICT to promote productivity gains throughout the economy as well as to facilitate greater transparency, efficiency, and effectiveness of public-service delivery. Using ICT to achieve greater efficiency in public-service delivery and management in a systematic and impactful manner will require a significant change in approach. Gabon is the leader in e-Government development in Central Africa, but it still fares poorly compared to the rest of the world.³

B. Sectoral and Institutional Context

5. **Gabon’s impressive progress made in ICT development over the recent years was internationally recognized with the 2015 “ICT for Sustainable Development Award”⁴ from the International Telecommunication Union, the United Nations agency specialized in ICT.** The GoG has demonstrated its commitment to developing a dynamic telecommunications market, through privatizing government-owned Gabon Telecom in 2007, by suppressing exclusive rights in fixed telecommunications in 2012, and by fostering vibrant competition in the emerging broadband market, both mobile (3G/4G global licenses awarded in March 2014 to Airtel Gabon and Gabon Telecom/Moov) and fixed (between Gabon Telecom/Moov and several independent Internet service providers). The cellular sector is dynamic and competitive, with three major operators (Airtel Gabon; Gabon Telecom/Moov, and Azur) and a mobile penetration rate of 167 percent (December 2015).⁵ Broadband internet penetration is also booming, with 67 percent penetration as of December 2015.⁶ With support from the World Bank under the Central Africa Backbone (CAB) program,⁷ the GoG embarked into a policy reform process led by the line ministry in charge of Digital Economy (MENP). The policy reform included: (a) improving the robustness of its ICT legal and regulatory environment for both the basic telecommunications law and for the second generation ICT laws,⁸ and (b) developing a national broadband plan⁹ to follow up on its five-year plan, “Digital Gabon.”

³ See United Nations E-Government Survey 2014, Chapter 1- World e-Government rankings.

⁴ See <http://www.itu.int/en/ict-sdg-award/2015/Pages/default.aspx>

⁵ Penetration exceeds 100 percent as many mobile users possess multiple subscriber identity module (or SIM) cards (estimate for Gabon is 2.2 SIM cards per user). A SIM card is a smart card that gives a cellphone its phone number and customer identity.

⁶ As in other Sub-Saharan countries, the broadband market is largely mobile (only 1 percent of fixed broadband penetration). The ratio of mobile broadband penetration is expected to decrease due to the following factors: consolidation of the mobile market from 4 to 3 operators (Moov has been acquired by Gabon Telecom) which will lead to a clean-up of the client databases; and customers moving from 3G prepaid to 4G prepaid to enjoy improved quality of the Internet service.

⁷ Central African Backbone is a World Bank Group regional instrument that seeks to contribute to increase geographical reach and usage of regional broadband network services and reduce their prices in Central Africa. The CAB program is open to Cameroon, Central African Republic, Chad, Republic of Congo, Democratic Republic of Congo, Equatorial Guinea, Gabon, Niger, Nigeria, Sao Tome y Principe and Sudan. The US\$58 million IBRD Loan No. 8150-GA (CAB4 project) was approved by the Board on March 8, 2012, signed on May 21, 2012 and became effective on March 6, 2013. Its development objective is to contribute to increase geographical use and reach of regional broadband networks services and reduce their prices in the territory of the Gabonese Republic. The project closing date is December 31, 2016. The GoG requested on November 25, 2015 an additional financing to scale-up the CAB4 Gabon Project (coupled with an extension of the project closing date). This additional financing (P158299) is prepared in parallel with this Project (P132824).

⁸ The package of second generation ICT laws typically includes an E-Commerce Law, a Privacy / Protection of Personal Data Law, a Cybercrime Law and a Freedom of Information Law.

⁹ National broadband plans define objectives – often in phases with moving targets for specified years and with specified speeds – for rolling out broadband infrastructure to the entire population, priority groups or specific communities, as well as objectives for closing gaps in regional broadband infrastructure coverage.

6. Under the CAB program, Gabon is: (a) rolling out submarine and terrestrial fiber optic backbone connectivity under an open access and public-private partnership approach; and (b) setting up a regional Internet exchange point¹⁰ in coordination with the African Union. Gabon is therefore in a strong position to leverage its competitive telecommunications market and ongoing and future investments in broadband infrastructure to improve both public and private service delivery and to promote the development of a vibrant digital economy.¹¹

7. **The GoG has organized itself to accelerate the implementation of ICT with the aim to achieve greater efficiency in public service delivery and management, and has selected the health sector as a priority for action because it is not performing up to its potential.** An inter-ministerial commission for e-Government was created in 2013¹² to foster the development, roll-out and adoption of e-applications in public service. The National Agency for Digital Infrastructure and Frequencies (ANINF) drafted, in 2013, the National Information System Master Plan for piloting development and rollout of e-services and is tasked with the set-up of the required shared public service delivery platforms. The primary rationale for choosing the health sector is the widespread view that despite increased resources being devoted to Gabon's health sector (from 5.5 percent of the GoG's budget in 2008, to 7.2 percent in 2012), the health sector is not performing up to its potential. The GoG believes that increased use of ICT could help to improve its overall health system. As evidence of current low level of performance, Gabon has not met its Millennium Development Goal targets in health. Compared to countries of similar income and health spending, Gabon's health status is lower than would be expected. Life expectancy at birth is relatively low, at 63 years. Similarly, the under-five mortality rate is below that of countries of similar incomes and health spending (65 per 1,000 live births in 2012), while the maternal mortality ratio is 316 per 100,000 live births (Gabon Demographic Health Survey, 2013). This compares to upper-middle income averages of 19 and 50 respectively and, at least as far as maternal mortality is concerned, is far from the Sustainable Development Goals (SDG) target of less than 70 per 100,000 live births by 2030. Further, a recent World Bank analysis of health financing in Gabon¹³ highlighted significant inefficiencies, including a high allocation of available resources to curative care - hospitals in particular - and average costs per occupied bed of roughly US\$40,000 annually. This is a result of higher than average beds per capita and low use (bed occupancy averages 40 percent in regional hospitals). Given Gabon's income level, the quality of care is considered low, by international standards.

8. **The health system in Gabon is relatively large given its population base, and there are a number of key health sector issues.** The system is characterized by a large number of fairly small facilities, including 16 general and 13 specialist hospitals (12 public general hospitals, 12 public specialist hospitals, 2 general and one specialist social security hospitals and two private not-for-profit general hospitals) with a total of 3,800 beds (an average size of 131

¹⁰ Internet exchange points are a pre-requisite for development of local content, application and services. Typically managed by an association of Internet service providers and telecommunications operators, they provide the physical infrastructure through which Internet traffic is exchanged between their networks. The Gabonese Internet exchange point (called GabIXP) is operational and has been selected by the African Union as one of the regional Internet exchange point for Central Africa.

¹¹ The need to promote the digital economy has been identified by the PSGE, through the definition of the action 130 in the Sector Plan Communication and Digital Economy.

¹² See: Ministerial Decision No \$1149/PM dated April 3, 2013.

¹³ See: Karima Saleh, Bernard F. Couttolenc, and Helene Barroy, Health Financing in the Republic of Gabon (2014); available : <http://dx.doi.org/10.1596/978-1-4648-0289-8>

beds); 130 health centers, maternity facilities, polyclinics, and medical centers; and almost 600 health posts, dispensaries, and pharmacies (mostly public). There are close to 6,200 professional staff in the health system, including almost 500 physicians and almost 5,700 nurses and midwives. The distribution of health staff is skewed towards the larger cities and urban areas. There are currently 11 health regions and 52 health departments.

9. The National Health Plan (PNDS) highlighted a number of key issues in the health system. These include: governance and leadership issues, an inefficient national health information system, supply chain and stock-out issues, low availability of diagnostic support services (for example, laboratory and medical imaging), poor planning and training of staff, poor quality of care and use of health services (especially in primary care), and a maldistribution of funding in favor of curative care, especially hospitals. A well-functioning eHealth system could help address a number of these issues by supporting improvements in the diagnosis and delivery of care, and by providing timely and accurate information which can inform the relevant policy and reform decisions. Annex 5 highlights a number of examples of the potential impact, in low-middle-income and higher-income countries. A recent health information systems assessment in Gabon showed that, although a limited number of electronic systems already exist, their full potential for improving efficiency and quality cannot be realized because they are largely independent and do not communicate with one another to exchange data. This suggests a significant scope for improvement through an integrated and more holistic approach.

10. The GoG recognizes the need to improve rapidly and significantly the performance of the overall health system by leveraging on the use of ICT for health (eHealth)¹⁴ as a key factor in promoting these improvements. In March 2013, the GoG commissioned a five-year strategic framework for Gabon's health system¹⁵ aimed at rapid improvement focused on reducing maternal, newborn, and child mortality; with priority attention on vulnerable populations. This strategic framework involves interventions and outcomes under the six pillars of health systems:

- (1) Strengthened health leadership and governance,
- (2) Improved health care services,
- (3) Strengthened health information systems,
- (4) Improved technical and management capacity of health personnel,
- (5) Improved health financing, and
- (6) Improved pharmaceutical sector and supply chain management.

11. Improved technical and management capacity of health personnel is key for a successful implementation of the new National Health Information System. In July 2013, ANINF and the line ministry in charge of Health (MSPSSN) commissioned a concept note for a new National Health Information System (NHIS),¹⁶ addressing pillar 3 of the strategic framework, which covers functional architecture, suggested project planning and initial cost estimates (but not pillar 4 that is critical for successful adoption of a NHIS). The World

¹⁴ eHealth is defined by the World Health Organization (WHO) as the use of information and communication technologies (ICT) for health. See: Resolution 58/28 of the World Health Assembly, Geneva, 2005.

¹⁵ MSH, Health Strategic Plan: Towards an efficient and top-quality health care System in Gabon (2013).

¹⁶ BearingPoint, Concept note for a « National Health Information System » Project, Concept note prepared under the « Assistance to ANINF's programs and projects » (July 16, 2013)

Development Report (WDR) 2016 emphasizes there is early evidence to suggest that eHealth solutions, while costly to implement, can bring significant cost savings. This is because the implementation of human resources information systems, logistics management information systems, clinical decision support tools, digital payments, financial management information systems, and Short Message Service (SMS)¹⁷ reminder systems can address a variety of health system problems. These include system inefficiencies (leading, for instance, to better spending allocation decisions and higher occupancy rates which are issues which affect Gabon), overuse of procedures, inappropriate hospital admissions, corruption and fraud, and missed appointments. Some of those results are related to behavioral change in frontline workers: the implementation of an NHIS will result in fundamental changes in the way health care is delivered and these changes need to be anticipated and managed if the system is to be successful. The required shifts in work processes, mindsets, culture and behavior cannot be achieved without a strong commitment to change management, which should go hand-in-hand with human capacity development. Effective country ownership, good governance, and strong institutional and human capacity are core to eHealth planning and implementation.¹⁸

12. A widespread availability of mobile phones (including smartphones),¹⁹ as is the case in Gabon, offers great potential to revolutionize healthcare through development in the phones and their technical capabilities, associated services, contents, and applications, as well as information gleaned from geolocation devices.²⁰ The GSM Association Mobile for Development Programme²¹ currently tracks over 1,200 mobile health (or mHealth) products and services and connects the mobile and health industries to develop commercially sustainable mHealth services that meet public health needs. The Broadband Commission²² in its publication “The State of Broadband” (2015) showcased the benefits of a mobile application designed by a local start-up for improving maternal healthcare in Myanmar.²³ In 2014, the Center for Health Market Innovations²⁴ identified 403 programs working in ICT. The award-winning application

¹⁷ SMS, commonly referred to as "text messaging," is a service for sending short messages to mobile devices.

¹⁸ See Sector Focus 3 : eHealth, in: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/13/090224b08405ea05/2_0/Rendered/PDF/World0development0000digital0dividends.pdf

¹⁹ Gabonese mobile operators estimates of the penetration of smartphones is 25 – 30 percent as of December 2015, to be compared to 15 percent on average in Africa according to a Deloitte study released in February 2015; see: <http://www2.deloitte.com/tn/fr/pages/technologies-medias-et-telecommunications/articles/tmt-predictions-afrique-2015.html>

²⁰ See: Broadband Commission for Sustainable Development, The State of Broadband 2015: Broadband as a Foundation for Sustainable Development (2015) ; available at: <http://www.broadbandcommission.org/publications/Pages/SOB-2015.aspx>

²¹ See: <http://www.gsma.com/mobilefordevelopment/programmes/mhealth>. The GSM Association represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organizations in adjacent industry sectors.

²² International Telecommunications Union and UNESCO set up the Broadband Commission for Digital Development in response to UN Secretary-General Ban Ki-Moon's call to step up United Nation efforts to meet the Millennium Development Goals. The Commission was established in May 2010 with the aim to boost the importance of broadband on the international policy agenda, in cooperation with the private sector.

²³ “Maymay” (meaning ‘mother’ in the Myanmar language) is a maternal healthcare app, making available a wealth of useful maternal, child health and wellness information to women during and after pregnancy. It sends information messages about maternal and child health regularly to expectant mothers, their partners, families, and parents of young children. The service also improves access to health professionals, and treatment as required, by allowing users to search a database of information on the location and contact details of health workers and clinics.

²⁴ See: http://healthmarketinnovations.org/sites/default/files/CHMI_Highlights2014.pdf The Center for Health Market Innovations promotes programs, policies, and practices that make quality healthcare affordable and accessible to the world’s

“MedAfrica”, a mobile phone application that allows consumers to access medical information and locate reputable doctors and hospitals, has an average of 1,000 downloads per day and is used in Kenya and Uganda. Common ways of using such ICT-based innovations to achieve an impact on health care outcomes include improving health providers’ ability to diagnose and treat patients, improving communications between providers and patients outside traditional medical visits, and improving overall data collection and analysis.

13. Gabon needs to accelerate the emergence of a digital innovation ecosystem of Gabonese entrepreneurs and businesses to go beyond the anecdotal use of broadband for social media or email applications. Gabon was ranked 103 out of 140 economies in the World Economic Forum Global Competitiveness Report 2015-2016.²⁵ That points to Gabon’s poor performance as an innovation driven economy. In Africa alone there are now well over 100 technology hubs, laboratories (labs), and other initiatives in the digital economy. Gabon was until recently among the few economies without a business enabler to help mobile software developers and entrepreneurs build, test, and market promising and transformative ICT-based applications²⁶ and seize opportunities for digital entrepreneurship.²⁷ There are several solid initiatives that seek to develop an enabling environment for digital entrepreneurship, which could be built upon. “Ogooué Labs”²⁸ is a coworking space located in Libreville that accommodates around 40 young entrepreneurs per year and aims to promote and develop entrepreneurship through events and education programs. The Agency for Strengthening Technologies in Education (ACTE),²⁹ a Non-Governmental Organization (NGO), has over several years built skills in ICT among Gabon’s high school students through eight centers of excellence that offer free access to the Internet. These centers are located in high schools (Lambaréné, Libreville, Mékambo, and Port-Gentil) and offer courses in coding and application development. In May 2015, the United Nations Educational, Scientific and Cultural Organization (UNESCO) and Airtel, the Gabonese mobile operator, launched the “Train my Generation-Gabon 5000”³⁰ project. The Project’s goal is to build ICT skills over a three-year period for 4,400 people between 17 to 35 years of age. In November 2015, ANINF and the Francophone Fund for Digital Innovation and African Institute of Information Technology organized an application competition with the participation of 15 teams.³¹ Gabon’s active community of developers is estimated (by the private sector stakeholders) currently at around 150 members, confirming a strong potential for building a digital business incubator in Libreville to nurture young startup firms during their early months or years. The business incubator’s objective will be to accelerate

poor. Operated through a global network of partners since 2010, the Center for Health Market Innovations is managed by the Results for Development Institute (R4D) with support from the Bill & Melinda Gates Foundation, the Rockefeller Foundation, and UKaid.

²⁵ See: <http://reports.weforum.org/global-competitiveness-report-2015-2016/>

²⁶ See: <http://blogs.worldbank.org/ic4d/files/AFC40702.pdf>

²⁷ See: GSM Association, “Digital Entrepreneurship in Kenya” (2014) ; available at: <http://www.gsmaentrepreneurshipkenya.com/>

²⁸ See: <https://fr-fr.facebook.com/OgooueLabs>. A coworking space is a membership-based workspace where diverse groups of freelancers or entrepreneurs work together in shared, communal setting where typically computers and good broadband connectivity is available.

²⁹ See: <http://www.africacte.org/>. More than 10,000 youths have benefitted from free ICT-skills building provided by ACTE over the past years.

³⁰ See <http://www.gabon5000.ga/>

³¹ See <http://gabonreview.com/blog/innovation-technologique-le-proxybac-remporte-linnovathon-de-la-francophonie/>

and strengthen the emergence of a self-reinforcing digital innovation ecosystem and generate digital-related jobs and small- and medium-enterprises (SME).³² In 2015, the MENP commissioned a feasibility study³³ to establish such a business incubator in Libreville focused on ICT, covering the particular market potential and promising sectors; the mapping of actors and stakeholder expectations; expected activities and impacts; inputs and incubation models, success and risk factors; the planning of the project and the initial business plan. Due to the relatively small size of Gabon's market, and the absence of a mature entrepreneurship, the Libreville digital incubator will foster digital entrepreneurship in the health sector and various sectors of the economy (e.g. tourism, media, education, energy, banking, etc.). With the objective to stimulate digital innovation and, more broadly, entrepreneurship beyond the capital city, the GoG is interested to set up business incubators of smaller scale and broader scope³⁴ in Port-Gentil (the economic capital) and in Franceville (where the International Center for Medical Research is located). Good broadband connectivity, a key prerequisite for business incubators, is available in Libreville. Port-Gentil and Franceville because these three cities have been connected to the national fiber optic backbone under the Central African Backbone SOP4, Gabon Project (CAB4).

14. Building upon the partnership established through the implementation of the CAB4 Project, the GoG has requested support from the World Bank³⁵ to design an integrated solution to its challenge of developing a dynamic digital economy through mainstreaming ICT in all public policies,³⁶ starting with the health sector. The GoG commissioned technical support from Management Sciences for Health (MSH) to implement the strategic framework for Gabon's new health system,³⁷ including the roll-out of results based financing (RBF) mechanisms, and insisted that the implementation of eGabon be closely coordinated with the implementation of the strategic framework for Gabon's new health system. In particular, the GoG requested that the Project include activities to support: (a) the new PNDS, given the potentially important role of the PNDS in facilitating the NHIS and vice versa, and (b) the preparation for an RBF pilot, given the potential synergies between RBF (that rely heavily on accurate and timely information and focuses on results) and the NHIS. The RBF, in particular, provides a strong opportunity to build on the NHIS to further promote efficiency in service delivery and behavioral change of front-line providers. Finally, the information provided by the NIHS will benefit all the pillars of the five-year strategic framework for Gabon's health system.

³² There are generalist incubators in Libreville such as public JA Gabon or private Entreprenarium, where only a few mature entrepreneurs have been identified with a potential for creating digital SMEs (like Eden Teknology).

³³ CTIC Dakar, Feasibility Study to Establish Incubators, 2015.

³⁴ The feasibility study mentioned above suggests for example that the business incubator in Port-Gentil also has a focus on activities around the oil value chain, whilst the business incubator in Franceville also has a focus on the mining value chain.

³⁵ GoG letter dated 24 October 2013. The beginning of the preparation of eGabon was postponed until after the public-private partnership to be set up under the CAB4 project (independent experienced private wholesale operator selected via an international call for tender to ensure effective operation and maintenance of the assets financed under the CAB4 project) is fully implemented.

³⁶ See: PSGE, p. 117: Strategic Objective 17: Establish Gabon as a regional hub for digital economy and communication.

³⁷ MSH, Health Strategic Plan: Towards an efficient and top-quality health care System in Gabon (2013).

C. Higher Level Objectives to which the Project Contributes

15. **The Project is fully aligned with GoG’s priorities and with the SDGs.**³⁸ The PSGE aims at modernizing the country and turning it into an emerging economy by 2025; and two of its four pillars will be supported by eGabon, namely “Reforming and modernizing the state” (pillar 1) and “Improving the investment climate and private sector development” (pillar 2). More specifically, eGabon is fully consistent with the “Digital Gabon” strategic plan that seeks to implement e-Government and support industrial and social sectors in their migration towards an information society and knowledge economy. It is fully consistent with the strategic framework for Gabon's new health system aiming at rapid improvement in the health of the Gabonese people. The Project will finally contribute towards realizing the third SDG “Ensure healthy lives and promote well-being for all at all ages” (particularly Targets 3.1, 3.2, 3.3, 3.4, and 3.d); the eight SDG “Promote sustained, inclusive and sustainable economic growth, full and productive and decent employment for all” (in particular targets 8.1, 8.2, 8.3, and 8.6); and the ninth SDG “Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” (particularly Target 9.c).

16. **The Project is fully consistent with the World Bank Country Partnership Strategy (CPS) FY2012–16 and is aligned with the twin World Bank Group goals of ending extreme poverty and boosting shared prosperity.** The CPS includes both the CAB4 Project mentioned above and an indicative e-Government applications Project for FY14-16 to support the rollout of selected e-Government and flagship ICT applications (now eGabon) to back the PGSE’s first strategic theme (i) *to increase Gabon’s competitiveness and employment*. The Performance and Learning Review (PLR) approved by the World Bank’s Board of Executive Directors (April 5, 2016) assesses that Gabon has met most of the CPS indicators relating to telecommunications and is on track to achieve the CPS outcome of improved knowledge of basic service delivery for health. The Project is fully aligned with the PLR’s second pillar, Competitiveness and Employment, through fostering digital job creation by expanding access to connectivity, promoting innovation, and leveraging ICT; and with the third pillar, Human Development and Environmental Sustainability, through supporting efficiency gains in the delivery and management of health services by strengthening the NHIS to achieve “more health for money spent.” The Project contributes to the World Bank Group twin goals (eliminate extreme poverty by 2030, and boost shared prosperity). A focus on improving the efficiency of public health service delivery and management should have a significant impact among the most marginalized and vulnerable groups that are too often excluded from these services due to cost, distance, and information constraints. Given Gabon’s high urbanization rate,³⁹ it is likely that a good part of the bottom 40 percent live in urban areas: it should be relatively easy to reach them as beneficiaries of improved health service delivery. Creating new digital entrepreneurial opportunities, in particular for the youth, in an economy currently supplying too few such opportunities should also contribute to improved shared prosperity. Finally, the proposed Project will benefit from and reinforces other World Bank ongoing lending operations in Gabon

³⁸ See: <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

³⁹ 87 percent of total population live in urban areas; see: <https://www.cia.gov/library/publications/the-world-factbook/fields/2212.html>)

including the CAB4 Project, the Investment Promotion and Competitiveness Project⁴⁰ approved in March 2014, and the Skills Development and Youth Employability Support Project approved in February 2016. The latter supports the establishment of a new ICT training institution and entrepreneurship programs with high potential to provide ICT skilled workers and entrepreneurs in the short- to longer-term.⁴¹

17. **Significant spillover benefits are expected under the Project.** Gabon will be the first Sub-Saharan African country to implement a global eHealth approach as described in the World Development Report, 2016 with the case study of Montenegro⁴² and to harness the potential of e-services in achieving greater efficiency in public health service delivery and management. This may provide incentives for other countries to engage in a similar approach, and opportunities to export some of the expertise gained by Gabon. The Project's approach of leveraging an e-Government platform to generate a demand for local content, applications, and service creation will be pioneered with e-Health but it will ultimately be applicable to all other e-Government platforms such as e-Education or e-Agriculture. Going forward, this will provide Gabon with a powerful instrument/model to harness the use of ICTs to develop a competitive digital economy, leveraging on its booming broadband market. Finally, accelerated development of local content, applications, and services both through public and private e-services, including mobile applications, will strengthen the economic return for the broadband infrastructure built by Gabon under the CAB4 Project.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

18. The PDO is to: (a) improve the timeliness and availability of information to support the delivery and management of public health services; and (b) foster the development and roll-out of eHealth applications and services, and ICT services more generally.

19. The PDO will be achieved by developing and rolling out a new NHIS, harnessing ICT to support the needs of both clinical staff and health system managers, and by advancing the

⁴⁰ The Investment Promotion and Competitiveness Project (P129267) aims to contribute to the improvement of the investment climate and to foster enterprise development in Gabon. By facilitating the operationalization of Gabonese companies and fostering micro, small-and medium-enterprise development, the Investment Promotion and Competitiveness Project will increase the prospects of the eGabon Project to foster digital entrepreneurship and ultimately generate ICT-related jobs in Gabon. The sizing of the business incubators as well as the action plan to promote the development of local content, services and applications financed under eGabon will be discussed with the team in charge of the Investment Promotion and Competitiveness Project to leverage on methods, tools, institutions and structures set up to (a) guiding entrepreneurs with MSME support services, (b) stimulating entrepreneurship particularly among youth and female entrepreneurs in selected areas, and (c) building local capacity at the Chamber of Commerce to deliver business development services.

⁴¹ The Skills Development and Youth Employability Support Project (P146152) aims to improve the effectiveness of vocational training, skills development, and entrepreneurship programs in key growth sectors in Gabon. By creating a new Training and Vocational Education and Training (TVET) institution for the ICT sector, the Skills Development and Youth Employability Support Project will also increase the prospects of the eGabon Project to foster digital entrepreneurship and ultimately generate ICT-related jobs in Gabon and increase youth employability. The regional "Institut Africain d'Informatique" (IAI) and the national "Institut National de la Poste et des TIC" (INPTIC), both in Libreville, train IT engineers and have expressed need for support. The eGabon Project will seek to leverage on their competence and training to be organized under Component 2.

⁴² See Sector Focus 3 : eHealth, in: http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2016/01/13/090224b08405ea05/2_0/Rendered/PDF/World0development0000digital0dividends.pdf

promotion and growth of a local digital ecosystem in Gabon through opportunities arising from the development and roll-out of eHealth applications and services.

B. Project Beneficiaries

20. Direct beneficiaries of the Project will be patients of the national health system and health workers, as well as private sector actors and entrepreneurs, with a specific focus on women and youth who seek to conduct business in the digital economy. Indirect beneficiaries include potentially all of the country's population, which will benefit from increased availability and quality of affordable health services as well as mHealth and other useful applications tailored for local needs.

21. **Gender.** The Project is classified as gender informed.

- **Analysis.** The Project has been prepared following identification and analysis of gender issues relevant to the Project objectives. Female health workers represent 72 percent of the total health workforce; therefore women will be major beneficiaries of investments under Component 1 to improve information technology (IT) skills and capacity in the health sector. Moreover a focus on improving access to health services should also have a significant impact among women, the most marginalized and vulnerable groups which are too often excluded from these services due to cost, distance and information constraints. For Component 2, lessons learned by organizations such as Akirachix of Kenya⁴³ have been taken into account so that activities seeking to advance the development of a digital innovation ecosystem be organized so as to both attract and support the participation of women digital entrepreneurs.
- **Action.** The Project is expected to reduce gender disparities, through specific actions to address the distinct needs of women/girls in the Project's activities, namely Component subcomponents 1.2 (change management strategy taking into account female workers' needs, NHIS portal reflecting women's needs for providing feedback), 1.4 (communication activities with a specific emphasis on women) and 1.6 (training taking into account specific needs of female health works); and Component 2 subcomponents 2.1 (service offering of the incubators taking due account of women's specific needs), 2.3 (hiring of the managers of the incubators in a gender-neutral manner), 2.4 (specific or targeted actions that address the needs of women/girls) and 2.5 (specific or targeted actions that address the needs of women/girls) (see Annex 2 for details on each of the activities).
- **Monitoring & evaluation (M&E).** The Results Framework (Annex 1) includes mechanisms to monitor gender impact and facilitate gender disaggregated analysis. Indicators are gender-disaggregated: one out of the five PDO indicators, two out of seven intermediate outcome indicators for Component 1 and all three intermediate outcome indicators for Component 2. In addition, the midterm- and completion reviews will include an analysis of the gender-specific impacts of the Project.

⁴³ Akirachix collaborates closely with local technology hubs and incubators, and as a result there has been a very positive level of participation of women in digital entrepreneurship and innovation activities in general. See: <http://akirachix.com/>

C. PDO Level Results Indicators

22. The Project will use the following key indicators to measure progress towards achievement of the PDO:

- (a) Prescriptions transmitted electronically (percent),
- (b) Health workers reporting that they regularly use and update the patients' electronic medical record during clinical consultations (percent),
- (c) Start-up projects incubated (including percent of start-up projects in eHealth) (number),
- (d) Increase in the level of satisfaction by ICT sector actors regarding government's promotion of the digital economy (percent), and
- (e) Direct project beneficiaries (cumulative), and percent female (core).

23. **These PDO level results indicators have been selected to highlight the main development impact of the Project.** Indicators (a) and (b) reflect the fact that electronic prescriptions and electronic medical records have been shown to provide the greatest health system performance and health care benefits (Annex 5, Economic and Financial Analysis for the potential benefits), and are proxy indicators for the related health systems improvements. These are key indicators regarding the adoption and use of the NHIS, especially by front-line workers, since the generation of ePrescriptions and the updating of electronic medical records would need to take place at that level. The availability of timely information opens significant possibilities to improve overall management of the health system. In addition, intermediate outcome indicators will measure the level of satisfaction of various stakeholders with the NHIS implementation (including health workers, managers, and patients); the extent to which knowledge and use of the NHIS are improved and the progress in the design and implementation of the system. Indicators (c) and (d) reflect that, in the initial stages of the ecosystem development, job creation through digital incubators happens primarily through new services or market categories (start-ups, in particular in eHealth) and that a digital economy promotion program involving all the actors of the ecosystem (universities, industry, government, intermediaries, etc.) is key to sustaining the emergence of a local digital innovation ecosystem and the promotion of Gabon's ICT expertise in the sub region. In addition, intermediate outcome indicators will measure the extent to which the incubators energize the ecosystem with mobile application and business plan competitions as well as training (Annex 1).

24. **Citizen engagement has been mainstreamed in the Project.** Indicator (8) of the results framework will make sure that citizens directly inform project implementation as it will track beneficiaries' satisfaction with the improvement of quality of the public health service sought under the Project. This indicator will be available on a yearly basis from the second year of the project (base line), as the National Health Information Center (NHIC) and the NHIS are expected to be operational in the third year of implementation and will be based on a patient's survey (including specific survey of women patients).

III. PROJECT DESCRIPTION

A. Project Components

25. **The Project will be executed over five-years with a total IBRD financing of US\$56 million and will follow an integrated solution with three components:** (1) Strengthening the National Health Information System, (2) Advancing the Digital Innovation Ecosystem Development, and (3) Project Management, coordination, monitoring and evaluation of the Project.

(a) **Component 1: Strengthening the National Health Information System (estimated cost US\$40.08 million IBRD, and US\$1.50 million GoG counterpart funding).** The aim of this component is to improve the timeliness and availability of information to support health service delivery and management which should contribute to improving Gabon's human development outcomes. The NHIS should lead to improved accountability and work productivity for the health professionals, both in terms of reducing the administrative burden for health care workers, and minimizing administrative and medical errors. It will significantly change the way in which health workers deliver care, especially those in rural areas where clinicians will have easier access to relevant specialists in urban areas, who would be available for any needed consultation. Electronic medical records and ePrescribing, together with clinical decision support capability, should allow clinical staff to improve both diagnosis and treatment, and reduce medical and prescribing mistakes due to illegible handwriting or unclear abbreviations on hand-written notes. Improved diagnosis and treatment should reduce the incidence of unnecessary hospitalization and lessen the financial burden on the poor. The quality of data available to inform management decision-making would similarly improve, since much of it would be collected in real-time as part of the clinical encounter. Those collecting the data would have an interest in ensuring its accuracy, since it would need to be available for subsequent treatment or follow-up. Important linkages are needed with civil registries and related vital statistics systems to promote civil registration and data integrity, and improve service delivery. Given the expected scope of the transformation in the way health care is delivered, extensive process re-engineering, change management, and knowledge management activities, including capacity building and communication, will be needed as critical success factors. Furthermore the roll-out of a NHIS is a prerequisite to reduce the volume of transactions and the inefficient manual processes currently employed in the public health service. It will also facilitate the relations with the National Health Insurance and Social Welfare Fund (CNAM-GS) where performing information systems have already been deployed. The NHIS will be leveraged to foster the development of the digital innovation ecosystem in Gabon by incentivizing local content, services, and applications development centered on health services and information (Component 2). This component will support MSPSSN and ANINF in:

- (i) Preparing appropriate standards to guide the information system in the Borrower's health sector and organizing workshops designed to validate said standards at the national and local level; (b) managing and disseminating said standards through: (i)

- development of a data standard management system allowing for data to be stored, published and updated regularly in one place; and (ii) provision of Trainings and workshops for all stakeholders;
- (ii) Undertaking detailed feasibility and design studies for the NHIS aimed at developing a national eHealth architecture and provision of goods required for the purpose;
 - (iii) Developing and implementing a change management strategy and undertaking an effective redesign process aiming at complementing the roll-out of the NHIS, including *inter alia*, (a) strengthening the national structures responsible for the development and management of the NHIS with sufficient resources to support the national network of data managers; and (b) implementing a new governance model for health information that includes the regional and departmental stakeholders; and provision of Training in change management and operation of the NHIS;
 - (iv) Developing and implementing an extensive knowledge management program in the eHealth sector, including: (a) international study tours in selected best practice countries; (b) establishment of an association to promote eHealth among private sector actors and health professionals; (c) organizing of an international eHealth forum in the Borrower's territory once the NHIS is successfully operational; and (d) carrying out dissemination and communication activities for all stakeholders;
 - (v) Developing an integrated NHIS based on the feasibility studies provided for under the Project to achieve a system with all necessary data transferable between various system modules and setting-up a national health information center responsible for data warehouse operation, management of norms and standards, system maintenance and operation of a helpdesk;
 - (vi) Rolling-out the NHIS developed based on the feasibility studies prepared under the Project, including provision of the hardware and software required for implementation, Operating Costs and related Trainings at the central level and in health facilities;
 - (vii) Carrying out a program of activities aimed at building the capacity of technicians and information system capabilities of administrators within the MSPSSN and related agencies in information technology; and,
 - (viii) Supporting the Borrower in the development of: (a) national health plan; and (b) results-based financing pilot in the health sector; and the implementation of said national health plan.

The counterpart funding will cover an increasing share of the operating costs of NHIC and NHIS that are expected to be operational in the third year of implementation (0 percent in year 3, 25 percent in year 4, and 50 percent in year 5). After year 5, the Project will be closed and the GoG will be responsible for the ongoing operating costs. Activity 1.2 will address this with a view to determine a suitable approach for covering these costs, which will ensure sustainability.

- (b) **Component 2: Advancing the Digital Innovation Ecosystem Development (estimated Cost US\$11.00 million all IBRD).** The aim of this component is to contribute to Gabon's economic diversification by fostering the emergence of a digital innovation ecosystem. This will include the development of a digital incubator in

Libreville and smaller-scale incubators in Port-Gentil and Franceville, and should have the side benefit of improving both private and public e-service delivery, which will be critical to generate new entrepreneurship opportunities, in particular for women and youth. The incubators will be leveraged to promote a particular focus on health applications, including contributions to the development of the NHIS (Component 1), and mHealth, and other ICT-based innovations for health. This will impact health outcomes as well as economic development. This component will support, under the leadership of the MENP, public and private stakeholders of the digital economy in Gabon in:

- (i) Carrying out a program of activities to assist the Borrower in accelerating the development of a local digital innovation ecosystem, through: (a) undertaking feasibility studies for the establishment of private-sector led digital incubators on large and small scale level and organizing validation workshops for stakeholders; (b) designing and implementing a knowledge management program including study tours and an international digital innovation forum to promote digital innovation ecosystem in the Borrower's territory; (c) setting-up and operationalizing selected private-sector led incubators including *inter alia*, provision and refurbishing of office space, assistance in managers recruitment, capacity building for incubators teams, and technical assistance in digital innovation system; (d) developing and implementing a digital innovation ecosystem promotion strategy; (e) undertaking studies with a focus on options to improve the enabling environment for digital entrepreneurs; and (f) provision of Training;
- (ii) Organizing a business plan competition aimed at assisting entrepreneurs in launching new businesses with a focus on ICT-enabled business concepts, through: (a) organizing an information campaign to raise awareness and invite proposals for new business ideas; (b) selection of most promising business concepts; (c) support in the drafting of business plans and provision of required Training in the areas of business planning and entrepreneurship; (d) provision of Sub-Grants to selected Beneficiaries as seed capital for specific development projects; and (e) technical assistance and mentoring for the carrying out of Subprojects;
- (iii) Carrying out a program of activities aimed at energizing the software developers' community and attracting talent to the digital economy while providing skills and knowledge to develop startup projects, through the planning and implementation of digital competition series including Training; and international exchange programs in internet programming, entrepreneurship, and problem-solving skills;
- (iv) Carrying out a program of activities aimed at building the capacity of the ministry in charge of digital economy in digital economy policy design, oversight and implementation.

The private sector will be fully involved during project implementation in setting up and making operational the incubators, to ensure sustainability after year 5, when the Project will be closed.

- (c) **Component 3: Project Management, coordination, monitoring and evaluation of the Project (estimated cost US\$4.78 million - all IBRD).** The aim of this component is to

provide fiduciary support to the Project by the CN-TIPPEE,⁴⁴ building upon the arrangements set up for the CAB4 Project. This component will support the Borrower in the areas of Project coordination, supervision, financial management, procurement, monitoring and evaluation, communication, audits, and preparation and supervision of implementation of the Safeguard Instruments, preparation of related surveys, including through the provision of Training, Operating Costs, goods and services for the required purpose.

B. Project Financing

26. **The instrument is a standard investment project financing (IPF) IBRD loan.** A Project Preparation Advance (PPA) agreement of US\$5 million was signed on November 25, 2015 to help undertake urgent and needed preparatory activities identified and agreed upon during an identification mission in September 2015 to accelerate project implementation.

27. **IBRD loan choice.** The instrument would be a standard investment project financing (IPF) IBRD loan. The Borrower chose a fixed spread loan with semi-annual level repayments linked to commitments, denominated in Euro. The loan has a maturity of 20 years including a five-year grace period. The front-end fee of 0.25 percent of the loan will be financed out of the proceeds of the loan.

C. Project Cost and Financing

28. **Total project financing requirements, including contingencies, split between IBRD and GoG counterpart funding, on a parallel basis, are estimated at US\$57.50 million, including US\$56.00 million in IBRD financing and US\$1.50 million in counterpart funding.**

Figure 1. Total Costs (Including Contingencies) and Financing Sources for the Project

Project Components	Project Cost (in US\$ million)	IBRD	GoG counterpart funding*	% financing
Component 1: Strengthening the National Health Information System	41.58	40.08	1.50	100%
Component 2: Advancing the Digital Innovation Ecosystem Development	11.00	11.00		100%
Component 3: Project	4.78	4.78		100%

⁴⁴ As proposed in the PLR, the CN-TIPPEE, the former PDIL (Infrastructure and Local Development Project I) Project Implementation Unit, now provides fiduciary support to the Government in the implementation of a number of Bank projects in Gabon. This is working and should be built upon. The CN-TIPPEE could become a central provider of fiduciary services and a “hub” to develop fiduciary capacity in the country (to benefit all WB projects). This could facilitate project implementation, particularly in early phases of project implementation and may also lead to efficiency gains as personnel may be used more efficiently from a central pool than when decentralized in various units. For the purpose of this PAD, and following discussion with the respective task team leaders, it is assumed that the costs of the fiduciary support are split between the following projects: CAB4 (P122776), eGabon (P132824), Access to Basic Services in Rural Areas and Capacity Building Project (P144135), and Infrastructure and Local Development Project II (P151077). This will mitigate the recurrent difficulties encountered in making counterpart funding for the CN-TIPPEE available for the CAB4 project.

Project Components	Project Cost (in US\$ million)	IBRD	GoG counterpart funding*	% financing
Management, coordination, monitoring and evaluation of the Project				
TOTAL PROJECT COSTS	57.36	55.86	1.50	100%
Front-End Fees	0.14	0.14		100%
TOTAL FINANCING REQUIRED	57.50	56.00	1.50	100%

*Parallel counterpart funding

29. **Investment of IFC and MIGA in the operation has been considered.** Some ICT stakeholders aiming to bid for contracts under Component 1 or seeking to avail of the growth opportunities in the digital economy generated under Component 2 may approach IFC and/or MIGA for financing and/or the provision of political risk insurance.

D. Lessons Learned and Reflected in the Project Design

30. **Government commitment and ownership of the Project.** The team recognizes the importance of client commitment and ownership for an efficient project implementation. A strong partnership with key private and public stakeholders in the digital economy has been developed throughout the implementation of the CAB4 Project. There are also clear signs that the World Bank's engagement in the health sector has generated pertinent and usable knowledge and information, which is being absorbed by policy- and decision-makers. The GoG confirmed its interest to proceed with the preparation of a proposed e-Government applications project in the CPS and has specifically requested support from the World Bank for strengthening the NHIS and for advancing the development on a digital innovation ecosystem. This strong political leadership is mirrored by strong commitment by senior beneficiaries' representatives, as well as with by private sector actors. The Project design builds on preparatory work conducted by the technical counterparts within the GoG and fully reflects in Components 1 and 2 the intent, interests, and priorities of the various beneficiaries and stakeholders both in the public sector, such as MENP, ANINF, MSPSSN, CNAM-GS, *Agence Nationale de Promotion des Investissements* (ANPI), and in the private sector, such as mobile operators, ISPs, Ogoué Labs, IT companies.

31. **Strong project management.** Experience in several countries, Latvia, Albania, Kazakhstan, has shown that, for transformational integrated health projects, strong project management is needed to avoid initial implementation delays. Support from a multisectoral steering committee comprising stakeholders across the government and private sector would be essential to mitigate these risks, together with a strong project management committee and technical teams. Highly skilled technical advisors will be hired under the Project to support the beneficiaries' technical teams in the first years of the implementation, particularly in the formulation of the bidding documentation and technical specifications.

32. **Emphasis on change management and developing capacity.** Implementation of Component 1 will fundamentally change the way in which health care is delivered. These changes need to be anticipated and managed if they are to be successful. The required shifts in work processes, mindsets, culture, and behavior cannot be achieved without a strong commitment to change management. This should go hand-in-hand with developing human capacity. Accordingly, the Project includes several activities ranging from a detailed change management strategy, the development of a cadre of trainers in the new NHIS to strengthening the capacity of technicians and information system capabilities administrators within the MSPSSN and related agencies activity. Likewise under Component 2, a specific capacity-building program will be designed to strengthen MENP’s ability to address pressing priorities to advance the development of the digital economy, raise the competitiveness of the local ICT sector, and accelerate economic diversification. Furthermore, a systematic approach to include the incubators to be established in Gabon in the broader networks of similar facilities and initiatives will be helpful as the service portfolio will need to be set-up from scratch⁴⁵. Finally, the Project will ensure that the beneficiaries’ technical teams are appropriately exposed to best practices through study tours during project implementation.

33. **Focus on information, communication, and monitoring.** To ensure that the eHealth interventions under Component 1 are not undermined by rumors or innuendo, it is critical that all of those affected, including health workers, administrators, and the general public have a clear view of the next steps in the process and their implications. Moreover, since negative reactions from either users or patients often contribute to the failure of ICT initiatives, special monitoring is needed in this area. Accordingly, the Project will fund the development and implementation of an information and communication plan, as well as regular surveys of all affected groups. Tracking regularly the level of satisfaction of ICT actors regarding the Government’s promotion of the digital economy is key to ensuring that interventions under Component 2 align closely with the ICT sector’s expectations.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

34. **Building upon institutional and implementation arrangements that worked out satisfactorily under the CAB4 Project, the institutional and implementation arrangements for eGabon will involve two organizational levels.**

- (a) **Two Steering Committees - “NHIS Strengthening Steering Committee” for Component 1 where MSPSSN is leading the implementation and “Digital Transformation Steering Committee” for Component 2 where MENP is leading the implementation** - will be in charge of providing overall technical and operative guidance, direction and coordination during project implementation. They will have

⁴⁵ The Trade & Competitiveness digital entrepreneurship activities in Sub-Saharan Africa will include the development of a curriculum to accelerate the growth of the most promising entrepreneurs which will be made available to other incubators with the purpose to strengthen the quality of provided services. Similarly, there is a readily available curriculum and content for mobile startup training (to ensure that entrepreneurial youth can access training on establishing and running a technology business), which could be adjusted and utilized in Gabon. Finally, the advanced incubator results framework, with dashboard functionality, currently being developed, could also be discussed for implementation in Gabon.

fiduciary and governance oversight and will bear responsibility for the compliance of safeguards activities to national and World Bank policies.

- *Component 1.* The Ministerial Decision setting up the NHIS Strengthening Steering Committee (No. 0276/MPS/SG) was passed on September 11, 2015. Given the implication of the Component on the whole health system, the Steering Committee is supported by a project management team, a project team, and regional committees. The composition and function of the various committees is described in Annex 3. The steering committee, project management team, and the project team have been active in the preparation of the Project.
 - *Component 2.* The Ministerial Decision setting up the Digital Transformation Steering Committee (No. 0134/PM) was passed on February 11, 2016. The Steering Committee is supported by a technical operational committee, which includes private sector, nongovernmental organizations, youth associations, and the academia. The composition and function of the various committees is described in Annex 3. The president of the technical operational committee and his team at the MENP have been active in the preparation of the Project.
 - To guarantee proper interaction between Component 1 and Component 2, the following arrangements have been agreed: the Minister in charge of Digital Economy is the president of the Steering Committee of Component 2 as well as the vice-president of the steering committee of Component 1; and the president of the technical operational committee of Component 2 is a member of the project management team of Component 1.
- (b) **The Project Implementation Unit (PIU)** will be in charge of providing all fiduciary support in the implementation of the Project, including procurement, financial management (FM), M&E, and safeguards. A project manager will be hired under the Project to provide project management support to the two commissions to which the PIU will be reporting to for Components 1 and 2 of Project.⁴⁶ The PIU will be the (existing) and experienced PIU, CN-TIPPEE.⁴⁷

B. Results Monitoring and Evaluation

35. **Results and monitoring will be an integral part of the Project and the PIU CN-TIPPEE will have overall responsibility for reporting to the Commissions and to the World Bank.** CN-TIPPEE will prepare quarterly M&E reports that will include the updated Results Framework, with supporting comments on the trends and associated action table, as well as the environmental and social safeguards indicators, listing the corrective actions to be implemented and persons responsible clearly identified. The reports will be sent to the World Bank for information (Annex 3).

⁴⁶ This project manager will also support the implementation of the CAB4 project.

⁴⁷ Established and operating pursuant to the Ministerial Decision (*Arrêté*) No. 00007/PRIMPPD dated January 4, 2006, the CN-TIPPEE is responsible for carrying out projects which are in the public interest on behalf of all stakeholders with a view to implement best practices and sound governance.

36. **The PIU CN-TIPPEE will be responsible for collecting the relevant data throughout project implementation.** CN-TIPPEE will get its information directly from the Component 1 project team, the incubators set up under Component 2 and from regular surveys to measure the level of satisfaction among key stakeholders with the Project interventions. In Component 1 this will include surveys of health workers, health administrators and owners, and central agencies such as CNAM-GS, as well as the general public; and in Component 2 these surveys will target those involved in the ICT industry. In addition, funding will be provided by the Project to support the midterm review and completion review, and to do an evaluation of the implementation of the NHIS and of the portfolio of applications developed by the incubators.

C. Sustainability

37. **Sustainability of the Project will hinge on GoG’s commitment as well as on ownership of Component 1 by health care workers, and private sector participation in Component 2.** The GoG is committed to the Project as it is fully aligned with the broader “Digital Gabon” strategy and with the strategic framework for Gabon's new health system under the GoG’s PSGE, thereby increasing the likelihood of sustainability. The GoG is supportive of a strong emphasis on change management and developing capacity to accompany the roll-out of the NHIS under Component 1 and to facilitate its adoption by health care workers, so that the benefits of the Project can last far beyond project completion. As shown in the economic and financial analysis (Section VI (A) and Annex 5), it is expected that the annual operating cost of 0.54 percent of health expenditures can be sustained within the existing health budget, even given the current fiscal constraints. The counterpart funding in Component 1 covers an increasing share of the operating costs of the NHIC and of the NHIS, which are expected to be operational in the third year of implementation (0 percent in year 3, 25 percent in year 4 and 50 percent in year 5) to prepare the GoG to take over full financial responsibility for the operating costs after project completion. Finally, the preparation of an upcoming RBF activity under eGabon will establish a direct link between the investments in the NHIS and efficiency improvements in the health system sought by the GoG. The full RBF could be implemented under Additional Financing. Likewise, private sector participation in the design and implementation of the activities under Component 2 is a key requisite for sustained growth of the digital economy; the GoG agrees that representatives of the private sector participate in the technical operational committee, and that the governance of the incubators be private-sector led. The Project follows a scalable approach for the incubators, with initial rental of office space, and conducting feasibility studies on the possibility of construction (implemented with Additional Financing) in the future to follow uptake in incubated start-ups. Finally, the Project will collaborate closely with the global and local private sector (e.g. manufacturers, software companies, mobile network operators, mobile app industry associations), and reputable public training institutions, academic institutions and industry associations and will seek inclusion in the broader networks of similar digital entrepreneurship facilities and initiatives.

V. KEY RISKS

A. Systematic Operational Risk-Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Moderate

2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Moderate
7. Environment and Social	Moderate
8. Stakeholders	Substantial
OVERALL	Substantial

B. Overall Risk Rating and Explanation of Key Risks

38. **There is considerable interest and commitment within the GoG to achieve more efficiency in the public health service delivery and management through the roll-out of NHIS and its adoption by the health care workers as well as to foster the development of the digital economy through the implementation of this eHealth component of its e-Government strategy.** ANINF has strong ICT technical expertise to handle Component 1 of the Project and has staffed key managers of the ICT unit within the MSPSSN. The GoG commissioned technical support from MSH to support and implement the strategic framework for Gabon's new health system,⁴⁸ in close coordination with the implementation of the Project. The World Bank plays a key role to support the Government's efforts to establish enabling environments for private sector driven growth of the telecommunications and ICT sectors under the CAB4 Project, and both public and private sector stakeholders have shown strong interest in the implementation of Component 2.

39. **Nevertheless, the risk for the proposed Project is substantial because of its innovative nature and the comprehensive change management in the health sector.** Primary risks include: (i) Technical Design linked to potential delays in decision-making and implementation of activities due to the fact that several ministries/agencies will be involved in a multi-stakeholder project management; (ii) Stakeholders risks related to potential problems in adoption of the NHIS posed due to resistance to change within health workers, in the context of a broader health sector seeking to implement the strategic framework for Gabon's new health system; and (iii) potential for weak private sector and entrepreneurial participation in the setting of the digital incubators, whose involvement is essential for developing local content, applications and services.

40. **The project design and the implementation strategy seek to mitigate these primary risks, through a combination of strong project management as well as emphasis on change management and developing capacity and focus on information, communication and monitoring** as detailed in Section III D. Finally, to ensure the successful start-up of the activities under Component 2, all public and private stakeholders have been fully involved during project preparation, and confirmed agreement with the findings of the feasibility study for the establishment of a digital incubator in Libreville commissioned in 2015 by the MENP to a

⁴⁸ MSH, Health Strategic Plan: Towards an efficient and top-quality health care System in Gabon (2013).

team from the CTIC Dakar.⁴⁹ In particular, the terms of reference of the managers of the incubators to be hired under the Project will reflect the need to identify entrepreneurial managers with strong business acumen (Section VI B).

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

41. **There is strong rationale for public financing in this Project.** Many of the activities financed under Component 1, such as the health data standards (HDS) and NHIC are pure public goods. Public investment is also justified for the significant positive externalities associated with achieving efficiency in service delivery and cost savings in the health sector through the implementation of an eHealth system. Given that an eHealth system is a service function necessary to guarantee interoperability, exclusion of certain facilities from the eHealth system would become inefficient and counterproductive. For this reason private sector providers are included in the roll-out of eHealth.

42. **Over recent years, a considerable amount of literature has emerged on the potential benefits of eHealth systems and components, such as the electronic health record, ePrescribing and clinical decision support systems, which was used to develop a cost-benefit analysis for the Project.** The analysis includes the cost of: (a) the eHealth system development and roll-out; (b) the expected operating costs for the 10 years after the completion of the roll-out; and (c) Component 2 costs which are designed to help develop the “digital economy” in Gabon, and should be instrumental in achieving some of the projected benefits. The benefits are calculated using conservative assumptions and include: (a) efficiency savings to the health sector; (b) health outcome benefits; and (c) ICT-related revenue. Because project costs for Components 2 and 3 facilitate the marketing from the eHealth system resulting from Component 1, they are included in a global analysis of the Project costs from the perspective of an eHealth implementation project.

43. **The Project is a very good investment for Gabon.** The economic analysis (Annex 5) shows that, using a 5 percent discount rate, the overall Benefit-Cost Ratio is 1.78, which is similar to that found in recent European Union studies. This figure, together with an internal rate of return of 18.9 percent, suggests that the Project is a very good investment for Gabon. The break-even point is 2024, or eight years after the start of the Project.

44. **The financial analysis compares the cost of the eHealth development and operation to a number of countries that either have, or are planning to develop, eHealth systems.** This includes Belize and Estonia, which have been proposed to be included in the study tours. The analysis shows that the annual implementation cost is estimated at roughly US\$5 per capita annually over the five-year implementation, which is well below most other estimates, except for Belize, while at US\$2.36 per capita, the operating cost is the lowest among the comparison countries. Of course, Gabon and the other countries are at different levels in terms of GDP per capita and health spending, so these comparisons were also made. It shows that the implementation cost is expected to be 0.049 percent of per capita GDP, which compares

⁴⁹ CTIC Dakar is a digital incubator based in the capital city of Senegal.

favorably with France (0.059 percent) and Estonia (0.051 percent), but is slightly higher than Belize (0.034 percent).

45. **The World Bank's value-added arises from the task team's technical expertise as well as the global knowledge experience in areas such as health information systems and associated change management strategy to foster adoption as well as of ICTs for more efficient delivery of public services.** This includes experience in the international procurement of healthcare IT investments, expertise on policy dialogue and the full spectrum of implementation related issues in the health sector; the World Bank also supported several e-Government initiatives with a view to leverage a push with the roll-out of e-services to create a pull on the digital innovation ecosystem (including the RCIP Adaptable Program Loan 1 – Kenya Transparency and Communication Infrastructure Project, the eGhana Project and the eBenin Project).

B. Technical

Component 1

46. The design of Component 1 is based on the findings of the concept note for a new National Health Information System (NHIS)⁵⁰ commissioned by ANINF and MSPSSN. During project preparation, this concept was expanded to include: (a) interfaces between health providers and the health insurer (CNAM-GS); (b) clinical management and decision support modules and the development of an electronic health record; (c) strengthening of epidemiological and monitoring needs; (d) development of a component on change management, which is essential for the success of the NHIS, and is based on the analysis of user needs, including training needs; (e) all private sector facilities, as well as military and prison health facilities and border posts; and, (f) integration of external information needs of donors (vertical programs, special programs, etc.) in terms of facilitating reporting from the eHealth system.

47. The proposed approach considers best practices in other countries, and these will be reinforced through study tours to several of these countries. In light of the desire to eventually market the resulting system, attention will be devoted to the development of robust health information standards and a health data dictionary that is validated by the relevant stakeholders. There will be a focus on developing an easy-to-use, integrated system, which does not currently exist in Sub-Saharan Africa, and an eHealth international conference will be organized under the Project to share lessons learned within Sub-Saharan countries.

Component 2

48. Component 2's design is based on the findings of the feasibility study⁵¹ for the establishment of a digital incubator in Libreville commissioned in 2015 by the MENP to a team from the CTIC Dakar. Based on an average incubation duration of three years, with 24 start-ups incubated from the first year and 24 from the third year, this preliminary business plan shows a

⁵⁰ BearingPoint, Concept note for a « National Health Information System » Project, Concept note prepared under the « Assistance to ANINF's programs and projects » (July 16, 2013)

⁵¹ CTIC Dakar, Feasibility Study to Establish Incubators, 2015.

positive result from the second year onwards. The assessment confirms that the feasibility study is reasonable and that there is a strong rationale for a digital incubator in Libreville when following the recommendations of the feasibility study:

- (a) Work on a business model which breaks even within five years,
- (b) Avoid heavy recurring charges such as renting or electricity and encourage the Government or another stakeholder to provide the office space,
- (c) Open the incubator to all innovations,
- (d) Seek to promote the use of ICT in all sectors of the economy,
- (e) Undertake the feasibility studies for Port-Gentil and Franceville,
- (f) Involve (fully) the private sector in the governance of the incubator,⁵²
- (g) Implement transparent processes for hiring employees of the incubator,
- (h) Follow a manual (regularly updated) of the incubator,
- (i) Maintain a leadership team that is young and dynamic, and
- (j) Conduct an (external) audit after each financial year.

Figure 2. Preliminary Business Case, Digital Incubator Libreville

	US\$	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
OPERATING REVENUES						
fees for technical assistance		619,200	619,200	668,736	668,736	722,235
rental fees for incubated start-ups and occasional entrepreneurs		109,800	109,800	118,584	118,584	128,071
share of profits of successfully incubated start-ups		-	86,400	172,800	172,800	345,600
	TOTAL	729,000	815,400	960,120	960,120	1,195,906
OPERATING COSTS						
Consumable materials and supplies		34,800	38,280	42,108	46,319	50,951
Other purchase		22,800	25,080	27,588	30,347	33,381
External Services Type A		147,600	162,360	178,596	196,456	216,101
External Services Type B		228,000	250,800	275,880	303,468	333,815
Taxes		44,400	48,840	53,724	59,096	65,006
Other costs		9,600	10,560	11,616	12,778	14,055
Salaries		129,675	142,643	156,907	172,597	189,857
Depreciation charge		120,000	120,000	120,000	120,000	120,000
	TOTAL	736,875	798,563	866,419	941,061	1,023,167
PROFITABILITY						
Total revenues		729,000	815,400	960,120	960,120	1,195,906
Total Costs		736,875	798,563	866,419	941,061	1,023,167
Gross balance		(7,875)	16,838	93,701	19,059	172,739

Source: Feasibility study for the establishment of a digital incubator in Libreville

49. The proposed approach considers best practices in other countries (in particular on lessons learned by *infoDev* with ICT-oriented business incubators in Senegal (CTIC Dakar),⁵³

⁵² The study recommends more precisely that the incubator be set up with an OHADA-type status with a board comprising to 20 percent of public sector representatives and to 80 percent of private sector representatives, individual persons and other organizations.

⁵³ www.cticdakar.com

Kenya (mLab)⁵⁴ and South Africa (mLab Southern Africa)⁵⁵ which have demonstrated a positive role in supporting mobile innovation ecosystem growth and in encouraging the formation of startups and production of mobile applications with local and international relevance⁵⁶ as well as with *infoDev*'s Digital Entrepreneurship Africa projects including Kenya (P156466), Senegal (P156259) and South-Africa currently under preparation, and these will be reinforced through study tours to several of these countries. A digital innovation international conference will be organized under the Project to share lessons learned with eGabon in particular within Sub-Saharan countries.

C. Financial Management

50. **Financial management assessment.** The financial arrangements of the Project have been reviewed to determine that they are acceptable to the World Bank. The Project will be implemented by the CN-TIPPEE which will have overall responsibility over all fiduciary aspects in the implementation of the Project, including procurement, FM, M&E, and Safeguards. The financial capacity of the CN-TIPPEE is found acceptable to the World Bank because it has managed successfully Phase I of the Gabon Infrastructure and Local Development Program, and it currently manages adequately two World Bank financed projects (CAB4 Project; Local Infrastructure Development Project), and is endowed with the appropriate fiduciary platform (staff, accounting system, manual of procedures, external audit arrangements).

51. **FM rating.** The FM performance of the CN-TIPPEE is rated satisfactory over the most recent 18 months for the CAB4 Project.⁵⁷ There are no overdue audit reports. The FM staff is sufficient and comprises a Financial Officer, an accountant (recently replaced) and a clerk accountant. The conclusion is that the overall arrangements for this Project are considered adequate to meet the World Bank's fiduciary requirements under OP/BP10.00 to provide, with reasonable assurance, accurate and timely information on the status of the execution of the Project. Detailed FM arrangements are described in Annex 3.

52. **The overall FM risk is considered Moderate.** The assessment recommended among other measures: (a) the adoption of a Project Operations Manual, comprising of a Manual of Administrative, Financial, and Accounting procedures and of a Project Implementation Manual; and (b) an amendment of the terms of reference of the external auditor of the Bank-funded CAB4 Project to include the new Project.

53. The GoG has started, under the PPA, the process of hiring a consultant to prepare the operations manual (adoption of the finalized Operation Manual is a condition of effectiveness of the Loan Agreement) and the hiring of the accountant has been completed. Terms of reference of the external auditor of the Bank-funded CAB4 Project to include the new Project were amended prior to negotiations.

⁵⁴ www.mlab.co.ke

⁵⁵ www.mlab.co.za

⁵⁶ See InfoDev, "The Business Models of mLabs and mHubs – An Evaluation of InfoDev's Mobile Innovation Support Pilots"; available at: <http://www.InfoDev.org/mobilebusinessmodels>

⁵⁷ i.e. since ISR sequence 6 archived June 17, 2014. Last supervision carried out on October 2015 rated the FM performance as satisfactory.

54. **Refinancing date of the PPA.** The refinancing date of the PPA is June 30, 2016. The refinancing date will be extended to coincide with the effectiveness of the Loan Agreement which is expected to be by October 3, 2016.

D. Procurement

55. **Procurement assessment.** A procurement assessment has been carried out during the pre-appraisal mission of December 2015 and has concluded that the PIU CN-TIPPEE has adequate experience and capacity to carry out procurement activities related to the Project. The CN-TIPPEE is familiar with World Bank procurement procedures because it has managed successfully Phase I of the Gabon Infrastructure and Local Development Program and is currently managing two World Bank financed projects (CAB4 Project; Local Infrastructure Development Project). A brief summary of the procurement capacity assessment and project procurement arrangements, including a mitigation action plan are provided in Annex 3.

56. **The procurement risk is considered substantial.** Risk mitigation measures have been discussed with the CN-TIPPEE and agreed. The satisfactory implementation mitigation measures will reduce the procurement risk to moderate.

57. **Procurement plan.** A draft procurement plan for the first 18 months of project implementation has been prepared and agreed during appraisal. Through the course of project implementation, the procurement plan will be updated (at least annually) subject to the approval of the project team, to reflect implementation needs and improvements in institutional capacity. The procurement plan will be available in the project's database and a summary will be disclosed on the Bank's external website following project approval.

E. Social (including Safeguards)

58. **Social Benefits:** the Project is expected to lead to substantial social benefits. The Project is expected to deliver significant social benefits through improved health service delivery and increased entrepreneurship opportunities, particularly for women and youth. Indirect beneficiaries of the Project potentially include all of the country's population, benefitting from increased availability and quality of affordable health services as well as mHealth and other useful applications tailored for local needs. Moreover, given the higher use of health services by women, they should disproportionately benefit from expected improvements in the quality of health service delivery. Given the very high urbanization rate in Gabon (87 percent of total population in 2014), it is likely that a good part of the bottom 40 percent live in urban areas, where it should be relatively easier to reach them as beneficiaries. The Project will seek to support under Component 2 the development of content and applications in local/vernacular languages to reach more broadly especially in rural areas.⁵⁸ Component 2 will encourage the

⁵⁸ See: Michel Rogy and Jacqueline Dubow, Information and Communication Technologies, Vernacular Languages and Broadband Stimulation in Gabon (2014), available at : <http://documents.worldbank.org/curated/en/2014/06/19759988/technologies-de-1%C2%92information-de-la-communication-langues-vernaculaires-stimulation-du-haut-d%C3%A9bit-au-gabon>

French is the national language of Gabon; however, like many Sub-Saharan African countries Gabon is a multilingual country, with around 50 ethnic groups and several indigenous languages for a population of around 1.6 million. The example of the India mHealth-Primary Health Care app, which includes Interactive Vocal Response in local languages, illustrates how an existing

engagement of women and youth in the digital economy and track the success of the Project in doing so.

59. **Social safeguards.** Neither the Indigenous Peoples OP/BP 4.10 nor the Involuntary Resettlement OP/BP 4.12 are triggered.

F. Environment (including Safeguards)

60. **The Project is classified as Environmental Assessment (EA) Category B (Partial Assessment).** There is no construction of premises under the Project; its potential adverse negative impacts and risks linked to revamping of office space in existing identified premises⁵⁹ are likely to be small-scale and site-specific and thus easily remediable and reversible with usual mitigation measures on the waste management and workers health surety and security measures in the contractor contracts.

61. **Environmental safeguards. Taking into account the nature and the scope of activities and associated impacts, only one safeguard policy was triggered: OP/BP4.01 (Environmental Assessment).** The GoG hired, under the PPA, a consultant to prepare, in full compliance with the World Bank’s safeguards and national safeguard policies, an Environmental and Social Impact Assessment, including an Environmental and Social Management Plan for the revamping of existing premises to be used for the incubators. Following consultations, the cleared safeguard instruments were disclosed in the country on March 2, 2016 and in the Bank’s InfoShop on February 28, 2016.

62. **Arrangements for environmental safeguards supervision have been defined and agreed.** The funding requirement for the environmental and social safeguards is estimated in total at US\$117,000 for all the incubators to be financed by the Bank for monitoring, control and final evaluation. The environmental and social mitigation measures include absence of asbestos certificate prior to signing the rental agreement as well as waste management and awareness and communication (estimated at US\$14,000 per incubator) to be included in the works contracts. Relevant provisions of the safeguard documents will also be included in the Project Operation Manual. Inputs from the Bank’s environment and social specialists will be provided throughout project implementation, to support the PIU as well as the line ministry in charge of Ecology and Sustainable Development in monitoring the effective implementation of safeguards.

Safeguard Policies Triggered by the Project	Yes	No	TBD
Environmental Assessment OP/BP 4.01	×		
Natural Habitats OP/BP 4.04		×	
Forests OP/BP 4.36		×	
Pest Management OP 4.09		×	
Physical Cultural Resources OP/BP 4.11		×	

application (not specifically developed for local languages) can incorporate some aspect of local language to reach more broadly especially in rural areas.

⁵⁹ (a) within the premises of MSPSSN for the project team of Component 1; (b) in existing premises to be rented under the project for the incubators to be established under Component 2 ; and within the existing premises or similar premises for the CN-TIPPEE under Component 3.

Indigenous Peoples OP/BP 4.10		×	
Involuntary Resettlement OP/BP 4.12		×	
Safety of Dams OP/BP 4.37		×	
Projects on International Waterways OP/BP 7.50		×	
Projects in Disputed Areas OP/BP 7.60		×	

G. World Bank Grievance Redress

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

ANNEX 1: Results Framework and Monitoring

COUNTRY: GABONESE REPUBLIC

Project Name: eGabon PROJECT (P132824)

Project Development Objectives

The Project Development Objective (PDO) is to: (a) improve the timeliness and availability of information to support the delivery and management of public health services; and (b) foster the development and roll-out of eHealth applications and services, and ICT services more generally.

These results are at	Project Level
-----------------------------	---------------

Project Development Objective Indicators

Indicator Name	Core Sector Indicator	Baseline	Cumulative Target Values						End Target	Frequency	Data source/ Methodology	Responsibility for Data Collection
			YR1	YR2	YR3	YR4	FY5					
(1) Prescriptions transmitted electronically (percent)		0	0	0	10%	30%	60%	60%	Yearly	Project data Health Facilities	PIU	
(2) Health workers reporting that they regularly use and update the patients' electronic medical record during clinical consultations (percent)		0	0	0	20%	45%	70%	70%	Yearly	Annual survey of health workers	PIU	
(3) Start-up projects incubated (including percent of start-up projects in eHealth) (number)		0	0 (0%)	8 (5%)	15 (10%)	28 (15%)	50 (20%)	50 (20%)	Yearly	Incubators	Incubators	

(4) Increase in the level of satisfaction by ICT sector actors regarding government's promotion of the digital economy (percent)		0	33%	50%	60%	75%	80%	80%	Yearly	Survey	PIU
(5) Direct project beneficiaries (cumulative), and percent female.	X	0	0	0	177,000 (55%)	717,000 (55%)	1,820,000 (55%)	1,820,000 (55%)	Yearly	Estimate based on the NHIS progress and Incubators data	PIU

Intermediate Results Indicators Component 1: Strengthening the National Health Information System

Indicator Name	Core Sector Indicator	Baseline	Cumulative Target Values						Frequency	Data source/ Methodology	Responsibility for Data Collection
			YR1	YR2	YR3	YR4	FY5	End Target			
(6) Health workers level of satisfaction with the NHIS (percent)		0	0	0	60%	70%	80%	80%	Yearly	Annual survey of health workers	PIU
(7) Service providers (CNAM-GS and others) level of satisfaction with the NHIS (percent)		0	0	0	60%	70%	80%	80%	Yearly	Annual survey of health providers	PIU
(8) Patient perception of the quality of electronically supported public health services (including perception by women) (percent)*		0	0	0	50% (45%)	60% (55%)	75% (70%)	75% (70%)	Yearly	Annual survey of patients	PIU
(9) Health professionals and managers having achieved a sufficient level of knowledge regarding the use of the NHIS		TBD (Year 1)			Base value +20% (Base	Base value +50% (Base	Base value + 80% (Base	Base value + 80% (Base	Yearly	Annual survey of health professionals	PIU

(including % of women) (percent)					value +20%)	value +50%)	value +80%)	value +80%)		and managers	
(10) Information technology managers and technicians trained (number)		0	10	20	35	60	90	90	Yearly	Project data	PIU
(11) Health care workers and administrators at the national level trained as change management trainers (number)		0	50	120	210	300	400	400	Yearly	Project data	PIU
(12) Completion of business process re-engineering and change management activities (percent)		0	0%	20%	40%	70%	90%	90%	Yearly	Project data	PIU

** This indicator is reflecting citizen engagement activities undertaken by the eGabon Project. It will directly inform project implementation as it tracks beneficiaries' satisfaction with the quality of outcomes of the Component 1 (improved delivery of public health service).*

Intermediate Results Indicators Component 2. Advancing the Digital Innovation Ecosystem Development

Indicator Name	Core Sector Indicator	Baseline	Cumulative Target Values						End Target	Frequency	Data source/ Methodology	Responsibility for Data Collection
			YR1	YR2	YR3	YR4	FY5					
(13) Number of participants in application competitions. (Including % of women and % of youth) (number)		0 (0%) (0%)	100 (25%) (50%)	200 (25%) (50%)	300 (33%) (55%)	400 (33%) (55%)	500 (40%) (60%)	500 (40%) (60%)	Yearly	Incubators	Incubators	
(14) Number of participants in business plan competitions (including % of women and % of youth) (number)		0 (0%) (0%)	0 (0%) (0%)	0 (0%) (0%)	30 (25%) (25%)	60 (33%) (30%)	90 (40%) (40%)	90 (40%) (40%)	Yearly	MENP and PPIC project	PIU	
(15) Number of participants in training courses offered by the incubator (including % of women		0 (0%) (0%)	150 (30%) (50%)	300 (35%) (75%)	450 (40%) (75%)	600 (50%) (80%)	750 (50%) (80%)	750 (50%) (80%)	Yearly	Incubators	Incubators	

and % of youth) (number)										
--------------------------	--	--	--	--	--	--	--	--	--	--

Indicator Description

Project Development Objective Indicators	
Indicator Name	Description (indicator definition)
(1) Prescriptions transmitted electronically (percent)	NHIS use and effectiveness of the interface with the CNAM-GS. ePrescriptions and electronic patient record are two very effective health modules. To be transmitted electronically, the prescription first needs to be created electronically using the clinical module (linked to the electronic health record). Once the prescription is filled, it is transmitted by the pharmacy to the CNAM-GS for payment.
(2) Health workers reporting that they regularly use and update the patients' electronic medical record during clinical consultations (percent)	In order to be most effective, the Electronic Medical Records should be updated during each clinical encounter. This indicator measures the extent to which this is happening using self-reported data from the annual health worker surveys.
(3) Start-up projects incubated (percent of start-up projects in eHealth)	Impact of incubators and percentage of projects in the eHealth sector.
(4) Increase in the level of satisfaction by ICT sector actors regarding government's promotion of the digital economy (percent)	Impact of Component 2 of the Project on the ICT sector in Gabon.
(5) Direct project beneficiaries (including % of women) (Already taken into account in indicators 1 and 2)	Number of direct beneficiaries, including percentage of women. Based on 0, this indicator measures the cumulative number of beneficiaries.
Intermediate Results Indicators Component 1: Strengthening the National Health Information System	
(6) Health workers level of satisfaction regarding the effectiveness of NHIS (percent)	NHIS effectiveness for health workers. Data will be obtained through annual surveys.
(7) Service providers (CNAM-GS and others) level of satisfaction regarding the effectiveness of the NHIS (percent)	Service providers' satisfaction regarding the NHIS use, particularly insurers (CNAM-GS and others). Data will be obtained through annual surveys.
(8) Patient perception of the quality of electronically supported public health services (including perception by women) (percent)	Perceived impact of the NHIS on the quality of services. This indicator is reflecting citizen engagement activities undertaken by the Project. It is aligned with the "Collecting, recording and reporting on inputs received from beneficiaries" Citizen Engagement Approach as measured by an indicator of the type "Beneficiaries satisfied with [specified dimensions e.g. access, quality of services, responsiveness to needs, quality of facilities] (%)".
(9) Health professionals and managers having achieved a sufficient level of knowledge regarding the use of the NHIS. (Including % of women) (percent)	Effectiveness of the change management strategy and its implementation. Data will be obtained through annual surveys of health workers and managers.

(10) Information technology managers and technicians trained (number)	Effectiveness of the training strategy and its implementation among the IT staff. Indicator is the cumulative number of managers and technicians trained throughout the life of the project.
(11) Health care workers and administrators at the national level trained as change management trainers (number)	Effectiveness of the change management strategy and its implementation. Indicator is the cumulative number of workers and administrators trained as change management trainers through the life of the project.
(12) Completion of business process re-engineering and change management activities (percent)	Measuring the progress of critical business process re-engineering and change management activities as part of the NHIS deployment. Indicator is the number of such activities completed divided by the total number of such activities planned (change management strategy to be developed following the detailed design).
Intermediate Results Indicators Component 2: Advancing the Digital Innovation Ecosystem Development	
(13) Number of participants in application competitions. (Including % of women and % of youth). (number)	Improved innovation capacity in the digital economy sector. Youth are defined as those persons between ages 15 and 24. ⁶⁰
(14) Number of participants in business plan competitions. (Including % of women and % of youth). (number)	Improved management capacity in the digital economy sector.
(16) Number of participants in training courses offered by the incubators (including % of youth). (number)	Increased knowledge of digital innovation within the Gabonese digital innovation ecosystem.

⁶⁰ The most international acknowledged definition for youth by the United Nations for statistical purposes, are those persons between the ages 15 and 24. See: <http://www.un.org/esa/socdev/documents/youth/fact-sheets/youth-definition.pdf>

Results Chain

Component/ Focus Area	Constraints/Issues	Evidence on Possible Interventions	Inputs	Activities & Processes	Outputs	Intermediate Results	Outcomes	Impact
Component 1: Strengthening the National Health Information System Timeliness and quality of information available for delivery and management of health services	Existing systems do not share information	Increased sharing of health information can lead to improved coordination of care.	Project funding and co-financing by the Government of Gabon to implement Component 1 (\$41.7 million) Project management structure to implement the activities Implementation support from the Government of Gabon Knowledge and technical expertise from World Bank staff and consultants to support project implementation	Developing/validating standards; Detailed feasibility study and design for NHIS;	Integrated national health information system developed, that shares information vertically and horizontally	Medical and non-medical information shared as needed throughout the health system Technicians and managers trained (IO 10)	(a) NHIS used throughout the health system (PDO 1 - Prescriptions transmitted electronically) (b) NHIS used in patient diagnosis and treatment (PDO 2 - Health workers use/ update EMR during consultations)	More accurate and timely information
	Health system inefficiencies have been identified, including the utilization of hospitals, the share of funding between levels of care, the geographic distribution of staff, etc.	Timely and accurate information can inform relevant policy and reform decisions		Detailed change management strategy, including process redesign/re-engineering; Robust knowledge management program;	Deployment of NHIS including reporting and analysis modules Training/capacity building for new system provided to policy makers and analysts	Information on health system performance available in a timely manner Business process re-engineering/ change management completed (IO 11 and 12)		
	Gabon's health status indicators are below what would be expected given its income level	A well-functioning eHealth system could help to improve the diagnosis and delivery of care		Rolling out NHIS; Strengthening the capacity of technicians and managers;	Training/capacity building provided to key stakeholders (including health workers, health care community)	Satisfaction by key stakeholders in NHIS (IO 6, 7 and 8) Workers and managers know how to use system (IO 9)	Increased use of performance data for system improvements Improved diagnosis and treatment	Better patient care (including reductions in unnecessary tests and treatments), and outcomes; more satisfied and productive health workers.
	Quality of care in health facilities remains an issue			TA for PNDS and RBF pilot.	Clinical decision support and electronic patient record modules are implemented			
Component 2: Advancing Digital Innovation Ecosystem Development Development of ICT ecosystem in Gabon	The majority of national income relies upon natural resources. Further economic diversification is needed for sustainable economic growth.	A number of countries have used ICT to help diversify their economies	Project funding to implement Component 2 (\$11.0 million)	Incubator feasibility studies; Robust knowledge management program;	Incubators are set up and operational in Libreville, Port-Gentil and Franceville	Increased participation of Gabonese in the digital economy (including women and youth) (IO 13, 14 and 15)	Increasing role of ICT in the economy of Gabon (PDO 5 - Direct project beneficiaries) PDO 4: Increase in the level of satisfaction by ICT sector actors regarding government's promotion of the	More digital entrepreneurs in Gabon

Component/ Focus Area	Constraints/Issues	Evidence on Possible Interventions	Inputs	Activities & Processes	Outputs	Intermediate Results	Outcomes	Impact
							digital economy	
	Large portion of the bandwidth has not yet been utilized after significant investments in a national fiber optic backbone throughout Gabon.	Health is one of the most information-intensive government services, which needs significant bandwidth		Promote local digital content, applications and services; focus on health Business plan competitions Digital application competitions	Strategy to promote the development of local digital content, applications and services (with a focused approach on health market innovations) developed and implemented Training/capacity building provided to key stakeholders (in particular Ministry in charge of digital economy)	Local content included in the development and implementation of the NHIS PDO 3: Percent of start-up projects in eHealth	Potential sales of eHealth systems to other countries (post-project) PDO 3: Start-up projects incubated. (including percent of start-up projects in eHealth)	More export opportunities for the Gabonese ICT industry More applications with strong development impact (e.g. mHealth) available on smartphones in Gabon
	Start-up business environment (especially for mobile software developers and ICT entrepreneurs) is still weak in Gabon.	Incubators are effective in developing start-up businesses.						

ANNEX 2: Detailed Project Description

GABON: eGabon Project

1. The Project is a downstream operation to the CAB4 Project seeking to leverage Gabon’s competitive telecommunications market and ongoing and future investments in broadband infrastructure to improve both public and private service delivery and to promote the development of a vibrant digital economy. Health is considered a priority sector for developing such e-services (referred to as eHealth) given that rapid improvement in the health of the Gabonese people is a key priority for the GoG. eHealth is defined by the World Health Organization (WHO) as the use of ICT for health.⁶¹ More precisely, eHealth can make use of tools like mobile-phone based health (mHealth) applications, telemedicine networks, and distance learning programs. It also includes Health Management Information System (HMIS) or Health Information System (HIS)⁶², and the adoption of Electronic Medical Records (EMR). Harnessing ICT for health requires strategic and integrated action at the national level, to make the best use of existing capacity while providing a solid foundation for investment and innovation as well as export opportunities for Gabon.

2. The Project will be executed over five-years with a total IBRD financing of US\$56 million and will follow an integrated solution with three components: (1) Strengthening the National Health Information System, (2) Advancing the Digital Innovation Ecosystem Development, and (3) Project Management, coordination, monitoring and evaluation of the Project. The estimated cost of the Project by Component and by Activity is as detailed below, excluding and including physical and price contingencies.

Figure 3: Breakdown of project costs by Components and by Activities (EXCLUDING physical and price contingencies)

	Base Cost (US\$'000)		
	IBRD	Gov't	Total
Component 1: Strengthening the National Health Information System			
Activity 1.1: Developing and validating appropriate standards to guide information systems development in the health sector, including on the required legal and regulatory framework	1,245.0		1,245.0
Activity 1.2: Conducting detailed feasibility and design studies for the NHIS, including on financing the operating costs after closing date of the project	3,196.0		3,196.0
Activity 1.3: Creating and implementing a detailed change management strategy for the MSPSSN in the broader context of an articulated eHealth implementation plan, including process redesign/re-engineering which is essential for facilitating effective interfaces between the NHIS and the related manual processes to fully utilize NHIS capabilities	1,820.0		1,820.0
Activity 1.4: Designing/implementing a robust knowledge management program, including study tours of for Gabonese counterparts in selected	1,151.4		1,151.4

⁶¹ See Resolution 58/28 of the World Health Assembly, Geneva, 2005.

⁶² See Chapter 6 “Health”, The transformational use of Information and Communication Technologies in Africa, etransform AFRICA, The World Bank and the African Development Bank with the support of the African Union, 2012.

best practice countries, sharing knowledge on the development of the NHIS and the progress made to all stakeholders, including health workers, the general public, and the broader national and international health care community			
Activity 1.5: Developing the integrated NHIS, and setting up of a NHIC	4,620.0	180.0	4,800.0
Activity 1.6: Rolling out the NHIS, initially in a single geographic region and then throughout the whole country once the system is stable	21,686.4	1,318.8	23,005.2
Activity 1.7: Strengthening capacity of technicians and information system capabilities administrators within the MSPSSN and related agencies	675.0		675.0
Activity 1.8: Support to the new PNDS, and the preparation for an RBF pilot	650.0		650.0
Total Component 1	35,043.8	1,498.8	36,542.6
Component 2: Advancing the Digital Innovation Ecosystem Development			
Activity 2.1: Conducting detailed feasibility studies for the private-sector led incubators in consultation with all public, private and academia (in particular for the health-based services, content and applications) stakeholders to finalize the concept and make it ready for implementation	725.0		725.0
Activity 2.2: Designing and implementing a robust knowledge management program	1,025.0		1,025.0
Activity 2.3: Setting up and making operational the incubators	4,838.6		4,838.6
Activity 2.4: Developing and implementing a strategy to promote the development of local digital content, applications and services (with a focused approach on health market innovations)	995.0		995.0
Activity 2.5: Organizing business plan competitions, aimed at assisting entrepreneurs in launching new businesses with a focus on ICT-enabled business concepts	2,250.0		2,250.0
Activity 2.6: Holding a series of digital application competitions	450.0		450.0
Activity 2.7: Strengthening the capacity of the MENP to lead the digital economy agenda	500.0		500.0
Total Component 2	10,783.6		10,783.6
Component 3: Project Management, coordination, monitoring and evaluation of the Project			
Activity 3.1: Staff, training, office equipment, and operating costs	2,984.6		2,984.6
Activity 3.2: Environmental and social studies, their implementation and/or the monitoring of their implementation	190.0		190.0
Activity 3.3: M&E for component 1	875.0		875.0
Activity 3.4: M&E for component 2	350.0		350.0
Activity 3.5: Midterm and completion reviews	380.0		380.0
Total Component 3	4,779.6		4,779.6
Total base cost	50,607.0	1,498.8	52,105.8
Physical contingencies	1,498.3		1,498.3
Price contingencies	3,754.7		3,754.7
Total Project Cost	55,860.0	1,498.8	57,358.8

Figure 4. Breakdown of project costs by Components and by Activities (INCLUDING physical and price contingencies)

	Base Cost (US\$'000)		Total
	IBRD	Gov't	
Component 1: Strengthening the National Health Information System			
Activity 1.1: Developing and validating appropriate standards to guide information systems development in the health sector, including on the required legal and regulatory framework	1,245.0		1,245.0
Activity 1.2: Conducting detailed feasibility and design studies for the NHIS, including on financing the operating costs after closing date of the project	3,196.0		3,196.0
Activity 1.3: Creating and implementing a detailed change management strategy for the MSPSSN in the broader context of an articulated eHealth implementation plan, including process redesign/re-engineering which is essential for facilitating effective interfaces between the NHIS and the related manual processes to fully utilize NHIS capabilities	1,820.0		1,820.0
Activity 1.4: Designing/implementing a robust knowledge management program, including study tours of for Gabonese counterparts in selected best practice countries, sharing knowledge on the development of the NHIS and the progress made to all stakeholders, including health workers, the general public, and the broader national and international health care community	1,151.4		1,151.4
Activity 1.5: Developing the integrated NHIS, and setting up of a National Health Information Center	5,063.3	245.5	5,308.8
Activity 1.6: Rolling out the NHIS, initially in a single geographic region and then throughout the whole country once the system is stable	26,279.7	1,253.3	27,532.9
Activity 1.7: Strengthening capacity of technicians and information system capabilities administrators within the MSPSSN and related agencies	675.0		675.0
Activity 1.8: Support to the new PNDS, and the preparation for an RBF pilot	650.0		650.0
Total Component 1	40,080.3	1,498.8	41,579.1
Component 2: Advancing the Digital Innovation Ecosystem Development			
Activity 2.1: Conducting detailed feasibility studies for the private-sector led incubators in consultation with all public, private and academia (in particular for the health-based services, content and applications) stakeholders to finalize the concept and make it ready for implementation	745.0		745.0
Activity 2.2: Designing and implementing a robust knowledge management program	1,025.0		1,025.0
Activity 2.3: Setting up and making operational the incubators	5,035.0		5,035.0
Activity 2.4: Developing and implementing a strategy to promote the development of local digital content, applications and services (with a focused approach on health market innovations)	995.0		995.0
Activity 2.5: Organizing business plan competitions, aimed at assisting entrepreneurs in launching new businesses with a focus on ICT-enabled business concepts	2,250.0		2,250.0
Activity 2.6: Holding a series of digital application competitions	450.0		450.0
Activity 2.7: Strengthening the capacity of the MENP to lead the digital economy agenda	500.0		500.0
Total Component 2	11,000.0		11,000.0

Component 3: Project Management, coordination, monitoring and evaluation of the Project			
Activity 3.1: Staff, training, office equipment, and operating costs	2,984.6		2,984.6
Activity 3.2: Environmental and social studies, their implementation and/or the monitoring of their implementation	190.0		190.0
Activity 3.3: M&E for Component 1	875.0		875.0
Activity 3.4: M&E for Component 2	350.0		350.0
Activity 3.5: Midterm and completion reviews	380.0		380.0
Total Component 3	4,779.6		4,779.6
Total Project Cost	55,860.0	1,498.8	57,358.8

Component 1: Strengthening the National Health Information System (estimated Cost US\$40.08 million IBRD and US\$1.50 million GoG counterpart funding).

3. **The counterpart funding is covering an increasing share of the operating costs of the NHIC and the NHIS** which are expected to be operational in the third year of implementation (0 percent in year 3, 25 percent in year 4 and 50 percent in year 5).

4. **Health information is of paramount importance in improving health outcomes.** A well-structured and well established NHIS supports the delivery of care, the monitoring of health indicators, policy harmonization and improves the performance of the national health system. Currently, Gabon has a fragmented NHIS, in which each unit collects its own data, often redundant, with a heavy burden of reporting in terms of service delivery and data are not centralized. Most data are collected on paper and for administrative purposes without feedback to facilities or citizens. Information systems for human resources and drugs do not work well; there is no interoperability between the information systems of major insurers and data collected for the medical assistance scheme (CNAM-GS). The private sector is not considered and there is a lack of integration between these different systems.

5. **The aim of this component is to improve the timeliness and availability of information to support health service delivery and management which should contribute to improving Gabon’s human development outcomes.** It will also be leveraged to foster the development of the digital innovation ecosystem in Gabon by incentivizing local content, services, and applications development centered on health services and information (see Component 2 below). This component will be implemented jointly with the Health, Nutrition, and Population Global Practice. Given the expected scope of the transformation in the way health care is delivered, extensive process re-engineering, change management, and knowledge management activities (including capacity building and communication) will be needed as critical success factors.

6. **Specifically, this component will support MSPSSN and ANINF in the development and the roll-out of the National Health Information System (NHIS).** The NHIS will support informed strategic decision-making by: (i) providing access to high quality data which can help managers and health workers at all levels of the health system in planning and managing the health services; (ii) monitoring disease trends and control epidemics; and (iii) providing periodic

evaluation towards agreed targets. This component would include: (i) developing and validating appropriate standards to guide information systems development in the health sector, including on the required legal and regulatory framework; (ii) conducting detailed feasibility and detailed design studies for the NHIS, including on financing the operating costs after closing date of the project; (iii) creating and implementing a detailed change management strategy for the MSPSSN in the broader context of an articulated eHealth implementation plan, including process redesign/re-engineering which is essential for facilitating effective interfaces between the NHIS and the related manual processes to fully utilize NHIS capabilities, and the development of a cadre of trainers to assist in the transition to the new NHIS; (iv) designing/implementing a robust knowledge management program, including study tours for Gabonese counterparts in selected best practice countries, sharing knowledge on the development of the NHIS and the progress made to all stakeholders, including health workers, the general public, and the broader national and international health care community; (v) developing the integrated NHIS, and setting up of a NHIC; (vi) rolling out the NHIS, initially in a single geographic region and then throughout the whole country once the system is stable; (vii) strengthening capacity of technicians and information system capabilities administrators within the MSPSSN and related agencies; and, (viii) support to the new PND, and the preparation for an RBF pilot.

7. Activity 1.1: Developing and validating appropriate standards to guide information systems development in the health sector, including on the required legal and regulatory framework. This activity provides the foundation for future information systems development. HDS will be based on existing commonly accepted standards in the health sector (such as HL7) and will include, but not be limited to: (i) a common messaging standard; (ii) a common patient identifier based on the national ID-code; (iii) a common standard for digital medical documents; (iv) common coding schemes for digitally encoding diagnoses, healthcare services, providers, facilities, and possibly a hundred other such data items; (v) the Health Data Dictionary (HDD) that contains the precise definitions of all of the data elements and common terms used across the health sector; (vi) specification of a national master patient index; (vii) specification of a standardized electronic medical record; (viii) development of a national drugs registry; (ix) standard/classifier for laboratory results; (x) information security standards, and so on. To support the management and dissemination of these standards, a data standard management system would be developed and deployed so that the HDD and all HDS would be stored, published and regularly updated in one place, and be shared publicly by all service providers and applications. For example, there would be one authoritative Diagnoses Table (based on the International Classification of Diseases-10), one Provider Table (listing all caregivers who are authorized to make health decisions), one Facility Table (listing all health facilities in the country), etc. An essential element of this process is the inclusion of all stakeholders (public, private, developers, etc.) in the development and validation of the health data standards. A number of validation workshops are included in the project, and there is also the provision of maintenance and regular updating of the HDS. The project will finance technical assistance to support the development of the standards and the specification of the data standard management system, as well as the cost of the validation workshops.

8. Activity 1.2: Conducting detailed feasibility and design studies for the NHIS, including on financing the operating costs after closing date of the project. The detailed components of the NHIS will be more fully described during the feasibility and design study, leading to the development of a national eHealth architecture. The original conceptual design by

BearingPoint for the MSPSSN and ANINF highlighted a number of the components that will be included in this architecture, such as: (i) a data warehouse with a three-tier structure (Operational Data Store (ODS), Data Warehouse, and Data Mart); (ii) a management system for electronic forms (including HDD/HDS); (iii) a repository management system for information structures, users management, data model and pathologies; (iv) a global information system (GIS); (v) hospital information systems; (vi) a bio-medical equipment management system; (vii) a human resource management system; and (viii) a national health information system (NHIS) portal.⁶³ The portal will allow citizens to access the system, both to deal with their own health care needs and to provide feedback to the government; it will make sure that it reflects women's needs for providing feedback. During the Project preparation, a number of other elements were also discussed and agreed upon, and these will be included in the overall eHealth architecture as well, including: (i) inclusion of interfaces with the CNAM-GS and the National Pharmaceutical Office; (ii) creation of an electronic patient file (unique identification, electronic signature); (iii) inclusion of modules and clinical patient records; (iv) strengthening of epidemiological and monitoring needs; (v) development of a component related to change management, which will be key to the success of the information system, based on an analysis of user needs (in particular female health workers), as well as their training needs; (vi) integration of the specific reporting required by donors (vertical programs, special programs etc.) in the information system; and (vii) inclusion of the military and prison health data. For hospitals that already have an efficient and effective HIS, it will be necessary to develop a detailed strategy and action plan for interoperability between HIS and the NHIS for all functions of NHIS that will need to be available in all hospitals (including the electronic patient record, support clinical decision modules, links with monitoring modules for notifiable diseases, etc.). The feasibility study and detailed design will seek to make maximum use of existing reference models from various sources as well as effectively incorporating available open source applications to the extent that this is feasible. Appropriate accommodation for local languages will also need to be addressed during this process. A robust roll-out plan will be an essential element of the final package, and will include appropriate technologies for areas where data access may not be sufficient for the needs of an on-line system. In addition to the feasibility study/detailed design, this activity will also include the development of bidding documents which can be used in Activity 1.5 below. The project will finance consultant costs for the development of the relevant studies, including a long-term health information system expert, already recruited under the PPA, who will help guide the overall process, and site visits to health facilities to determine their equipment and other requirements, as well as the creation of a project office with furniture, equipment, vehicles and operating costs.

9. Activity 1.3: Creating and implementing a detailed change management strategy for the MSPSSN in the broader context of an articulated eHealth implementation plan, including process redesign/re-engineering which is essential for facilitating effective interfaces between the NHIS and the related manual processes to fully utilize NHIS capabilities. The successful implementation of a NHIS is complex, because it will affect the way work is done throughout the health system, from the front-line health worker to health facility and ministry managers. Therefore it is key to complement the development and roll-out of the NHIS with both effective business process redesign/re-engineering and a change management

⁶³ See : BearingPoint, Concept note for a « National Health Information System » Project, Concept note prepared under the « Assistance to ANINF's programs and projects » (July 16, 2013), p. 33 and p. 56-59

strategy to ensure that the NHIS fits into the new way of working in the health sector and will be broadly accepted and used by health staff and their patients. Such a change management strategy would include activities to change the current institutional culture regarding use of information, adoption of evidence-based decision-making and evaluation of public health outcomes. It would cover in particular the following dimensions: (i) strengthening national structures responsible for the development and management of the NHIS in order to establish national health system information, with sufficient resources to support the national network of data managers; and (ii) implementing a new governance model for health information that includes the regional and departmental stakeholders. Process redesign and/or re-engineering will address how the new system will change the way in which various health care processes are done. To facilitate this change process at health institutions and central offices, regional and district level; the Project proposes the training of trainers in change management and operation of the NHIS. The Project will finance consultant costs to assist the government in the business process redesign, the development of the change management strategy and its implementation, as well as the training of trainers.

10. **Activity 1.4: Designing/implementing a robust knowledge management program, including study tours for Gabonese counterparts in selected best practice countries, sharing knowledge on the development of the NHIS and the progress made to all stakeholders, including health workers, the general public, and the broader national and international health care community.** Exposure of key stakeholders to international best practices⁶⁴ and countries that have developed an integrated and effective NHIS should also contribute to a successful implementation of a NHIS in Gabon. Specific areas of interest for such a study tour could include: introduction to information systems concepts and components; development of a regulatory and standardization framework; mechanisms for NHIS regulation and standardization; site visits to health facilities at different organizational levels where information systems are being used. At least one country should be visited with PPA funding. The creation of an eHealth association whose aim is to promote eHealth among private sector actors and health professionals, such as pharmacists and physicians interested in eHealth development, is included in this activity, as well as information and communications activities for health workers, providers, other stakeholders and the general public with a specific emphasis on women. This is considered essential since the new eHealth system will significantly change the way in which health care is delivered, and the various stakeholders need to know what to expect and when to expect it, as well as the progress that is being made. Funding is also provided for a major international eHealth forum to be organized in Gabon, with technical support of ANPI, once the system is sufficiently developed and implemented to inform the international community about the success of the eHealth implementation in Gabon. The Project will finance study tours, the cost of organizing an international health forum in Gabon, start-up costs for the eHealth association, consultant costs for the development of a communications and knowledge management strategy, and the operational costs of implementing the strategy.

11. **Activity 1.5: Developing the integrated NHIS, and setting up of a NHIC.** The key steps in this activity will include contracting with a “systems integrator” to guide the overall development and ensure that the various parts of the system interoperate, and then developing, buying and/or modifying (in the case of open source software), the various system modules. The

⁶⁴ Possible examples include: Belize, Estonia, and Turkey.

result will be an integrated system where all of the necessary data is passed between the various modules as and when required. This activity includes the development and implementation of a NHIC, which will be responsible for the data warehouse operation, management of norms and standards, system maintenance, and Operation of the "help desk." Because the NHIS is scheduled to be deployed in all health institutions (including public and private), it is necessary to develop a manager who is not closely integrated with the Ministry of Health. The deployment in private institutions is proposed because it is necessary to have data from patient consultations with private providers in the electronic patient record, and also the contributions of these providers for surveillance of notifiable diseases. The Project will finance: (i) the systems development costs for the NHIS; (ii) the furniture, equipment and specific software costs for setting up the NHIC; and (iii) the operating costs of the NHIC on a declining scale.

12. Activity 1.6: Rolling out the NHIS, initially in a single geographic region and then throughout the whole country once the system is stable. This activity will be further refined based on the recommendations of the feasibility study. The initial implementation will be done in a particular region or district with enough facilities of different types to ensure that the data flow, including within facilities, between facilities and between different levels of care and management in the health system, works properly. Once the initial implementation has stabilized, the system will be rolled out to other parts of the country. Training of health providers is key for the success of this deployment. The system will also be implemented in the military and prisons, and border posts, and some components of the NHIS would also implemented within CNAM-GS, health districts and regions. The Project will finance the consultant costs for the management of the roll-out process, the hardware and software required to implement the NHIS, the NHIS operating costs, on a declining scale, in health facilities and at the central level, as well as the training of health workers, taking into account the specific needs of female health workers.

13. Activity 1.7: Strengthening capacity of technicians and information system capabilities administrators within the MSPSSN and related agencies. This activity aims at improving the capacity in information technology for technicians and information system administrators in the Ministry in charge of Health, health facilities and related agencies. The Project will finance the training of IT technicians and administrators.

14. Activity 1.8: Support to the new PNDP, and the preparation for an RBF pilot. This activity will finance selected areas to support the PNDP currently in preparation (2016-2020), as well as the midterm review of the Plan. It will finance the development of an RBF concept and the components required (manual, training, ToRs, etc.) to initiate an RBF pilot project, where health service providers - and possibly users - are paid for verified predefined results. The financing of the pilot is not expected to be financed through the Project. The basic principle is "money follows the patient"; i.e., if health establishments attract more patients and provide better services, they will receive more incentives payments. The RBF approach is based on quantitative data and verification systems, and functional NHIS is a basic requirement for an effective RBF. The Project will finance consultant costs for the preparation and midterm review of the PNDP, as well as the development of the RBF concept and related materials. The exact support for the PNDP will depend on the contribution of other development partners, and will be discussed and agreed to with the MSPSSN.

Component 2: Advancing the Digital Innovation Ecosystem Development (estimated Cost US\$11.00 million all IBRD).

15. **Being at the forefront of innovative technologies and solutions, the digital economy is providing major opportunities** to improve competitiveness, attract investments, create jobs opportunities and grow markets, as well as encourage inclusion and alleviating poverty by fostering more efficient, equitable and better quality health services.

16. **The aim of this component is to contribute to economic diversification in Gabon by advancing the development of a local digital innovation ecosystem, including a digital incubator in Libreville and, as extensions, smaller-scale incubators in Port-Gentil and Franceville, which will be critical to generate job opportunities in particular for women and youth.** It will be leveraged to support the marketing of the resulting eHealth system beyond Gabon (See Annex 5). This component will be implemented with technical support from the Trade and Competitiveness Global Practice.

17. **Specifically, this component will support, under the leadership of the MENP, public and private stakeholders of the digital economy in Gabon in:** (i) conducting detailed feasibility studies for the private-sector led incubators in consultation with all public, private and academia (in particular for the health-based services, content and applications) stakeholders to finalize the concept and make it ready for implementation; (ii) designing and implementing a robust knowledge management program; (iii) setting up and making operational the incubators; (iv) developing and implementing a holistic strategy to promote the development of local digital content, applications and services, with a focused approach on health market innovations; (v) organizing business plan competitions, aimed at assisting entrepreneurs in launching new businesses with a focus on ICT-enabled business concepts; (vi) holding a series of digital application competitions; and (vii) strengthening the capacity of the MENP to lead the digital economy agenda.

18. **Activity 2.1: Conducting detailed feasibility studies for the private-sector led incubators in consultation with all public, private and academia stakeholders to finalize the concept and make it ready for implementation.** This activity will expand on the findings and recommendations of the feasibility study⁶⁵ for the establishment of a private-sector led digital incubator in Libreville commissioned in 2015 by the MENP to a team from the CTIC Dakar and finance technical assistance as well as the cost of the validation workshops. The feasibility study commissioned by the MENP covered the particular market potential and promising sectors, mapping of actors and stakeholder expectations, expected activities and impacts, inputs and incubation models, success and risk factors, planning project and initial business plan. The additional detailed feasibility study will finalize the concept for the digital incubator in Libreville in consultation with all public, private and academia (in particular for the health-based services, content and applications) stakeholders and make ready for implementation, in particular the details of the private-sector led governance of the incubator, its service offering (basic skills development and their application to entrepreneurship projects, role model creation, mentoring, seed financing development, etc., taking due account of women's specific needs), its detailed business plan, its inclusion in the broader networks of similar facilities and initiatives and

⁶⁵ CTIC Dakar, Feasibility Study to Establish Incubators, 2015.

appropriate linkages to the local universities. Finally, detailed feasibility studies will be conducted for smaller scale more generalist incubators in Port-Gentil and Franceville (to be conducted with technical support of ANPI), including the need for different strategies as extensions of the Libreville incubator. For example, while a full-fledged business incubator may be viable in Libreville, a different approach such as virtual incubation may work better in Franceville.⁶⁶

19. **Activity 2.2: Designing and implementing a robust knowledge management program**, including providing study tours for Gabonese counterparts in selected best practice countries and information and communication to share knowledge on the digital innovations and the progress made to all stakeholders, including the general public, and the broader national and international digital entrepreneurship and IT community. Exposure of key stakeholders in Gabon to international best practices through study-tours will contribute to an improved and more sustainable business model design in Gabon. At least one country should be visited with the PPA funding. This activity will also finance the organization of a major international digital innovation forum in Gabon, to be organized with technical support of ANPI, to foster exchange of experience, strengthen the insertion of Gabon in global and regional digital innovation networks, and promote Gabon as a regional digital hub.

20. **Activity 2.3: Setting up and making operational the incubators.** The digital incubator in Libreville will provide the space to perform the different stages of innovation, formation of ideas or concepts (i.e. ideation), incubation, prototyping and piloting, using venture incubation, acceleration, mentoring, training and networking, as well as fostering multinational and global partnerships. It will allow a critical mass of local entrepreneurs to access affordable and reliable broadband Internet, office space, training, business support services, and business incubation in a single facility. It will also help the scaling up of innovative applications and services to address every day development challenges (e.g. health information, but also sanitation and transportation management, teacher absenteeism, etc.) in the country, and create employment opportunities for local entrepreneurs. The incubators in Port-Gentil and Franceville, conceived as extensions of the Libreville incubator, are expected to be smaller scale and more generalist. The Project will finance: (i) rental of office space in existing premises; (ii) revamping of office space; (iii) IT and office equipment; (iv) hiring of the managers of the incubators in a gender-neutral manner; (v) operating costs including support staff of the incubators if needed; (vi) capacity building for the incubators' team; and (vii) technical assistance, in particular through an international expert in digital innovation ecosystem in the initial years of the Project.

21. **Activity 2.4: Developing and implementing a strategy to promote the development of local digital content, applications and services, with a focused approach on health market innovations.** This activity will support the promotion and the creation of the enabling environment for developing a digital innovation ecosystem around the incubators financed by the project and in partnership with external entities, from the private sector and academia. Capacity building efforts will be based on an initial diagnostic using maturity level analysis, gap analysis, and identification of areas requiring urgent improvement. This Project will finance: (i) technical assistance to develop and implement a digital innovation ecosystem promotion strategy, and to conduct more detailed studies on relevant areas such as sources of financing for growth oriented

⁶⁶ See InfoDev's work on virtual incubation, available at www.InfoDev.org/InfoDev-files/resource/InfoDevDocuments_1153.pdf

digital entrepreneurs; (ii) training, in key areas such as product development (e.g. through boot camps), commercialization and investment readiness; (iii) supporting the setting up of co-working spaces if needed; and (iv) supporting Gabonese entrepreneurs connecting with their peers in other countries. This strategy will include specific or targeted actions that address the needs of women/girls, building on lessons learned from Akirachix of Kenya.⁶⁷ Achirachix collaborates closely with local technology hubs and incubators, resulting in a very positive level of participation of women in digital entrepreneurship and innovation activities in general.

22. Activity 2.5: Organizing business plan competitions, aimed at assisting entrepreneurs in launching new businesses with a focus on ICT-enabled business concepts.

The Project will finance: (i) organizing an information campaign to raise awareness and invite proposals for new business ideas; (ii) selection of most promising business concepts; (iii) support in the drafting of business plans and provision of required Training in the areas of business planning and entrepreneurship; (iv) provision of Sub-Grants to selected Beneficiaries as seed capital for specific development projects; and (v) technical assistance and mentoring for carrying out of the Subproject. This activity will be implemented by the MENP and the incubators with technical assistance from the ANPI, and will be built on similar activities undertaken in the Investment and Competition Promotion Project (P129267) and in the Skills Development and Employability Project (P146152). The Sub-Grants shall not finance civil works.

- The Business Plan Competition will be organized in three cycles, each one lasting 18 months, with some overlap expected. The Business Plan Competition will provide a combination of seed capital and mentoring to help targeted entrepreneurs initiate a business or launch a new product.
- In the second year of the Project, the MENP will conduct an information campaign to promote the competition. The target audience will be existing as well as new entrepreneurs, aged 18 to 40. The information campaign will include specific or targeted actions that address the needs of women/girls interested in opportunities arising from digital entrepreneurship.
- Entrepreneurs will be invited to submit proposals of new ICT-enabled business concepts or ideas. Across all cycles, special focus will be given to eHealth business ideas. When submitting their proposals, applicants will be asked to complete a simple screening questionnaire⁶⁸ to measure their basic entrepreneurial skills and motivation. Approximately 30 (25 percent) of the total applicants will be selected based on the quality of their proposals and their entrepreneurial skills.
- The selection panel will award realistic business ideas proposed by participants with the skills and motivation to start businesses that would continue successfully during the program. The panel will be gender-balanced and will include independent experts representing the private sector including representatives of commercial banks, venture capitalists, successful entrepreneurs, ICT-industry professionals, the MENP, ANPI, and the Chamber of Commerce. Entrepreneurs who are part of the Selection Panel will not be

⁶⁷ See: <http://akirachix.com/>

⁶⁸ Among other information, the questionnaire will ask about the applicant's idea for a business and its innovativeness, education, measures of entrepreneurship, measures of honesty, understanding of the major market opportunities and challenges expected, and strategies to cope with identified risks.

allowed to submit business plans. This restriction will also apply to immediate family members of Selection Panel members.

- After this initial screening, applicants will be invited to participate in a 5-day training course on how to prepare a business plan. The training will be given to groups of 10 applicants and will cover several aspects of the business plan. These aspects include: (i) developing innovative business ideas, (ii) analyzing the demand for such ideas, (iii) marketing strategies, (iv) financing a business plan, (v) overview of key legal and regulatory issues, and (vi) presentation skills.
- At the end of the training, applicants will submit first drafts of their business plans to the independent panel. Approximately 15 (50 percent) of the remaining competitors will be selected to advance to a second phase. To enable these selected applicants to further sharpen their business plans, they will be organized in groups of 5 people for 10-day workshops that will target specific issues relevant to their ICT-enabled business concepts or ideas.
- At the end of these workshops, the competitors will finalize and submit their business plans, and deliver short presentations on them to the Selection Panel. Of the 15 candidates, the Selection Panel then will select the 8 most promising business plans. To ensure fairness and transparency during the entire Competition, the panelists will publish the official rankings of all submitted business plans after each selection phase.
- Depending on the needs identified and carefully justified in their business plans, the 8 winners of each cycle will receive seed capital, or technical assistance and/or training. The exact amount of the seed capital award will depend on the ICT-enabled business concepts or ideas. On average, individuals and small enterprises are expected to receive US\$40,000, whereas medium enterprises are expected to receive US\$80,000. It is expected to fund approximately 16 micro and 8 small/medium enterprises. The Sub-Grants shall not finance civil works. During an initial phase of 12 months aftercare, winners will be paired with local part time consultants to receive support toward the successful implementation of their business plans and secure additional financing as required. Entrepreneurs will be visited every other month by the advising consultants. These consultants will be recruited from the pool of local business development service providers referenced by the incubators.
- Eligibility criteria for seed grants, governance structure, grievance mechanism for any non-successful participants to the business plan competition as well as other relevant details will be further developed in the Project Operations Manual.

23. **Activity 2.6: Holding a series of digital application competitions** with skills and capacity-building programs, including training programs to address internet programming and entrepreneurship and problem-solving skills, immersion in business environments and mentorship. The aim of this activity is, through a series of digital application competition, to energize the community of software developers and attract talent, as potential incubates, to the digital economy, as well as to provide skills and knowledge to the participants to develop startup projects. This activity will also provide useful insights into how to leverage ICT applications for the health sector and other sectors of relevance in the specific context of Gabon and in the broader subregional context, and contribute to raising awareness amongst the public on benefits of developing local digital application and content.

- One application competition per year will be held in the initial years of the Project under the umbrella of the incubators, and the frequency may increase in the final years depending on take-up.
- A few weeks before the registration phase, an information campaign to promote the competition will be conducted. The target audience will be youth, aged 15 to 24. The information campaign will include specific or targeted actions to encourage participation of all-girls teams.
- The registration phase will last a few weeks likely through a website. It is expected that on average 100 participants, most probably organized in teams, will participate per year.
- A first jury will select a short-list of ideas amongst the teams, including individuals as the case may be, that have registered. One of the key themes for competitions will be applications related to health, but the competitions will seek to foster more broadly applications in various sectors of the economy (e.g. tourism, media, education, energy, banking...). The competitions will also encourage the development of content and applications in local/vernacular languages to reach more broadly especially in rural areas.⁶⁹ A targeted number of 30 short-listed teams will undergo “boot camps” where they will benefit from training and tutorials from experts to address in particular internet programming and entrepreneurship, and problem-solving skills.
- The short-listed teams would then have about one month to code and prepare their proof of concept/prototype of application. At the end of this second phase, a second jury will select 10 finalists.
- In the final event, ideally hosted by the incubators, the 10 finalists will showcase their applications, and a third jury will then select the winners, 3 to 5 winners per competition. The winners will receive technical assistance, training and/or mentorship under programs to be established by the incubators.
- An event report will be prepared after each application competition to formally capture the knowledge that will be reusable for future similar events: a description of the design and approach to organizing the competition; a description of the finalists and winners’ applications, their objectives, and how they could best be improved, and potential customers for such applications. The report will also address the issue of support and sustainability when the competition is over.
- Governance structure, grievance mechanism for any non-successful participants to the business plan competition as well as other relevant details will be further developed in the Project Operations Manual.

24. Activity 2.7: Strengthening the capacity of the MENP to lead the digital economy agenda. This activity aims at improving through technical assistance and training the capacity in

⁶⁹ See: Michel Rogy and Jacqueline Dubow, Technologies de l’Information et de la Communication, Langues Vernaculaires et Stimulation du Haut Débit au Gabon (2014), available at : <http://documents.worldbank.org/curated/en/2014/06/19759988/technologies-de-l%20information-de-la-communication-langues-vernaculaires-stimulation-du-haut-d%C3%A9bit-au-gabon>

French is the “national” language in Gabon; however, like many Sub Saharan African countries Gabon is a multilingual country, with around 50 ethnic groups and several indigenous languages for a population of around 1.6 million. The example of the India mHealth-Primary Health Care app, which includes Interactive Vocal Response in local languages, illustrate how an existing application (not specifically developed for local languages) can incorporate some aspect of local language to reach more broadly especially in rural areas.

digital economy policy design, oversight and implementation in the Ministry in charge of Digital Economy (and related agencies as appropriate).

Component 3: Project Management, coordination, monitoring and evaluation of the Project (estimated Cost US\$4.78 million all IBRD).

25. **The aim of this component is to provide fiduciary support to the Project by the CN-TIPPEE, building upon the arrangements set up for the CAB4 Project.** This component will cover: (3.1) Staff, training, IT and office equipment, vehicles, and operating costs; (3.2) Environmental and social studies, their implementation and/or the monitoring of their implementation; (3.3) M&E for Component 1; (3.4) M&E for Component 2; and (3.5) Midterm and completion reviews (including an analysis of the gender-specific impacts of the project).

26. **The CN-TIPPEE now provides fiduciary support to the Government in the implementation of a number of Bank projects in Gabon.** The PLR acknowledges that is working and should be built upon. The CN-TIPPEE could become a central provider of fiduciary services and a “hub” to develop fiduciary capacity in the country (to benefit all World Bank projects). This could facilitate project implementation, particularly in early phases of project implementation and may also lead to efficiency gains as personnel may be used more efficiently from a central pool than when decentralized in various units. For the purpose of this PAD, and following discussion with the respective task team leaders, it is assumed that the costs of the fiduciary support are split between the following projects: CAB4 Project (P122776), eGabon Project (P132824), Access to Basic Services in Rural Areas and Capacity Building Project (P144135), and Infrastructure and Local Development Project II (P151077). This will mitigate the recurrent difficulties encountered in making counterpart funding for the CN-TIPPEE available for the CAB4 Project.

ANNEX 3: Implementation Arrangements

GABON: eGabon Project

Project Institutional and Implementation Arrangements

Project administration mechanisms

1. Building upon institutional and implementation arrangements that worked out satisfactorily under the CAB4 Project, the institutional and implementation arrangements for eGabon will involve two organizational levels.

- a) **Two Steering Committees, the “NHIS Strengthening Steering Committee” for Component 1 where MSPSSN is leading the implementation and the “Digital Transformation Steering Committee” for Component 2 where MENP is leading the implementation**, will be in charge of providing overall technical and operative guidance, direction and coordination during project implementation, will have fiduciary and governance oversight and will bear responsibility for the compliance of safeguards activities to national and World Bank policies.
 - NHIS Strengthening Steering Committee - Component 1. The steering committee is supported by the project management team, the project team, and the regional committees. The Ministerial Decision setting up the steering committee (No. 0276/MPS/SG) was passed on September 11, 2015, while the Decision (0001/PVP/MSPSSN/SG) formally appointing the members of the project management team and of the project team was passed on November 18, 2015. The project team includes both technical and functional components, to address the health care and technical aspects of the project. The functional component has teams devoted to the hospital information system, the human resource information system, the facilities management system and health statistics, while the technical component includes cells for studies, data base management, network and communications infrastructure and data security. Finally, the Regional Committees were given responsibility for the implementation of the eHealth system within their respective regions. These committees are to be chaired by the Regional Director of Health. The steering committee, project management team, and the project team have all been active in the preparation of the project. Space has been allocated in the Ministry in charge of Health for the project team, including anticipated consultants, the procurement has been launched for the renovation of this space, and the purchase of necessary office furniture and equipment is underway. The project management team and the project team have all been active in the preparation of the project. Space has already been allocated within the MSPSSN for the project team (including the anticipated consultants), the procurement has been launched to renovate this space, and the purchase of necessary office furniture and equipment is underway.
 - Digital Transformation Steering Committee - Component 2. The steering committee is supported by the technical operational committee. The Ministerial Decision setting up the Digital Transformation Steering Committee (No. 0134/PM) was passed on February 11, 2016. The steering committee includes representative from key ministries and entities (including the Gabonese Employers Confederation). The

appointment of the members of the technical operational committee is underway and expected to be completed by June 2016. The technical operational committee includes the representatives from key public and private stakeholders of the Gabonese digital innovation ecosystem. The President of the technical operational committee and his team at the MENP have been active in the preparation of the project. Space exists within the MENP or within the envisaged location for the digital incubator in Libreville for the project team, including the anticipated consultants, and the purchase of necessary office furniture and equipment is underway.

- To guarantee proper interaction between Component 1 and Component 2, the following arrangements have been agreed: the Minister in charge of Digital Economy is the president of the Steering Committee of Component 2 as well as the vice-president of the steering committee of Component 1; and the president of the technical operational committee of Component 2 is a member of the project management team of Component 1.

b) **The Project Implementation Unit (PIU) which is the CN-TIPPEE** is in charge of providing all fiduciary support in the implementation of the Project, including Procurement, Financial Management, M&E, and Safeguards. A project manager will be hired under the project to provide project management support to the two Steering Committees to which the PIU will be reporting to for Component 1 and for Component 2 of the Project.

2. A report on Component 1 of the Project to the inter-ministerial commission for e-Government will also be conducted, in accordance with the procedures established in the Ministerial Decision no \$1149/PM passed on April 3, 2013.

Measures to address capacity constraints

3. Extensive technical assistance is being provided in international best practice and in project management both for Component 1, NHIS expert, and for Component 2, digital innovation ecosystem expert, through hiring seasoned experts for the three initial years of the Project. An existing PIU for fiduciary support is being used and will be strengthened with a project manager to provide project management support to the two commissions to which the PIU will be reporting to for Component 1 and for Component 2 of the Project. Trainings will also be organized throughout project implementation for the staff of the beneficiaries on the World Bank's project cycle and procurement and FM guidelines of World Bank funded projects.

Financial Management, Disbursements, and Procurement

Financial Management

Country Issues

4. Gabon has embarked upon a series of major reforms and initiatives including the adoption of a new organic budget law in 2015⁷⁰ and a new procurement code in April 2012,⁷¹ the ongoing development of a budget management system (Vectis), the outsourcing of the public investments program to a National Agency for Large-Scale Works and Infrastructures (ANGTI), and the creation of Finance and Administrative Directorates (*Directions Centrales des Affaires Financières*) in line ministries with the view to ease the transition to a program-based budgeting approach as well as devolution of budget authority.

5. Against this background, critical challenges in Public Finance Management (PFM) remain as highlighted in the Bank Public Expenditure Review, 2012. These challenges relate to: (i) the misalignment between public spending and development goals; (ii) the lack of a comprehensive public investment management system to manage the current tripling of the investment budget; (iii) the low capital budget execution on priority sectors; (iv) the poor value-for-money in public spending; and (v) the insufficiencies in the financial report arrangements.⁷² The underlying causes include amongst others, outdated procurement bidding documents; lack of transparency in the procurement process, lack and/or delay in preparing the planning and budget execution tools (for example, procurement/commitment/disbursement plans), lack of a manual of procedures guiding the elaboration of the financial reports and, more generally, weak PFM capacities at sector level.

6. To improve its economic performance, the government has requested technical assistance from the Bank in a number of areas, including Public Financial Management. To this end, a first Reimbursement Advisory Services (RAS) amounting to US\$2 million was signed and disbursed on November 2011. The PFM activities under this first RAS (P130564) focusing on the improvement of the budget preparation were duly completed and received both client and Bank recognition. They specifically related to: (i) the timely elaboration for the 2013 annual budget, of procurement, commitment and disbursement plans in six key line ministries; (ii) the development of a manual of procedures for the elaboration of the administrative accounts; and (iii) the piloting of the performance audit in the health sector with the aim to assess the value-for-money of the underlined spending. A second PFM RAS is being implemented to scale up the impact of the activities completed under this first RAS.

⁷⁰ This is being readapted to comply with Economic and Monetary Community of Central Africa (*Communauté Economique et Monétaire des Etats de l'Afrique Centrale*) PFM Directives adopted on December 2011.

⁷¹ This includes, among others, the creation of a Procurement Regulatory Agency (ARMP) and decentralization of the Directorate of Public Procurement in line ministries.

⁷² Since 2009, the Court of Account is issuing a qualification on the annual financial reports as a result of comprehensiveness in the administrative accounts produced by the Ministry of Budget.

Risk Assessment and Mitigation

Figure 5. Risk Assessment and Mitigation

Risk	Risk rating	Risk Mitigating Measures Incorporated into Project Design	Risk after mitigation measures	Remarks
Country level Weak capacity in public financial management	H	RAS is ongoing with the aim to improve budget execution with World Bank support	H	
Entity level No experience of the line ministry in World Bank financed projects	M	Rely on CN-TIPPEE	M	
Project level No critical FM risk has been identified	M		M	
INHERENT RISK	M		M	
Budgeting Delay in the preparation of PTBA	M	Establish a clear timeline for budget preparation and monitoring in the POM	M	Before effectiveness
Accounting Delay in the release of counterpart funds may impact the effective functioning of CN-TIPPEE	S	Yearly and timely release of counterpart funds to finance CN-TIPPEE's operating costs	M	During Implementation
Internal Controls and Internal Audit Delay in the release of counterpart funds may impact the effective functioning of CN-TIPPEE	S	Yearly and timely release of counterpart funds to finance CN-TIPPEE's operating costs	M	During Implementation
Funds Flow Delay in the funds release if <i>Caisse de Dépôt et de Consignations</i> (CDC) hosts the Designated Account as the latter does not comply with 8 criteria of disbursement letter. Risk of funds being diverted for ineligible expenditures.	S	Open a segregated Designated Account in a commercial bank acceptable to the World Bank Perform ex ante and ex post control proposed as part of this FMAR	M	Done During Implementation
Financial Reporting Delay in producing acceptable Interim Financial Reports (IFR)	S	Rely on existing CN-TIPPEE financial reporting arrangements. Upgrade existing Tompro to produce the Project's IFRs	M	During Implementation Three month after effectiveness
Auditing No major risk has been identified in existing external auditing arrangements	M	Amend the TORs of existing external auditor	L	Done
CONTROL RISK	M		M	
Overall FM risk	M		M	

H: High; S: Substantial; M: Moderate; L: Low

7. The overall residual risk rating is deemed Moderate.

Strengths

8. The CN-TIPPEE has an adequate track record in implementing Bank-financed projects: the existing staff are well-versed with Bank-financed projects and perform satisfactorily.

Weaknesses and action plan to reinforce the fiduciary arrangements

Figure 6. Action Plan for Fiduciary Arrangements

Significant Weaknesses or risks	Action	Responsible body	Completion
The internal control environment of the project is weakened by the lack of an appropriate procedures manual	Adoption of a Project Operations Manual, comprising of a Manual of Administrative, Financial, and Accounting procedures	CN-TIPPEE	Before effectiveness
The scope of the current external audit arrangements does not include the proposed Project	Amend the ToRs of existing external auditor	CN-TIPPEE	Has been completed
Existing Tompro does not include this Project	Upgrade Tompro	CN-TIPPEE	3 months after effectiveness

9. **Staffing.** The CN-TIPPEE is staffed with one financial officer, one accountant (recently replaced), and a clerk accountant with track record in Bank-financed projects. The FM staff will record transactions, monitor the compliance of transactions with fiduciary requirement, and prepare the Withdrawal Application and financial reports. One additional accountant will be recruited to reinforce the FM unit, which comprises one finance management specialist and one accountant.

10. **Budgeting.** Reliance will be placed on the CN-TIPPEE budgeting arrangements. Annual work plans to be approved by the Steering Committees will clearly detail the activities and will be translated into annual budgets. Budget execution will be monitored via : (i) the existing Tompro software and in accordance with the budgeting procedures specified in the POM, comprising of a Manual of Administrative, Financial, and Accounting Procedures and of a Project Implementation Manual; (ii) and the recruitment of an accountant. Any variances will be identified in the quarterly Unaudited IFRs. Only budgeted expenditures will be committed and incurred so as to ensure resources are used within the agreed upon allocations and for the intended purposes.

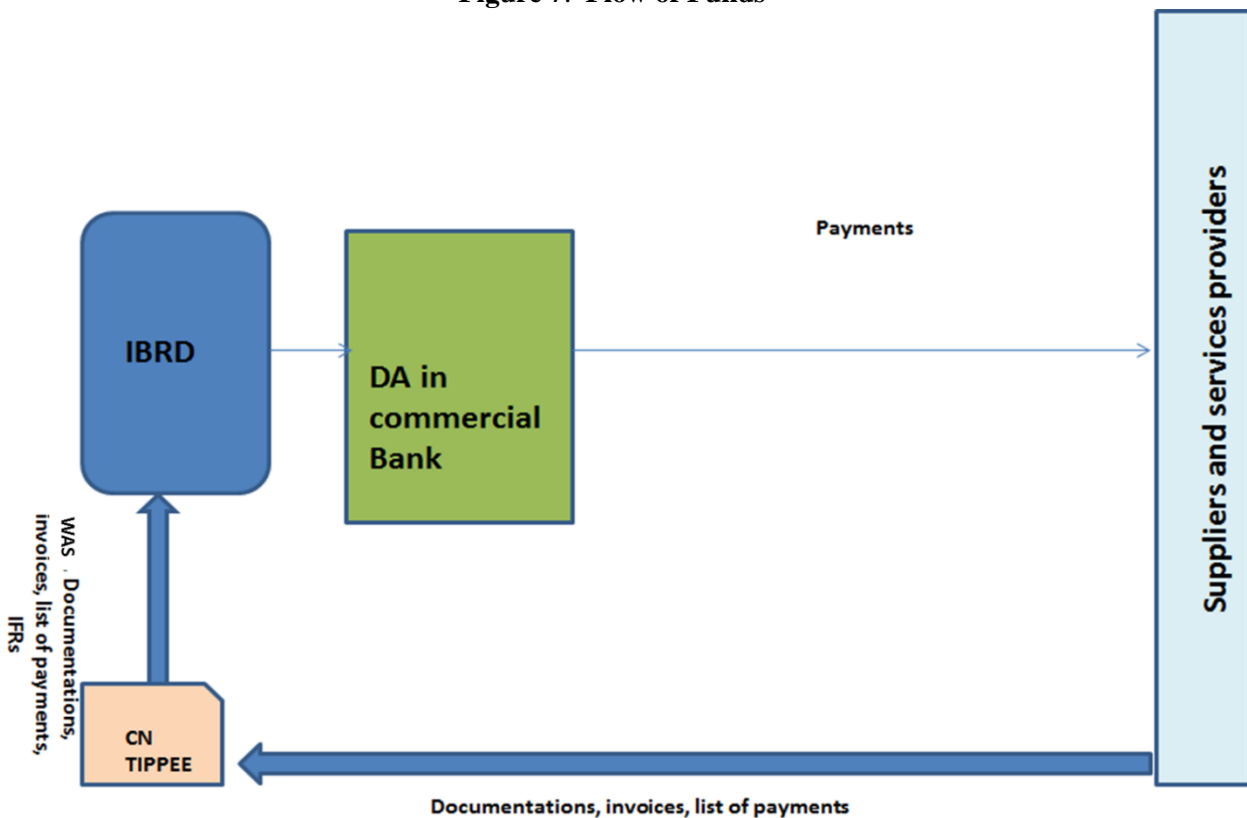
11. **Accounting policies and procedures.** CN-TIPPEE existing accounting system (accounting software multi-project and multi-site) will be used to maintain the books and accounts of the project activities and ensure that the annual financial statements are produced in a timely manner in accordance with Organization for Harmonization of Business Law in Africa (*Organisation pour l'Harmonisation du Droit des Affaires en Afrique, OHADA*) accounting principles, which are in line with the international accounting standards. The existing software will be upgraded to record the project's transactions and generate accurate financial reports on time. The POM will be amended to take into account the project specifics.

12. **Internal control and internal auditing.** Internal control will build on the existing CN-TIPPEE arrangement which comprises segregation of duties through four different units respectively responsible for technical implementation, administration and finance, and M&E, as well as information and communication and the M&E unit will be in charge of following up on internal control recommendations made by the external auditor.

13. **Funds flow and disbursement arrangements.** One Designated Account (DA) in (Franc CFA) (XAF) has been opened in a commercial bank acceptable to the Bank and is managed by the joint signature of the Financial Management Specialist and of the CN-TIPPEE Secretary Permanent or Assistant Permanent Secretary. In the medium term, *Caisse des Dépôt et des Consignations* may host the DA when it complies with 8 criteria highlighted in the disbursement letter. The Designated Account will receive an initial deposit equivalent to six month expenditures forecast and will be replenished regularly through quarterly Withdrawal Applications supported by quarterly interim financial reports. Direct payments, will be made to service providers if needed as per disbursement letter. The Withdrawal Applications to replenish the Designated Account will be signed by signatories appointed by the government.

14. IFR-based disbursement will be used as the CN-TIPPEE has demonstrated a satisfactory FM performance to date.

Figure 7. Flow of Funds



15. **Disbursement by category.** Figure 8 sets out the expenditure categories to be financed out of the Loan proceeds. This table takes into account the prevailing country financing parameter for Gabon in setting out the financing levels.

Figure 8. Disbursement Categories

Category	Amount of the Loan Allocated (expressed in EUR)	Percentage of Expenditures to be financed (inclusive Taxes)
(1) Goods, works, non-consulting services, Training, operating costs, and consultants' services for the Project (except for Part B.2(d))	45,574,750	100%
(2) Sub-Grants under Part B.2(d) of the Project	1,202,500	100% of amounts disbursed, payable under the respective Sub-Grants
(3) Refund of the Preparation Advance	4,594,000	Amount payable pursuant to Section 2.07 (a) of the General Conditions
(4) Front-end Fee	128,750	Amount payable pursuant to Section 2.03 of this Agreement in accordance with Section 2.07 (b) of the General Conditions
(5) Interest Rate Cap or Interest Rate Collar premium		Amount due pursuant to Section 2.08(c) of the Loan Agreement
TOTAL AMOUNT	51,500,000	

16. **Financial reporting and monitoring.** CN-TIPPEE existing reporting arrangements will be maintained and IFRs will be submitted to IBRD within 45 days after the end of each calendar quarter. The current content and format of the IFR will continue to be used. The IFR will comprise the sources and use of funds and the detailed expenditures by component. At the end of each fiscal year, the project will prepare annual financial statements.

17. **Auditing.** The annual financial statements prepared by the CN-TIPPEE as well as its internal control system applied will be audited annually. To this end, the existing external auditor TORs have been amended to include this Project. The auditor will provide one single opinion on the annual financial statements in compliance with the International Federation of Accountants Standards on Auditing. In addition to the audit reports, the external auditors will be expected to prepare a Management Letter giving observations, comments, and providing recommendations for improvements in accounting records, systems, controls and compliance with financial covenants in the Loan Agreement. The Project will be required to produce, no later than six months after the fiscal year, the audited annual financial statements.

FM Conditions and FM Covenants

18. Terms of reference of the external auditor of the Bank-funded CAB Project to include the new Project were amended prior to negotiations.

19. The existing Tompro software to handle the new Project will be upgraded, no later than 3 months after effectiveness.

20. **Implementation Support Plan.** FM implementation support will be consistent with a risk-based approach, and will involve a collaborative approach with the entire Task Team (including procurement specialist). A first implementation support mission will be carried out shortly after project effectiveness. Afterwards, the missions will be scheduled by using the risk based approach model and will include the following due diligence: (i) monitoring of the FM arrangements during the supervision process at intervals determined by the risk rating assigned to the overall FM Assessment at entry and subsequently during Implementation (Implementation Status Results Report); (ii) review the IFRs; (iii) review the audit reports and management letters from the external auditors and follow-up on material accountability issues by engaging with the task team leader (TTL), client, and/or auditors; the quality of the audit also is to be monitored closely to ensure that it covers all relevant aspects and provides enough confidence on the appropriate use of funds by recipients; (iv) physical supervision on the ground; and (v) assistance to build or maintain appropriate FM capacity.

21. **Conclusions of the FM assessment.** The overall FM risk is considered Moderate since the CN-TIPPEE is an existing and adequately-performing PIU. The proposed FM arrangements for this project are considered adequate to meet the Bank's minimum fiduciary requirements under OP/BP10.00. The assessment recommended among other measures: (i) the adoption of the POM; (ii) the upgrading of Tompro to include this new Project, and (iii) the recruitment of an external auditor using the existing external audit arrangements.

Procurement

General

22. **Applicable guidelines.** Procurement for the Project will be carried out in accordance with the World Bank 'Guidelines: Procurement of Goods, Works, and Non-Consulting Services under International Bank for Reconstruction and Development (IBRD) Loans and IDA Credits & Grants by World Bank Borrowers' dated January 2011, revised July 2014; 'Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credit & Grants by World Bank Borrowers', dated January 2011, revised July 2014; and the provisions stipulated in the Loan Agreement. Procurement (works, goods, and non-consulting services) or Consultant Selection methods, prequalification, estimated costs, prior review requirements, and time frame are agreed in the Procurement Plan. The Procurement Plan will be updated at least annually or as required to reflect the actual project implementation. The Bank's Standard Bidding Documents (SBDs) or Gabon's National SBD satisfactory to the Bank will be used. To the extent practicable, the Bank's SBD for works, goods, and non-consulting services and Standard Request for Proposals, as well as all standard evaluation forms, will be used throughout project implementation.

23. **Advertising.** The Borrower is required to prepare and submit to the Bank a General Procurement Notice. The Bank will arrange for its publication in United Nations Development Business online (UNDB online) and on the Bank's external website. The General Procurement Notice shall contain information concerning the Borrower, amount and purpose of the loan, scope of procurement reflecting the Procurement Plan, and the name, telephone (or fax) number, and address(es) of the Borrower's agency(ies) responsible for procurement, and the address of a widely used electronic portal with free national and international access or website where the

subsequent Specific Procurement Notices will be posted. If known, the scheduled date for availability of prequalification or bidding documents should be indicated. The related prequalification or bidding documents, as the case may be, shall not be released to the public earlier than the date of publication of the General Procurement Notice.

24. In the case of international competitive bidding (ICB) or limited international bidding, invitations to prequalify or to bid, as the case may be, shall be advertised as Specific Procurement Notices in at least one newspaper of national circulation in the Borrower's country, or in the official gazette, or on a widely used website or electronic portal with free national and international access, in English or French, or at the option of the Borrower, in a national language. Such invitations shall also be published in UNDB online. Notification shall be given with sufficient time to enable prospective bidders to obtain prequalification or bidding documents and prepare and submit their responses. The Bank will arrange the simultaneous publication of all Specific Procurement Notices prepared and submitted by the Borrowers on the Bank's external website.

25. In the case of National Competitive Bidding (NCB), the complete text of the advertisement shall be published in a national newspaper of wide circulation in the National Language, or in the official gazette, provided that it is of wide circulation, or on a widely used website or electronic portal with free national and international access. The Borrower may publish a shorter version of the advertisement text, including the minimum relevant information, in the national press provided that the full text is simultaneously published in the official gazette or on a widely used website or electronic portal with free national and international access. Notification shall be given to prospective bidders in sufficient time to enable them to obtain relevant documents.

26. To obtain Expressions Of Interest (EOIs), the Borrower shall include a list of expected consulting assignments in the General Procurement Notice, and shall advertise a Request for Expressions of Interest (REOI) for each contract for consulting firms in the national gazette, provided that it is of wide circulation, or in at least one newspaper, or technical or financial magazine, of national circulation in the Borrower's country, or in a widely used electronic portal with free national and international access in English or French. In addition, assignments expected to cost more than US\$300,000 shall be advertised in UNDB online. Borrowers may also in such cases advertise REOIs in an international newspaper or a technical or financial magazine. The information requested shall be the minimum required to make a judgment on the firm's suitability and not be so complex as to discourage consultants from expressing interest. REOIs shall at a minimum include the following information applicable to the assignment: required qualifications and experience of the firm, but not individual experts' bio data; shortlisting criteria; and conflict of interest provisions. No less than 14 (fourteen) days from date of posting on UNDB online shall be provided for responses, before preparation of the short list. The late submission of a response to an REOI shall not be a cause for its rejection unless the Borrower has already prepared a short list, based on received EOIs, that meets the relevant qualifications. The Bank will arrange the simultaneous publication of all REOIs prepared and submitted by the Borrower on the Bank's external website. Contract awards will also be published in UNDB, in accordance with the Bank's Procurement Guidelines (para. 2.60) and Consultants Guidelines (para. 2.31).

27. **Requirements for NCB.** Works, goods, and non-consulting service contracts will use NCB procurement methods in accordance with national procedures using SBDs acceptable to the IBRD and subject to the additional requirements:

- In accordance with paragraph 1.16 (e) of the Procurement Guidelines, each bidding document and contract financed out of the proceeds of the financing will provide that: (i) the bidders, suppliers, contractors, and their subcontractors, agents, personnel, consultants, service providers, or suppliers will permit the World Bank as the Supervising Entity, at its request, to inspect all accounts, records and other documents relating to the submission of bids and contract performance, and will have said accounts and records audited by auditors appointed by the World Bank/Supervising Entity; and (ii) the deliberate and material violation of such provision may amount to an obstructive practice as defined in paragraph 1.16 (a)(v) of the Procurement Guidelines.
- Invitations to bid will be advertised in national newspapers with wide circulation.
- The bid evaluation, qualification of bidders, and contract award criteria will be clearly indicated in the bidding documents.
- Bidders will be given adequate response time (at least four weeks) to submit bids from the date of the invitation to bid or the date of availability of bidding documents, whichever is later.
- Eligible bidders, including foreign bidders, will be allowed to participate. No domestic or Economic and Monetary Community of Central Africa (*Communauté Economique et Monétaire des Etats de l'Afrique Centrale*) regional preference may be given to domestic or regional contractors or to domestically or regionally manufactured goods. Association with a national or regional firm will not be a condition for participation in a bidding process.
- Bids are awarded to the substantially responsive and the lowest evaluated bidder, provided that the bidder is qualified. No scoring system will be allowed for the evaluation of bids, and no "blanket" limitation to the number of lots that may be awarded to a bidder will apply.
- Qualification criteria will only concern the bidder's capability and resources to perform the contract, taking into account objective and measurable factors.

28. **Procurement environment.** No special exceptions, permits, or licenses need to be specified in the Loan Agreement, since the procurement code, approved by the President of the Republic of Gabon on June 19, 2012, allows World Bank procedures to take precedence over any contrary provisions in local regulations. A decree creating a procurement regulatory body was already issued. However, this institution is not yet currently operational. It is not yet completely staffed. Only their General Director and the president of the Regulatory Board were so far nominated. The Bank provided support to the first phase of a PFM Reimbursable technical assistance (TA) which focused on improvement of budget preparation, including support to: (i) the timely preparation, of procurement, commitment and disbursement plans in 6 key line ministries; (ii) the development of a procedures manual for the elaboration of the administrative accounts; and (iii) and the piloting of the performance audit in the health sector with the aim of assessing whether value-for-money was realized in relation to spending. Through the ongoing second PFM RAS II, the World Bank has been assisting the government on: (i) the setting up of budget management tools in line with the new program budgeting approach; (ii) the strategy of

the newly created Public Procurement Regulatory Body; (iii) the elaboration of the bidding documents; and (iv) the training of trainers.

29. **Procurement of works.** Under this project, there will be only small works, namely: (i) within the premises of MSPSSN for the project team of Component 1; (ii) in existing premises to be rented under the project for the incubators to be established under Component 2; and (iii) within the existing premises or similar premises for the CN-TIPPEE under Component 3. No ICB or NCB are foreseen under this project, as the above mentioned works are estimated to cost less than US\$200,000 equivalent per contract which may be procured through shopping, based on price quotations obtained from at least three contractors in response to a written invitation to qualified contractors. Direct Contracting shall be used in accordance with the provisions of paragraph 3.7 of the Procurement Guidelines.

30. **Procurement of goods and non-consulting services.** Goods procured under this project would include vehicles, furniture and office equipment. Taking into account (level of value added) manufacturing/producers capacity in the country, procurement of goods will be bulked where feasible (similar nature and need at same time period) into bid packages of at least US\$1 million equivalent, so that they can be procured through suitable methods to secure competitive prices. Goods estimated to cost US\$1 million equivalent and above per contract will be procured through ICB, which will use the Bank's SBDs. For other goods contracts costing less than \$1 million equivalent, NCB procurement methods will be used in accordance with national procedures using an SBD acceptable to the Bank and subject to the additional requirements set forth or referred to above in paragraph on Requirements for National Competitive Bidding.

- Procurement of goods and non-consulting services, including those of readily available off-the-shelf maintenance of the office electronic equipment and other services such as printing, and editing, which cannot be grouped into bid packages of US\$100,000 or more, may be procured through prudent shopping in conformity with Clause 3.5 of the procurement guidelines.
- Based on country-specific needs and circumstances, shopping thresholds for the purchase of vehicles and fuel may be increased up to US\$500,000, provided the major car dealers and oil providers are consulted.
- Direct Contracting will be undertaken in accordance with the provisions of paragraphs 3.7 of the Procurement Guidelines.
- At the beginning of the Project, vehicles procurement packages estimated to cost US\$200,000 or less can be procured through the United Nations Office for Project Services (UNOPS) or other United Nations agencies.

31. **Selection of consultants.** Consulting services will be needed for the following activities: (i) technical assistance; (ii) feasibility and detailed studies as well as any other critical studies; (iii) financial and technical audits; (iv) capacity development plans; and (v) institutional development plans. These consulting services will be procured with the most appropriate method among the following which are allowed by Bank guidelines and included in the approved procurement plan: Quality- and Cost-based Selection (QCBS), Quality-based Selection (QBS),

Selection under a Fixed Budget (FBS), and Least-Cost Selection. Selection based on Consultants' Qualifications (CQS) will be used for assignments that shall not exceed US\$300,000. Single Source selection shall also be used in accordance with the provisions of paragraphs 3.8 to 3.11 of the Consultant Guidelines, with the World Bank's prior agreement. All terms of reference will be subject to World Bank Prior Review. The following requirements will apply:

- Assignments of Engineering Designs and Contract Supervision in excess of US\$300,000, and all other technical Assistance assignments above US\$100,000, must be procured on the basis of international short-lists and in accordance with the provisions of paragraph 2.6 of the Consultants' Guidelines. All other consultancy assignments in which the estimated cost does not exceed US\$100,000 per contract, may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultants' Guidelines.
- Consultants for services meeting the requirements of Section V of the Consultants' Guidelines will be selected under the provisions for the Selection of Individual Consultants, through comparison of qualifications among candidates expressing interest in the assignment or approached directly.

32. **Operating cost** financed by the Project include, *inter alia*, utilities, offices supplies, vehicle operation, vehicle maintenance, and insurance, as well as building and office equipment maintenance costs. These goods and services will be procured using the project's financial and administrative procedures included in the POM and based on the annual work plan and budget. For services (car maintenance, computer maintenance, and so on) to be financed through operating costs, the project will proceed with service contracting for a defined period.

33. **Training, workshops, seminars, conferences, and study tours** will be carried out on the basis of an approved annual work plan and budget that will identify the general framework of training and similar activities for the year, including the nature of training, study tours, and workshops; the number of participants; and cost estimates.

Institutional Arrangements for Procurement and Capacity Assessment, including Risk Mitigation Measures

34. **Procurement implementation arrangement.** The CN-TIPPEE will be in charge of the implementation of the fiduciary aspects of the project activities.

35. **Procurement capacity assessment of the implementation arrangement of CN-TIPPEE.** A procurement risk and management assessment of the capacity of the CN-TIPPEE for the purposes of the project was carried out. The assessment indicated that the procurement risk for the implementation of the project is rated as substantial. There is a procurement specialist currently on board. The latter needs to be maintained to work on this new project, or replaced by another procurement specialist with qualifications and expertise satisfactory to the Bank. Given the fact that the CN-TIPPEE is currently managing other Bank-financed projects, there is a need to reinforce the procurement unit with two junior procurement specialists due to the heavy workload foreseen for the procurement unit. It was agreed that the position of the two

junior procurement specialist will be financed by two other Bank financed projects managed by CN-TIPPEE. The POM also needs to be updated.

36. **The procurement risk is rated Substantial.** To mitigate the above-mentioned procurement risks, an action plan has been agreed upon. Implementation and monitoring of the mitigation action plan outlined in the table below will reduce the procurement residual risk to Moderate.

Figure 9. Procurement Action Plan

Action to Be Undertaken	Time Frame	Responsible Body
Prepare and submit a procurement plan to the World Bank	First draft at appraisal and final version discussed and agreed during negotiations	CN-TIPPEE
Finalize and submit to World Bank for agreement, a satisfactory version of the POM comprising a section on procurement for use by the Project	- Draft at appraisal. - Adoption before effectiveness	CN-TIPPEE
Maintain during the Project's life an acceptable procurement arrangement to the Bank, comprising a procurement specialist and 2 junior procurement specialists, if justified by the workload	During Project's life	CN-TIPPEE

37. **Procurement plan.** The Borrower, at pre appraisal in December 2015, had prepared a simplified procurement plan for project implementation that provides the basis for the procurement methods and the types of reviews. This plan covering the first 18 months of project implementation was reviewed and updated during appraisal. The updated version of this Procurement Plan was discussed, and agreed upon, by the Recipient and the project team at negotiations. It will be available in the Project's database, and a summary will be disclosed on the Bank's external website once the Board approves the Project. It will be updated in agreement with the project team annually, or as required, to reflect the actual project implementation needs and improvement in institutional capacity.

38. **Publication of results and debriefing.** The Borrower shall publish information on UNDB online for all contracts under ICB and Limited International Bidding, and all direct contracts, and in the national press for all contracts under NCB. Such publication shall be within two weeks of receiving the Bank's no objection to the award recommendation for contracts subject to the Bank's prior review, and within two weeks of the Borrower's award decision for contracts subject to the Bank's post review. The disclosure of results is also required for selection of consultants. The Borrower shall publish information on UNDB online for all contracts when the short list includes any foreign firm and all single-source selection contracts awarded to foreign firms, and in the national press all contracts where the short list comprises only national firms and all single-source selection contracts awarded to national firms. Such publication shall be within two weeks after receiving the Bank's no objection for award of the contract subject to the Bank's prior review and within two weeks of successful negotiations with the selected firm for contracts subject to the Bank's post review.

39. **Fraud and corruption.** The procuring entity as well as bidders, suppliers, contractors, and service providers must observe the highest standard of ethics during the procurement and

execution of contracts financed under the program, in accordance with paragraphs 1.16 and 1.17 of the Procurement Guidelines and paragraphs 1.23 and 1.24 of the Consultant Guidelines. The ‘Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants’, dated October 15, 2006, and revised in January 2011, will apply to this project.

40. **Frequency of procurement supervision.** The capacity assessment of the CN-TIPPEE has recommended supervision missions to visit the field at least twice a year, and a post-review of procurement actions will be conducted annually.

Summarized Procurement Plan

41. The main works, goods, and non-consulting services to be procured in the Project are listed in Figure 10.

Figure 10. Works, Goods, and Non-consulting Service Contracts to be procured

Ref. No.	Description	Estimated Cost (US\$)	Procurement Method	Domestic Preference (yes/no)	Review by World Bank (Prior/Post)	Comments/ Estimated bid submission date
To be procured the first 18 months of the Project						
1.	Revamping office space for the Component 1 project team and the NHIS expert	20,000	Shopping	No	Post	Submitted (Prepared with the PPA)
2.	Revamping office space for the digital incubator in Libreville	57,000	Shopping	No	Post	August 30, 2016 (first floor)
3.	Revamping office space for the incubator in Port-Gentil	57,000	Shopping	No	Post	February 28, 2017
4.	Revamping office space for the incubator in Franceville	57,000	Shopping	No	Post	February 28, 2017
5.	Revamping office space for the CN-TIPPEE	20,000	Shopping	No	Post	Submitted (Prepared with the PPA)
6.	Vehicles	150,000	Shopping	No	Post	August 30, 2016
7.	Office furniture for the Component 1 project team and the NHIS expert	10,000	Shopping	No	Post	Submitted (Prepared with the PPA)
8.	IT and telecoms for the Component 1	40,000	Shopping	No	Post	Submitted (Prepared with the PPA)
9.	Office furniture for the digital incubator in Libreville	40,000	Shopping	No	Post	August 30, 2016 (first floor)
10.	Office furniture for the incubator in Port-Gentil	40,000	Shopping	No	Post	April 7, 2017
11.	Office furniture for the incubator in Franceville	40,000	Shopping	No	Post	April 7, 2017
12.	IT and telecoms for the Component 2 - Libreville	90,000	Shopping	No	Post	August 30, 2016 (first floor)

Ref. No.	Description	Estimated Cost (US\$)	Procurement Method	Domestic Preference (yes/no)	Review by World Bank (Prior/Post)	Comments/ Estimated bid submission date
To be procured the first 18 months of the Project						
13.	IT and telecoms for the Component 2 – Port-Gentil	90,000	Shopping	No	Post	August 30, 2016
14.	IT and telecoms for the Component 2 – Franceville	90,000	Shopping	No	Post	August 30, 2016
15.	Office furniture for CN-TIPPEE	40,000	Shopping	No	Post	May 30, 2016
16.	FM Software	45,000	Direct Contracting	No	Prior	Submitted (Prepared with the PPA)

42. **Prior review thresholds for works, goods, and non-consultant services.** The following contracts will be subject to prior review by the Bank: (i) contracts estimated to cost more than US\$10 million for works and US\$1,000,000 for goods per contract ; the first ICB and NCB contracts for works and goods, and eventually others as identified in the procurement plan; and direct contracting above US\$100,000.

43. The main consulting assignments of the project are listed in Figure 11.

Figure 11. Consulting Assignments with Selection Methods and Time Schedules

Ref. No.	Description of Assignment	Estimated Cost (US\$ million)	Selection Method	Review by World Bank (Prior / Post)	Comments/ Estimated bid submission date
To be procured the first 18 months of the Project					
1.	Technical assistance to determine the legal environment for NHIS and eHealth / mHealth services	250,000	QCBS	Prior	June 30, 2016 (Given reputational risk of inappropriate legal environment)
2.	Technical assistance for drafting required legislation for NHIS and eHealth / mHealth services	250,000	QCBS	Prior	February 28, 2017 (Given reputational risk of inappropriate legal environment)
3.	Technical assistance on standards to guide IT systems development in the health sector	75,000	IC	Post	June 30, 2016
4.	Technical assistance on health data dictionary	200,000	CQS	Post	Submitted (Prepared with the PPA)
5.	Technical assistance in developing health standards	250,000	QCBS	Post	June 30, 2016

Ref. No.	Description of Assignment	Estimated Cost (US\$ million)	Selection Method	Review by World Bank (Prior / Post)	Comments/ Estimated bid submission date
To be procured the first 18 months of the Project					
6.	NHIS expert	750,000	IC	Prior	Submitted (Prepared with the PPA) (Key measure to address capacity constraints)
7.	Technical assistance on detailed feasibility studies and drafting of bidding documents for the NHIS	1,136,900	QCBS	Prior	June 30, 2016
8.	Technical assistance on a cartography of health units	231,000	CQS	Post	June 30, 2016
9.	Technical assistance on a survey of IT / telecoms equipment and use in health units	56,600	CQS	Post	Submitted (Prepared with the PPA)
10.	Technical assistance on the health map, statistical report and management report	240,000	CQS	Post	June 30, 2016
11.	Technical assistance in defining a change management strategy including associated budget for the Ministry in charge of Health	300,000	QCBS	Prior	June 30, 2016 (Given reputational risk of inappropriate change management)
12.	Technical assistance in the implementation of the change management strategy in the Ministry in charge of Health	700,000	QCBS	Prior	November 30, 2016
13.	Technical assistance for a new health national plan	160,000	IC	Post	June 30, 2016
14.	Technical assistance for designing a pilot RBF	70,000	IC	Post	June 30, 2016
15.	Technical assistance for the preparation of an RBF	260,000	QCBS	Post	January 31, 2017
16.	Technical assistance to finalize the detailed concept of the digital incubators in Libreville	260,000	QCBS	Prior	Submitted (Prepared with the PPA) (Given risk mitigation for weak private sector and entrepreneurial participation in the setting of the digital incubators)
17.	Technical assistance for a detailed feasibility study of the incubators in Port-Gentil and Franceville	250,000	QCBS	Prior	June 30, 2016 (Given risk mitigation for weak private sector and entrepreneurial participation in the setting of the digital incubators)
18.	Technical assistance for architectural design and monitoring of works for the	75,000	CQS	Post	June 30, 2016

Ref. No.	Description of Assignment	Estimated Cost (US\$ million)	Selection Method	Review by World Bank (Prior / Post)	Comments/ Estimated bid submission date
To be procured the first 18 months of the Project					
	digital incubator in Libreville				
19.	Technical assistance for architectural design in Port-Gentil and Franceville	75,000	CQS	Post	November 30, 2016
20.	Technical assistance to develop a communication strategy on Component 2	100,000	CQS	Post	November 30, 2016
21.	Digital innovation ecosystem expert	300,000	IC	Prior	Submitted (for 3 years) (Key measure to address capacity constraints)
22.	Technical assistance to develop a strategy and action plan for activities aiming at stimulation the digital innovation ecosystem	300,000	QCBS	Post	November 30, 2016
23.	Audit	120,000	LCS	Prior	June 30, 2016
24.	Project Operations Manual	70,000	CQS	Post	Submitted (Prepared with the PPA)
25.	Project manager	170,000	IC	Prior	December 31, 2016 (first 2 years) (Key measure to address capacity constraints)
26.	Administrative and Finance senior specialist	160,000	Single Source Selection	Prior	December 31, 2016 (5 years) (PIU staff)
27.	Procurement senior specialist	145,000	Single Source Selection	Prior	December 31, 2016 (first 2 years) (PIU Staff)
28.	Safeguards	90,000	IC	Prior	June 30, 2016 (PIU Staff)
29.	Survey on patients	450,000	QCBS	Post	March 31, 2017
30.	Survey on level of satisfaction by ICT actors regarding government promotion of digital economy	300,000	QCBS	Post	June 30, 2016 (5 years)
31.	Survey eHealth applications	50,000	IC	Post	June 30, 2016 (5 years)

44. **Prior review thresholds for consultant services.** Contracts estimated to cost above US\$500,000 for firms and US\$200,000 for individuals per contract, and single source selection of consultants (firms and individuals) to cost above US\$100,000 will be subject to prior review by the Bank. Similarly, all audit contracts will be subject to prior review as will be any other contract identified in the procurement plan.

Environmental and Social (including safeguards)

45. **The Project is classified as Environmental Assessment (EA) Category B (Partial Assessment).** There is no construction of premises under the project; its potential adverse negative impacts and risks linked to revamping of office space in existing identified premises⁷³ are likely to be small-scale and site-specific and thus easily remediable and reversible with usual mitigation measures on the waste management and workers health surety and security measures in the contractor contracts.

46. **The Project is expected to lead to substantial social benefits.** The project is expected to deliver significant social benefits through improved health service delivery and increased entrepreneurship opportunities, particularly for women and youth. Indirect beneficiaries of the project potentially include all of the country's population, benefitting from increased availability and quality of affordable health services as well as mHealth and other useful applications tailored for local needs. Moreover, given the higher use of health services by women, they should disproportionately benefit from expected improvements in the quality of health service delivery. Given the very high urbanization rate in Gabon (87 percent of total population in 2014), it is likely that a good part of the bottom 40 percent live in urban areas, where it should be relatively easier to reach them as beneficiaries. eGabon will also seek to support under Component 2 the development of content and applications in local/vernacular languages to reach more broadly especially in rural areas.

47. **Taking into account the nature and the scope of activities and associated impacts, only one safeguard policy was triggered: OP/BP4.01 (Environmental Assessment).** The GoG hired under the PPA a consultant to prepare, in full compliance with the Bank and national safeguard policies, an Environmental and Social Impact Assessment, including an Environmental and Social Management Plan for the revamping of existing premises to be used for the incubators. A draft Environmental and Social Impact Assessment, including an Environmental and Social Management Plan, was submitted in draft version on February 5, 2016 and was reviewed by the Bank. Following consultations, the cleared safeguard instruments were disclosed in the country on March 2nd, 2016 and in the Bank's InfoShop on February 28, 2016.

48. **The activities of the project will consist of works to make the premises where the incubators will be set up compliant with applicable norms,** in particular revamping plumbing and electricity, installing internal separations, removing of cement-block internal walls if needed, painting, and setting up coworking spaces.

49. **Arrangements for environmental safeguards supervision have been defined and agreed.** The funding requirement for the environmental and social safeguards is estimated in total at US\$117,000 for all the incubators to be financed by the Project for monitoring, control and final evaluation. The environmental and social mitigation measures include absence of asbestos certificate prior to signing the rental agreement as well as waste management and awareness and communication (estimated at US\$14,000 per incubator) to be included in the works contracts. Relevant provisions of the safeguard documents will also be included in the

⁷³ (i) within the premises of MSPSSN for the project team of Component 1 ; (ii) in existing premises to be rented under the project for the incubators to be established under Component 2 ; and (iii) within the existing premises or similar premises for the CN-TIPPEE under Component 3.

Project Operation Manual. Inputs from the Bank’s environment and social specialists will be provided throughout project implementation, to support the PIU as well as the Line Ministry in charge of Ecology and Sustainable Development in monitoring the effective implementation of safeguards.

Figure 12. Overview of Bank Safeguard Policies Triggered for the Project

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

Figure 13. Financing of Environmental and Social Safeguards for the Project

Environmental and social safeguards measures	Incubator Libreville	Incubator Port-Gentil	Incubator Franceville	TOTAL
A - TO BE INCLUDED IN WORKS CONTRACTS				
Waste management	Not estimated	Not estimated	Not estimated	Not estimated
Communication and awareness-raising campaign	US\$14,000	US\$11,000	US\$11,000	US\$33,000
B - TOTAL TO BE FINANCED BY THE PROJECT				
Absence of asbestos certificate prior to signing the rental agreement	US\$10,000	US\$10,000	US\$10,000	US\$30,000
Environmental and Social Control of the works	US\$12,000	US\$12,000	US\$12,000	US\$36,000
Monitoring of Environmental and Social Measures (DPEPN and agents of the Municipality)	US\$2,000	US\$2,000	US\$2,000	US\$6,000
Final evaluation	US\$14,000	US\$14,000	US\$14,000	US\$42,000
TOTAL PROJECT	US\$38,000	US\$38,000	US\$38,000	US\$114,000

Monitoring & Evaluation

50. **The PIU CN-TIPPEE will have overall responsibility for reporting to the Commissions and to the World Bank.** CN-TIPPEE will prepare Monitoring and Evaluation Reports on a quarterly basis that will include the updated Results Framework, with supporting comments on the trends and associated action table, as well as the environmental and social safeguards indicators, listing the corrective actions to be implemented and persons responsible clearly identified. The reports will be sent to the World Bank for information.

51. **The PIU CN-TIPPEE will be responsible for collecting the relevant data throughout project implementation.** CN-TIPPEE will get its information directly from the Component 1 project team, the incubators set up under Component 2 and from regular surveys to measure the level of satisfaction among key stakeholders with the project interventions. In Component 1 this will include surveys of health workers, health administrators and owners, and central agencies such as CNAM-GS, as well as the general public; while in Component 2 these surveys will target those involved in the ICT industry. In addition, funding will be provided by the Project to support the midterm review and completion review, and to do an evaluation of the implementation of the NHIS.

52. **Midterm Review.** The two Steering Committees and the PIU CN-TIPPEE will have an opportunity to revise the results framework: the midterm review mission will look at the realism and relevance of the indicators and targets and will propose changes if necessary.

Role of Partners

53. **The GoG commissioned technical support from MSH to implement the strategic framework for Gabon's new health system,⁷⁴ including the roll-out of RBF mechanisms, and insisted that the implementation of eGabon be closely coordinated with the implementation of the strategic framework for Gabon's new health system.** In particular, it was requested that eGabon includes an activity to support the new PNDS, and the preparation for an RBF pilot, given the potentially important role of the PNDS in facilitating the NHIS and vice versa, as well as the potential synergies between RBF, which relies heavily on accurate and timely information and focuses on results, and the NHIS.

54. **Meetings with WHO, UNESCO and Agence Française de Développement have taken place during project preparation.** WHO and Agence Française de Développement requested to be regularly updated about progress in the implementation of the Project, and may provide guidance in the proposed establishment of an eHealth association under the Component 1 activities. UNESCO is active in initiatives aiming at developing digital skills amongst Gabonese youth, thereby contributing to increasing the potential for the local digital innovation ecosystem. UNESCO and the Gabonese mobile operator Airtel launched in May 2015 the “Train my Generation – Gabon 5000”⁷⁵ project to build ICT skills over a three-year period for 4,400 young people aged 17 to 35. In the context of the Component 2 of eGabon, UNESCO expressed strong interest to seek close coordination between activity 2.4 (Developing and implementing a

⁷⁴ MSH, Health Strategic Plan: Towards an efficient and top-quality health care System in Gabon (2013).

⁷⁵ See <http://www.gabon5000.ga/>

strategy to promote the development of local digital content, applications and services) and 2.6 (Holding a series of digital application competitions) and its Youth Mobile initiative⁷⁶ aiming at teaching young girls and boys how to create mobile applications for sustainable development.

⁷⁶ See <http://en.unesco.org/youthmobile>

ANNEX 4. Implementation Support Plan
GABON: eGabon Project

Strategy and Approach for Implementation Support

1. **The Implementation Support Plan describes how the World Bank will support the implementation of the risk mitigation measures (identified in the SORT) and provide the technical advice necessary to facilitate achievement of the PDO, in a flexible and efficient manner.** The Implementation Support Plan also identifies the minimum requirements needed to meet the Bank’s fiduciary obligations.

2. **Implementation support is a core element of the Project,** and will involve continuous World Bank engagement in partnering with the Government on two dimensions:

- a. *Sectoral and technical aspects*, including: (i) development and implementation of the eHealth system, and related activities; (ii) establishment and operation of the incubators and related activities; and, (iii) project implementation.
- b. Continuous *fiduciary oversight* in terms of regular supervision of fiduciary functions (procurement, safeguards, M&E), specific advice and assistance on fiduciary issues as they come up, and review of audit and other third-party reports on project fiduciary management.

3. **The project will require intensive supervision and support,** given: (i) the “newness” of both the eHealth concept and the incubator approach in Gabon; (ii) the geographic spread of the proposed operation (initially one region for Component 1, then expanding to the entire country; three locations (Libreville, Port-Gentil and Franceville) for Component 2); and, (iii) the need for support and capacity building in both components. Component 1 of the Project will also be implemented at three levels: the central, regions, and districts. A budget of US\$150,000 would be required for the Bank team to thoroughly supervise the project during the first 12 months of implementation, with standard supervision funding according to established coefficients for subsequent years.

4. **Bank supervision will leverage the supervision carried out by Gabon,** with : (i) the project team under the Commission for Component 1, (ii) the technical operational committee under the Commission for Component 2 as well as (iii) the project manager (*Chargé de projet*) embedded in the PIU CN-TIPPEE on a regular basis. Members of the project team (Component 1) and the technical operational committee (Component 2) will visit the project locations several times per year, and will prepare action-oriented supervision reports that will be reviewed by the World Bank during its bi-annual supervision missions, and through desk reviews. This system will allow the eGabon Project to be monitored and its performance assessed on an ongoing basis.

5. **Some of the skills required by the World Bank team for supervision will be needed on a regular basis while others will be required periodically.** It is therefore proposed to establish a core supervision group, that will emphasize financial, procurement, eHealth, ICT and operational basic needs, complemented by technical specialists on a needs basis (such as safeguards or M&E specialists).

6. **While regular World Bank supervision will take place at least twice a year, this will be leveraged by regular visits by Country Management Unit-based procurement and financial management specialists** who can take advantage of their closeness to Gabon to verify progress and provide ongoing assistance to the client.

7. **A much more intensive than usual supervision program should be carried out during the first year of the project** to verify the establishment of a sound institutional base and ensure that key project interventions get off to a good start.

8. **The supervision team includes the following members:** (i) the Task Team Leader; (ii) the co-Task Team Leader; (iii) a technical eHealth specialist with specific expertise in the field; (iv) a financial management specialist who will review adherence to Bank procedures with regard to fiduciary responsibilities; and (v) a procurement specialist. Environmental and social specialists and M&E specialists, as well as specialists from the Trade and Competitiveness Global Practice, will be added to the team as needed.

9. **Financial management.** FM supervision missions will be conducted over the project's lifetime. The Project will be supervised on a risk-based approach. Supervision will focus on the status of the financial management system to verify whether the system continues to operate well throughout the project's lifetime and to ensure that expenditures incurred by the project remain eligible for IBRD funding. It will comprise inter alia, the review of audit reports and IFRs, and advice to task team on all FM issues. Based on the current risk assessment which is substantial, we envisage at least two supervision missions per year. The Implementation Status Results Report will include an FM rating of the project. An implementation support mission will be carried out before effectiveness to ensure the project readiness. To the extent possible, mixed on-site supervision missions will be undertaken with procurement, M&E, and disbursement colleagues. The supervision intensity will be adjusted over time taking into account the project FM performance and FM risk level.

10. **Procurement.** Implementation support will include: (i) provision of training to the PIU staff as needed; (ii) review of procurement documents and provision of timely feedback to the PIU; (iii) provision of guidance on the Bank's Procurement Guidelines to the PIU; (iv) monitoring of procurement progress against the detailed Procurement Plan; and (v) monitoring that implementation of contracts is compliant with the World Bank's fiduciary guidelines, as well as with contract obligations.

11. **Environmental and Social Safeguards.** Implementation support will include: (i) guidance on the implementation of environmental safeguards; and (ii) supervision of the adherence to these safeguards and provision of training and guidance to the PIU team, as needed.

12. **Coordination with other Development Partners.** Implementation support will include close coordination with other development partners, especially MSH, WHO, UNESCO, Agence Française de Développement, research institutions and international, national and local NGOs engaged in the health and ICT sectors in Gabon.

Implementation Support Plan

13. **The project will require substantive technical support due to the rather complex and technical nature of the activities to be financed.** Formal implementation support missions and field visits are expected to be carried out roughly every six months. Detailed inputs from the World Bank team and partners are outlined below:

- **Technical inputs:** Technical inputs will be provided by members of the abovementioned supervision team, and additional World Bank staff who have expertise in Monitoring & Evaluation, incubators and various aspects of eHealth; drawing from the Transport and ICT Global Practice, the Health, Nutrition, and Population Global Practice, the Trade and Competitiveness Global Practice and other Global Practices as require. The task team will also seek additional highly-specialized technical inputs from technical partners with whom close coordination and collaboration was established during project preparation.
- **Fiduciary requirements inputs:** Training will be provided by the World Bank’s financial management specialist and procurement specialist before the commencement of project implementation. The task team will further provide support to the PIU to improve fiduciary efficiency. Formal supervision of financial management will be carried out semi-annually, while procurement supervision will be carried out on a timely basis as required by the client.
- **Safeguards:** Inputs from an environment specialist will be provided, despite the Project’s limited expected environmental impacts.
- **Operational:** The TTL and co-TTL will provide timely supervision of all operational aspects, as well as ensure coordination with the client and among World Bank team members. The TTL and/or co-TTL will lead two formal field supervisions a year and conduct additional missions as needed to resolve operational issues. The main focus in terms of support to implementation during various periods of project implementation is outlined below.

Figure 14. Implementation Support Plan for the Project

<i>Time</i>	<i>Focus</i>	<i>Skills Needed</i>	<i>Resource Estimate</i>	<i>Partner Role</i>
<i>First twelve months</i>	<ul style="list-style-type: none"> ▪ finalizing design and supporting initial roll-out of key interventions ▪ operational support to ensure smooth start-up of project implementation 	<ul style="list-style-type: none"> ▪ eHealth standards design ▪ eHealth feasibility study design and implementation ▪ incubator design ▪ Develop strategy to promote the development of local digital content, applications and services ▪ Study tours in best practice countries ▪ project 	<ul style="list-style-type: none"> ▪ 4 staff weeks ▪ 4 staff weeks ▪ 4 staff weeks ▪ 12 staff weeks 	May provide or contribute some of the needed TA

<i>Time</i>	<i>Focus</i>	<i>Skills Needed</i>	<i>Resource Estimate</i>	<i>Partner Role</i>
		management, M&E, fiduciary, safeguards		
<i>12-48 months</i>	<ul style="list-style-type: none"> ▪ ongoing technical support for key areas ▪ fiduciary, safeguards and project management (including M&E) support 	<ul style="list-style-type: none"> ▪ eHealth, change management, knowledge management ▪ Implementation support to incubators ▪ Implementation support to strategy to promote the development of local digital content, applications and services ▪ FM, safeguards procurement, and project management support 	<ul style="list-style-type: none"> ▪ 10-12 staff weeks ▪ 10-12 staff weeks 	May provide or contribute some of the needed TA
<i>Other</i>				

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
Task team leader and ICT Policy Specialist	7 SWs annually	Fields trips as required.	Washington, DC or Country office based
Co-Task team Leader and Health Policy Specialist	5 SWs annually	Fields trips as required.	Washington, DC or Country office based
Health Policy Specialist	3 SWs annually	Fields trips as required	Country office based
Private Sector Development Specialist / Innovation Specialist	3 SWs annually	Fields trips as required.	Washington, DC or Country office based
Procurement specialist	3 SWs annually first twelve months 2 SWs annually	2-3 per year.	Country office based
Financial management specialist	2 SWs annually	2-3 per year.	Country office based
M&E specialist	0.5 SWs annually	Fields trips as required.	Country office based
Environment specialist	1 SW first twelve months 0.5 SWs annually afterwards	Fields trips as required.	Country office based
M&E specialist	1 SWs annually	Fields trips as required.	Country office based

Note: SW – Staff-Week

Partners

<i>Name</i>	<i>Institution/Country</i>	<i>Role</i>
MSH WHO UNESCO	Technical Assistance commissioned by GoG Multilateral Multilateral	HMIS and RBF support Health policy/PNDS support Promotion of development of local digital applications / Digital application competitions support
Agence Française de Développement)	France	Health policy/PNDS support

ANNEX 5. Economic and Financial Analysis

eGabon Project

Rationale for Public Financing and Bank Value-added

1. **There is strong rationale for public financing because most of the activities financed under the Project are essentially pure public goods.** They are non-excludable because individual health facilities and other institutions cannot be prevented from using the eHealth system once they have been made publicly available. They are non-rivalrous because the provision of these services to one health facility does not reduce the availability or value of such services to others. In fact, the more individuals use these services, the greater the return on these investments due to enhanced inter-operability and information integration. As with most public goods, the private sector has little incentive to invest in these public goods. Moreover, to be effective -especially in the areas of the electronic health record and disease surveillance - both the public and private sectors need to have the eHealth system installed.

2. **Public investment in the Project is also justified for the significant positive externalities associated with achieving efficiency in service delivery and cost savings in the health sector through the implementation of the eHealth system.** Given that the eHealth system is a service function necessary to guarantee inter-operability, exclusion of certain facilities from the eHealth system would become inefficient and counterproductive. If implemented properly, the public provision of a system-wide eHealth system would improve referrals between health facilities, strengthen coordination of care, and thus improve cost-effectiveness of service delivery.

3. **The World Bank's value-added arises from the task team's technical expertise as well as the global knowledge experience in areas such as health information systems and associated change management strategy to foster adoption as well as of ICTs for more efficient delivery of public services.**

- International procurement of healthcare IT investments is a complex undertaking and needs expert support to maximize efficiency and quality. By involving the World Bank as a financier, the Project could benefit from the World Bank's quality assurance, project design and implementation management, policy advisory skills as well as extensive experience with health information systems projects in other countries such as Kazakhstan, Latvia, Lithuania, FYR Macedonia, Morocco, etc. The World Bank also has expertise on policy dialogue and the full spectrum of implementation related issues in the health sector.
- The Bank has supported several e-Government initiatives with a view to leverage a push with the roll-out of e-services to create a pull on the digital innovation ecosystem, such as the RCIP Adaptable Program Loan 1 – Kenya Transparency and Communication

Infrastructure Project, the eGhana and the eBenin project. In these projects, the Bank has collaborated with *infoDev*⁷⁷.

⁷⁷ *InfoDev* is a World Bank Group program that supports entrepreneurs in developing countries through business incubators for climate, agribusiness and digital.

Figure 15. Overview of E-“Country” Project in Africa

Project	Board Approval	Amount (US\$m)	PDO	Components
eTransform Ghana (P144140)	10/24/2013	97	To improve the efficiency and coverage of government service delivery using ICT.	(1) Enabling Environment for Electronic Government and Business ; (2) Support for Upgrading National Identification System and Online Verification ; (3) Scale up of Applications to improve service delivery in priority sectors ; (4) Project Management Support
eBenin (P113370)	03/25/2010	15	To (i) improve access to lower cost and better quality ICT services, and (ii) enable the development of e-applications, in the Recipient's territory.	(1) Improve enabling environment in the ICT sector to improve Benin Competitiveness ; (2) Improve Good Governance and Transparency ; (3) E-Government and Flagship ICT applications

Greenhouse Gas (GHG) Emissions accounting

4. **Greenhouse Gas Emissions accounting is not relevant in the context of the Project.**

Economic Analysis

5. **The literature on the cost-effectiveness of eHealth interventions is still emerging but a number of important findings suggest significant potential for both efficiency and health care benefits.** It should be noted that many of these studies focus on isolated parts of an integrated eHealth system (for example, mHealth interventions, the electronic patient record or e-prescription), and it would be expected that the combined impact of an integrated system will be greater than the sum of the parts. Consider the following examples of such impact:

- (a) A randomized prospective crossover simulation study of electronic decision support software demonstrated that such guidelines support reduced error rates by 33 percent ($p < 0.0001$) and improved compliance to protocols by 30 percent ($p < 0.001$).⁷⁸
- (b) Malaria prevention and control is vital to reducing the burden of disease in Low and Medium Income Countries (LMICs). A program on the Thai-Myanmar border provided malaria staff at treatment sites with mobile telephones, preloaded with software that generated a follow-up schedule after initial treatment was administered to patients diagnosed with malaria. Results showed that in Thai patients, compared to the baseline of

⁷⁸ Florez-Arango JF, Iyengar MS, Dunn K, Zhang J. Performance factors of mobile rich media job aids for community health workers. *J Am Med Inform Assoc* 2011; 18: 131-7.

20-40 percent before the intervention, follow-up rates post-intervention stood at greater than 90 percent.⁷⁹

- (c) Analysis of the implementation of “mTRAC,” a system designed to improve drug stocks, and improve the transparency and accountability for medications, showed a reduction in stock-outs of key malarial drugs from 25 to 14 percent since its implementation.⁸⁰
- (d) A cluster-randomized controlled trial in Zanzibar, Tanzania, of 2,550 women (intervention arm 1,311 vs. control 1,239) investigated the effect of improving communications between midwives and pregnant women via mobile phones. Patients were given contact details of a midwife and prepaid credit to pay for communications. Results showed that 60 percent of the intervention arm used a skilled birth attendant at the birth, compared to 47 percent in the control group. Antenatal care improved with 44 percent of the intervention arm receiving the recommended four antenatal visits compared to 31 percent in the control group.⁸¹
- (e) A US based analysis by RAND⁸² estimated that on a current annual budget (in 2003) of US\$1.7 trillion, the average annual costs of implementing an Electronic Health Record (EHR) would be US\$28 billion (1.65 percent of health spending) to achieve 90 percent coverage over 15 years, with average annual savings of \$46.3 billion (2.72 percent), including US\$41.8 billion (2.46 percent) in efficiency savings, and an additional US\$4.5 billion (0.26 percent) due to reductions in adverse drug events. Annual operating costs would be US\$16 billion per year (0.94 percent). The study also suggested significant additional savings are possible through better management of chronic diseases and better preventive services (e.g., cancer screening), although these costs have not been included.
- (f) A more recent study financed by the European Commission⁸³ found that EHR and ePrescribing modules were particularly cost-effective, showing an average cumulative socio-economic return of the evaluated sites of 78 percent over the evaluation timescales of between 9 and 13 years. The average break-even point was 7 years. Annual net benefits toward the end of the study (2010) reached over EUR 20 per capita in some sites. The study noted an asymmetry between the costs and benefits with the funders paying 80 percent of the costs, while receiving just 61 percent of the benefits and third parties (insurers) bearing 7 percent of the costs, but receiving just 5 percent of the benefits. On

⁷⁹ Meankaew P, Kaewkungwal J, Khamsiriwatchara A, Khunthong P, Singhasivanon P, Satimai W. Application of mobile-technology for disease and treatment monitoring of malaria in the “Better Border Healthcare Programme.” *Malar J* 2010; 9: 237.

⁸⁰ UNICEF (2012). UNICEF Uganda 2012 statement. Kampala, Uganda: United Nations Children’s Fund. Available from: http://www.unicef.org/uganda/UNICEF_Uganda_2012_Statement_FINAL.pdf

⁸¹ Lund S, Hemed M, Nielsen BB, Said A, Said K, Makungu MH, et al. Mobile phones as a health communication tool to improve skilled attendance at delivery in Zanzibar: a cluster-randomised controlled trial. *BJOG* 2012; 119: 1256-64; and Lund S, Nielsen BB, Hemed M, Boas IM, Said A, Said K, et al. Mobile phones improve antenatal care attendance in Zanzibar: a cluster randomized controlled trial. *BMC Pregnancy Childbirth* 2014; 14: 29.

⁸² R. Hillestad et al., *Can Electronic Medical Record Systems Transform Health Care? Potential Health Benefits, Savings, and Costs*, *Health Affairs* 24, no. 5 (2005): 1103–1117.

⁸³ Dobrev, A., Jones, T., Stroetmann, V., Stroetmann, K., Vatter, Y., and Peng, K., *Interoperable eHealth is Worth It: Securing Benefits from Electronic Health Records and ePrescribing*, EHR Impact Study, European Commission, Bonn/Brussels, 2010.

the other hand, citizens bore just 2 percent of the cost, but received 16 percent of the benefits, while health workers bore 11 percent of the costs, but received 17 percent of the benefits. The study also notes that interoperable EHRs and ePrescribing, are not about cash benefits. It notes that,⁸⁴ “About half of the cost of interoperable EHRs and ePrescribing need extra finance over time. This generates 13 percent extra cash as benefits, plus improved allocation from redeployed resources of some 46 percent. From a financial view, the main positive impact of interoperable EHRs and ePrescribing is the opportunity to redeploy resources to improve performance and so healthcare, rather than generate extra cash.”

6. **The new system should significantly improve the information flows, both within facilities and between different levels of facilities.** This would enable every provider involved in a patient’s care to have the same accurate and up-to-date information to: assess clinical outcomes and response to treatment; verify health insurance eligibility; check clinical results; review records generated by each encounter with the health system; and be aware of any adverse events etc. This is especially important when patients are seeing multiple specialists, or making transitions between care settings.

7. **The eHealth system would also contribute to greater interoperability between health insurance information system operated by CNAM-GS and the system used by health facilities, potentially strengthening claims and performance review processes and reducing transaction costs.** Without an efficient electronic platform to exchange data, providers need to submit claims for prescriptions and health services on paper, resulting in significant costs to the CNAM-GS in transcribing this information into electronic formats, delays in processing, and potentially erroneous claims processing due to poor quality input data. With linkages to the wider health insurance and finance management system, the integrated eHealth system will enable CNAM-GS staff to get easy access to patient information and review eligibility of claims, signs of fraudulent behaviors, and appropriateness of provided care.

8. **This Project’s investment in an integrated national health information system would improve the efficiency of the referral process** by: (i) facilitating speedier information flows; (ii) controlling the volume of laboratory tests and prescriptions more effectively; (iii) ensuring better clinical reporting; and, (iv) reducing the administrative burden related to patient data entry. From a broader health sector perspective, streamlining the referral process would increase both allocative and technical efficiencies, and is associated with greater cost savings for the health sector.

9. **Another potential welfare gain from the Project is the potential improvement in accountability and work productivity among the health professionals, both in terms of reducing the administrative burden for health care workers, and minimizing administrative and medical errors.** Electronic medical records and ePrescribing, together with clinical decision support capability, should allow clinical staff to improve both diagnosis and treatment, and reduce medical and prescribing mistakes due to illegible handwriting or unclear abbreviations on hand-written notes. Improved diagnosis and treatment should reduce the incidence of unnecessary hospitalization and lessen the financial burdens on the poor.

⁸⁴ Ibid, p. 40

10. **The Project is expected to contribute to greater coordination of care across the different levels of the health system, generating further cost savings in disease management, including the emerging burden of non-communicable diseases (NCDs).** Chronically ill patients in the current system suffer from a lack of continuity of care across different providers. The eHealth system will enable physicians to see information of the patients during the referral and post discharge care, avoiding unnecessary admissions and readmissions.

11. **At the policy level, the Project will contribute to enhancing the capacity of health policy development and management by improving the timeliness and quality of health data in order to monitor health sector performance, and inform decision making.** Since regular reports would largely be extracted from patient-level or facility-level electronic data, the burden of reporting on facility administrators would be reduced, and both the timeliness and accuracy would be increased.

Project Costs

12. **The total investment of the Project related to eHealth (Component 1 of the Project) is estimated at US\$41.58 million, with annual operation costs of \$4 million.** In addition to the eHealth costs, other project costs (Component 2 and Component 3) are expected to be US\$14.78 million over the life of the project. As explained below, because these other project costs facilitate the marketing of the resulting eHealth system, they are included in the global analysis.

Figure 16. Total costs (including contingencies) and Financing Sources for the Project

Project Components	Project Cost (in US\$ million)	IBRD	GoG counterpart funding*	% financing
Component 1: Strengthening the National Health Information System	41.58	40.08	1,50	100%
Component 2: Advancing the Digital Innovation Ecosystem Development	11.00	11.00		100%
Component 3: Project Management, coordination, monitoring and evaluation of the Project	4.78	4.78		100%
TOTAL PROJECT COSTS	57.36	55.86	1.50	100%
Front-End Fees	0.14	0.14		100%
TOTAL FINANCING REQUIRED	57.50	56.00	1.50	100%

* Parallel counterpart funding

Project Benefits

13. **The expected benefits of the Project are grouped into 3 main categories: (i) efficiency savings, (ii) health outcome savings, and (iii) ICT-related revenue.**

14. With regard to the first of these, both the United States analysis and the European Union study highlighted significant potential for efficiency gains as a result of eHealth interventions, although the focus was primarily on EHR and ePrescribing. This analysis using the most conservative of the estimated gains from the United States study and cut this in half to ensure that the potential savings would not be overestimated. On this basis, it is expected that the savings would increase from 0.42 percent of health care costs, starting in the second year of the eHealth system roll-out, to a steady-state level of 0.86 percent.

15. As noted previously, clinical decision support systems have the potential to improve diagnostic accuracy and adherence to protocols by roughly 30 percent. Further benefits are expected from other eHealth system features, including reduced stock-outs through better inventory management, and improved patient compliance in areas such as antenatal and postnatal care, facility-based delivery, malaria follow-up and immunization coverage due to SMS-based reminders and the underlying EHR system to generate such reminders. For the purposes of this analysis, it is conservatively estimated that 10 percent of the improvements in diagnostic accuracy and treatment result in the avoidance of infant, child and maternal death. This would mean a 3 percent reduction in such deaths and translate into annual reductions of 61 infant deaths, 24 deaths of non-infant children under 5, and the death of 4 mothers, starting in 2020, when the eHealth system was fully operational.

16. Finally, the expected benefits from the marketing of the resulting eHealth system (facilitated through Component 2 of the Project) include 4 implementation contracts over the 10 years following full implementation and ongoing maintenance contracts for these implementations. To maximize these benefits, it would be necessary to offer a complete package, including: (i) the software (perhaps cloud-based, using a Software-as-a-Service approach);⁸⁵ (ii) support to change management and strategic communications; and (iii) training and knowledge management. Each of these areas are addressed as part of the eHealth system implementation, thereby developing local skills in each of these areas. A critical element of this will be the ability to provide “hands-on” on-site support in each of these areas, as well as ongoing “help desk” functionality to remotely support a growing client base.

17. **The potential revenue stream would include a one-time implementation fee for the package described above** (say US\$10 million per installation on average - having explicit standards, which are also part of the eHealth development process - would allow the Gabon system to compete for district or regional systems in larger countries), plus ongoing annual maintenance and support fees (say US\$2 million per installation, which would include licensing, help-desk/call center support and ongoing change management consulting). It is expected that the local Gabonese content would increase gradually from 60 percent in the first installation to 90 percent in the fourth.

⁸⁵ See: https://en.wikipedia.org/wiki/Software_as_a_service

Summary of Costs and Benefits

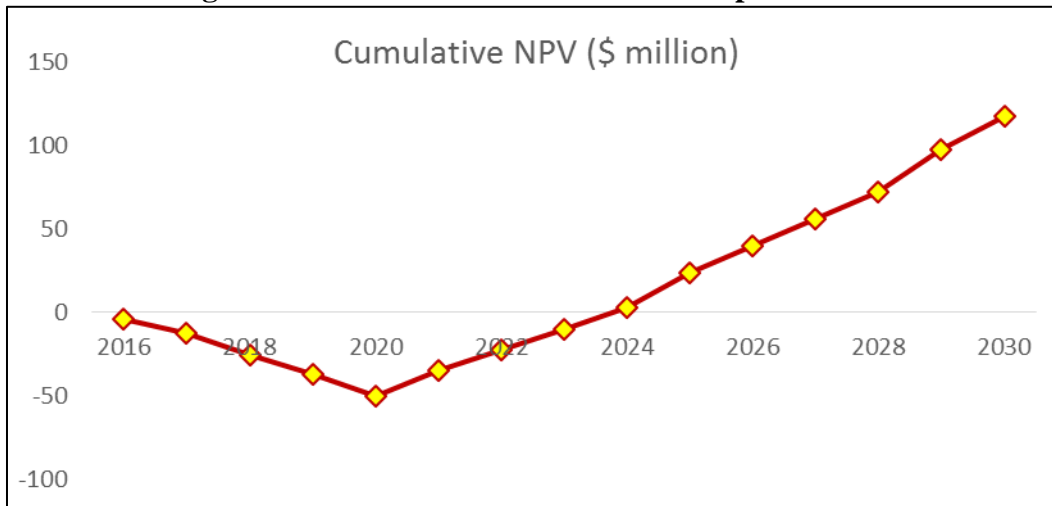
18. Using a 5 percent discount rate and a 15-year timeframe, the expected net present value (NPV) of the costs and benefits would be as follows:

Figure 17. Calculation of Expected NPV

	US\$ million
Costs	
eHealth system implementation	36.6
eHealth system operations	25.3
Other project interventions	14.3
Total Costs	76.2
Benefits	
Efficiency gains	45.6
Health outcome benefits	64.4
eHealth system marketing	25.6
Total Benefits	135.6
Benefit-Cost ratio	1.78
Internal rate of return	18.9%

19. The overall BCR of 1.78 is similar to that found in the European Union studies, although their focus was on two elements of the overall eHealth system, and potential marketing opportunities were not considered. This figure, together with internal rate of return of 18.9 percent suggests that the project is a very good investment for Gabon. Figure 18 shows the cumulative NPV, indicating that the break-even point is 2024, or eight years after the start of the project. This is consistent with the range from the EU report.

Figure 18. Calculation of Cumulative Expected NPV



Financial Analysis

20. **The total investment of the Project related to eHealth (Component 1 of the Project) is estimated at US\$41.58 million, with annual operation costs of \$4 million.** An initial element of the financial analysis is the degree to which this is reasonable, given the relatively small population of Gabon. The table below shows that on virtually all comparisons, the cost of the eHealth Project in Gabon is below that of comparator countries. It should be noted that the United States example is for Electronic Health Records only, and does not reflect the cost of an integrated system, while France is still moving in that direction. Estonia and Belize are included because they have, or are close to having, operational integrated eHealth systems and will be included in the program of study tours to be financed under the project.

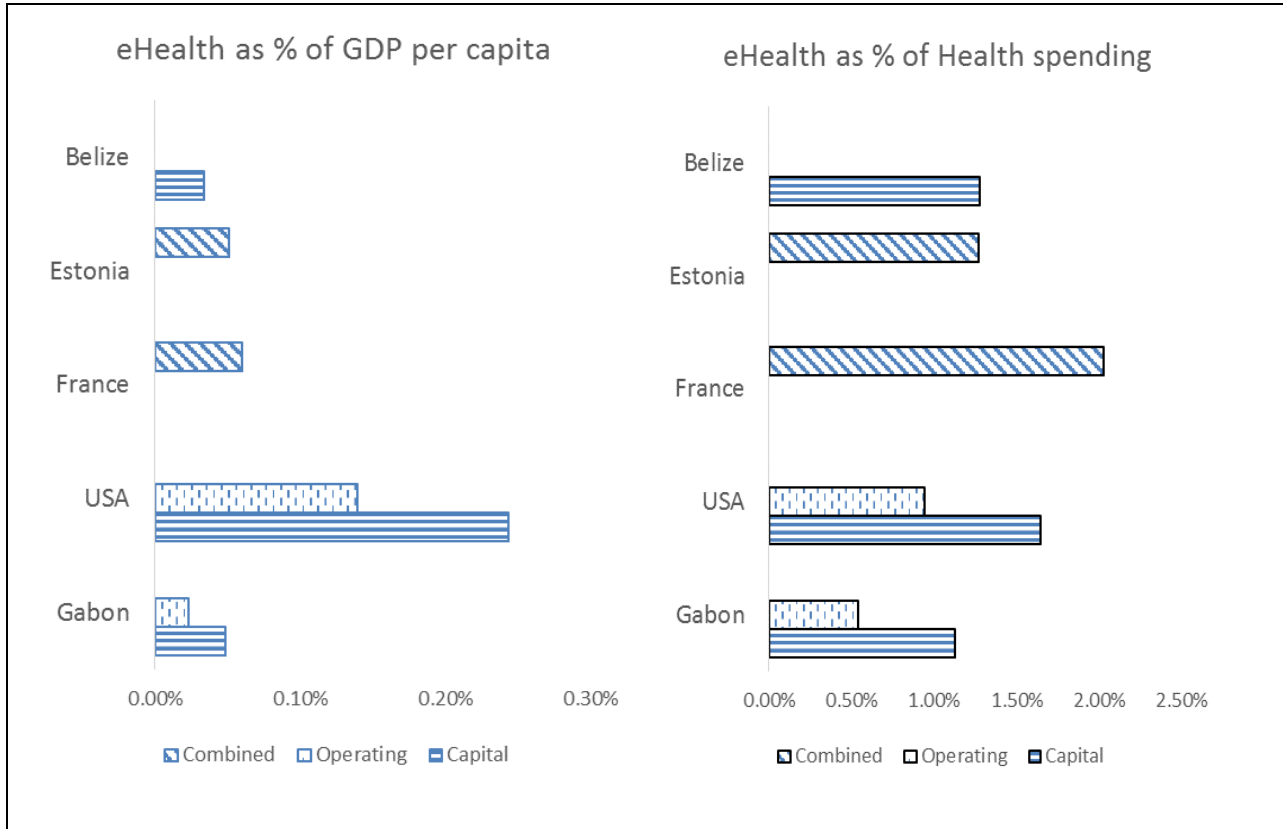
Figure 19. International Comparison of the Cost of the eHealth Project in Gabon

	Gabon	USA (2003)	France	Estonia	Belize
Population, total	1,687,673	290,100,000	66,206,930	1,313,645	344,193
GDP per capita (current US\$)	10,208	39,677	42,733	19,720	4,719
Health Expenditure (million LCU)			76,062	945	
Health Expenditure (million USD)	744.26	1,700,000	83,136	1,032	43.21
Indicators based on average or annual cost					
IT expenditure (million LCU)			1,539.49	12.00	
IT expenditure (million US\$) - deployment Per capita	8.38 4.96	28,000.00 96.52	1,682.69 25.42	13.12 9.98	0.55 1.60
% of: GDP per capita (current US\$) Health Expenditure	0.049% 1.13%	0.243% 1.65%	0.059% 2.02%	0.051% 1.27%	0.034% 1.28%
Indicators based on ongoing operations					
IT Ongoing operating cost Per capita	3.99 2.36	16,000.00 55.15	1,682.69 25.42	13.12 9.98	N.K. N.K.
% of: GDP per capita (current US\$) Health Expenditure	0.023% 0.54%	0.139% 0.94%	0.059% 2.02%	0.051% 1.27%	N.K. N.K.
Note: Costs included as follows:	Init. Capital Some Oper. 5 year avg.	Capital Operating 15 year avg.	Capital Operating Annual	Capital Operating Annual	Capital 5 year avg.

(N.K.: Not Known)

21. **Figure 20 shows that the annual implementation cost is estimated at roughly US\$5 per capita annually over the five-year implementation period (equivalent to 0.049% of GDP per capita), which is well below most other estimates, except for Belize.** The operating cost is estimated at US\$2.36 per capita, which is the lowest among the comparison countries. Of course, Gabon and the other countries are at different levels in terms of GDP per capita and health spending, so these figures are also displayed in the table. It shows that the implementation cost is expected to be 0.049 percent of per capita GDP, which compares favorably with France and Estonia, but is slightly higher than Belize. Compared to health expenditure, the 1.13 percent annual cost of project implementation is the lowest of the comparison countries. The same is true for the annual operating cost, both in terms of percent of GDP and percent of health expenditure. From this, it can be concluded that the cost of the eHealth Project are not out of line given country circumstances and the experience of comparator countries. The charts below highlight the key indicators.

Figure 20. Comparison of eHealth as Percentage of GDP per capita and as Percentage of Health Spending in Selected Benchmark Countries



22. **Nevertheless, the financial sustainability of the Project relies on the ability of the government budget to meet the incremental recurrent costs associated with the Project investments after the Project ends and counterpart funding commitments cease.** Despite recent fiscal issues and the uncertainty over global economic prospects, it is expected that it should be possible to accommodate the annual operating cost within the overall health budget. The project financing has been specifically designed to phase in the government contribution, thereby taking into account the current fiscal realities. Government funding will only be required for the annual operating cost, in 2019 with 25 percent and in 2020 with 50 percent of the operating cost, the remainder being covered by the Bank. Once the project closes, the full cost of operations, approximately US\$4 million annually, or 1.13 percent of current health spending, will be borne by the GoG.

23. **The incremental recurrent costs will include the operational and maintenance costs associated with Project investments, the salary budget for staff in the NHIC, as well as the hardware and support services.** Most of the operation and maintenance costs for the initial installation of hardware and software will be included in the contracts and covered by the warranty as recurrent costs, although some of these costs may be incurred in 2019 and 2020. Based on this analysis, it is expected that the project will be financially sustainable over the longer term.

ANNEX 6. Map Section

eGabon Project

IBRD 33408



SEPTEMBER 2004