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Report No: PAD1257

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT PAPER

ON PROPOSED ADDITIONAL CREDITS TO THE

REPUBLIC OF KENYA
IN THE AMOUNT OF SDR 7.2 MILLION
(US$10 MILLION EQUIVALENT)

UNITED REPUBLIC OF TANZANIA
IN THE AMOUNT OF SDR 10.7 MILLION
(US$15 MILLION EQUIVALENT)

REPUBLIC OF UGANDA
IN THE AMOUNT OF SDR 10.7 MILLION
(US$15 MILLION EQUIVALENT)

AND A PROPOSED ADDITIONAL GRANT TO THE

REPUBLIC OF BURUNDI
IN THE AMOUNT OF SDR 7.2 MILLION
(US$10 MILLION EQUIVALENT)

FOR THE
EAST AFRICA PUBLIC HEALTH LABORATORY NETWORKING PROJECT

June 22, 2015

Health, Nutrition and Population Global Practice (GHNDR)
Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective: February 28, 2015)

Currency Unit	Amount	US$
Kenya Shilling	K.Shs.91.62 =	US$1
Tanzania Shilling	T.Shs.1833 =	US$1
Uganda Shilling	U.Shs.2893 =	US$1
Burundi Franc	BIF.1556 =	US$1

US$1.00 = 0.71054 SDR

FISCAL YEAR

July 1 – June 30

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
AFRO	Africa Regional Office
AIDS	Acquired Immune Deficiency Syndrome
ASCP	American Society for Clinical Pathology
ASLM	African Society for Laboratory Medicine
BDs	Bidding Documents
BOQs	Bill of Quantities
BSL2	Biosafety Level Two
BSL3	Biosafety Level Three
CBK	Central Bank of Kenya
CD	Case Detection
CDC	Centers for Disease Control and Prevention, United States
CPHL	Central Public Health Laboratory
CPS	Country Partnership Strategy
CQS	Consultants' Qualification
CSRP	Civil Service Reform Program
CTRL	Central Tuberculosis Reference Laboratory
DED	District Executive Directors
DHS	Demographic Health Surveys
DOTS	Directly Observed Treatment, Short Course
DRC	Democratic Republic Of Congo
DSS	Demographic Sentinel Sites
DST	Drug Susceptibility Testing
EAC	East African Community
EQA	External Quality Assurance
ESIA	Environmental and Social Impact Assessment
ESMP	Environmental and Social Management Plan
ESSF	Environmental and Social Screening Form
EVD	Ebola Viral Disease
FETP	Field Epidemiology Training Program
FM	Financial Management
FMS	Financial Management System
FY	Fiscal Year
GAVI	Global Alliance for Vaccines and Immunization

GCLP	Good Clinical Laboratory Practice
GDP	Gross Domestic Product
GOB	Government of Burundi
GOK	Government of Kenya
GoR	Government of Rwanda
GoT	Government of Tanzania
GoU	Government of Uganda
GPN	General Procurement Notice
GTP	Growth and Transformation Plan
HD	Human Development
HIV	Human Immuno-Deficiency Virus
HMIS	Health Management Information System
HRH	Human Resources for Health
HSDP	Health Sector Development Plans
IBEX	Integrated Budget and Expenditure
IBRD	International Bank for Reconstruction and Development
IHP	International Health Partnership
ICB	International Competitive Bidding
ICT	Information and Communication Technologies
IDA	International Development Association
IDSR	Integrated Disease Surveillance and Response
IFAC	International Federation of Accountants
IFMIS	Integrated Financial Management Information System
IFR	Interim Financial Report
IHR	International Health Regulations
INT	Institutional Integrity
INTOSAI	International Organization for Supreme Audit Institutions
IP	Implementation Performance
IPF	Investment Project Financing
ISA	Implementation Support Agency
ISO	International Organization for Standardization
ISR	Implementation Status Report
JKIA	Jomo Kenyatta International Airport
K.Sh.	Kenya Shilling
KENAO	Kenya National Audit Office
KFW	Kreditanstalt für Wiederaufbau
LIS	Lab Information System
M&E	Monitoring and Evaluation
MDG	Millennium Development Goal
MDR	Multidrug Resistance
MoH	Ministry of Health
MoHSW	Ministry of Health and Social Welfare
MSF	Médecins Sans Frontières
MTR	Mid-Term Review
NCB	National Competitive Bidding
NCDs	Non Communicable Diseases
NGO	Non-Governmental Organization
NIMR	National Institute of Medical Research
NPHL	National Public Health Laboratory
NRL	National Reference Laboratory
PCU	Project Coordination Unit
PPE	Personal Protective Equipment
PPP	Public-Private Partnership
PS	Permanent Secretary/Principal Secretary
QCBS	Quality and Cost Based Selection
RAP	Regional Advisory Panel

RAS	Regional Administrative Secretaries
RBF	Results Based Financing
REOI	Request for Expression of Interest
RRTs	Rapid Response Teams
TA	Technical Assistance
TOT	Training of Trainers
TB	Tuberculosis
TS	Treatment Success
T.Sh.	Tanzania Shilling
UNICEF	United Nations Children's Fund
VHF	Viral Hemorrhagic Fevers
WB	World Bank
WHO	World Health Organization

Vice President:	Makhtar Diop
Regional Integration Director:	Colin Bruce
Country Directors:	Philippe Dongier (Burundi, Tanzania, Uganda) Diarietou Gaye (Kenya)
Country Managers:	Rachidi B. Radji (Burundi); Christina Malmberg Calvo (Uganda)
Senior Global Practice Director:	Timothy Grant Evans
Practice Manager:	Abdo Yazbeck
Task Team Leader:	Miriam Schneidman

AFRICA

East Africa Public Health Laboratory Networking Project

TABLE OF CONTENTS

Additional Financing Data Sheet

Africa

East Africa Public Health Laboratory Networking Project (P153665)

AFRICA

GHNDR

Basic Information – Parent			
Parent Project ID:	P111556	Original EA Category:	B - Partial Assessment
Current Closing Date:	30 March 2016 (*Kenya, Tanzania, Uganda*) 30-Sep-2017 (*Burundi*)		

Basic Information – Additional Financing (AF)			
Project ID:	P153665	Additional Financing Type (from AUS):	Scale Up
Regional Vice President:	Makhtar Diop	Proposed EA Category:	B – Partial Assessment
Country Directors:	Colin Bruce, Philippe Dongier, Diarietou Gaye	Expected Effectiveness Date:	November 5, 2015
Senior Global Practice Director:	Timothy Grant Evans	Expected Closing Date:	March 30, 2020
Practice Manager/Manager:	Abdo S. Yazbeck	Report No:	PAD1257
Team Leader:	Miriam Schneidman		

Borrowers/Recipients				
Organization Name	Contact	Title	Telephone	Email
Ministry of Finance, Planning and Economic Development (Uganda)	Mr. Keith Muhakanizi	Permanent Secretary	256-4144707000	Keith.Muhakanizi@finance.go.ug
Ministry of Finance and Economic Development Planning (Burundi)	Ms. Julie Ndihokubwayo	Permanent Secretary	257- 22 21 16 37	ndihojulie@yahoo.fr
The National Treasury (Kenya)	Mr. Kamau Thugge EBS	Principal Secretary	254-0202252299	ps@treasury.go.ke
Ministry of Finance (Tanzania)	Mr. Servacius B. Likwelile	Permanent Secretary	255- 22 211 3228	sblikwelile@yahoo.com

Project Financing Data–Parent (East Africa Public Health Laboratory Networking Project-P111556)

Key Dates

Project	Ln/Cr/TF	Status	Approval Date	Signing Date	Effectiveness Date	Original Closing Date	Revised Closing Date
P111556	IDA-47310	Effective	25-May-2010	22-Jun-2010	07-Sep-2010	30-Mar-2016	30-Mar-2016
P111556	IDA-47320	Effective	25-May-2010	05-Jul-2010	01-Oct-2010	30-Mar-2016	30-Mar-2016
P111556	IDA-47330	Effective	25-May-2010	12-Aug-2010	31-Jan-2011	30-Mar-2016	30-Mar-2016
P111556	IDA-H5930	Effective	25-May-2010	25-Jun-2010	25-Oct-2010	30-Mar-2016	30-Mar-2016
P111556	IDA-H7740	Effective	17-May-2012	28-Jun-2012	25-Sep-2012	30-Sep-2017	30-Sep-2017

Disbursements

Project	Ln/Cr/TF	Status	Currency	Original	Revised	Cancelled	Disbursed	Undisbursed	% Disbursed
P111556	IDA-47310	Effective	XDR	10.00	10.00	0.00	7.74	2.26	77.38
P111556	IDA-47320	Effective	XDR	15.50	15.50	0.00	14.14	1.36	91.21
P111556	IDA-47330	Effective	XDR	6.60	6.60	0.00	4.60	2.00	69.72
P111556	IDA-H5930	Effective	XDR	9.90	9.90	0.00	8.15	1.75	82.34
P111556	IDA-H7740	Effective	XDR	9.70	9.70	0.00	1.97	7.73	20.31

Project Financing Data (in USD Million)–Additional Financing East Africa Public Health Laboratory Networking Project Additional Financing (P153665)

[ ] Loan [ ] Grant [X] IDA Grant

[X] Credit [ ] Guarantee [ ] Other

Total Project Cost:	50.00	Total Bank Financing:	50.00
Financing Gap:	0.00		

Financing Source – Additional Financing (AF)	Amount
BORROWER/RECIPIENT	0.00
International Development Association (IDA)	50.00
Total	50.00

Estimated disbursements (Bank FY/US$ million)

FY	16	17	18	19	20
Annual	5.0	9.5	10.5	12.0	13.0
Cumulative	5.0	14.5	25.0	37.0	50.0

Policy Waivers	
Does the project depart from the CAS in content or in other significant respects?	NO
Explanation	
Does the project require any policy waiver(s)?	NO
Explanation	

Team Composition

Bank Staff

Name	Title	Specialization	Unit
Stephen Diero Amayo	Consultant	Financial management	GGODR
Henry Amena Amuguni	Senior Financial Management Specialist	Financial management	GGODR
Yvette M. Atkins	Senior Program Assistant	Task team assistance	GHNDR
Andreea Simona Balan-Cohen	Senior Health Economist	Economics	GHNDR
Joyce Cheruto Bett	Program Assistant	Task team assistance	AFCE2
Alexandra Bezeredi	Safeguards Advisor, Africa	Safeguards	OPSOR
Joseph Byamugisha	Financial Management Specialist	Financial management	GGODR
Sheila Dutta	Senior Health Specialist	Public health	GHNDR
Wachuka W. Ikua	Senior Operations Officer	Operations	GHNDR
Yahya Abdallah Ipuge	E T Consultant	Public health	GHNDR
Paul Kato Kamuchwezi	Financial Management Specialist	Financial management	GGODR
Alain-Desire Karibwami	Health Specialist	Public health	GHNDR
Gisbert Joseph Kinyero	Procurement Specialist	Procurement	GGODR
Harriet E. N. Kiwanuka	Program Assistant	Task team assistance	AFMUG
Rekha Menon	Program Leader	Economics	AFCE1
Isabella Micali Drossos	Senior Counsel	Legal	LEGAM
Agnes Nderakindo Mganga	Program Assistant	Task team assistance	AFCE1
Grace Nakuya Musoke	Senior Procurement	Procurement	GGODR

Munanura	Specialist		
Joel Buku Munyori	Senior Procurement Specialist	Procurement	GGODR
Alice Museri	Team Assistant	Task team assistance	AFMBI
Melance Ndikumasabo	Senior Procurement Specialist	Procurement	GGODR
Michael Eriu Okuny	Financial Management Specialist	Financial management	GGODR
Peter Okwero	Senior Health Specialist	Public health	GHNDR
Gandham N.V. Ramana	Program Leader	Public health	AFCE2
Clarette Rwagatore	Executive Assistant	Task team assistance	AFMBI
Mercy Mataro Sabai	Senior Financial Management Specialist	Financial management	GGODR
Miriam Schneidman	Lead Health Specialist	Public health, Team Lead	GHNDR
Eva Ngegba	Program Assistant	Task team assistance	GHNDR
Arleen Cannata Seed	Senior ICT Policy Specialist	ICT	GTIDR
Pascal Tegwa	Senior Procurement Specialist	Procurement	GGODR
Patrick Piker Umah Tete	Senior Financial Management Specialist	Financial management	GGODR
Andrew James Roberts	Senior Operations Officer	Operations	AFCRI
Edward Felix Dwumfour	Senior Environmental Specialist	Environmental	GENDR
Cheikh A. T. Sagna	Senior Social Development Specialist	Social development	GSURR
Christiaan J. Nieuwoudt	Finance Officer	Finance	WFALA
Mary C.K. Bitekerezo	Senior Social Development Specialist	Social development	GSURR

Non-Bank Staff		
Martin Matu	Senior Laboratory Specialist, ECSA	Arusha
Benedict Mushi	M&E Specialist, ECSA	Arusha
Willy Were Abwoka	Epidemiologist	Arusha
Kelly Silva	Laboratory Specialist, Consultant	Kigali

Institutional Data
Parent (East Africa Public Health Laboratory Networking Project-P111556)
Practice Area / Cross Cutting Solution Area

Health, Nutrition & Population

Cross Cutting Areas

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] 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 %
Health and other social services	Health	90		
Information and communications	Information technology	10		
Total		100		

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Human development	Other communicable diseases	34
Human development	Health system performance	33
Human development	Tuberculosis	33
Total		100

Additional Financing 3A EA PH Laboratory Networking Project Additional Financing (P153665)

Practice Area / Cross Cutting Solution Area

Health, Nutrition & Population

Cross Cutting Areas

[ ] Climate Change

[ ] Fragile, Conflict & Violence

[ ] 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 %

Health and other social services	Health	90		
Information and communications	Information technology	10		
Total		100		

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Human development	Other communicable diseases	34
Human development	Health system performance	33
Human development	Tuberculosis	33
Total		100

Summary of Proposed Changes

Change in Implementing Agency	Yes [] No [X]
Change in Project's Development Objectives	Yes [ ] No [X]
Change in Results Framework	Yes [X] No [ ]
Change in Safeguard Policies Triggered	Yes [ ] No [X]
Change of EA category	Yes [ ] No [X]
Other Changes to Safeguards	Yes [ ] No [X]
Change in Legal Covenants	Yes [X] No [ ]
Change in Loan Closing Date(s)	Yes [X] No [ ]
Cancellations Proposed	Yes [ ] No [X]
Change in Disbursement Arrangements	Yes [] No [X]
Reallocation between Disbursement Categories	Yes [ ] No [X]
Change in Disbursement Estimates	Yes [X] No [ ]
Change to Components and Cost	Yes [X] No [ ]
Change in Institutional Arrangements	Yes [] No [X]
Change in Financial Management	Yes [] No [X]
Change in Procurement	Yes [] No [X]
Change in Implementation Schedule	Yes [X] No [ ]
Other Change(s)	Yes [ ] No [X]

Development Objective/Results

Project's Development Objectives

Original PDO

The PDO remains to establish a network of efficient, high quality, accessible public health laboratories for the diagnosis and surveillance of tuberculosis and other communicable diseases.

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]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[X]
Indigenous Peoples (OP/BP 4.10) a/	[X]	[ ]
Involuntary Resettlement (OP/BP 4.12)	[ ]	[X]
Safety of Dams (OP/BP 4.37)	[ ]	[X]
Projects in Disputed Areas (OP/BP 7.60)	[ ]	[X]
Projects on International Waterways (OP/BP 7.50)	[ ]	[X]

a/ Burundi and Kenya only

Compliance

Covenants - Additional Financing (East Africa Public Health Laboratory Networking Project Additional Financing - P153665)

Source of Funds	Finance Agreement Reference	Description of Covenants	Date Due	Recurrent	Frequency	Action
IDA	Schedule 2, Section V.1 (Burundi, Kenya, Tanzania, Uganda)	The Recipient shall update and adopt, in form and substance satisfactory to the Association, the Project Implementation Plan, taking into account the views of the Association on the matter.	December 7, 2015			
IDA	Schedule 2, Section V. 2 (Burundi, Kenya, Tanzania, Uganda)	The Recipient shall prepare and adopt in form and substance satisfactory to the Association, an annual work plan for each public health laboratory supported under the	February 5, 2016			

		Project, and thereafter, at all times during the implementation of the Project, review with the Association and thereafter update the said annual work plan every 12 months, taking into account the views of the Association on the matter.				
IDA	Schedule 2, Section V. 3 (Burundi, Kenya, Tanzania, Uganda)	The Recipient shall during the period of the Project, and under terms of reference satisfactory to the Association, regularly monitor the recurrent expenditures of all the laboratories financed out of the proceeds of the Credit (Grant), including the levels of absorption of the personnel recruited to support such laboratories. To this end, and as part of the progress reports referred to in Section II.A.1 of this Schedule, the Recipient shall furnish reports, in form and substance satisfactory to the Association, on the status of such expenditures.		Recurrent	Annual	
IDA	Schedule 2, Section V.4 (Burundi, Kenya, Tanzania) and V.5 (Uganda)	The Recipient shall: (i) amend the Subsidiary Agreement in form and substance satisfactory to the Association; and (ii) furnish to the Association a legal opinion or opinions	December 31, 2015 (Kenya, Tanzania, Uganda) June 30, 2017 (Burundi)			

		confirming in form and substance satisfactory to the Association that the amended Subsidiary Agreement has been duly authorized or ratified by the Recipient and ECSA and is legally binding upon the Recipient and ECSA in accordance with its terms.				
IDA	Schedule 2, Section V.5 (Burundi)	The Recipient shall: (i) amend the Memorandum of Understanding in form and substance satisfactory to the Association; and (ii) furnish to the Association a legal opinion or opinions confirming in form and substance satisfactory to the Association confirming that the amended Memorandum of Understanding has been duly authorized or ratified by the Recipient and ECSA and is legally binding upon the Recipient and ECSA in accordance with its terms.	June 30, 2016			
IDA	Schedule 2, Section V. 5 (Kenya, Tanzania), V.6 (Burundi, Uganda)	The Recipient shall update and adopt, in form and substance satisfactory to the Association, the ESIAs (Uganda), the Environmental Management Plans (Uganda), and the Waste Management Plan (Burundi, Kenya,	February 5, 2016			

		Tanzania, Uganda), taking into account the views of the Association on the matter.				
IDA	Schedule 2, Section V.7 (Burundi), V.6 (Kenya, Tanzania)	The Recipient shall conduct an assessment of the proposed new biosafety level three laboratories, including a risk assessment in line with WHO standards, an evaluation of the maintenance and operating costs, and share the results with the Association prior to undertaking the respective investments under Part A.1 (a) of the Project.	November 7, 2016 (Kenya, Tanzania, Burundi)			
IDA	Schedule 2, Section I, B/2.1a (Kenya, Tanzania, Uganda) and Schedule 2, Section I C 1 a (Burundi)	The Recipient shall make available to ECSA on a grant basis the proceeds of the Financing allocated from time to time to Category 2 (Category 3 for Burundi) under an amended Subsidiary Agreement between the recipient and ECSA, under terms and conditions approved by the Association.			Yearly	

Conditions

Source Of Fund	Name	Type

NA

Risk

Risk Category	Rating
1. Political and Governance	High
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Substantial
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
OVERALL	**Substantial**

Finance

Loan Closing Date - Additional Financing (3A EA PH Laboratory Networking Project Additional Financing - P153665)

Source of Funds	Proposed Additional Financing Loan Closing Date
	March 30, 2020

Allocations - 3A EA PH Laboratory Networking Project Additional Financing (153665)

Source of Fund IDA	Currency XDR	Category of Expenditure	Allocation (US$ Million)	Disbursement %(Type Total)
			Proposed	Proposed
Burundi	7.2		10.0	
Kenya	7.2		10.0	
Tanzania	10.7		15.0	
Uganda	10.7		15.0	
TOTAL	**35.8**		**50.0**	

I. INTRODUCTION

1. ***This Project Paper seeks the approval of the Executive Directors for Additional Financing (AF) to the East Africa Public Health Laboratory Networking Project (P153665) to address critical gaps in disease preparedness and response capacity***. The project is being processed using condensed procedures in line with paragraph 12 of OP 10.00 (Projects in Situations of Urgent Need of Assistance or Capacity Constraints) to respond in a timely manner to Government requests to bolster Ebola preparedness capacity. The proposed project meets both eligibility criteria to the extent that the countries are deemed to: (i) have urgent needs of assistance; and (ii) experience capacity constraints. The AF will support the scale up of interventions in four of the participating countries (*Burundi, Kenya, Tanzania and Uganda*) and is not intended to cover cost overruns.

2. The AF involves the provision of additional credits in the amount of SDR 10.7 million (US$15 million equivalent) to the United Republic of Tanzania; SDR 10.7 million (US$15 million equivalent) to the Republic of Uganda; SDR 7.2 million (US$10 million equivalent) to the Republic of Kenya; and a grant in the amount of SDR 7.2 million (US$10 million equivalent) to the Republic of Burundi.

3. ***The recent Ebola outbreak in West Africa has underscored the importance of redoubling disease prevention and control efforts in East Africa***. While all countries have made progress in strengthening diagnostic and surveillance capacity, much more needs to be done, particularly to comply with the 2005 International Health Regulations (IHR).[1] The declaration by the World Health Organization (WHO) of the recent Ebola outbreak as a public health emergency of international concern has highlighted gaps and unmet needs in countries in East Africa. The recent Ebola outbreak has also underscored the importance of addressing surveillance and laboratory capacity constraints in the short to medium term to avert the high socio-economic and health costs associated with outbreaks which can quickly spiral out of control, as seen in West Africa. There is growing recognition that in addition to health care costs and productivity losses associated with Ebola and other outbreaks, aversion behavior is also a major risk factor which can drive away potential investors, tourists and travelers.

4. ***The East African Community (EAC) member states have stepped up Ebola preparedness activities, and have substantial unmet needs as reflected in their recently developed Viral Hemorrhagic Fever plans***. Several of the EAC countries are participating in the WHO/African Union health worker deployment initiative to West Africa, sending large contingents of medical workers, which implies an increased level of risk that needs to be mitigated to effectively protect against any imported cases. The proposed AF for *Burundi, Kenya, Tanzania and Uganda* will assist to: (a) scale up successful activities to additional facilities in cross border areas, further expanding geographic coverage; and (b) broaden and deepen the range of interventions to be funded (i.e. establishing isolation units; strengthening community surveillance activities; and supporting joint training in line with the *One Health*

[1] The IHR 2005, which came into force in 2007, is the legal framework adopted by WHO member states to ensure maximum protection against the spread of infectious diseases while minimizing restrictions on travel and trade.

approach[2]) to enhance effectiveness and impact of health systems in terms of management and containment of communicable diseases.

II. BACKGROUND AND RATIONALE FOR ADDITIONAL FINANCING IN THE AMOUNT OF US$50 MILLION

Background on the East Africa Public Health Laboratory Networking Project

5. ***The proposed AF builds on a project with a solid five-year track record of promoting innovations and fostering regional collaboration***. The US$63.66 million East Africa Public Health Laboratory Networking Project approved by the Board on May 25, 2010 aims to establish a network of efficient, high quality, accessible public health laboratories for the diagnosis and surveillance of TB and other communicable diseases in the East African Community member states. The original group of countries included Kenya, Rwanda, Tanzania and Uganda. Building on the successful implementation of the initial group, Burundi was subsequently added with a US$15 million grant approved by the Board on May 17, 2012. All credits/grants were declared effective quickly with only minor delays. Implementation performance has been solid and disbursements are on track. The current closing date is March 30, 2016 while for Burundi it is September 30, 2017.

6. ***While the original project had an initial focus on TB and other communicable diseases it has promoted a broader systems approach, recognizing that laboratories are critical to both quality care and core public health functions***. The goals of the laboratory network are to: (i) enhance access to diagnostic services for vulnerable groups; (ii) contribute to disease surveillance and emergency preparedness efforts; and (iii) serve as a platform for learning, knowledge sharing, and training. The project supports 32 facilities across the five countries, of which 26 are hospital-based satellite laboratories located in cross border districts. These facilities are expected to serve as centers of excellence, functioning as role models for other structures, and assisting Governments to mainstream and scale up innovations supported under the project.

7. ***The project has promoted a unique client focused approach with each participating country providing regional leadership in a thematic area***. *Kenya* is leading on Integrated Disease Surveillance and Response and Operational Research; *Uganda* is providing regional support on Laboratory Networking and Accreditation; *Tanzania* is coordinating regional Training and Capacity Building; and *Rwanda* is leading on Information and Communication Technologies (ICT) and Multi Drug Resistant TB (MDR-TB), and co-leading with *Burundi* on Performance Based Financing.

8. ***Partnerships have been critical in terms of leveraging global expertise, and tapping the comparative advantage of different institutions***. Partnerships have been brokered with various institutions, including WHO, United States Centers for Disease Control and Prevention (CDC),

[2] The *One Health* approach refers to the internationally endorsed framework encouraging human and animal health specialists to work closely together, recognizing that successful public health interventions require the cooperation of human and veterinary health communities to achieve optimal health outcomes for both people and animals.

and African Society for Laboratory Medicine (ASLM), which are the main actors involved in strengthening laboratory and disease surveillance systems. The activities supported under the AF have been identified based on Government strategic plans for Ebola and Viral Hemorrhagic Fevers (VHFs), and taking into account support by other development partners in each country. The Bank project is focused on regional activities and physical infrastructure, activities not typically funded by other partners, and on scaling up successful training and quality assurance programs designed by other institutions (CDC, WHO), thereby complementing efforts by Governments and partners, particularly on treatment. A notable example of a strong partnership is the new Uganda National TB Reference Laboratory designed by CDC and constructed with Bank funding.

9. ***Partnerships have also been instrumental at the regional level.*** The East, Central and Southern Africa Health Community (ECSA-HC), in collaboration with the East African Community (EAC), facilitates knowledge exchanges, promotes harmonized approaches, mobilizes partners, and provides recommendations to policymakers. ECSA-HC has recently submitted a proposal to the Global Fund to support the Uganda Supranational Regional Laboratory (SRL) to provide technical support to other national TB reference laboratories in the region, illustrating how the Bank operation has played a catalytic role in fostering additional partnerships. Likewise, the EAC has recently requested financial support from the German development bank (KfW) to provide complementary support to the national reference public health laboratories in the five EAC member states and to support one of them to function as a center of excellence for communicable diseases. While the KfW-funded project is at an early stage of identification, it represents an important opportunity to: broaden partnerships with other reputable public health institutes; expand access to critical services through state of the art mobile laboratories; leverage knowledge and expertise in innovative technologies; and support capacity building/study attachments at German institutions.

10. ***The March 2014 Mid-Term Review (MTR) concluded that there is solid progress towards the Project Development Objective (PDO) with notable results on the ground***. All countries have demonstrated ownership and leadership in their respective thematic areas, and made important progress towards the PDO, even though the pace of implementation is variable. The MTR concluded that the objectives continue to be relevant and timely and the design remains robust. The PDO and project components remain unchanged. The PDO and Implementation Performance (IP) are currently rated as satisfactory. The main achievements and innovations supported under the project are summarized in Box 1.

11. ***Assuming continued successful implementation of the project, the scope and scale of this operation could be expanded, as the experience in West Africa has demonstrated the importance of investing early in strong disease surveillance, disease outbreak preparedness and diagnostic capacity***. An expansion could take several forms. First, additional countries could be added to the project, as needs in neighboring countries are enormous, and international experience has demonstrated the importance of involving a larger number of countries in effective disease control efforts. Second, the geographic coverage within participating countries could be expanded to reach more remote, cross border areas and to further bolster diagnostic and disease surveillance and outbreak preparedness capacities (e.g. cross border investigations and tabletop simulations). Third, the successful Stepwise Laboratory Improvement Process towards

Accreditation and companion training and mentorship program supported by CDC could be scaled up and facilities assisted to complete the accreditation process. Fourth, human resources capacity could be strengthened through a systematic upgrading of qualifications of laboratory workers, as most have only diplomas or certificates rather than degrees; and the gold standard, CDC-supported Field Epidemiology and Training Program could be scaled up to increase the availability of public health officials. Fifth, the project could facilitate and support the establishment of public health institutes/regional centers of excellence, in collaboration with the African Union. Sixth, the platforms established under the project could be leveraged to build capacity to deal with non-communicable diseases, as all countries have a growing burden of disease and large financing gaps (i.e. recently constructed laboratories can be supported to strengthen access to diagnostic services for cancer). Finally, given the strong knowledge management agenda embedded in this project, south-south collaboration could be further broadened to transfer knowledge and experience from East Africa to other sub-regions (West Africa and Southern Africa).

Box 1: Main Achievements

- *Introduced a unique and cost effective peer review mechanism* by which the five EAC member states assess performance of each other's laboratories, ensuring objectivity and promoting cross country learning.
- *Attained substantial quality improvements* with impressive gains in the Stepwise Laboratory Quality Improvement Process towards Accreditation (SLIPTA), instilling a culture of continuous quality improvements and setting laboratories on a path towards accreditation. Seventy-three percent of facilities reached at least three stars on a scale of five, in stark contrast to less than one star at baseline for the majority.
- *Piloted use of Performance Based Financing,* linking incremental improvements in the SLIPTA composite scores to financial incentives to participating hospitals.
- *Supported the Uganda National Tuberculosis Reference Laboratory to reach the gold standard ISO accreditation*, and quality to serve as a prestigious WHO SRL, the second of its kind on the continent.
- *Financed construction and equipment of state of the art laboratories in cross border areas*, bringing diagnostic services to vulnerable groups.
- *Rolled out new molecular technology for more rapid and accurate results*, which implies that anti-TB drugs can be prescribed with greater accuracy, saving time and money. The GeneXpert technology has improved the turnaround time to several hours rather than waiting months for liquid culture results.
- *Introduced high-tech video conferencing and other ICT innovations* to support e-learning, facilitate knowledge sharing, and strengthen communications.
- *Expanded the pool of qualified personnel by training over 7,000 professionals* in both short and long term training, including fellows in the gold standard Field Epidemiology and Training Program (FETP) designed and supported by CDC.
- *Developed a regional framework for cross-border surveillance*, established cross border committees; conducted joint simulation exercises; carried out joint disease outbreak investigations across partner states, including several Ebola and Marburg outbreaks in Uganda; and developed a mobile phone disease surveillance system to facilitate sharing of information on disease outbreaks.
- *Conducted joint analytic work on Human Resources for Health and on Public-Private Partnerships* to assist Governments to address HRH issues and to explore ways to harness the potential of the private sector.

Rationale for AF to the East Africa Public Health Laboratory Networking Project

12. ***The rationale for AF for Burundi, Kenya, Tanzania and Uganda is to address glaring gaps in the preparedness of health systems to deal with disease outbreaks, and scale up promising regional approaches to maximize impact, and development effectiveness***. Building on achievements to date, countries will be supported to put in place

stronger systems to prevent and reduce the likelihood of disease outbreaks, detect threats early, mount rapid effective responses, and measure progress. While the relative focus and funding of activities under the original project was on laboratory systems, the AF will revitalize disease surveillance, prevention and preparedness capacities. As TB control remains relevant in these countries, support will be provided to consolidate achievements and/or expand activities to new project sites. All proposed activities remain consistent with current CPS in these countries. The AF activities will be implemented through established national structures, and coordinated regional platforms that have been used over the past five years.

Sector Issues

13. ***Over the past few years, Burundi has experienced the highest fatality rates during outbreaks.*** The country has prepared an Ebola Contingency Plan (*Plan de Contingence du Burundi Pour la Préparation et la Riposte face à la Menace de la Maladie a Virus Ebola*) to strengthen capacities in the medium-term. The plan has identified 23 health districts at risk due to their cross border locations with large population movements and/or proximity to countries (DRC, Uganda) experiencing frequent outbreaks. The ongoing project is supporting only four districts (*Rumonge, Makamba, Muyinga, Kayanza*) which remains insufficient to provide adequate coverage.

14. ***As a result of the Ebola outbreak in West Africa, Kenya has reassessed the country's preparedness level,*** and updated its national *Ebola Virus Disease Preparedness and Response Contingency Plan* (October 2014) which highlights continuing risks and gaps. Even though Kenya carries out routine surveillance with zero reporting on VHFs, it has reported several outbreaks of other VHFs, including Rift Valley Fever, Yellow Fever, Dengue Fever, and Chikungunya. Kenya also faces additional risks due to its proximity to neighboring countries which have experienced recent Ebola outbreaks and its strategic location in East Africa with over 80 flights daily to numerous destinations in West Africa. The country has sent a large contingent of health care workers to contain the Ebola outbreak in the three most affected countries in West Africa. Authorities recognize that more needs to be done to put in place core capacities under the IHR in order to deal effectively with unexpected public health events. The 47 recently established county Governments have assumed important public health functions, but have highly variable capacities, with counties in cross border areas particularly vulnerable, as seen during a recent polio outbreak.

15. ***Like other countries in East Africa, Tanzania faces important risks due to various outbreak prone diseases*** (e.g. Rift Valley Fever, Ebola, Yellow Fever, Marburg, Dengue Fever, and Chikungunya virus). Rift Valley Fever was first reported in Tanzania in the 1930s with six major outbreaks reported. Of the reported outbreaks, the 2007 epidemic was the most severe and widespread, affecting both humans and livestock. Roughly 310 human cases were reported, of which close to 50 percent succumbed. Dengue Fever, first reported in the early 1950s, continues to plague the country with three outbreaks reported since 2010 and the highest number of cases reaching close to 1,400. The country has four busy international flight hubs, numerous points of entry on Lake Tanganyika, and large population movements across porous borders.

16. ***Following events in West Africa, Tanzanian authorities elaborated a National Ebola and Other VHF Contingency Plan using a broad based participatory process.*** The Prime Minister's office was placed in charge of high-level coordination, and the Bank was requested to be the lead player in funding the national plan. The Government is particularly concerned with the potential negative ripple effects of the Ebola outbreak on its lucrative tourism sector, which brings in sizable revenues, and has mounted a major effort to strengthen communications. The national plan identifies shortcomings in disease preparedness and response capacities, including absence of adequate laboratory capacity for specimen diagnosis and outbreak confirmation, limited number of isolation units, insufficiently trained personnel, weak community based surveillance, and inadequate sharing of information between animal and human health surveillance experts. Experience from past VHF outbreaks has shown that early warning systems need to be revitalized; and capacity of health care workers and port of entry personnel in case detection and investigation needs to be bolstered. Screening of other diseases of growing public health importance also need to be scaled up, building on the Dar es Salaam Urban Demographic Sentinel Sites initiative.

17. ***While Uganda has handled previous VHF outbreaks successfully, authorities recognize that the country continues to face a high risk of disease outbreaks of highly pathogenic agents***, including Ebola, Marburg and other VHFs, and needs to further strengthen its epidemic preparedness and response capacity and compliance with the IHR. Since 2000, Uganda experienced five Ebola outbreaks and three Marburg outbreaks. The past Ebola epidemics in Uganda occurred in Gulu (2000), Bundibudgyo (2007), Luwero (2011), and Luwero and Kibaale (2012). In the case of Marburg, disease outbreaks were reported in Ibanda and Kamwenge (2007), Kibaale and Ibanda (2012) and Wakiso (2014).

18. ***Uganda has been building capacity, dealing more effectively with each successive Ebola Viral Disease (EVD) epidemic and containing them locally.*** Nevertheless, greater capacity is needed to address the risk of a more widespread epidemic, as occurred in West Africa. The country currently has only one 30-bed isolation unit for VHFs in Entebbe which is not adequate to deal with the frequency, ferocity, and geographic dispersion of outbreaks. The stockpile of health supplies such as personal protective equipment (PPE) and infrared thermometers that are required for responding to a large epidemic is also insufficient. Likewise, training of health workers, and community resource persons needs to be scaled up to improve awareness of risks and put in place nationwide capacity for case notification and contact tracing. The proposed activities build and complement long standing support from CDC to the Uganda Virus Research Institute; and support from other partners such as WHO, Médecins Sans Frontières (MSF) and UNICEF on VHF outbreaks, addressing ongoing financing deficits.

19. ***The fifth participating country in the regional project, Rwanda, has not requested AF,*** as it currently has adequate financing for its Ebola national prevention and preparedness plan from other development partners.

Alternatives considered and reasons for rejection

20. ***The regional laboratory operation provides the best fit for the AF both in terms of overall objectives and the nature and scope of the proposed additional activities***. The team

explored the possibility of AF through ongoing IDA health sector operations, but concluded that the regional laboratory operation is the optimal choice. The regional project is fully in line with the Bank's institutional commitment to global and regional public goods. The Bank's growing experience with regional investments and approaches and its comparative advantage to addressing regional health systems challenges have been instrumental in the design and implementation of the regional laboratory project.

21. ***There is growing global recognition of the importance of coordinated regional action in tackling disease outbreaks in an effective manner, minimizing risks of transmission***. The proposed AF will involve: (a) introduction of standardized, gold standard laboratory and disease surveillance systems (e.g., quality assurance, information and communication, mobile phone surveillance reporting system); (b) promotion of an integrated model for providing diagnostic services in border areas that cut across several prevalent or emerging diseases in the region; and (c) cross border disease surveillance and outbreak preparedness and response strategies which focus on epidemic prone, endemic, or have pandemic potential diseases. A regional approach is needed in order to achieve these goals. The ongoing regional laboratory project has established strong regional coordination mechanisms and platforms that have proven robust for harmonizing strategies and promoting learning and knowledge sharing, and are best suited for the proposed AF rather than ongoing IDA operations in these countries.

III. PROPOSED CHANGES

Project Components

22. The project components remain unchanged but will be expanded to support additional activities for Burundi, Kenya, Tanzania and Uganda. The East Africa Public Health Laboratory Project includes three mutually reinforcing components which are supporting the five EAC member states to diagnose communicable diseases of public health importance and to share information about those diseases to mount an effective regional response. The activities to be funded are summarized below with detailed descriptions in Annex 3.

23. ***Burundi, Kenya, Tanzania and Uganda***. For the four original countries the AF will support the consolidation of ongoing activities and funding of the following supplementary activities:

> **Component 1: Regional Diagnostic and Surveillance Capacity (US$36.2 million)** Under Component 1, the following additional activities will be funded to enhance readiness to cope with disease outbreaks: (i) establishment of selective BSL2/3 capacity to facilitate rapid and efficient diagnosis of EVD and other pathogens and minimize the need for transporting infectious materials across borders, drawing on thorough risk assessments to be conducted to determine the appropriate BSL required for different contexts in accordance with WHO guidelines and policies; (ii) construction of isolation units to manage cases of EVD and other infectious diseases such as cholera and TB; (iii) construction and equipment of additional laboratories to expand geographic coverage and increase national capacity; (iv) provision of Personal Protective Equipment (PPE),

materials and supplies; (v) operational support for Emergency Operation Centers (EOCs) and Rapid Response Teams (RRTs), cross border disease surveillance committees, and table top simulations; (vi) equipment and supplies for veterinary laboratories; and (vii) equipment for roll out of mobile phone disease surveillance reporting, based on the system developed under the original project; and (viii) pathology equipment to support a small scale cancer screening program.

Component 2: Joint Training and Capacity Building (US$5.5 million) The AF will assist the four participating countries to conduct training and mentoring of both health and non-health personnel in key aspects of epidemic preparedness and response using a training of trainers (TOT) approach, cascading training down from regional to national level and from national to peripheral level. To this end, the project will fund training of: (i) health workers (i.e. medical, laboratory, community, disease surveillance) at all levels of the health system to enhance knowledge and capacity to monitor, track and manage cases of EVD and other infectious diseases; (ii) non-health workers (i.e. airport and port authorities) to strengthen screening and reporting of cases during epidemics; (iii) community and civil society groups to raise awareness of risks, and strengthen case notification during outbreaks; (iv) animal health specialists to encourage a move towards a One Health approach; and (v) establishment of the FETP Program (Burundi). In order to address the growing need for diagnosis and management of NCDs, particularly cancers, training will also be provided to strengthen cancer screening and pathology services.

Component 3: Joint Operational Research and Knowledge Sharing/Regional Coordination and Program Management (US$8.3 million) In addition to consolidating and disseminating findings from ongoing operational research, the AF will support the participating countries to conduct research to determine factors contributing to outbreaks of VHF and to identify the most effective strategies for managing epidemics.

Project Financing

24. *Lending Instrument*. The proposed lending instrument for each country is Investment Project Financing (IPF). Financing of activities will take place through IDA credits of US$10 million for the Republic of Kenya, US$15 million to the United Republic of Tanzania, and US$15 million to the Republic of Uganda, and an IDA grant of US$10 million to the Republic of Burundi, reflecting the IDA financing terms applicable for each country.

25. *Eligibility of Regional IDA.* The proposed AF activities are eligible for regional funding under IDA17, based on the following eligibility criteria:

(i) The regional project covers four countries.
(ii) The project involves activities aimed at control of communicable diseases which are expected to have positive externalities with benefits accruing across borders, or to

mitigate negative externalities for activities where individual countries may not have the incentives or resources to invest.

(iii) There is strong commitment of all participating countries, as evidenced by the timely elaboration of high quality Ebola contingency plans and continued commitment to regional TB control efforts. Regional institutions (ECSA-HC, EAC) have demonstrated continued commitment and leadership on communicable disease control, and provided strong support to member states in the elaboration of emergency plans and in preparation of this project.

(iv) The project has been supporting countries to harmonize approaches to communicable disease control, to adopt regionally endorsed standardized tools, and to promote collective action, in line with regional policies and strategies.

Institutional and Implementation Arrangements

26. *National Arrangements*. The institutional and implementation arrangements will remain unchanged for the original countries (*Burundi, Kenya, Tanzania* and *Uganda*). These arrangements were reviewed during the March 2014 MTR and found to be adequate. While capacity is highly variable, there is strong ownership of the current arrangements with the ongoing operation embedded in Government structures, well aligned with other IDA-funded health operations in these countries (i.e. often co-managed by the same teams), and strong continuity in staffing, factors which augur well for successful implementation.

27. *Regional Arrangements* The regional arrangements will also remain unchanged, with the ECSA-HC continuing to facilitate knowledge sharing and learning on matters relating to diagnosis and surveillance of communicable diseases, including: (i) convening technical experts and policy makers in order to share good practices in laboratory and disease surveillance systems; (ii) facilitating selective capacity building and training and joint analytic work; (iii) establishing a forum for inter-country learning and knowledge sharing; (iv) collaborating with the East African Community in implementing a strategic plan for developing an East Africa integrated disease surveillance network as a model regional network; and (v) maintaining a website to serve as a platform for sharing of information and results of research. The 2014 MTR found overall satisfaction with the institution's performance with strong leadership, good accountability mechanisms, and excellent collaboration. All countries have continued to make payments to ECSA-HC, as stipulated in the respective Subsidiary Agreements (SAs), and have expressed satisfaction with the institution's effectiveness and the division of labor with countries leading and ECSA-HC playing a facilitating and catalytic role, bringing stakeholders together.

28. As discussed in greater detail in Annex 5, the team working on the project at ECSA-HC, consisting of a senior laboratory systems specialist, a Monitoring and Evaluation (M&E) Specialist, and an epidemiologist, will be retained. The ECSA-HC Secretariat will continue preparing consolidated annual project status reports; supporting knowledge sharing; providing policy and programmatic recommendations to policy makers; and facilitating Governmental and inter-governmental actions that may be required under the project. ECSA-HC will maintain the *Regional Advisory Panel* (RAP) which will continue to meet annually to facilitate learning among participating countries, discuss challenges, and draw lessons. The RAP will continue to

be chaired by a high-level representative of the EAC, to ensure consistency with broader health and economic policies and initiatives in East Africa.

29. The financing of activities at the regional level will continue to come from the four participating countries. Each country has signed a SA with ECSA-HC under terms and conditions approved by the Association, as detailed in the Financing Agreements. SAs stipulate the activities to be carried out and the financial arrangements, namely providing to ECSA-HC an amount of US$125,000 annually over the life of the project for carrying out a consolidated work plan of activities approved by all countries. These arrangements have worked well over the past five years, and have generated economies of scale and cost efficiencies in carrying out joint activities (e.g. analytic studies, knowledge sharing).

Results Framework and Performance Indicators

30. In addition to the proposed changes outlined above, the Results Framework (RF) will be amended by: (i) dropping several indicators which are no longer relevant; (ii) adding a number of new indicators; (iii) refining several indicators; and (iv) revising targets for the remaining period. Annex 1 provides a table summarizing and explaining these changes, along with the RFs for each country. The status of key performance indicators with these slight modifications is as follows:

- Reduced average turn-around time for TB liquid culture tests (days), *Dropped*
- Reduced average turn-around time for GeneXpert (days), *Added*
- Satellite laboratories awarded *three*-star status (rather than two-star) under regional accreditation program based on WHO-AFRO five-step accreditation process, (cumulative number, percent), *Amended*
- Number of beneficiaries (*direct*; out of which x percent female), *Amended*
- People receiving TB drug susceptibility tests among Directly Observed Treatment Short Course (DOTS) treated TB cases not responding to treatment (number, percent), *Unchanged*
- Share of reported communicable disease outbreaks having laboratory confirmation of etiological agent (percent), *Unchanged*
- Cross border outbreaks for which investigations are conducted, *percent* rather than number, *Amended*

31. *Closing Date.* The closing date of the proposed AF will be *March 30, 2020*.

Key Risks and Mitigation Measures

A. Risk Ratings Summary Table

Risk Category	**Rating**
1. Political and governance	High
2. Macroeconomic	Moderate
3. Sector strategies and policies	Moderate
4. Technical design of project or program	Substantial
5. Institutional capacity for implementation and	Substantial

sustainability	
6. Fiduciary	Substantial
7. Environment and social	Substantial
8. Stakeholders	Moderate
Overall	**Substantial**

B. Overall Risk Rating Explanation

32. ***The overall project risk continues to be substantial***. The most relevant risks to development results associated with this operation are: political and governance, technical design of project, institutional capacity for implementation and sustainability, and fiduciary.

33. ***Even though most of the risks identified for the original project have not materialized or have been mitigated, several risks to achievement of the PDO persist and need continual assessment and monitoring by the task team and management***. The political and governance risks are rated as high. While there is strong political commitment to the objectives of this operation in all countries, there are concerns with potential political instability linked to the forthcoming presidential elections in Burundi; long standing concerns with management of public resources in Kenya. Anti-corruption policies and measures have been put in place in Kenya, but the country does not remain immune to fraudulent activities with one such incident under the original project. Kenyan officials with World Bank support have taken appropriate action to mitigate future risks as discussed in Annex 2. The technical design remains robust but inherently challenging, requiring continued implementation support. Even though the project is implemented through experienced institutions, capacity remains highly variable across countries and hence countries need to continue helping each other, recognizing that they are only as strong as the weakest link. Concerns over sustainability remain in all countries and require a continued dialogue with country officials. Finally, fiduciary risks persist, in light of weak internal controls, periodic delays in fund flows, and procurement related problems. Annex 2 provides a detailed discussion of the main risks and proposed mitigation measures.

C. Appraisal Summary

34. **Economic and Financial Analyses.** ***There is a clear economic rationale for investing in disease prevention and preparedness planning and for public provision of these services***. Most of the proposed investments in public health laboratories, disease surveillance, and information systems, are public goods because of inherent market failures, underscoring the important role of the public sector. As noted in the 2002 *Global Public Goods for Health* report by the WHO Commission on Macroeconomics and Health, acting independently each country may have limited motivation to invest in communicable disease control efforts, as benefits accrue to neighboring countries. Priority should thus be placed on the provision of key public goods: (i) control and prevention of cross border spread of communicable diseases; (ii) standardized data collection efforts; and (iii) research, which are all areas of support under this regional project.

35. ***The coordinated work across five countries has generated important economies of scale and cost efficiencies***. Several examples are worth noting, including: (i) training of trainers (TOT) approaches on various topics with training cascaded to country level; (ii) joint development of e-learning modules on a wide range of topics (e.g. infection control, biosafety, quality systems) with each country leading the production of one module; (iii) sharing of tools, bidding documents, technical specifications with countries not needing to reinvent the wheel; (iv) peer review annual assessments conducted by experts (trained and certified under the project with support of partners) from within the region rather than relying on costly external support; and (v) joint analytic work using common methodological frameworks and shared financing.

36. ***As seen during the recent Ebola outbreak, it is critical to act early and forcefully to avoid the high costs associated with disease outbreaks***. The economic toll on the three most affected countries in West Africa was initially projected to lead to a staggering GDP loss of US$6.3 billion for the next two years under a low case scenario, and US$50 billion under a slow containment scenario.[3] While these dire projections may not materialize, the ultimate economic and human cost will be very high. In addition to the healthcare costs and productivity losses associated with Ebola and other epidemics, aversion behavior is a key risk factor which can drive away investors and tourists.

37. ***There is a strong economic rationale for investing in enhanced diagnostic techniques for TB control, particularly in remote areas.*** With limited access to diagnostic techniques patients may go undiagnosed for long periods, and individuals continue to infect other family and community members. Investments in TB control have a significant economic impact on individuals, households, economies, as well as neighboring countries. Mitigating the spread of drug-resistant TB is critical to fostering health security at the regional and global levels and will result in substantial economic and social benefits. There are important efficiency gains to be reaped from introducing modern diagnostics for treating HIV related and drug resistant TB and promoting an integrated health care model for co-infected individuals. With the introduction of the new TB diagnostics, the turnaround time for getting results is reduced from months to days, allowing infected individuals to be placed on treatment more promptly.

38. ***There is also a sound rationale for strengthening pathology services to address the growing burden of cancers while maximizing returns on investments***. Currently, cancer care in all countries suffers from late diagnosis, poor prognosis and low survival rates. Given the chronic and pervasive shortages of trained specialists (e.g. one pathologist for 1.0 million inhabitants) in the region, and lack of adequate data for planning judiciously, there is a need to start on a small scale, building on existing platforms, particularly as future costs will be exorbitant if action is not taken now. The proposed pilot activities are in line with the forthcoming Disease Control Priorities publication, the gold standard on global knowledge on efficacy and effectiveness of priority health interventions, which makes a strong case for focusing on prevention and early diagnosis.

39. **Technical Analyses.** The Ebola epidemic in West Africa has served as a wake-up call to the global community on the importance of investing in disease surveillance and laboratory

[3] *The Economic Impact of the 2014 Ebola Epidemic: Short and Medium-Term Estimates for West Africa*, The World Bank Group, October 7, 2014.

systems and of adopting a One Health approach with strong collaboration between human and animal health specialists. Strong laboratory networks with well trained and well protected staff will be able to respond quickly and reliably to public health threats, reducing the risk of transmission, and assisting providers to deal more efficiently with patients, ultimately reducing morbidity and mortality. Likewise, well equipped laboratories and public health systems will protect staff during epidemics, and prevent loss among human resources for health. Building partnerships with other donors, as has been done, will leverage technical expertise, and ensure use of gold standard practices and programs (e.g. SLIPTA, SLMTA, FETP). It is well recognized that regional projects are inherently more challenging to design and implement, but have the potential to generate results which are not easily attained through national investments.

40. *Key Lessons*. Drawing on promising approaches and initial successes from the implementation of the original project, and from lessons learned during the recent Ebola outbreak, all stakeholders have taken the following key lessons into account for the AF:

- ***Ensure ownership:*** Country ownership has proven to be critical during the initial phase of this project. Each of the countries has been serving as a role model in a different thematic area. The countries have demonstrated strong leadership for their respective regional technical working groups, conducting joint assessments, developing and sharing tools for disease surveillance, ICT innovations, and lab accreditation which has contributed to achievements attained, and has generated important efficiencies.

- ***Maintain focus:*** In line with the original project design, the scope and scale of interventions will remain focused and selective, assisting Governments to test innovations, draw lessons, and mainstream new approaches with domestic resources or support from other partners (i.e. as proposed through the recently submitted Global Fund proposal to operationalize the Uganda SRL). The goal is not to reach national coverage but to demonstrate what works, under what circumstances, and what it takes to replicate and scale up. Thus, the geographic scope will be limited, the number of facilities will be maintained to a manageable level to allow for learning, and the range of interventions will be primarily focused on disease prevention and preparedness for Ebola and other VHFs. For example, the recently designed mobile phone surveillance system will initially capture data on only six priority diseases (i.e. cholera, measles, meningitis, malaria, multi-drug resistant TB and bloody diarrhea). Similarly the move towards a One Health approach will focus on selective activities, such as joint training, and coordinated disease outbreak investigations.

- ***Foster partnerships:*** Building on the close initial collaboration with key development partners and other stakeholders the project will continue to rely on partners with expertise in lab strengthening and disease surveillance to take advantage of global and regional expertise.

- ***Adopt coordinated approaches:*** Drawing on lessons with respect to coordinated regional public health initiatives (e.g. eradication of smallpox, progress towards elimination of Onchocerciasis, control of meningitis, management of the recent Ebola outbreak) the project will build and expand on initial achievements in the participating countries (i.e.

joint EAC framework for disease surveillance, cross border disease outbreak simulations, and cross border joint activities), to control the spread of communicable diseases.

- ***Leverage national institutions:*** As demonstrated under the original project and under other successful regional projects, the concept of "*design regionally--implement nationally*" has proven to be an effective strategy. The implementation of the project and the institutional and fiduciary arrangements will continue to rely on existing national structures and regional platforms which have proven robust.

- ***Ensure robust fiduciary arrangements***: Building on lessons from the implementation of the project, the importance of ensuring adequate fiduciary arrangements and internal control mechanisms cannot be understated. The project will draw from lessons in participating countries to adopt robust fiduciary arrangements and internal controls that will encourage and support transparency and accountability in the use of project funds.

41. **Financial Management.** The institutional and implementation arrangements for *Burundi, Kenya, Tanzania, and Uganda* will remain unchanged. All audit reports related to these entities have been received and there are no major issues except some required improvements in the internal control systems that will continue to be monitored using action plans during the implementation of the project. As confirmed during the Mid-Term Review these arrangements have worked effectively and remain relevant and robust. In addition Kenya will strengthen the National Project Steering Committee to be chaired by the Principal Secretary MoH membership with membership to include PS treasury and representatives from the Council of Governors so as to incorporate the new devolved Government. The project coordinator will lead the PCU, have regular internal meetings as well as coordinate quarterly and annual meetings with the National Project Steering Committee and Project Coordination Committee will be led by the head of department preventive and promotive health services.

42. **Procurement**. Procurement under the IDA project will be carried out in accordance with: (i) "Guidelines: Procurement of Goods, Works, and non-Consulting Services Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 (revised July 2014); (ii) "Guidelines: Selection and Employment of Consultants Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011 (revised July 2014); (iii) "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; (iv) introduction of Exceptions to National Competitive Bidding Procedures; and (v) the provisions stipulated in the Financing Agreements. Bank standard documents shall be used for procurement of goods and works through International Competitive Bidding (ICB) and for all consultants exceeding US$200,000. National competitive bidding will use Government standard bidding documents and procedures subject to the exceptions included in Annex 6.

43. Procurement Plans acceptable to the Bank covering at least the first eighteen months have been updated for all four countries (Burundi, Kenya, Tanzania and Uganda). For each contract to be financed, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame has been agreed between the clients and Bank team, and reflected in the respective Procurement Plans. The

Procurement Plans will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacities. The procurement arrangements are considered satisfactory and will remain unchanged.

44. **Environmental and Social Safeguards**. The project remains a *category B* operation as the original project was and triggers OP 4.01 on Environmental Assessment, due mainly to the planned construction/rehabilitation of additional laboratories and isolation units, as well as generation of health care waste at laboratories, and OP 4.10 on Indigenous Peoples in the case of Kenya and Burundi. Environmental impacts are moderate and manageable. The appraisal mission confirmed that OP 4.12 on Involuntary Resettlement is not triggered as all construction works have taken place or will take place within fenced premises of the selected hospitals. There are no settlements on these sites, which have been reserved for potential future expansion. Moreover, even within the fenced premises there are no activities that could be viewed as supporting livelihoods. The Environmental and Social Action Plan in Annex 6 sets out the updating of the safeguards instruments to address the new activities under the AF.

45. An ESMF covering the original countries was prepared, consulted upon and disclosed in-country and at the Bank's InfoShop, outlining the steps to be followed by the borrowers/recipients, including Environmental and Social Screening Forms, and terms of reference to be applied in the event that the screening process results indicate the need for a separate site specific Environmental and Social Impact Assessments (ESIAs) and or Environmental and Social Management Plans (ESMPs). Existing National Medical Waste Management Plans were adopted for each country (Burundi, Kenya, Tanzania and Uganda) and will be updated within three months of the effectiveness date.

46. A Vulnerable and Marginal Peoples' Planning Framework and subsequent Plan (VMPP) were prepared for Kenya under the original project, and an Indigenous Peoples Plan (IPP) was elaborated for Burundi. In the case of Kenya, the VMPP has focused on outreach to indigenous communities to ensure that they benefit from health and laboratory services. The VMPP for Kenya is being updated to include the current grievance redress mechanism for local communities. In the case of Burundi, which received support to join the regional project in 2012, an IPP was prepared as part of the preparation of the Burundi Additional Financing (P129551) to the original project, with the aim of ensuring that vulnerable groups, including more specifically the Batwa, would be able to receive culturally appropriate services and benefits from the project. The IPP has been published in country and redisclosed at the InfoShop under the current Additional Financing (P153665). The capacity of implementing agencies in Kenya and Burundi has been strengthened to improve implementation and monitor safeguard due diligence in relation to Indigenous and Vulnerable and Marginalized Peoples in these two countries.

47. Recent assessments of safeguards performance of the original project revealed that compliance with safeguard instruments has been mixed. In some cases, civil works have consisted of in situ rehabilitation, with minor environmental impacts. In Kenya and Uganda, ESIAs/ESMPs were prepared for all laboratories, and consulted with key stakeholders (i.e. public health authorities, medical personnel, and local communities) prior to construction but these documents were not disclosed; additional consultations have been undertaken and the ESIAs/ESMPs have been or are being disclosed in-country and at the World Bank's InfoShop.

In Rwanda (which did not prepare ESIAs/ESMPs for the laboratories), an environmental audit of the four completed facilities has been conducted and found implementation of environmental and social management measures to be generally satisfactory, with remedial measures identified to address remaining construction related deficiencies and environmental issues (e.g. need to increase frequency of incineration; need to develop alternative water collection sources during periods of general water shortages). Consultations were conducted during the preparation of the AF with community representatives residing in the proximity of the project-supported facilities (Kenya, Rwanda). These consultations found overall satisfaction with the new facilities with local stakeholders underscoring the benefits of the project (e.g., job opportunities at construction sites; greater access to laboratory testing and improved turnaround time) while identifying appropriate remedial actions to be taken at some sites (e.g. enforcement of safety and fire regulations; availability of alternate water sources; enhanced waste management practices).

48. In Tanzania, one ESIA/ESMP has been prepared, consulted upon and disclosed, with additional safeguard documents to be prepared for other facilities during the AF period prior to the commencement of civil works. In Uganda, the ESIAs/ESMPs were prepared and consulted upon, but not disclosed. They have been subsequently disclosed, following a review by the Bank, including at a laboratory under construction. Civil works activities in Burundi have not started, with ESIAs/ESMPs to be prepared, consulted upon and disclosed prior to initiating the civil works.

49. The Bank team reviewed the ESIAs/ESMPs for the facilities in Kenya, Uganda, and Tanzania, and found them to be of good quality. As stated above, these documents have been or are being disclosed in country and at the Bank's Info Shop. As part of the preparation of the AF package, the Bank also carried out visits to a sample of facilities in Kenya, Rwanda, and Uganda and found that environmental and social safeguard issues are being monitored during regular supervision missions with remedial actions identified to ensure safeguard compliance. The Bank has agreed with authorities in Kenya that environmental audits will be undertaken of all completed facilities.

50. Each country has prepared or adopted a Medical Waste Management Plan that will be updated for the purposes of this project. Burundi is preparing a "Medical Waste Management Plan" that will be finalized later in 2015. Kenya has a National Health Care Waste Management Plan (2008-12), and a National Policy on Injection Safety and Medical Waste Management (2007). Rwanda has prepared an Environmental Health Policy (2008), a National Policy on Injection Safety, Prevention of Transmission of Nosocomial Infection and Health Care Waste Management (May 2009), "Ministerial guidelines on environmental health management of Ebola virus disease in Rwanda" and "Ministerial guidelines on safe transport of medical waste from site of generation to final disposal site"; these are being supplemented with specific ESMPs for the four completed laboratories. Uganda has prepared "National Guidelines on Tuberculosis Infection Control in Health Care Facilities", a National Policy on Injection Safety and Medical Waste Management (2004), Standards for Injection Safety and Medical Waste Management Practices (2004), and a National Health Care Waste Management Plan (2012). Tanzania has prepared a National Health Care Waste Management Plan in 2003, which will be updated during implementation of the AF. As stated above, all the MWMPs will include updates that take into account Ebola related requirements.

51. Capacity of all five countries to manage biomedical waste at participating hospitals has been assessed and tracked through annual audits of all project-supported facilities in the five countries conducted as part of the WHO-endorsed SLIPTA process, the gold standard for measuring compliance with various quality systems, including waste management. Compliance with four key dimensions of biomedical waste management requirements (i.e. safety manuals; waste disposal; handling of hazardous materials; sharps handling and disposal) has improved substantially as documented through the annual audits, and as discussed in greater detail in Annex 6. Client capacity to comply with Bank safeguard policies-- preparing safeguard documents, conducting consultations, and disclosing documents--- is highly variable and needs improvement.

52. The Bank is working with clients to strengthen knowledge of Bank safeguard policies and improve compliance. To this end, implementation support has been strengthened through the appointment of Bank safeguard specialists who are providing more intense and frequent technical backstopping; quality assurance of work performed by Bank consultants is performed regularly; and national workshops are being conducted or planned, prior to the end of the fiscal year in order to strengthen awareness and understanding of Bank environmental policies.

53. **Climate screening requirements.** The team has completed the Climate Change screening as part of the IDA 17 commitments.

D. World Bank Grievance Redress

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

Table 1: Current Indicators and Proposed Changes

PDO: To establish a network of efficient, high quality, accessible public health laboratories for the diagnosis and surveillance of tuberculosis and other communicable diseases.				
Current Indicators			**Proposed changes on Indicators/Additions**	**Why a change is proposed**
Indicator	**Numerator**	**Denominator**		
POI# 1. Average turn-around time for i) TB liquid culture tests (days) –*Dropped* ii) GeneXpert tests (days)--*Added*	Time between the laboratory receiving the sample and delivering the results to the health facility.	Number of samples	POI# 1. i) liquid culture indicator is dropped ii) TAT for GeneXpert indicator, the target set to 2 days	The TB liquid culture test results are influenced mainly by the concentration of the bacilli in the specimen and negative results are only declared after 42 days, hence the project interventions will not affect these outcomes. The new indicator related to the GeneXpert will capture the effectiveness with which staff use this highly effective, automated technology.
POI# 2. Satellite laboratories awarded two star status under regional accreditation program based on WHO/AFRO five-step accreditation approach (cumulative number, percent)	Number of satellite labs that are awarded 2 two star status by the regional accreditation program. Two star status is defined as > 65% attainment of regional standards).	Number of satellite laboratories.	POI# 2. Laboratories awarded THREE star status under regional accreditation program based on WHO/AFRO five-step accreditation approach (cumulative number, percent).	As the majority of facilities have surpassed two stars the new target is to reach at least 3 stars by project completion.
POI# 3. Number of beneficiaries (direct and/or indirect) (out of	Number of beneficiaries (direct and/or indirect) (out of which x%	Not applicable	POI# 3(a). Number of beneficiaries (out of which x%	Not readily feasible to report on indirect

which x% female).	female).		female).	beneficiaries; hence the proposal is to track only direct beneficiaries.
POI# 4. People receiving TB drug susceptibility tests among DOTS treated TB cases not responding to treatment (number, percent).	Number of people receiving TB drug susceptibility tests among the number of DOTS treated TB cases who are not responding to TB treatment.	Number of DOTS compliant TB cases who are not responding to TB treatment.	POI# 4. Unchanged	
POI# 5. Share of reported communicable disease outbreaks[4] having laboratory confirmation of etiological agent (percent).	Number of communicable disease outbreaks for which the etiological agent had laboratory confirmation.	Number of reported communicable disease outbreaks.	POI# 5. Unchanged	
POI# 6. Outbreaks for which cross border investigation under taken (number).	Number of communicable disease outbreaks for which cross border investigations were undertaken.	Number of outbreaks reported in border districts served by satellite laboratories.	POI# 6. (a). Proportion of cross border outbreaks for which joint investigations are conducted (both in country joint investigations and inter-country joint investigations) .	As there are outbreaks that don't need joint investigations, the revised indicator aims to capture the proportion (rather than the number) of cross border outbreaks for which joint investigations are undertaken both within and across countries.
Intermediate Outcome Indicators				
IOI# 1. Satellite laboratories compliant with regionally harmonized SOPs (cumulative number, percent).	Number of satellite laboratories compliant with SOPs.	Total number of satellite laboratories.	IOI# 1. Satellite laboratories compliant with WHO SOPs (cumulative number, percent).	There are no "regionally harmonized SOPs", all the countries are using the WHO SOPs, so indicator revised to take this into account.
IOI# 2. Satellite laboratories meeting approved staffing norms (percent).	Number of satellite compliant with staffing norms.	Total number of satellite laboratories.	IOI# 2. Indicator dropped and to be replaced by new indicator from SLIPTA checklist which captures better the availability of staff.	The norms set by countries are too high and hence this is not considered a good indicator to use; new indicator to be added to capture the sustainability of

			IOI# 2. (b)Proportion of staff absorbed by the Government.	project investments.
IOI# 3. Number of days the national reference laboratory reporting stock-out of tracer reagent for TB liquid culture in past quarter (days).	Number of days the national reference laboratory reporting stock-outs of tracer reagent for TB liquid culture in past quarter.	Not applicable	IOI# 3. Unchanged	
IOI# 4. Satellite laboratories reporting stock-outs of tracer reagent for stools culture (percent).	Number of satellite laboratories reporting stock-outs of tracer reagent in past quarter.	Number of satellite laboratories	IOI# 4. Unchanged	
IOI# 5. Health facilities constructed, renovated, and/or equipped (number).	Sum of the number of health facilities constructed, renovated, and equipped.	Not applicable	IOI#5. Number of: IOI#5. (a) Health facilities constructed IOI#5. (b) Health facilities renovated IOI#5. (c) Health facilities equipped	This indicator is not as specific as required, breaking it into sub indicators will make it specific and help in getting accurate information.
IOI#6: Share of national and satellite laboratories that comply with Biomedical Waste Management requirements (cumulative number, percent).	Number of satellite and national laboratories that meet the requirements for Biomedical Waste Management.	Total number of satellite and national laboratories	IOI#6: Unchanged	
IOI# 7. Quarterly publication of a regional surveillance bulletin by East Africa integrated disease surveillance network with country-specific data (yes/no).	Quarterly regional surveillance bulletins published on time (within 15 days of completion of quarter).	Not applicable	IOI# 7. Unchanged	
IOI# 8. Health personnel receiving training (number).	Number of laboratory personnel receiving training.	Not applicable	IOI# 8. Unchanged	While the indicator will remain unchanged the targets need to be revised downward for some countries which set unrealistically high targets.
IOI# 9. Proportion of lab staff trained in liquid culture testing found to be proficient (percentage)	Number of staff trained that attained proficiency	Number of lab staff trained at regional training	IOI# 9. Unchanged	

		center		
IOI#10. Operational Research studies approved by the peer review panel completed (Percent)	Number of operational research studies completed	Number of operational research studies approved by the Peer Review Panel	IOI#10. Countries will report on various stages of the OR studies, as follows: IOI#10(a). Protocols developed and approved by a recognized IRB IOI#10(b). Studies completed with results disseminated IOI#10(c). Offshoot proposals developed for short term operational studies	This indicator captures only completed studies, which may take long before being reported, so it's better to have sub indicators that track progress made
IOI#11. Development of regional lab standards, SOPs, and recording and reporting formats acceptable to the Regional Technical Advisory Group (yes/no)	Development of regional lab standards, SOPs, and recording and reporting formats acceptable to the Regional Technical Advisory Group	Not applicable	IOI#11. This indicator will be dropped	Regional standardization of lab SOPs has not proven feasible or desirable as countries need flexibility in standards used
IOI #12. Patient satisfaction at project supported facilities			Proportion of satellite and national reference laboratories that conduct customer/beneficiary satisfaction survey	New indicator to be added in line with corporate policy on beneficiary feedback
IOI #13 Number of tests performed	Number of tests performed	Not applicable		New indicator to capture improved supply of services at project supported laboratories

Table 2: Results Framework Targets for Tanzania 2015-2019

Project Outcome Indicators	**Baseline 2009**	**Target Values**	**Frequency and Reports**

		YR1 2010/11	YR2 2011/12	YR3 2012/13	YR4 2013/14	YR5 2014/15	YR6 2015/16	YR7 2016/17	YR8 2017/18	YR9 2018/19	
POI# 1. Average turn-around time for TB GeneXpert test[5](Hrs)	NA	NA	NA	NA	48hrs	48hrs	48hrs	36hrs	36hrs	24hrs	Quarterly
POI# 2. Satellite laboratories awarded three star status under regional accreditation program based on WHO/AFRO five-step accreditation approach (cumulative number, percent).	0	0	1 (14%)	3 (50%)	5 (71%)	5 (71%)	5 (71%)	5 (71%)	6 (85%)	7 (100%)	Annual
POI# 3. Number of beneficiaries (out of which x% female).	5000	5,000	6,500	7,000	10,000	10,000	140,000 (55%)	150,000 (55%)	160,000 (60%)	170,000 (60%)	Annual
POI# 4. People receiving TB drug susceptibility tests among DOTS treated TB cases not responding to treatment (number, percent).	450 (10%)	900 (20%)	1800 (40%)	2250 (50%)	2700 (60%)	3150 (70%)	1400 (80%)	1450 (85%)	1600 (90%)	1650 (90%)	Annual
POI# 5. Proportion of reported communicable disease outbreaks having laboratory confirmation of etiological agent (percent).	10%	20%	30%	45%	50%	55%	100%	100%	100%	100%	Annual
POI# 6. Proportion of outbreaks in cross border areas that joint investigations were done (both in country joint investigations and inter-country joint investigations)							50%	50%	60%	60%	
	Target Values										
Intermediate Outcome Indicators	**Baseline 2009**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**	**YR6**	**YR7**	**YR8**	**YR9**	**Frequency and Reports**
IOI# 1. Satellite laboratories compliant with WHO SOPs (cumulative number, percent).	0	0	0	2 (33.3%)	3 (50%)	5 (83.3%)	5 (83%)	5 (83%)	6 (100%)	6 (100%)	Annual
IOI# 2. Number of days the national reference laboratory reporting stock-out of tracer reagent for TB liquid culture in past quarter (days).	30	30	20	15	0	0	0	0	0	0	Quarterly
IOI# 3. Satellite laboratories reporting stock-outs of tracer reagent for stools culture (percent).	83.3%	83.3%	67.3%	33.3%	0	0	33.3%	16.6%	16.6%	0	Quarterly
Constructed,	0	0	2	4	1	0			0	0	

[5] POI#1.The GeneXpert machine takes 2 hours to process the sample and give results, there are also a lot of other processes (sample preparations) that need to be taken into account before sample is taken to the machine, in this case the we still need to measure TAT

IOI# 4. Number of Health facilities								2	1			
	Renovated							1	2	5	0	
	Equipped							1	7	6	0	
IO I#5. Share of national and satellite laboratories that comply with Biomedical Waste Management requirements (cumulative number, percent)		0	1 (14%)	3 (28.5%)	4 (57.1%)	7 (100%)	7 (100%)	7 (100%)	7 (100%)	7 (100%)	7 (100%)	Annual
IOI# 6. Quarterly publication of a regional surveillance bulletin by East Africa integrated disease surveillance network with country-specific data (yes/no).		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarterly
IOI# 7. Health personnel receiving training (number).		0	256	685	1160	1324	1462	1684	350	240	23	Annual
IOI# 8. Proportion of laboratory staff trained and found to be proficient (Competent) in performing assignments								80%	100%	100%	100%	Annual
IOI#9. Operational Research studies	developed and approved by a recognized IRB							2	0	0	0	Annual
	completed with results disseminated							1	1	1	2	Annual
	Offshoot proposals developed for short term operational studies.							1	0	0	0	Annual
IOI#10.Number of GeneXpert tests performed								22,000	23,000	24,000	25,000	Quarterly
IOI#11. Number of laboratory tests performed								250,464	270,464	294,494	314,464	Quarterly
IOI#12. Laboratory Clients Satisfaction Rate								70%	75%	75%	80%	

NA: Not applicable.

Table 3: Results framework for the Republic of Kenya 2015-2019

Project Outcome Indicators	Baseline	Target Values	Frequency

	2009	YR1 2010/11	YR2 2011/12	YR3 2012/13	YR4 2013/14	YR5 2014/15	YR6 2015/16	YR7 2016/17	YR8 2017/18	YR9 2018/19	and Reports
POI# 1. Average turn-around time for TB GeneXpert test[6] (Hrs)							48hrs	36hrs	24hrs	24hrs	Quarterly
POI# 2. Satellite laboratories awarded three star status under regional accreditation program based on WHO/AFRO five-step accreditation approach (cumulative number, percent).	0(0%)	0(0%)	0(0%)	2(40%)	3(60%)	4(80%)	5(71%)	5(71%)	6(85%)	7(100%)	Annual
POI# 3. Number of beneficiaries (out of which x% female).	81,254 (60%)	81,254 (60%)	83,000 (63%)	85,000 (68%)	87,000 (71%)	90,000 (75%)	150,000	160,000	170,000	180,000	Annual
POI# 4. People receiving TB drug susceptibility tests among DOTS treated TB cases not responding to treatment (number, percent).	6,569 (61%)	6,569 (61%)	6,800 (68%)	7,000 (72%)	7,200 (75%)	7,400 (78%)	8500 80%	8600 81%	8700 82%	8700 82%	Quarterly
POI# 5. Proportion of reported communicable disease outbreaks having laboratory confirmation of etiological agent (percent).	20%	30%	40%	50%	55%	60%	65%	70%	75%	80%	Quarterly
POI# 6. Proportion of outbreaks in cross border areas that joint investigations were done (both in country joint investigations and inter-country joint investigations)							50%	60%	70%	80%	Annual
		Target Values									
Intermediate Outcome Indicators	**Baseline 2009**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**	**YR6**	**YR7**	**YR8**	**YR9**	**Frequency and Reports**
IOI# 1. Satellite laboratories compliant with WHO SOPs (cumulative number, percent).	0	0	0	1 (20%)	3 (60%)	5 (71%)	5(71%)	7(100%)	7(100%)	7(100%)	Quarterly
IOI# 2. Number of days the national reference laboratory reporting stock-out of tracer reagent for TB liquid culture in past quarter (days).	0	0	0	0	0	0	15	10	5	5	Annual
IOI# 3. Satellite laboratories		100%	80%	60%	40%	20%					Quarterly

[6]POI#1.The GeneXpert machine takes 2 hours to process the sample and give results, there are also other processes (sample preparations) that need to be taken into account before sample is taken to the machine, in this case the TAT cannot be 2 hours

reporting stock-outs of tracer reagent for stools culture (percent).		100%						42%	28%	14%	0%	
IOI# 4. Number of health facilities	Constructed	0	0	1	3	2	1	5 (62%)	5(62%)	8100%)	8(100%)	Quarterly
	Renovated							1 (100%)	1 (100%)	1 (100%)	1(100%)	
	Equipped							5(62%)	5(62%)	5(62%)	8(100%)	
IOI #5. Share of national and satellite laboratories that comply with Biomedical Waste Management requirements (cumulative number, percent)		0 (14%)	1 (14%)	1 (14%)	4 (57%)	6(86%)	7 (100%)	5(62%)	5(62%)	8(100%)	8(100%)	Annual
IOI# 6. Quarterly publication of a regional surveillance bulletin by East Africa integrated disease surveillance network with country-specific data (yes/no).		No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarterly
IOI# 7. Health personnel receiving training (number).		0	920	1375	1045	234	64	80	80	80	0	Annual
IOI# 8. Proportion of satellite lab staff trained and found to be proficient in performing assignments		13%	50%	55%	65%	75%	80%	80%	85%	85%	85%	Annual
IOI#9. Operational Research studies.	Developed and approved by a recognized IRB							3	4	3	2	Annual
	Completed with results disseminated							1	2	2		Annual
	Offshoot proposals developed for short term operational studies.							2	3	3	2	Annual
IOI#10.Number of GeneXpert tests performed per quarter.								480	660	720	780	Quarterly
IOI#11. Number of laboratory tests								450,000	480,000	510,000	640,000	Quarterly

performed.											
IOI#12. Laboratory Clients Satisfaction Rate.							70%	75%	80%	80%	Quarterly

Table 4 Results Framework for the Republic of Uganda, 2015-2019

Project Outcome Indicators	Baseline 2009	Target Values									
		YR1 2010/11	YR2 2011/12	YR3 2012/13	YR4 2013/14	YR5 2014/15	YR6 2015/16	YR7 2016/17	YR8 2017/18	YR9 2018/19	Frequency and Reports
POI# 1. Average turn-around time for TB GeneXpert test[7] (hrs)	48	48	48	48	48	48	24	24	24	24	Quarterly
POI# 2. Satellite laboratories awarded at least three star status under regional accreditation program based on WHO/AFRO accreditation approach (cumulative number, percent).	0	0	0	0	1 (20%)	4 (80%)	4 (57%)	5 (71%)	6 (85%)	7 (100%)	Annual
POI# 3. Number of beneficiaries (out of which x% female).	48,000	50,000	52,000	54,000	56,000	60,000	300,000 (40)	350,000 (45)	400,00 (50)	500,000 (55)	Annual
POI# 4. People receiving TB drug susceptibility tests among DOTS treated TB cases not responding to treatment (number, percent).	800 (34.7%)	1,000 (40.0%)	1,200 (48.0%)	1,500 (60.0%)	1,800 (72.0%)	2,000 (80.0%)	2,400 (80)	2,800 (85)	3,200 (90)	4,000 (95)	Annual
POI# 5. Proportion of reported communicable disease outbreaks[8] having laboratory confirmation of etiological agent (percent).	10%	25%	40%	50%	50%	50%	40%	60%	80%	100%	Annual
POI# 6. Proportion of outbreaks in cross border areas that joint investigations were done (both in country joint investigations and inter-country joint investigations)							50%	75%	85%	95%	
		Target Values									
Intermediate Outcome Indicators	**Baseline 2009**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**	**YR6**	**YR7**	**YR8**	**YR9**	**Frequency and Reports**
IOI# 1. Satellite laboratories compliant with regionally WHO SOPs (cumulative number, percent).	0	0	1 (20%)	3 (60%)	4 (80%)	5 (100%)	4	5	6	7	Annual
IOI# 2. Number of days the national reference laboratory reporting stock-out of tracer reagent for TB liquid culture in past quarter (days).	21	15	15	7	7	5	<5	<5	<5	<5	Quarterly
IOI# 3. Satellite laboratories reporting stock-outs of tracer reagent for stools culture (percent).	80%	80%	60%	40%	20%	20%	43	29	15	0	Quarterly

[7] POI#1b.The GeneXpert machine takes 2 hours to process the sample and give results, there are also a lot of other processes (sample preparations) that need to be taken into account before sample is taken to the machine, in this case the we still need to measure TAT

[8] Examples of the disease outbreaks include: cholera, malaria, hepatitis, salmonella, typhoid etc.

IOI# 4. Number of Health facilities	Constructed	0	0	1	2	3	0	0	1	3	4	Quarterly
	Renovated							0	1	2	3	Quarterly
	Equipped							5	7	7	7	Quarterly
IOI #5. Share of national and satellite laboratories that comply with Biomedical Waste Management requirements (cumulative number, percent)		0	2 (28.6%)	3 (42.9%)	5 (71.4%)	7 (100%)	7 (100%)	4 (57%)	5 (71%)	6 (85%)	7 (100%)	Annual
IOI# 6. Quarterly publication of a regional surveillance bulletin by East Africa integrated disease surveillance network with country-specific data (yes/no).		No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Quarterly
IOI# 7. Health personnel receiving training (number).		0	116	150	150	113	3	100	150	150	100	Annual
IOI# 8. Proportion of laboratory staff trained and found to be proficient (Competent) in performing assignments.		0	80%	80%	80%	80%	80%	56	65	75	80	Annual
IOI#9. Operational Research studies**.**	Developed and approved by a recognized IRB							1	0	0	0	Annual
	Completed with results disseminated							0	1	1	0	Annual
	Offshoot proposals developed for short term operational studies.							0	5	10	14	Annual
IOI#10. Number of GeneXpert tests performed per quarter.								17,280	17,280	17,280	17,280	Quarterly
IOI#11. Number of laboratory tests performed per quarter.								150,000	210,000	280,000	350,000	Quarterly
IOI#12. Laboratory Clients Satisfaction Rate.								56	65	75	80	Annually

NA: Not applicable.

Table 5: Burundi Results Framework Targets 2017-2020

Project Outcome Indicators	Baseline	Target Values								Frequency and Reports
	2012	YR1 2012/13	YR2 2013/14	YR3 2014/15	YR4 2015/16	YR5 2016/17	YR6 2017/18	YR7 2018/19	YR8 2019/20	
POI#1. Average turn-around time for: GeneXpert (hours)	N/A	NA	NA	24	24	24	24	24	24	Annual
POI# 2. Satellite laboratories awarded three star status under regional accreditation program based on WHO/AFRO five-step accreditation approach (cumulative number, percent).	0	0	0	4 (44%)	4(44%)	5 (56%)	6 (67%)	7 (78%)	8 (89%)	Annual
POI# 3. Number of beneficiaries (out of which x% female).	195,883 (55%)	195.883 55%	200 57%	190,490 (58%)	216413 (60%)	216,420 60%	216 425 61%	216 430 61%	216 435 62%	Annual
POI# 4. People receiving TB drug susceptibility tests among DOTS treated TB cases not responding to treatment (number, percent).	24 -75%	24 75%	24 75%	27 75%	32 80%	34 81%	36 82%	38 (84%)	40 (85%)	Annual
POI# 5. Proportion of reported communicable disease outbreaks having laboratory confirmation of etiological agent (percent).	0	10%	25%	100%	100%	100%	100%	100%	100%	Annual
POI# 6. Proportion of outbreaks in cross border areas that joint investigations were done (both in country joint investigations and inter-country joint investigations)				20%	-60%	-70%	-75%	80%	85%	Annual

		Target Values									
Intermediate Outcome Indicators		**Baseline 2012**	**YR1**	**YR2**	**YR3**	**YR4**	**YR5**	**YR6**	**YR7**	**YR8**	**Frequency and Reports**
IOI# 1. Satellite laboratories compliant with WHO SOPs (cumulative number, percent).		0	0	1 20%	1 10%	3 33%	5 55%	7 78%	8 89%	9 100%	Quarterly
IOI# 2. Number of days the national reference laboratory reporting stock-out of tracer reagent for TB liquid culture in past quarter (days).		<20	<18	<15	<10	<5	<5	<5	<5	<3	Annual
IOI# 3. Satellite laboratories reporting stock-outs of tracer reagent for stools culture (percent).		80%	80%	60%	78%	78%	78%	78%	78%	89%	Quarterly
IOI# 4. Number of Health facilities	Constructed	0	0	1	6	6	9	9	9	9	Annually
	Renovated	NA	NA	NA	NA	NA	NA	NA	NA	NA	Annually
	Equipped	0	0	0	6	6	6	9	9	9	Annually
IOI #5. Share of national and satellite laboratories that comply with Biomedical Waste Management requirements (cumulative number, percent)		0	0	1 16%	3 (60%)	6 33%	7 67%	7 67%	8 89%	9 100%	Annually
IOI# 6. Quarterly publication of a regional surveillance bulletin by East Africa integrated disease surveillance network with country-specific data (yes/no).		No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Annually
IOI# 7. Health personnel receiving training (number).		0	54	84	437	1190	1918	2494	2528	2548	Annually
IOI# 8. Proportion of laboratory staff trained and found to be proficient (Competent) in performing assignments		0	0	10%	50%	60%	65%	70%	72%	75%	Cumulative

IOI#9. Operational Research studies.	Developed and approved by a recognized IRB	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Annually
	Completed with results disseminated				0	0	3	3	3	3	Cumulative
	Offshoot proposals developed for short term operational studies.				0	0	0	1	2	3	Cumulative
IOI#10. Number of GeneXpert tests performed.					376	2709	3 303	3 379	3 457	3 537	Quarterly
IOI#11. Number of laboratory tests performed per quarter.					441,970	452,577	463,439	474,562	485,951	497,614	Annually
IOI#12. Laboratory Clients Satisfaction Rate.					65%	65%	70%	75%	80%	80%	Annually

ANNEX 2: OPERATIONAL RISK ASSESSMENT

1. **The risk assessment suggests that this regional operation continues to entail an overall "substantial" level of risk.** Even though most of the risks identified for the original project have not materialized or been mitigated, several risks to achievement of the PDO persist and need continual assessment and monitoring by the task team and management. The table below provides a summary of the risk ratings. The most relevant risks to development results associated with this operation are: political and governance, technical design of project, institutional capacity for implementation and sustainability, and fiduciary.

Table 1: Risk Ratings Summary Table

Risk Category	Rating
1. Political and governance	High
2. Macroeconomic	Moderate
3. Sector strategies and policies	Moderate
4. Technical design of project or program	Substantial
5. Institutional capacity for implementation and sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and social	Substantial
8. Stakeholders	Moderate
Overall	**Substantial**

2. **Political and Governance:** The political and governance risks are rated as "*high*". While there is strong political commitment to the objectives of this operation in all countries (*Burundi, Kenya, Tanzania,* and *Uganda*), as highlighted by the requests for AF to mitigate risks associated with Ebola and other disease outbreaks, there are continuing concerns with potential political instability and governance which need to be closely monitored. The likelihood of a significant impact on the project stemming from political instability is generally low. Nevertheless, this requires continued vigilance, particularly in the fragile context in Burundi, where there are renewed concerns of potential political instability linked to the forthcoming elections. In Burundi, skirmishes on the border with DRC, could have a negative impact on the project objectives.

3. On the governance side, public resource management is a potential risk in Kenya. However, the country has put in place anti-corruption policies and taken measures to improve confidence in public sector management, but it does not remain immune to incidents of fraud. A 2013 commercial bank fraud case under the original project led to thorough investigations by the Government of Kenya (GoK) and the Bank's Institutional Integrity (INT) unit. As a result of these investigations there was a major overhaul by the GoK of the financial management arrangements under the project, including a comprehensive set of actions as summarized below. First, at the recommendation of the Bank, Kenyan authorities moved the project account from a commercial bank where the fraud occurred to the Central Bank of Kenya (CBK). This measure was considered critical as internal controls under the commercial bank arrangement were

relatively weak and access to information is impeded by client confidentiality laws.[9] The CBK banking payment system provides for more stringent control measures and easy access to information, as the accounts are owned by Government, hence making the CBK a more robust and transparent system to mitigate against fraud.[10] Second, in line with GoK policies and regulations, the project management and fiduciary staff were separated from the project and a new team was put in place. Police and legal investigations were conducted and several arrests of non-project staff were made, and authorities are pursuing the investigations.

4. Third, both the Government and Bank financial management teams have provided enhanced capacity building and training, particularly for the new employees who were not conversant with Bank procedures and policies. The training focused on gaining a better understanding of GoK fiduciary systems (e.g. IFMIS, CBK operations and G-pay) and Bank FM procedures, including ineligible expenditures and potential red flags for fraud and corruption. The training was critical to ensure ownership by the ministry team of the changes in the fiduciary arrangements, to minimize risk of project funds not being used in an acceptable manner, and to agree on a time-bound FM action plan. Fourth, internal controls have been strengthened through enhanced segregation of duties and stronger management oversight of the project fiduciary activities by the head of the accounting unit at the MoH.[11] While these measures have slowed down implementation, they have raised confidence that project funds are used for intended purposes, ensuring better checks and balances, and lowering the risk of fraudulent activities.

5. Finally, the Bank team has been undertaking more rigorous FM reviews, including randomized on-site field visits, more detailed reviews of accounting records and documents, (previously subjected to sampling), and a greater focus on potential red-flags. The FM team is also working with the National Treasury through the Director General Accounting Services to make it mandatory for all new Bank projects to have their bank accounts at the CBK. The National Treasury has also directed the line ministries to set up External Resources Sections in all line ministries, headed by Chief Accountants or above, reporting directly to the ministry head of accounting unit, to supervise and monitor the FM transactions under all projects. Ministry heads of accounting units are now responsible for checking annual financial statements, forwarding these to the Auditor General and dealing with audit queries. In summary, all these fiduciary measures are firmly in place and will be applicable to the Additional Financing as well.

[9] The project account was controlled by two signatories (i.e. project director and project accountant or their alternates) who could sign cheques of unlimited amounts without any other checks at the point of payment. No underlying documentation was required as long as the bank account had sufficient funds and the two cheque signatures were on the face value genuine. Furthermore, no prior vendor record was required before a person was paid and the commercial bank could honour payment to any party without question.

[10] The CBK system has a number of strong features, such as prior registration of the vendor in the IFMIS system, including having the bio-data of the vendor and their bank account details logged into the IFMIS system at the time of registration. The system also provides for basic underlying documentation before any payment is made, such as the purchase order and the supporting documents as proof of work done. While the project initiates the transactions, all details are checked, posted, and verified by different persons at the Ministry of Health and the National Treasury.

[11] The accounting unit of the MoH now plays a more important role in the financial management arrangements, namely by: (i) processing payments which need to follow the GoK EFT G-pay system; (ii) reviewing withdrawal applications and subjecting them to more thorough checks; (iii) scrutinizing the annual financial statements and following up on any anomalies before submitting the statement to the Auditor General KENAO through the Permanent Secretary (PS); and (iv) responding and addressing to any audit queries related to the project.

These measures are deemed effective in managing risks with the project obtaining a clean/unqualified audit opinion in the recently concluded independent external audit of FY14 conducted by the Kenya National Audit Office (KENAO). The project has no outstanding audit issues.

6. **Technical Design of Project or Program:** The project design aims to ensure simplicity and promote solidarity among participating countries. As documented during the Mid Term Review, the design has remained robust and easily implementable with the operation responding in a timely fashion to important gaps in laboratory and surveillance systems. The project was designed based on strong analytical work and continues to benefit from additional studies conducted as part of the implementation phase (e.g. studies on the impact of investing in laboratories; assessments of human resources for health related to laboratory workers). The original design also benefited from the support of experts from CDC and WHO, to ensure use of gold standard programs (e.g. FETP, SLIPTA, SLMTA), and will continue to promote best practices in terms of IDSR and IHR compliance. Countries have developed mechanisms for sharing knowledge and expertise, and assisting each other during the implementation phase through strong regional back stopping and country-led technical working groups which promotes economies of scale and cost efficiencies. The design of the AF draws extensively on initial lessons and promising approaches from the original project to scale up interventions and maximize development impact. In spite of these positive aspects, the task team recognizes that the technical design remains inherently challenging, given the regional nature of the project, including the number of countries involved, and the number of institutions which need to work at a similar pace and in a coordinated fashion, particularly as several new stakeholders will now be involved in project implementation. Hence, the team has erred on the cautious side and rated the technical design risk as "*substantial*" and will continue to provide close supervision and technical support.

7. **Institutional Capacity for Implementation and Sustainability**: The risk associated with institutional capacity for implementation and sustainability is considered "*substantial*". The project is being implemented through experienced implementation units familiar with IDA procedures which have established rules, processes and systems. Considerable technical capacity has been built during the past few years in the ongoing countries with institutional capacity improving regularly at both the national and regional levels, as reflected in a high quality proposal submitted to the Global Fund recently by ECSA-HC in collaboration with Uganda, to scale up successful innovations regionally. Nevertheless, capacity remains highly variable across countries, and continues to pose a risk to the achievement of results. In general, Uganda and Kenya have fairly strong institutional capacities, but the new county Governments in Kenya have highly variable capacity to carry out their recently acquired mandates. Tanzania is a vast country with variable capacities, and Burundi has relatively modest systems and capacities and requires more intensive support. The addition of new stakeholders (i.e. animal health experts, airport and other port of entry personnel) is critical, but may contribute to the risk to the development impact. Continued mentorship and technical support will be required to build institutional capacity.

8. Risks related to the sustainability of results also remain in most countries, given staff turnover at facilities, competing priorities, and budgetary constraints. While some countries

have started absorbing personnel recruited under the project more needs to be done to ensure sustainability of project related investments, particularly of the proposed BSL3 facilities. To this end, the Bank has agreed with Government counterparts on the following measures: (i) minimizing the number and types of BSL3 structures to what is strictly necessary to put in place national capacity and to reduce the need to transport lethal pathogens across borders, while conducting thorough risk assessments, and economic analyses before finalizing the design of each facility; (ii) selecting low cost units or prefabricated BSL structures to minimize the recurrent cost implications; (iii) using the IDA financing to provide for operating costs of project-supported structures on a declining basis over the life of the project, so that Governments pick up an increase share over time; and (iv) urging Governments to strengthen planning and budgeting of recurrent costs generated under the project and better linking these to public expenditure reviews in these countries. In addition to these mitigation measures, it should be noted that while Governments need to plan and budget for these operating costs, the projected levels of spending are relatively modest in relation to the high costs associated with epidemics, as seen during the recent Ebola outbreak in West Africa.

9. **Fiduciary:** The clients involved in the implementation of the ongoing project have established strong systems and procedures for handling project related activities, and have experience managing IDA and other donor funded operations. The MTR found that fiduciary capacities were generally strong but some risks to development results persist, including some delays in flow of funds to beneficiaries, weak internal controls at some project entities, and delays in submitting financial or audit reports. Participating countries have also encountered procurement related difficulties and delays during the initial years of the project. While these issues are expected to occur less frequently in subsequent years the risks to development outcomes need to be monitored systematically, particularly to the extent that a new country is now being added to the project.

10. **Environmental and Social**: Recent assessments of safeguards performance of the original project revealed that compliance with safeguard instruments has been mixed. Likewise, capacity of key agencies in these countries to implement and monitor safeguards due diligence remains variable, and needs to be further strengthened. While all countries monitored and tracked performance on biomedical waste management at project-supported facilities with marked improvements in compliance, the preparation, consultation, and disclosure of safeguards instruments has not been done systematically. During the preparation of the Additional Financing, all safeguard instruments prepared by clients have been reviewed and cleared by the World Bank; disclosed in country and at the Bank's InfoShop; additional consultations were done with local communities; and several environmental audits were conducted to ensure that the project is in full compliance with Bank safeguard policies. Continual training in Bank safeguard policies will be undertaken to strengthen capacity and ensure compliance.

ANNEX 3: DETAILED DESCRIPTION OF MODIFIED OR NEW PROJECT ACTIVITIES

Project Development Objective

1. The PDO of the East Africa Public Health Laboratory Project will remain to "establish a network of efficient, high quality, accessible public health laboratories for the diagnosis and surveillance of TB and other communicable diseases". The three mutually reinforcing components will also remain unchanged. The project will assist Burundi, Kenya, Tanzania, and Uganda to diagnose communicable diseases of public health importance and to share information about those diseases to mount an effective regional response.

Burundi

Component 1: Regional Diagnostic and Surveillance Capacity (US$7.5 million)

2. The AF will support the following activities under the two sub-components.

Subcomponent 1a: Services for vulnerable groups in cross border area (US$3.9 million)

3. The AF will expand access to diagnostic services in additional areas bordering DRC and the other EAC countries, and improve disease surveillance efforts. The selected additional satellite laboratories are: *Cibitoke, Kinyinya,* and *Gitega*. The funding is expected to: (i) support rehabilitation, expansion, and/or construction of laboratories at existing hospitals; (ii) provide laboratory equipment and supplies to facilitate testing; (iii) provide operating budgets to facilitate the roll out of SLIPTA; (iv) support acquisition of laboratory information system to improve laboratory data management and use, with a particular focus on providing timely information about disease outbreaks; (v) support procurement of video conference equipment; (vi) strengthen specimen referral network; and (vii) provide operating funds to render the laboratories functional through results based financing (US$2.1 million of the total of sub-component 1a).

Subcomponent 1b: Disease surveillance and epidemic preparedness (US$1.2 million)

4. Given that Burundi has experienced different types of epidemics (e.g. malaria, cholera) it plans to use the AF to develop a preparedness plan for emerging and re-emerging diseases and other events of international public health concern. This represents a cost efficient use of resources given that these preparedness plans require similar systems and resources. The funding will support: (i) development and implementation of a contingency plan for VHF and other infectious diseases; (ii) establishment of zonal surveillance committees in cross-border regions with DRC and strengthening established committees at cross-border areas with Tanzania and Rwanda; (iii) enhancement of screening at high volume points of entry which would include the international airport and high volume land-crossing points[12]; (iv) establishment of an Emergency Operations Unit within the Ministry of Health and Fight against HIV/AIDS and; (v)

[12] The entry points are: Bujumbura Airport, Ruzo, Bujumbura Port, Murama, Gatumba, Maragarazi, Ruhwa, Rusizi –Kaburantwa, Kanyaru haut, Bukeye, Kanyaru bas, Kayogoro, Gasenyi, Kobero, Cankuzo-Camazi, Kinyinya, Mishiha, Gatonga –Ngomane, Gihofi, Mugina, Nyanza-Lac, Kabonga, and Rumonge.

production and multiplication of data collection tools; (vi) workshops for analysis and validation of data; (vii) technical assistance for the implementation of the DHIS2 web database in the project areas; and (viii) procurement of the SMS technology to strengthen its application as part of the national disease surveillance system.

5. The project will also support the scale up of community based surveillance and other community awareness efforts which have been successfully piloted in Burundi and in the other participating countries with promising initial results. The scale up of these activities will compliment surveillance efforts to improve the detection, reporting and control of disease outbreaks. The funding will be used to: (i) provide training of community health workers on case detection and notification; (ii) revise and provide community disease surveillance reporting tools; and (iii) provide results based incentives to motivate the community health workers to strengthen reporting and case notification.

6. In order to improve case management the Ministry has proposed to establish two isolation units (*Prince Regent Charles Hospital*; *Kibumbu Hospital*). The AF will be used for the: (i) construction of the two isolation units which will be strategically placed to serve regions with high population density and high transmission areas; (ii) equipment and supplies for the centers; and (iii) recruitment of additional personnel and provision of related training in emergency care.

Subcomponent 1c: Reference and Specialized Services (US$2.4 million)

7. Likewise, IDA funding will be used to put in place minimal BSL3 capacity for handling infectious pathogens. To this end, the project will finance: (i) establishment of minimal BSL3 capacity at the National Public Health Institute (INSP) laboratory, using low cost units to minimize recurrent costs; (ii) provision of equipment and supplies to support testing; (iii) recruitment and training of personnel to support specialized testing; and (iv) provision of initial operational budgets for the facility, with the Government committing to absorb the recurrent costs. A risk assessment in line with WHO biosafety standards will be conducted, along with an economic analysis, prior to finalizing plans for the proposed BSL3 structure. In addition, capacity of the University Hospital (CHUK) will be strengthened to enable it to diagnose and track cancers through enhanced pathology services while satellite laboratories will be equipped in order to conduct screening and referral of gynecological cancers.

Component 2: Joint Training and Capacity Building (US$1.3 million)

8. Human resource for health is one of the challenges facing the Government of Burundi, with shortages of laboratory staff and diseases surveillance officers. The EAPHLNP is currently providing training of laboratory and other health cadres but more needs to be done to address the threat of emerging and re-emerging diseases, such as Ebola and other VHFs. Several medium-term training priorities were identified to be funded: (i) rolling out the IDSR training in all districts with priority on cross-border zones; (ii) biosafety and biosecurity; (iii) laboratory based disease surveillance; (iv) specimen packaging and transportation; (v) data management and reporting; and (vi) laboratory management. Long term training would be supported to: (i) upgrade laboratory technicians with certificate and diploma to bachelor's degree; and (ii) support

FETP candidates in order to expand the pool of trained epidemiologists. The AF will also be used for the recruitment of personnel on a short term basis to address key gaps.

9. The current project has already made provision for training three staff in the gold standard FETP in neighboring countries. The training will take two years and the graduates are expected to roll out the FETP training in the country. There have been initial discussions with the CDC, facilitated by ECSA-HC, to establish a FETP program Burundi. The AF will support: (i) recruitment of two medical epidemiologists to assist the surveillance unit to address current shortages and enhance the functionality of the unit; the epidemiologists are also expected to support short-term training in epidemiology and setting up the FETP program; (ii) provision of short-term training of public health staff in epidemiology; and (iii) technical assistance to set up the Burundi FETP in collaboration with other stakeholders.

Component 3: Joint operational Research and Knowledge Sharing/Regional Coordination and Program Management (US$1.2 million)

10. The AF will support operational research related to public health risks during outbreaks and cost effective approaches to conducting disease outbreaks, dissemination of findings from ongoing operational research, as well as program management at the national and regional levels.

Kenya

Component 1: Regional Diagnostic and Surveillance Capacity (US$7.0 million)

Component 1a: Diagnostic services for vulnerable groups in cross border areas (US$6.2 million)

11. Capacity to diagnose highly infectious pathogens will be strengthened and enhanced through the following activities: (i) establishment of BSL3 capacity at the Moi Teaching and Referral Hospital to strengthen capacity in western Kenya, and enhanced BSL2 capacity at the Kenya Ethiopia border; (ii) technical assistance and equipment to strengthen the specimen referral and transportation network; and (iii) operational support for the newly constructed BSL facilities. A risk assessment in line with WHO biosafety standards will be conducted, along with an economic analysis, prior to finalizing plans for the proposed BSL3 structure.

12. Support will be provided to strengthen and build infrastructure for diagnosis and management of cases of harboring highly infectious pathogens. The project will support construction of an isolation unit at the Moi Teaching and Referral Hospital. EAPHLNP will facilitate the constitution of RRTs for epidemic management. Subsequently, the RRTs would be available for deployment to any part of the country in the event of epidemics. Table top simulations of the epidemic response process will be conducted to provide hands on skills in disease outbreak management. In addition, infection control practices in health care facilities will also be strengthened through training.

Component 1b: Disease surveillance and epidemic preparedness (US$0.8 million)

13. Kenya is among other member states that are signatory to the IHR. In this regard, efforts will be made to ensure that the country complies with IDSR and IHR frameworks and guidelines. This will entail strengthening the country's surveillance systems and disease prevention and control activities. To this end, the AF will provide support for:

- Developing and disseminating surveillance protocols and case definition guidelines to health facilities in the regions affected by epidemics.
- Establishing additional cross border surveillance committees and strengthening existing ones.
- Strengthening capacity for screening diseases of international public health concern at Jomo Kenyatta International Airport (JKIA) and other ports of entry.
- Strengthening the EOC of the Ministry of Health to enable it to effectively receive and analyze epidemic alerts.
- Strengthening capacity for contact tracing of highly infectious pathogens, including VHF cases, as well as identification of suspect and probable cases.
- Putting in place capacity for routine data collection, analysis and sharing for public health decision making for county Governments.
- Strengthening laboratory based diagnosis of neglected tropical diseases.

Component 2: Joint Training and Capacity Building (US$1.0 million)

14. Human resource capacity development will be undertaken in various technical areas to facilitate the prevention, diagnosis, surveillance and management of epidemics. An annual training plan will be elaborated, specifying the details on who will be trained, on what specific areas and for what duration, with a particular focus on strengthening the capacity of the newly formed county Governments. Using a TOT approach, the following activities will be undertaken:

- Training and mentoring of personnel on different aspects of epidemic preparedness and response.
- Training on VHF diagnostic methods for laboratory workers.
- Training of healthcare workers on VHF case management, psychosocial support and infection control and prevention.
- Training of community health workers on case identification, contact tracing and follow-up.
- Provision of fellowships in the gold standard FETP.
- Training of human and animal health experts on conducting joint zoonotic disease outbreaks and responses and to share disease surveillance on a regular basis.
- Training additional mentors, assessors and auditors to consolidate results from the ongoing laboratory quality improvement process towards accreditation.

Component 3: Joint Operational Research and Knowledge Sharing/Regional Coordination and Program Management (US$2.0 million)

15. In line with the Ministry of Health's strategy of evidence-based programming and policy formulation, the project will support generation of strategic information through operational research. During disease outbreaks, research will be conducted to establish disease etiologies risk factors, and efforts will be made to ensure that the information is shared for decision making. Continued support would be provided for program management at national and regional levels.

Tanzania

Component 1: Regional Diagnostic and Surveillance Capacity (US$10.0 million)

Component 1a: Diagnostic services for vulnerable groups in cross border areas (US$4.3 million)

16. Capacity to diagnose highly infectious pathogens will be strengthened and enhanced, and activities for strengthening surveillance, case containment and contact tracing of cases of highly infectious pathogens will be implemented. The following key activities will be supported:

- Renovation and upgrading of specialized laboratories at the Mbeya Referral Hospital, and the Bagamoyo District Hospital to temporarily use these facilities for Ebola testing as the need may arise; up grading of existing National Health Laboratory Quality Assurance and Training Center (NHLQATC) to BSL 3; and putting in place appropriate BSL3 capacity at the new national public health laboratory which is currently being constructed in the Mabibo area of Dar es Salaam. A risk assessment in line with WHO biosafety standards will be conducted, along with economic analyses, prior to finalizing the plan for the proposed BSL3 capacity.
- Provision of equipment and supplies for all project-supported laboratories to strengthen early diagnosis of infectious diseases.
- Acquisition of equipment for strengthening the specimen referral and transportation network and provision of operating costs for piloting the sample courier system.
- Construction/refurbishing of three isolation units for management of cases of highly infectious pathogens (*Kilimanjaro, Kigoma, Mbeya*), and improvement of the existing isolation unit in Temeke to bring it up to the required standard.
- Consolidating achievements from the SLIPTA and SLMTA programs by continuing to support facilities to move towards accreditation.
- Provision of operational funds for ten satellite facilities to strengthen surveillance efforts and to consolidate progress towards accreditation; and upon attaining the required qualifications enrollment in international accreditation by the Southern Africa Development Community Accreditation Service (SADCAS).

Component 1b: Disease surveillance and epidemic preparedness (US$5.7 million)

17. Tanzania subscribes to the IHR but has not yet complied with the core requirements. To this end, efforts will be made to ensure compliance with the IDSR and IHR guidelines. This will

entail strengthening the country systems for surveillance, case containment and contact tracing of cases of highly infectious pathogens. Specifically, the AF will provide support for:

- Establishing and operationalizing a functional EOC in the MOHSW to serve as a coordinating hub for management of public health events, including receiving and analyzing information on Ebola and other outbreaks; disseminating alerts to the general public, health care workers and decision makers.
- Establishing and operationalizing five additional cross-border disease surveillance committees; and ensuring budgetary provisions for sustaining the activities of these committees by sensitizing Regional Administrative Secretaries (RAS) and District Executive Directors (DED).
- Supporting the early warning system for early case detection by rolling out community based surveillance as well as the electronic system for disease surveillance (e-IDSR) in cross border regions which are identified high risk regions as per the Ebola Plan.
- Providing basic medical supplies (e.g. PPE, kits), and ICT equipment (mobile phones, computers) to strengthen capacity for VHF screening, analysis, and sharing of surveillance information between the EOC and the ten major ports of entry.
- Printing and disseminating surveillance protocols and case definition guidelines to health facilities in the regions affected by the outbreaks.
- Conducting joint VHF surveillance, investigation and response activities between animal and human health specialists, in line with the newly developed One Health strategic plan, complementing support from CDC through the Defense Threat Reduction Agency.
- Enhancing capacity for contact tracing of highly infectious pathogens, including VHF cases, as well as identification of cases in health facilities and ports of entry.
- Supporting the ongoing non-communicable disease initiatives, including the Dar es Salaam Demographic Sentinel Sites cohort and screening campaigns for prostate and cervical cancer, using WHO guidelines.
- Enhancing capacity for routine data collection, data analysis and local use of data.

Component 2: Joint Training and Capacity Building (US$2.3 million)

18. Human resource capacity development will be undertaken in various technical areas to facilitate the prevention, diagnosis, surveillance and management of cases of highly infectious pathogens. Specifically, the following will be undertaken:

- Training and mentoring of personnel in different aspects of epidemic preparedness and response in all twenty six regions of the country with a specific focus on zonal and regional referral hospitals.
- Capacity building of personnel at the satellite laboratories in critical areas (e.g. biosafety, biosecurity, bio-risk management and biohazard containment including infection prevention and control) through short-term courses, mentorship and support supervision.
- Capacity building of health workers though the ongoing FETP, long-term courses for emerging and re-emerging infectious diseases and entomology as well as short-term courses outbreak investigations, disaster management, one health, epidemiology, entomology and data analysis and modeling.
- Training of laboratory workers at the eight satellite laboratories on VHF laboratory diagnostic techniques.

- Training burial teams on VHF case management, burial, psychosocial support and infection control and prevention.
- Training of village health teams on community case identification, contact tracing and follow-up.
- Training of community based surveillance workers and training of health care workers in the national electronic system for disease surveillance (eIDSR) to enhance the early warning system.
- Training of health care workers and community mobilizers on communication strategies for addressing risks and concerns of patients, affected communities and the general public.
- Capacity building for personnel to strengthen tracing of contacts of highly infectious pathogens, including VHF cases, as well as identification of suspect and probable cases at health facilities and key ports of entry.
- Training of health workers to manage multidrug resistant Tuberculosis.
- Developing, upgrading, and standardizing training materials to be used in strengthening disease control efforts, to ensure the provision of high quality training done by all trainers.

Component 3: Joint Operational Research and Knowledge Sharing/Regional Coordination and Program Management (US$2.7 million)

19. In line with the MOHSW's strategy of evidence-based programming and policy formulation, the project will support generation of strategic information. To this end, conducting relevant operational research on highly infectious pathogens will be supported. In the event of disease outbreaks, research will be undertaken to establish the sources of infections of the initial (index) cases. Research will be conducted on risk and ecological factors that promote escalation of epidemics and on antimicrobial susceptibility patterns to generate knowledge that will improve case management and containment of epidemics. Due to growing burden of NCDs, including cancers, studies will be conducted to test new cancer screening and surveillance tools that can will inform public policy and scale up of interventions. In order to overcome the challenges related to operational research under the original project, the proposed studies will be coordinated by the National Institute for Medical Research (NIMR) which has the mandate to carry out this work. A number of research activities will be conducted through research and academic institutions to encourage participation of masters and PhD students in select activities. Research students will also support and mentor staff at satellite sites to conduct off shoot studies from larger operational research studies. Likewise, efforts will be made to ensure that the information generated is put to use. Hence, support will be provided to facilitate national and international dissemination of the results of the operational research that have been conducted. Program management support will be provided for national and regional level support.

Uganda

Component 1: Regional Diagnostic and Surveillance Capacity (US$10.6 million)

Component 1a: Diagnostic services for vulnerable groups in cross border areas (US$7.6 million)

20. Capacity to diagnose highly infectious pathogens will be strengthened and enhanced. Furthermore, activities for strengthening surveillance, case containment and contact tracing of cases of highly infectious pathogens will be implemented. Specifically, the AF will:

- Refurbish and equip the laboratories at Mbarara, Arua, Fort Portal and Moroto Regional Referral Hospitals.
- Construct an isolation unit at the Mulago Hospital to strengthen management of cases of highly infectious pathogens; and refurbish the isolation unit at Entebbe to bring it up to the required standard.
- Establish treatment centers for managing MDR-TB at select Regional Referral Hospitals (Mbale, Moroto) where the capacity is currently non-existent.
- Strengthen the specimen referral and transportation network through procurement of equipment for sample collection and sample transportation, including laboratory equipment and motor vehicles, and budget support for payment of sample courier costs.
- Procure GeneXpert machines, chemistry analyzers and other critical laboratory equipment for Moroto and Fort Portal Regional Referral Hospitals.
- Provide mentorship and support supervision to satellite laboratories to consolidate achievements and strengthen progress towards accreditation.
- Consolidate achievements from the SLIPTA and SLMTA programs by continuing to support facilities to move towards accreditation.
- Provide operational funds to satellite facilities to strengthen community outreach and disease surveillance.
- Procure specialized pathology laboratory equipment, including cancer screening equipment for Mulago Hospital.

Component 1b: Disease surveillance and epidemic preparedness (US$3.0 million)

21. Uganda subscribes to the IHR. To this end, efforts will be made to ensure that the country complies with Integrated Disease Surveillance and Response guidelines. This will entail strengthening the country systems for surveillance, case containment and contact tracing of cases of highly infectious pathogens. Specifically support will be provided for:

- Establishing and operationalizing three additional cross-border disease surveillance committees (Uganda-DRC, Uganda-Sudan in the north-west near Arua, and Uganda-Kenya in the north-east), and supporting the three existing committees (Uganda-DRC in the south-west; Uganda-Kenya in the Busia region and Uganda-Tanzania-Rwanda in the south).
- Strengthening capacity for VHF screening at Entebbe International Airport and other ports of entry through procurement of the required equipment and supplies (infra-red thermometers, temperature scanners, assessment forms.
- Providing equipment and supplies to strengthen VHF screening at major port of entries (Port Bell, Busia, Bunagana, Katuna, Vurra, Bibia, Mirama Hills, Ishasha, Mutukula, Malaba, Cyanika, Mpondwe, and Oraba).
- Providing equipment and supplies for setting up five, temporary isolation wards (treatment centres) at selective locations (Moroto, Arua, Kabale, Fort Portal and Mbale),

located in North-eastern, West Nile, South-western, Mid-western and Eastern regions of Uganda, respectively.

- Providing support for the operations of the MOH's EOC to enable it to receive and analyze VHF alerts and information coming through telephone hotlines.
- Providing support to facilitate constitution of RRTs for epidemic management to ensure they are available for deployment to any part of the country including central and district levels when disease outbreaks occur.
- Conducting table top simulations to provide practical and hands on skills in disease outbreak management.
- Printing and disseminating surveillance protocols and case definition guidelines to health facilities in the regions affected by the outbreaks.
- Conducting joint VHF investigations and response between animal and human health specialists in line with the One Health approach.
- Enhancing capacity for routine data collection, data analysis and local use of data.

Component 2: Joint Training and Capacity Building (US$1.6 million)

22. Human resource capacity development will be undertaken in various technical areas to facilitate the prevention, diagnosis, surveillance and management of cases of highly infectious pathogens. Specifically, the following will be undertaken:

- Training and mentoring of personnel in different aspects of epidemic preparedness and response.
- Training of laboratory workers on VHF diagnostic techniques.
- Training of village health teams on community case identification, contact tracing and follow-up.
- Training of burial teams to handle deceased VHF cases.
- Training of health care workers and community mobilizers on how to communicate effectively with affected communities and patients.
- Capacity building for personnel to strengthen tracing of contacts of highly infectious pathogens, including VHF cases, as well as identification of suspect and probable cases at health facilities and key ports of entry.
- Fellowships in field epidemiology through FETP.
- Training of health workers to manage multidrug resistant Tuberculosis.

23. To ensure harmonization and quality of training done by all trainers, standard training materials will be used for the different types of training. In line with this, training materials to be used for the training of health care workers and VHTs will be developed.

Component 3: Joint Operational Research and Knowledge Sharing/Regional Coordination and Program Management (US$2.8 Million)

24. In line with the MOH's strategy of evidence-based programming and policy formulation, the project will support generation of strategic information. To this end, relevant operational research on highly infectious pathogens will be supported. During disease outbreaks, research will be undertaken to establish the sources of infections of the initial (index) cases. This

knowledge will enhance case containment. Also, research will be conducted to determine which factors promote escalation of epidemics and research on ecological factors that underpin outbreaks of VHFs. Finally, efforts will be made to ensure that the information generated is applied. Hence, support will be provided to facilitate the broad dissemination of operational research results. Program management support will also be provided for national and regional level support.

East, Central and Southern Africa Health Community

25. ECSA-HC will continue playing a coordinating and convening role and be responsible for the following activities at the regional level:

- ***Convene Technical Experts and Policymakers*:** The organization will support the country-led working groups by providing a forum for discussions and deliberations. The ECSA-HC Secretariat will facilitate the work of technical partners and assist in sharing good practices in laboratory and disease surveillance. ECSA-HC will use its existing mechanisms (e.g. conference of health ministers; advisory committee of permanent secretaries) to share results from the regional project, and advocate for policy change at both the technical and policy levels.

- ***Facilitate Capacity Building and Training*:** The ECSA-HC will support countries to conduct joint studies and assist in the implementation of the recommendations of the findings of previous studies conducted under the project such as Human Resources for Health (HRH) and Public-Private Partnership (PPP) studies; and facilitate networking of laboratory managers by organizing annual professional meetings.

- ***Facilitate Inter-country Learning and Knowledge Sharing:*** The organization will facilitate exchanges of experiences; document best practices in laboratory networking in the region; establish a platform for reviewing research findings; draw policy conclusions to the attention of policy makers; maintain a repository of information on activities supported under the project which can be shared regionally; and prepare a regional communications strategy for disseminating main lessons from the project, and informing the public on related public health issues.

- ***Facilitate Regional Surveillance Efforts:*** The ECSA-HC Secretariat will support the EAC to: continue implementing the strategic plan for developing the East Africa Integrated Surveillance Network as a model regional network and producing quarterly surveillance bulletins; work with country surveillance focal points and technical partners to develop standardized reporting tools and protocols for sharing information on selected communicable diseases (e.g., Cholera, Meningitis, MDR TB, Influenza, Polio) in the region; facilitate cross border outbreak investigations when satellite laboratories report disease outbreaks; and support countries to implement the One Health approach.

Table 1
List of Satellite Sites—Centers of Excellence
BURUNDI

Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
Cibitoke (*)	District Hospital	Government	0.8Mil	DRC, Rwanda	Lab Services	PLT[13] Lab Technologist and Technicians	Trypanosimiasis, malaria, Cholera, HIV	Italian Cooperation
CHUK	University Teaching Hospital	Government	1.05 Mil	DRC	Research Teaching Lab Services	PLT Lab technologist and Technician	Malaria, HIV, cholera	Global Fund, Opp'RA
Kayanza	District Hospital	Government	1.2 Mil	Rwanda	Lab Services	PLT Lab Technologist and Technicians	Malaria, HIV	IHPB(USAID), MSH (USAID)
Muyinga	District Hospital	Government	1.3 Mil	Rwanda, Tanzania	Lab Services	PLT Lab Technologist and Technicians	Malaria, HIV	IHPB(USAID), MSH (USAID), Opp'RA
Kinyinya (*)	District Hospital	Government	0.6 Mil	Tanzania	Lab Services	PLT Lab Technologist and Technicians	Malaria, HIV	European Union, Cordaid
Makamba	District Hospital	Government	0.7 Mil	Tanzania, DRC	Lab Services	PLT Lab technologist and Technician	Malaria, Cholera, HIV	European Union, Cordaid
Gitega (*)	Regional Referral Hospital	Government	1.5 Mil	NA	Reference Lab Services	PLT Lab Technologist and Technicians	Malaria, HIV	IHPB(USAID), European Union
Rumonge	District Hospital	Government	0.8 Mil	DRC	Lab Services	PLT Lab Technologist and Technicians	Malaria, Cholera, HIV	European Union, Cordaid
INSP	National Referral Laboratory	Government	8,5 Mil	NA	Teaching Research Ref. Lab Services	Director Clinical Labs, Lab technologist and Technician	Malaria, Cholera, HIV, Measles, meningitis	Global Fund, Ester

(*) New project site

[13] **PLT**: Principal Laboratory Technologist is the laboratory manager with either graduate or post graduate qualifications in medical laboratory technology.

Table 2
List of Satellite Sites—Centers of Excellence
KENYA

Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
Malindi	Sub-county hospital	County government	1,282,000	Tanzania, Somalia, Zanzibar	Lab services, teaching	Lab technologists, lab technicians	Malaria, cholera, diarrhoeal ds, TB, filiarisis, HIV	FHI, APHIA II
Wajir	County referral hospital	Government	661,949	Somalia, Ethiopia	Lab Services	Lab technologists, lab technicians	Malaria, TB, cholera, leishmaniasis, HIV	WHO, APHIA II
Busia	County referral hospital	County government	743,946	Uganda	Lab services	Lab technologists, lab technicians	Malaria, TB, leprosy, cholera, HIV	MSF, AMPATH, APHIA II
Machakos	County referral hospital	County Government	1.6 million	Tanzania	Lab services, Teaching	Lab technologists, lab technicians	Cholera, Malaria, TB, HIV	ICAP, APHIA II
Kitale	County referral hospital	County Government	575,662	Uganda, Sudan & Rwanda	Teaching, lab services	Lab technologists, lab technicians	Malaria, Cholera, Dysentry, H1N1, HIV	APHIA II, AMPATH
Nairobi	National public health laboratory	National Government	5 Million	Tanzania, Uganda	Teaching, Research, Reference Lab Services	Microbiologists, virologists, pathologists, Lab techs and lab technicians	H1N1, Cholera, TB, HIV	CDC, MSH,KNCV, USAID

Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
Marsabit (*)	County referral hospital	County Government	500,000	Ethiopia Somalia	Lab services	Medical specialists Senior laboratory specialists Epidemiologist Lab Technicians	Kalazar Tuberculosis Cholera Measles Yellow fever Diarrheal diseases	CDC, MSF
Eldoret (*)	Teaching and referral hospital	National Government	10,000,000	East and Central African countries; Kenya, Uganda, Sudan & South Sudan, Rwanda, and DRC	Lab services, Teaching, Research, Reference Lab Services	Medical specialists, Microbiologists, virologists, Immunologists, Molecular biologists, pathologists, Lab technologists and lab technicians Epidemiologists	Malaria, Diarrheal diseases, TB, Measles, Cholera, HIV, Yellow fever, Typhoid, Brucellosis, Meningitis	AMPATH, Shoe for Africa, IHTC, Moi University - School of Medicine

(*) New project site

Table 3
List of Satellite Sites—Centers of Excellence
TANZANIA

Facility/ Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
Kigoma Regional Hospital, Kigoma	Regional Hospital	Government	2,127,930	Burundi DRC	Lab services Research	Advanced Diploma Diploma Lab Assistants General Technicians	Meningitis Sleeping sickness Cholera Hepatitis E & A	PEPFAR/ICAP-CU UNHCR Abbott Fund
Musoma Regional Hospital, Mara	Regional Hospital	Government	1,743,830	Uganda Kenya	Lab services Teaching	Advanced Diploma Diploma Lab Assistants General Technicians	Rift Valley Fever Influenza Cholera	PEPFAR/AIDS Relief Abbott Fund
Ndanda Hospital, Mtwara	Regional Hospital	FBO	1,270,854	Mozambiq ue	Lab services Teaching	Diploma Lab Assistants General Technicians Lab scientists	Influenza Cholera	PEPFAR/THPS
Kibongoto Hospital, Moshi	National Referral Hospital (TB)	Government	44,928,923	Kenya	Lab services Research	Diploma Lab Assistants General Technicians Lab scientists (graduates)	Rift Valley Fever Influenza Plague Leprosy Tuberculosis	TB Partners PEPFAR/EGPAF
Mnazi Mmoja Referral Hospital, Zanzibar	National Referral Hospital	Government	1,256,881	Comoros	Lab services Research Teaching	Diploma Lab Assistants General Technicians Pathologist Lab Scientists	Tuberculosis Malaria	PEPFAR/THPS Global Fund
Sumbawanga Regional Hospital, Rukwa	Regional Hospital	Government	1,004,539	Zambia Democratic Republic of Congo	Lab Services Research Teaching	Diploma Lab Assistants General Technicians	Meningitis Cholera	PEPFAR/DOD Abbott Fund Labnet Systems

Facility/ Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
Muhimbili Central Tuberculosis Reference Laboratory Dar es Salaam	National Hospital	Government	44,928,923	Tanzania	Lab Services (Specialized TB culture and anti-microbial resistance testing) Research Teaching	Diploma Lab Assistants General Technicians Lab Scientists (Graduates and post graduates)	Tuberculosis Leprosy	FIND, Global Fund CDC
National Health Laboratory and Quality Center and Training Center, Dar es Salaam (*)	National Laboratory	Government	44,928,923	Tanzania	Lab Services, Research Teaching Quality Assurance Referral Services	Laboratory Scientists, Lab Technologists Medical Specialists	Other Viral Hemorrhagic Fevers Influenza Diarrheal diseases Measles/Rubella	CDC/PEPFAR and PEPFAR partners WHO/USAID
Mbeya Referral Hospital, Mbeya (*)	zonal Referral Hospital	Government	7,326,223	Zambia, Malawi, DRC	Lab Services, Research (Specialized TB laboratory) Teaching Quality Assurance	Laboratory Scientists, Lab Technologists Medical Specialists	Tuberculosis Diarrheal diseases	CDC/PEPFAR Walter Reed
Bagamoyo Research Laboratory (*)	Research Institute	Ifakara Health Institute	16,654,879 (six regions which IHI works)	Tanzania	Research	Laboratory Scientists, Lab Technologists Medical Specialists	Malaria Tuberculosis	Tanzania Government DFID NORAD Irish AIDS Swiss Agency for Development and Cooperation

(*) New project site

Table 4
List of Satellite Sites—Centers of Excellence
UGANDA

Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
Arua	Regional Referral Hospital	Government	3 Mil	DRC, Southern Sudan	Lab Services Research MDR-TB (Hub[14])	PLT[15] Lab Technologist and Technicians	Trypanosimiasis, Plaque, Meningitis, Cholera	MSF, JRC, CDC, FIND
Fort Portal (*)	Regional referral Hospital	Government	3.5 Mil	DRC	Research Teaching Lab Services (Hub)	PLT Lab Technologist and Technicians	Ebola, Marburg, Cholera, Meningitis	CDC, JCRC, USAID
Gulu - Lacor	University Teaching Hospital	NGO/ Private-not-for-profit providers (PNFP)	4 Mil	Southern Sudan	Teaching Ref. Lab Services	PLT Lab Technologist and Technicians	Ebola, Meningitis	AISPRO, Italian Cooperation, CDC
Mbale	Regional Referral Hospital	Government	4 Mil	Western Kenya	Research Teaching Lab Services (Hub)	PLT Lab Technologist and Technicians	Cholera Measles	CDC, JCRC, MJAP, FIND
Mbarara	University Teaching Hospital	Government	5 Mil	Rwanda, Tanzania, DRC	Teaching Research Ref. Lab Services	PLT Lab technologist and Technician	Malaria, Cholera, Dysentery, H1N1.Anthrax	MSF,JCRC, CDC, DSE, GTZ, DAAD, FIND
Moroto (*)	Regional Referral Hospital	Government	2.3 Mil	Southern Sudan, Kenya	Reference Lab Services (Hub)	PLT Lab Technologist and Technicians	Measles CCHF Cholera	CDC, JCRC, USAID
Mulago	National Referral and University	Government	7 Mil		Teaching Research	Director Clinical Labs,	H1N1, Cholera, Ebola	IDI, CDC, SPH,

[14] **A Hub** is a selected health facility that acts as the coordination centre for the local sample transport network in the district level. It serves a primary catchment area of 30 to 40km radius around it. All health facilities within the catchment area are mapped and linked to the hub through a motor bike rider who visits each of the health facilities according to pre agreed schedule. The Health facilities in its catchments are visited according to prior agreed and approved schedule, the bike rider collects all referral samples and drops results from the previous visit. The rider then delivers the collected samples to the hub where sorting is done. Samples that can be tested in the lab at the hub are sorted out and tested there. What can't be tested within the lab at the hub are then referred through the courier to further referral testing laboratories for analysis, after which results are channelled through the courier back to the hub and then to the health facilities.

[15] **PLT**: Principal Laboratory Technologist is the laboratory manager with either graduate or post graduate qualifications in medical laboratory technology.

Location	Type of Facility	Ownership	Catchment Population	Potential Catchment Countries	Services to date	Human Resource available	Epidemic Prone Diseases	Participating Partners
	Teaching Hospital				Ref. Lab Services	Lab Superintendent Lab technologist and Technician		CWRU,MUJHU,FIND

(*) New project site

ANNEX 4: REVISED ESTIMATE OF PROJECT COSTS

Costs by component

Component	***Original cost*** *(East Africa Public Health Laboratory Networking Project)*	***Changes with Additional Financing***	***Revised Cost***
1: Regional diagnostic & surveillance capacity	US$56.9 million	**US$35.1 million**	US$92.0 million
2: Joint training & capacity building	US$11.5 million	**US$6.2 million**	US$17.7 million
3: Joint operational research, knowledge sharing/coordination, & program management	US$10.1 million	**US$8.7 million**	US$18.8 million
Total	**US$78.5 million**	**US$50.0 million**	**US$128.5 million**

ANNEX 5: REVISED IMPLEMENTATION ARRANGEMENTS AND SUPPORT

I. National Arrangements

A. Institutional and Implementation

Burundi, Kenya, Tanzania, and Uganda

1. The institutional and implementation arrangements for the four countries (*Burundi, Kenya, Tanzania, and Uganda*) will remain virtually unchanged. As confirmed during the Mid-Term Review these arrangements have worked effectively and remain relevant and robust. In addition Kenya will strengthen the National Project Steering Committee to be chaired by the Principal Secretary MoH membership with membership to include PS treasury and representatives from the Council of Governors so as to incorporate the new devolved Government. The project coordinator will lead the PCU, have regular internal meetings as well as coordinate quarterly and annual meetings with the National Project Steering Committee and Project Coordination Committee will be led by the head of department preventive and promotive health services.

2. Procurement under the project to be financed through IDA would be carried out in accordance with: (i) "Guidelines: Procurement of Goods, Works, and non-Consulting Services Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011; (ii) "Guidelines: Selection and Employment of Consultants Under IBRD Loans and IDA Credits & Grants by World Bank Borrowers" dated January 2011; (iii) “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants” dated October 15, 2006; (iv) introduction of Exceptions to National Competitive Bidding Procedures; and (v) the provisions stipulated in the Legal Agreements. Bank standard documents shall be used for procurement of goods and works through International Competitive Bidding (ICB) and for all consultants exceeding US$200,000. National competitive bidding will use Government standard bidding documents and procedures subject to the exceptions included in Annex 6.

3. Procurement Plans acceptable to the Bank covering at least the first eighteen months have been updated/revised for the other countries prior to negotiations by all four countries. For each contract to be financed, the different procurement methods or consultant selection methods, the need for prequalification, estimated costs, prior review requirements, and time frame have been agreed between the clients and IDA task team, and are reflected in the Procurement Plans. The Procurement Plans will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity.

II. Regional Arrangements

1. The regional arrangements will remain the same as for the original project. While all participating countries will have the overriding responsibility for implementing project activities at the national level and also in providing leadership at the regional level in key thematic areas,

ECSA-HC will continue to play a critical regional convening and coordinating role, in addition to supporting knowledge sharing and advocacy efforts.

- ECSA-HC has established a small team which will continue to provide overall oversight at regional level. The team consists of a Senior Laboratory Specialist (with a background in public health), an M&E Specialist, and an Epidemiologist.
- The ECSA-HC Secretariat: (i) prepares periodic project status reports and case studies based on inputs from countries; (ii) organizes annual meetings of participating countries to discuss key achievements, main issues, and lessons learned; and (iii) facilitates governmental and inter-governmental actions that may be required under the project.
- The Regional Advisory Panel meets annually to facilitate learning among participating countries. This enables countries to take stock of progress, discuss challenges, share experiences, and draw lessons. The Regional Advisory Panel is serving as a vehicle for multi-country and multi-stakeholder expert engagement and dialogue.
- The financing of activities at the regional level is obtained from the participating countries of the East Africa Public Health Laboratory Networking Project. Each participating country, has signed a Subsidiary Agreement with ECSA-HC, in line with the provision of the Financing Agreement.

ANNEX 6: ENVIRONMENTAL AND SOCIAL ACTION PLAN

1. *Safeguard instruments:* During the preparation of the original project, an Environmental and Social Management Framework (ESMF) that includes an Environmental and Social Management Plan (ESMP) was prepared for all countries that were included in the project at that time, to ensure proper assessment and mitigation of potential adverse environmental and social impacts. The ESMF outlines the steps to be followed by the client in the Environmental and Social Screening Form (ESSF), and includes Social and Environmental Clauses/Guidelines (SEC/G) for contractors, a summary of the Bank's safeguard policies, and an Environmental and Social Checklist. The ESMF includes a generic Environmental and Social Impact Assessment (ESIA) scope of work/terms of reference to be applied in the event that the screening process results indicate the need for a separate site specific ESIA (including vulnerability assessment) and/or Environmental and Social Management Plan (ESMP). The project has used the ESMF to guide the management of environmental and social impacts. For the labs not yet constructed, site specific ESIA and/or ESMP will be prepared, consulted upon, and disclosed before the civil works begin.

2. Each country has prepared or adopted a Medical Waste Management Plan (MWMP) that will be updated for the purposes of this project. Burundi has prepared a "Medical Waste Management Plan". Kenya has a National Health Care Waste Management Plan (2008-12), and a National Policy on Injection Safety and Medical Waste Management (2007). Rwanda has prepared an Environmental Health Policy (2008), a National Policy on Injection Safety, Prevention of Transmission of Nosocomial Infection and Health Care Waste Management (May 2009), "Ministerial guidelines on environmental health management of Ebola virus disease in Rwanda" and "Ministerial guidelines on safe transport of medical waste from site of generation to final disposal site". Uganda has prepared "National Guidelines on Tuberculosis Infection Control in Health Care Facilities", a National Policy on Injection Safety and Medical Waste Management (2004), Standards for Injection Safety and Medical Waste Management Practices (2004), and a National Health Care Waste Management Plan (2012). Tanzania has prepared a National Health Care Waste Management Plan. Some of the MWMPs will be updated, as stipulated in the Financing Agreements, and all of these documents will include Ebola related requirements.

3. Future activities at these laboratory facilities to be supported under the project are not expected to have long-term detrimental or cumulative effects, especially as waste management and social and environmental concerns will be addressed through the ESMF, ESIAs/ESMPs, IPP (or VMPF/P) and MWMPs. In general, the key environmental issues concerning the expansion, rehabilitation and/or construction of new medical facilities will be construction waste (liquid and solid), temporary disturbances, noise, and dust. As indicated earlier, the MWMP will include the WHO protocols on Ebola and any other relevant measures to manage medical waste. The national MWMPs will be reviewed, revised, consulted upon and disclosed during the implementation phase.

4. The East Africa Public Health Laboratory Networking Project is Category B. This category remains in effect for this AF, as the additional laboratories and isolation units will have

moderate environmental impacts, as well as the generation of health care waste at all participating project-supported laboratories.

5. The project has not triggered OP 4.12, as any land or buildings are already owned by the Governments, and there are no settlements, encroachers or squatters. The appraisal mission confirmed that OP 4.12 on Involuntary Resettlement is not triggered, as all civil works will take place within the fenced premises of the selected hospitals. There are no settlements on these sites, which have been reserved for potential future expansion. Moreover, even within the fenced premises there are no activities that could be viewed as supporting livelihoods.

6. A Vulnerable and Marginal Peoples' Planning Framework and subsequent Plan (VMPP) was prepared for Kenya under the original project in 2010, and an Indigenous Peoples Plan (IPP) was elaborated for Burundi. In the case of Kenya, the VMPP has focused on outreach to indigenous communities to ensure that they benefit from health and laboratory services. The VMPP for Kenya is being updated to include the current grievance redress mechanism for local communities. In the case of Burundi, which received support to join the regional project in 2012 the IPP was prepared (P129551) with the aim of ensuring that vulnerable groups, including more specifically the Batwa, would be able to receive culturally appropriate services and benefits from the project. As part of the preparation of the AF, the IPP has now been re-disclosed in country and at the Bank's InfoShop. The capacity of implementing agencies in Kenya and Burundi has been strengthened to improve implementation and monitor safeguard due diligence in relation to Indigenous and Vulnerable and Marginalized Peoples in these two countries.

7. Recent assessments of safeguards performance of the original project revealed that compliance with safeguard instruments has been mixed. In some cases, civil works have consisted of in situ rehabilitation, with minor environmental impacts. In Kenya and Uganda, ESIAs/ESMPs were prepared for all laboratories, and consulted with key stakeholders (i.e. public health authorities, medical personnel, and local communities) prior to construction but these documents were not disclosed; additional consultations have been undertaken and the ESIAs/ESMPs have been or are being disclosed in-country and at the World Bank's InfoShop. In Rwanda (which did not prepare ESIAs/ESMPs for the laboratories), an environmental audit of the four completed facilities has been conducted and found implementation of environmental and social management measures to be generally satisfactory, with remedial measures identified to address remaining construction related deficiencies and environmental issues (e.g. need to increase frequency of incineration; need to develop alternative water collection sources during periods of general water shortages). Consultations were conducted during the preparation of the AF with community representatives residing in the proximity of the project-supported facilities (Kenya, Rwanda). These consultations found overall satisfaction with the new facilities with local stakeholders underscoring the benefits of the project (e.g., job opportunities at construction sites; greater access to laboratory testing and improved turnaround time) while identifying appropriate remedial actions to be taken at some sites (e.g. enforcement of safety and fire regulations; availability of alternate water sources; enhanced waste management practices).

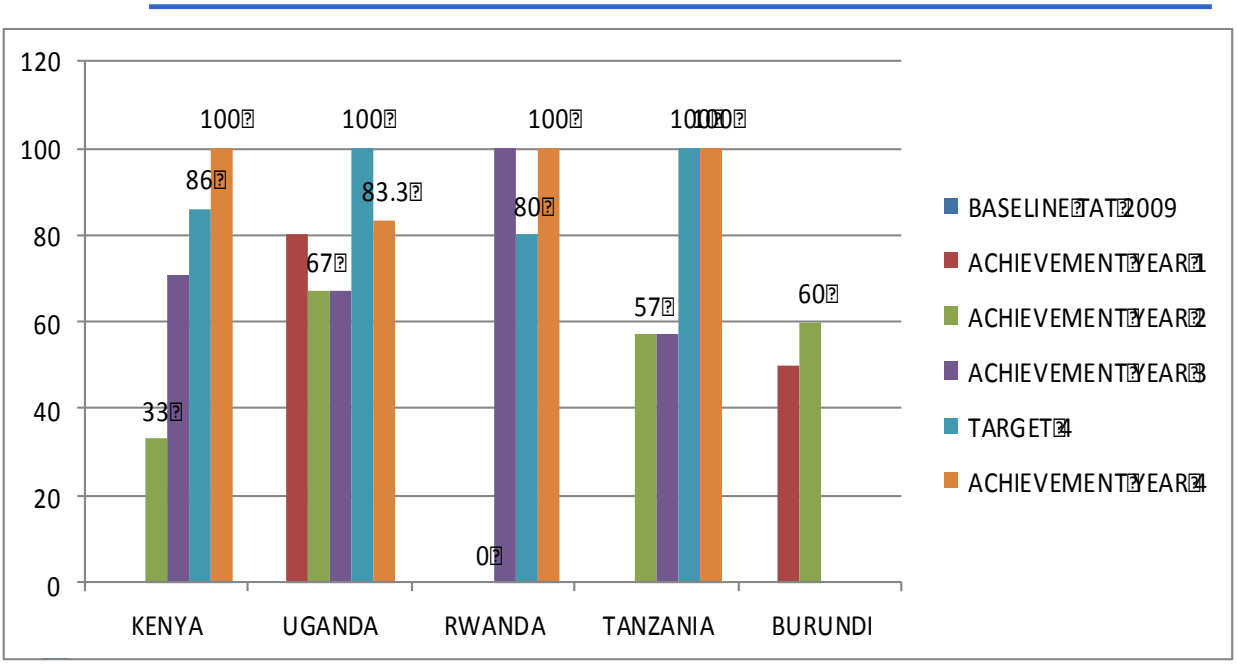
8. In Tanzania, one ESIA/ESMP has been prepared, consulted upon and disclosed, with additional safeguard documents to be prepared for other facilities during the AF period prior to the commencement of civil works. In Uganda, the ESIAs/ESMPs were prepared and consulted

upon, but not disclosed. They have been subsequently disclosed, following a review by the Bank, including at a laboratory under construction. Civil works activities in Burundi have not started, with ESIAs/ESMPs to be prepared, consulted upon and disclosed prior to initiating the civil works.

9. *Client capacity:* Client capacity to comply with Bank safeguard policies-- preparing safeguard documents, conducting consultations, and disclosing documents--- is variable and needs improvement. The Bank is working with clients to strengthen knowledge of Bank safeguard policies and improve compliance, by conducting more frequent supervision missions and organizing a series of national workshops to improve understanding of safeguard policies.

10. Capacity of all five countries to manage biomedical waste management at participating hospitals has been assessed, tracked and monitored regularly since project inception as part of the Stepwise Laboratory Improvement Process towards Accreditation (SLIPTA), endorsed by WHO and CDC, with a number of key indicators reported as part of the Results Framework. The share of national and satellite laboratories that comply with Biomedical Waste Management requirements has improved substantially with all countries meeting or exceeding their targets, as depicted in the trend in the composite scores below.

Figure 1: Proportion of laboratories complying with Biomedical Waste Management Requirements



11. Progress has been assessed and monitored annually on three key areas of waste management through regular audits of all facilities in the five countries, with scores shown in

tables 1-5 below. The first section (12.9) measures the extent to which safety manuals are readily available in work areas and updated annually and whether the manuals specifically include guidelines on key topics (e.g. blood and body fluid precautions, hazardous waste disposal, personal protection equipment; post-exposure prophylaxis, fire safety, electrical safety).

12. The next section (12.10) assesses the extent to which waste is separated according to biohazard risk, with infectious and non-infectious waste disposed of in separate containers and whether sharp instruments and needles are discarded in puncture resistant containers. Likewise, audits determine whether infectious waste and sharps containers are autoclaved before being discarded to decontaminate potentially infectious material and whether infectious waste is properly incinerated, burnt in a pit, or buried.

13. The third section (12.11) reviews compliance with chemical management and disposal in the laboratory. The annual audits determine the extent to which all hazardous chemicals are correctly labeled with the chemical's name with hazard markings; whether flammable chemicals are stored out of sunlight and below their flashpoint, in a cabinet or in a well-ventilated area; and if flammable and corrosive agents are separated from one another and hazardous chemicals are properly handled and discarded.

14. Finally, the last section (12.12) audits compliance with handling and disposal of sharps and assesses if syringes, needles, lancets, and other bloodletting devices capable of transmitting infection are used only once and are properly discarded in puncture resistant containers that are not overfilled.

15. The scores from the latest round of SLIPTA audits conducted in late 2014 are presented below.

Table 1: Kenya

		Max Score	Busia	Kitale	Machakos	Wajir	CMRL	NTRL
	Checklist items		Score	Score	Score	Score	Score	Score
12.9	Is a laboratory safety manual available, accessible, and up-to-date?	3	1	1	1	3	3	3
12.10	Is sufficient waste disposal available and is waste separated into infectious and non-infectious waste, with infectious waste autoclaved, incinerated, or buried?	2	1	2	1	2	0	2
12.11	Are hazardous chemicals / materials properly handled?	2	2	2	2	2	2	2
12.12	Are 'sharps' handled and disposed of properly in 'sharps' containers that are appropriately utilized?	2	2	2	2	2	2	2
	TOTAL SCORE FOR THE PART	9	6/9	7/9	6/9	9/9	7/9	9/9

Table 2: Rwanda

		Max Score	Byumba	Gihundwe	Gisenyi	Kibungo	Nyagatare	NRL
	Checklist items		Score	Score	Score	Score	Score	Score

12.9	Is a laboratory safety manual available, accessible, and up-to-date?	3	2	3	3	3	3	3
12.10	Is sufficient waste disposal available and is waste separated into infectious and non-infectious waste, with infectious waste autoclaved, incinerated, or buried?	2	1	2	2	2	2	2
12.11	Are hazardous chemicals / materials properly handled?	2	2	2	2	2	2	2
12.12	Are 'sharps' handled and disposed of properly in 'sharps' containers that are appropriately utilized?	2	2	2	2	2	2	2
	TOTAL SCORE FOR THE PART	9	7/9	9/9	9/9	9/9	9/9	9/9

Table 3: Uganda

		Max Score	**Mulago**	**Arua**	**Lacor**	**Mbale**	**Mbarara**
	Checklist items		Score	Score	Score	Score	Score
12.9	Is a laboratory safety manual available, accessible, and up-to-date?	3	3	3	3	1	3
12.10	Is sufficient waste disposal available and is waste separated into infectious and non-infectious waste, with infectious waste autoclaved, incinerated, or buried?	2	2	2	2	2	2
12.11	Are hazardous chemicals / materials properly handled?	2	1	1	1	2	2
12.12	Are 'sharps' handled and disposed of properly in 'sharps' containers that are appropriately utilized?	2	2	2	2	2	2
	TOTAL SCORE FOR THE PART	9	8/9	8/9	8/9	7/9	9/9

Table 4: Burundi

		Max Score	**INSP**	**Maka mba**			
	Checklist items		Score	Score	Score	Score	Score
12.9	Is a laboratory safety manual available, accessible, and up-to-date?	3	3	3			
12.10	Is sufficient waste disposal available and is waste separated into infectious and non-infectious waste, with infectious waste autoclaved, incinerated, or buried?	2	2	2			
12.11	Are hazardous chemicals / materials properly handled?	2	2	2			
12.12	Are 'sharps' handled and disposed of properly in 'sharps' containers that are appropriately utilized?	2	2	2			
	TOTAL SCORE FOR THE PART	9	9/9	9/9	8/9	7/9	9/9

Table 5: Tanzania

		Max Score	Kigoma	Mnazi Mmoja	CTRL	Ndanda	Musoma	Kibongoto	Subawanga
	Checklist items		Score	Score	Score	Score	Score		
12.9	Is a laboratory safety manual available, accessible, and up-to-date?	3	1	1	3	3	3	1	3
12.10	Is sufficient waste disposal available and is waste separated into infectious and non-infectious waste, with infectious waste autoclaved, incinerated, or buried?	2	2	2	2	2	2	2	2
12.11	Are hazardous chemicals / materials properly handled?	2	2	1	2	2	2	2	1
12.12	Are 'sharps' handled and disposed of properly in 'sharps' containers that are appropriately utilized?	2	2	2	2	2	2	2	2
	TOTAL SCORE FOR THE PART	9	7/9	6/9	9/9	9/9	9/9	7/9	8/9

16. *Beneficiaries and stakeholder consultation*: The primary beneficiaries are medical practitioners and local communities benefiting from and using medical facilities, including poor and vulnerable communities. Initially, consultations were held with hospital administration and staff during the implementation phase of the original project in Kenya and Uganda, and most recently as part of the preparation of the AF this has been expanded to include local communities (Kenya, Rwanda, Tanzania).

17. The projected timetable for the key environmental measures is as follows: (i) waste management plans of all countries to be updated within three months after effectiveness, as stipulated in the Financing Agreements; (ii) environmental audits for the labs in Kenya to be conducted during the next three months; and (iii) ESIAs/ESMPs for project-supported sites in Burundi and Tanzania to be done within three months after effectiveness.

18. *Climate screening requirements:* The team has conducted the Climate Change screening as part of the IDA 17 commitments.